BRITISH COLUMBIA

Ministry of Energy and Mines
BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Technical (Drilling)

TOTAL COST: $4,637,381.07

AUTHOR(S): Elisabeth Ronacher PhD PGeo, **SIGNATURE(S):** Elisabeth Ronacher
Luc Harnois PhD, PGeo, and Jason Baker BEng,PEng Luc Harnois

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): MX-13-208/June 15, 2011to December 15th, 2014 **YEAR OF WORK:** 2011

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): SOW #5399727 Submitted August 14, 2012
Work Performed: July 1, 2011 to October 26, 2011

PROPERTY NAME: Decar

CLAIM NAME(S) (on which the work was done): WIIL 2, WILL 6, and WILL 7

COMMODITIES SOUGHT: Awarite (Nickel Alloy)

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: See Appendix A

MINING DIVISION: Omineca **NTS/BCGS:** 093K

LATITUDE: 54 ° 54 ' 30.5 " **LONGITUDE:** 125 ° 21 ' 31 " **(at centre of work)**

OWNER(S):
1) Cliffs Natural Resources Exploration Canada Inc. 2)
Incorporation #A0078400

MAILING ADDRESS:
200 Public Square, Suite 3300
Cleveland Ohio, USA 44114-2315

OPERATOR(S) [who paid for the work]:
1) Cliffs Natural Resources Exploration Canada Inc. 2)
Incorporation #A0078400

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200 Public Square, Suite 3300
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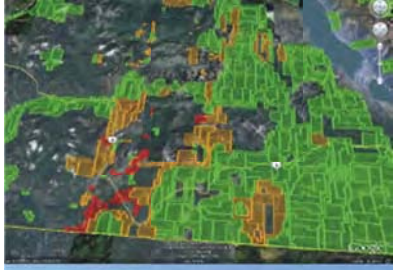
PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
See Appendix B

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: See Appendix C

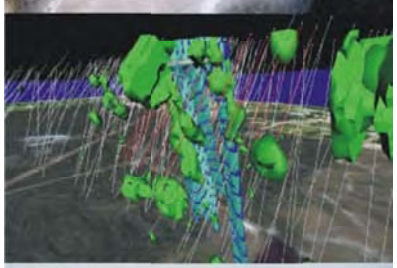
Next Page

PE OF WORK IN S REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
LOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
PHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
CHEMICAL nber of samples analysed for...)			
Soil			
Silt			
Rock			
Other			
LLING l metres; number of holes, size)			
Core	11,161.2m/36 holes/first 100-150m HQ then NQ	559616, 575675, 575677	$4,364,041.07
Non-core			
ATED TECHNICAL			
Sampling/assaying	1m sample every 4m, 3281 samples	559616, 575675, 575677	$273,340.00
Petrographic			
Mineralographic			
Metallurgic			
SPECTING (scale, area)			
PARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	$4,637,381.07










ASSESSMENT REPORT

DECAR NICKEL PROPERTY, British Columbia, Canada

CLIFFS NATURAL RESOURCES EXPLORATION CANADA INC.
200 Public Square, Suite 3400
Cleveland, OH, 44114
USA

August 16, 2012

Prepared By:

CARACLE CREEK INTERNATIONAL CONSULTING INC.
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Luc Harnois, PhD, P.Geo.
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This report has been prepared by
Caracle Creek International Consulting Inc. (Caracle Creek)
on behalf of Cliffs Natural Resources Canada Inc.

2012

Issued by: Sudbury

DATE AND SIGNATURE PAGE

This Report, titled "Assessment Report, Decar Nickel Property, British Columbia, Canada", and dated August 16, 2012 was prepared and signed by the following Qualified Persons:

"signed and sealed"

_____
Elisabeth Ronacher, PhD, P.Geo.
August 16, 2012
Sudbury, Ontario

"signed and sealed"

_____
Luc Harnois, PhD, P.Geo.
August 16, 2012
Montreal, Quebec

"signed and sealed"

_____
Jason Baker, BEng., P.Eng.
August 16, 2012
Fall River, Nova Scotia

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

Appendix 1 – Certificates of Qualified Persons

Appendix 2 – Drill Logs

Appendix 3 – Claim map (1:50,000)

Appendix 4 – Assay certificates

Appendix 5 – Cross Sections (electronic appendix)

1.0 SUMMARY

Caracle Creek International Consulting Inc. ("Caracle Creek") was contracted by Cliffs Natural Resources Exploration Canada Inc. (“Cliffs”) to complete a diamond drilling program on the Decar Property (the "Property"). In addition, Cliffs requested Caracle Creek to estimate a resource compliant with the NI43-101.

The Decar Property is located ~90 km northwest of Fort St. James, British Columbia, Canada and consists of 59 mineral claims covering 23607.1578 ha. Cliffs and First Point Minerals Corp. (“First Point”) are parties to an option agreement dated November 12, 2009 as amended. Effective as of September 12, 2011, Cliffs owns 51 % interest in the Decar Property.

The earliest publicly available reports of exploration in the area of the Decar Property are from 1974; since then, prospecting, mapping, sampling and drilling has occurred on the Property and the nickel alloy awaruite was first reported in 1996.

The Property is located within the Cache Creek Terrane which consists of the Sitlika assemblage and the Cache Creek complex. The mineralized peridotites of the Property belong to the Trembleur ultramafic unit of the Cache Creek complex, a part of an obducted Upper Paleozoic and Lower Mesozoic ophiolite sequence. The peridotites are variably serpentinized. The nickel alloy awaruite ($Ni_{2-3}Fe$) formed during serpentinization of peridotite containing nickeliferous olivine.

A diamond drilling program consisting of 36 drill holes totalling 11,465 m was completed on the Property. Thirty five holes were drilled on the Baptiste project with the goal to estimate a resource at that prospect. One hole was drilled at the Target B area, ~5 km north of Baptiste. Peridotite in all holes was mineralized. In the south-west of Baptiste, the ore body is cut off by a fault, but it is open in all other directions including at depth.

The 2011 drilling data and re-assayed core from the 2010 drilling completed by First Point were used to create a geological model and estimate a resource of the Baptiste prospect at Decar. Caracle Creek used the ordinary kriging method to estimate an inferred resource of 1,197,000,000 tonnes at a grade of 0.113 % Ni at a cut-off grade of 0.06 %.

Based on the 2011 exploration program Caracle Creek concludes that the Decar Property has significant potential. Caracle Creek recommends further drilling with the goal of estimating an indicated resource. In addition, Caracle Creek recommends completing downhole geophysical surveys, in particular a Televiewer survey. Introduction

1.1 Introduction

Caracle Creek International Consulting Inc. ("Caracle Creek") was contracted by Cliffs Natural Resources Canada Inc. (“Cliffs”) of Cleveland, OH, USA to complete a diamond drilling program on the Decar Property (the "Property"). In addition, Cliffs requested Caracle Creek to estimate a resource compliant with the NI43-101.

The purpose of this Assessment Report (“the Report”) is to provide details of the 2011 drilling program and to disclose the resource estimate completed on the Decar Property.

This report is based on the 2011 drilling program which was planned, executed and managed by Caracle Creek, on information provided to Caracle Creek by Cliffs, on relevant literature and other data available in the public domain. In addition, results of the 2010 drilling program as provided by First Point were included in the resource estimate. The sources used in this Report are listed in Section 19 (“References”) and in the body of the report where relevant.

The Property was visited by Caracle Creek geologist Elisabeth Ronacher on October 5 and 6, 2011. The core shack and core cutting facilities were visited and drill core was inspected during the site visit. In addition, a helicopter tour of the Property was completed. Luc Harnois oversaw the drilling program on site.

1.2 Terminology

Davis tube recoverable nickel (DTR Ni): Nickel that can be separated by magnetic techniques, e.g. Davis tube analysis. DTR Ni is hosted by awaruite, $Ni_{2-3}Fe$

Davis Tube: Laboratory instrument designed to separate magnetic material from finely-ground powder. The instrument consists of an inclined, water-filled tube placed between electromagnets (Svoboda, 2004).

DEM: Digital elevation model

Head grade: average grade of ore fed into the mill

Head sample: drill core sample; as opposed to concentrate (after Davis tube analysis of the head sample).

Legacy claim: in British Columbia, legacy claims are claims staked prior to the introduction of map staking in that province.

Mineral Reserve Site: Defines areas within the province of British Columbia where mineral, placer and coal claims are restricted.

QA/QC: Quality Assurance/ Quality Control

Superpanner: Instrument used in testing and research laboratories; small batch concentrator for fractionating fine mineral particles according to their specific gravity by rocking, bumping and sluicing.

XRF: X-ray fluorescence

1.3 Units

The Metric System is the primary system of measure and length used in this Report and is generally expressed in kilometres (km), metres (m) and centimetres (cm); volume is expressed as cubic metres (m^3), mass expressed as metric tonnes (t), area as hectares (ha), and metal concentrations as grams per tonne (g/t) or %. Conversions from the Metric System to the Imperial System are provided below and quoted where practical. Many of the geologic publications and more recent documents now use the Metric System but older documents almost exclusively refer to the Imperial System. Metals and minerals acronyms in this report conform to mineral industry accepted usage and the reader is directed to www.maden.hacettepe.edu.tr/dmmrt/index.html for a glossary.

Abbreviations include Mt = million tonne; t = tonne (1000 kilograms); SG = specific gravity; lb/t = pound/ton; and, st = short ton (2000 pounds).

Dollars are expressed in Canadian currency (CAD$) unless otherwise noted. Where quoted, Universal Transverse Mercator (UTM) coordinates are provided in the datum of Canada, Nad83, Zone 10 North.

2.0 PROPERTY DESCRIPTION AND LOCATION

2.1 Location

The Decar Property is located in central British Columbia, Canada (Figure 2-1), ~650 km north of Vancouver and ~90 km northwest of the town of Fort St. James. The Property is centered on UTM 350,000 mE and 6,087,000 mN (Nad 83, Zone 10) or latitude of 54°54’30.5” N and longitude of 125°21’31” W.

The Property consists of 59 mineral claims covering an area of 23,884.6233 hectares (ha; Table 2-1).

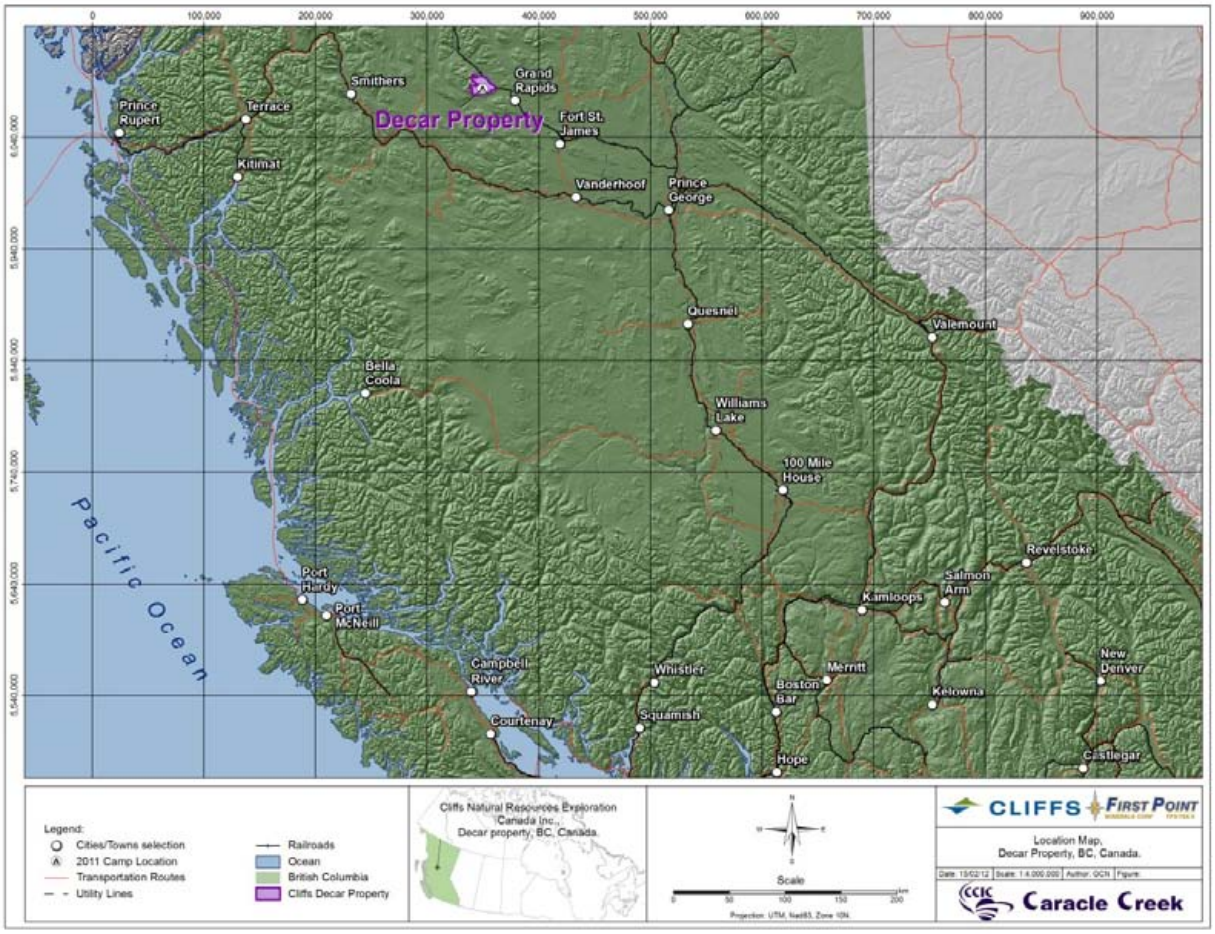

Figure 2-1: Location of the Decar Property in British Columbia, Canada.

2.2 Description and Ownership

The Decar Property consists of 59 mineral claims (https://www.mtonline.gov.bc.ca/mtov/searchTenures.do; Table 2-1; Figure 2-2). Claims 575682, 895893, 895899, 669586, 559616, 594259, 559615 and 559618 overlap with legacy claims where the overlap is not owned by Cliffs. The claims shown in Figure 2-2 show the claim size as owned by Cliffs. Figure 2-2 also shows an area around Middle River where mineral rights are restricted (Mineral Reserve Site 326751). Mineral reserve site are typically located around water bodies.

Table 2-1: List of the Decar claims.

Tenure Number	Claim Name	Owner	Good To Date	Status	Area (ha)
559615	WILL 1	Cliffs (100%)	2022/Nov/14	GOOD	357.3328*
559616	WILL 2	Cliffs (100%)	2022/Nov/14	GOOD	432.5449*
559617	WILL 3	Cliffs (100%)	2022/Nov/14	GOOD	464.7642

Tenure Number	Claim Name	Owner	Good To Date	Status	Area (ha)
559618	WILL 4	Cliffs (100%)	2022/Nov/14	GOOD	446.3543*
575674	WILL 5	Cliffs (100%)	2022/Nov/14	GOOD	446.491
575675	WILL 6	Cliffs (100%)	2022/Nov/14	GOOD	446.6277
575677	WILL 7	Cliffs (100%)	2022/Nov/14	GOOD	465.1909
575678	WILL 8	Cliffs (100%)	2022/Nov/14	GOOD	464.954
575679	WILL 9	Cliffs (100%)	2022/Nov/14	GOOD	464.7194
575680	WILL 10	Cliffs (100%)	2022/Nov/14	GOOD	465.1944
575681	WILL 11	Cliffs (100%)	2022/Nov/14	GOOD	446.3825
575682	WILL 12	Cliffs (100%)	2022/Nov/14	GOOD	239.275
575683	WILL 13	Cliffs (100%)	2022/Nov/14	GOOD	390.3963
575684	WILL 14	Cliffs (100%)	2022/Nov/14	GOOD	223.3712
575686	WILL 15	Cliffs (100%)	2022/Nov/14	GOOD	316.2419
594247	BAP 1	Cliffs (100%)	2022/Nov/14	GOOD	446.7796
594248	BAP 2	Cliffs (100%)	2022/Nov/14	GOOD	335.142
594249	BAP 3	Cliffs (100%)	2022/Nov/14	GOOD	465.4306
594250	BAP 4	Cliffs (100%)	2022/Nov/14	GOOD	446.7009
594251	BAP 5	Cliffs (100%)	2022/Nov/14	GOOD	390.8791
594252	KAR 1	Cliffs (100%)	2022/Nov/14	GOOD	464.5283
594254	KAR 2	Cliffs (100%)	2022/Nov/14	GOOD	464.2908
594255	KAR 3	Cliffs (100%)	2022/Nov/14	GOOD	464.2925
594256	KAR 4	Cliffs (100%)	2022/Nov/14	GOOD	427.2731
594257	KAR 5	Cliffs (100%)	2022/Nov/14	GOOD	371.629
594258		Cliffs (100%)	2022/Nov/14	GOOD	464.5249
594259	KAR 7	Cliffs (100%)	2022/Nov/14	GOOD	403.6543*
594260	KAR 8	Cliffs (100%)	2022/Nov/14	GOOD	297.1894
594262	KAR 9	Cliffs (100%)	2022/Nov/14	GOOD	408.7169
594263	KAR 10	Cliffs (100%)	2022/Nov/14	GOOD	389.9172
602564		Cliffs (100%)	2022/Nov/14	GOOD	18.5831
602566		Cliffs (100%)	2022/Nov/14	GOOD	148.6645
603803	VAN 1	Cliffs (100%)	2022/Nov/14	GOOD	464.5101
669586	BAP 6	Cliffs (100%)	2022/Nov/14	GOOD	239.4223*
669625	BAP 7	Cliffs (100%)	2022/Nov/14	GOOD	446.9644
669645	BAP 8	Cliffs (100%)	2022/Nov/14	GOOD	446.9353
669665	BAP 9	Cliffs (100%)	2022/Nov/14	GOOD	446.9093
839601	MID 1	Cliffs (100%)	2022/Dec/03	GOOD	74.4049
839604	MID 2	Cliffs (100%)	2022/Dec/03	GOOD	446.663
839607	MID 3	Cliffs (100%)	2022/Dec/03	GOOD	427.8813
839610	MID 4	Cliffs (100%)	2022/Dec/03	GOOD	465.2844
839615	MID 5	Cliffs (100%)	2022/Dec/03	GOOD	427.8998
839617	MID 6	Cliffs (100%)	2022/Dec/03	GOOD	464.9013
839618	MID 7	Cliffs (100%)	2022/Dec/03	GOOD	464.7451
839620	MID 8	Cliffs (100%)	2022/Dec/03	GOOD	427.3905
839621	MID 9	Cliffs (100%)	2022/Dec/03	GOOD	464.3255
839622	MID 10	Cliffs (100%)	2022/Dec/03	GOOD	148.5494
895893	NEY 1	Cliffs (100%)	2022/Sep/02	GOOD	441.0489*
895899	NEY 2	Cliffs (100%)	2022/Sep/02	GOOD	454.7532*
895902	NEY 3	Cliffs (100%)	2022/Sep/02	GOOD	446.9179
895904	NEY 4	Cliffs (100%)	2022/Sep/02	GOOD	465.5218
895905	NEY 5	Cliffs (100%)	2022/Sep/02	GOOD	390.9092
895907	NEY 6	Cliffs (100%)	2022/Sep/02	GOOD	465.5372
895909	NEY 7	Cliffs (100%)	2022/Sep/02	GOOD	447.1129
895910	NEY 8	Cliffs (100%)	2022/Sep/02	GOOD	447.1553

Tenure Number	Claim Name	Owner	Good To Date	Status	Area (ha)
895911	NEY 9	Cliffs (100%)	2022/Sep/02	GOOD	465.7621
895912	NEY 10	Cliffs (100%)	2022/Sep/02	GOOD	465.7422
895913	NEY 11	Cliffs (100%)	2022/Sep/02	GOOD	335.3133
895914	NEY 12	Cliffs (100%)	2022/Sep/02	GOOD	446.5605
TOTAL	**59**				**23607.1578**

*this claim overlaps with a legacy claim. The area listed is the actual area owned by Cliffs and does not include the overlap area.

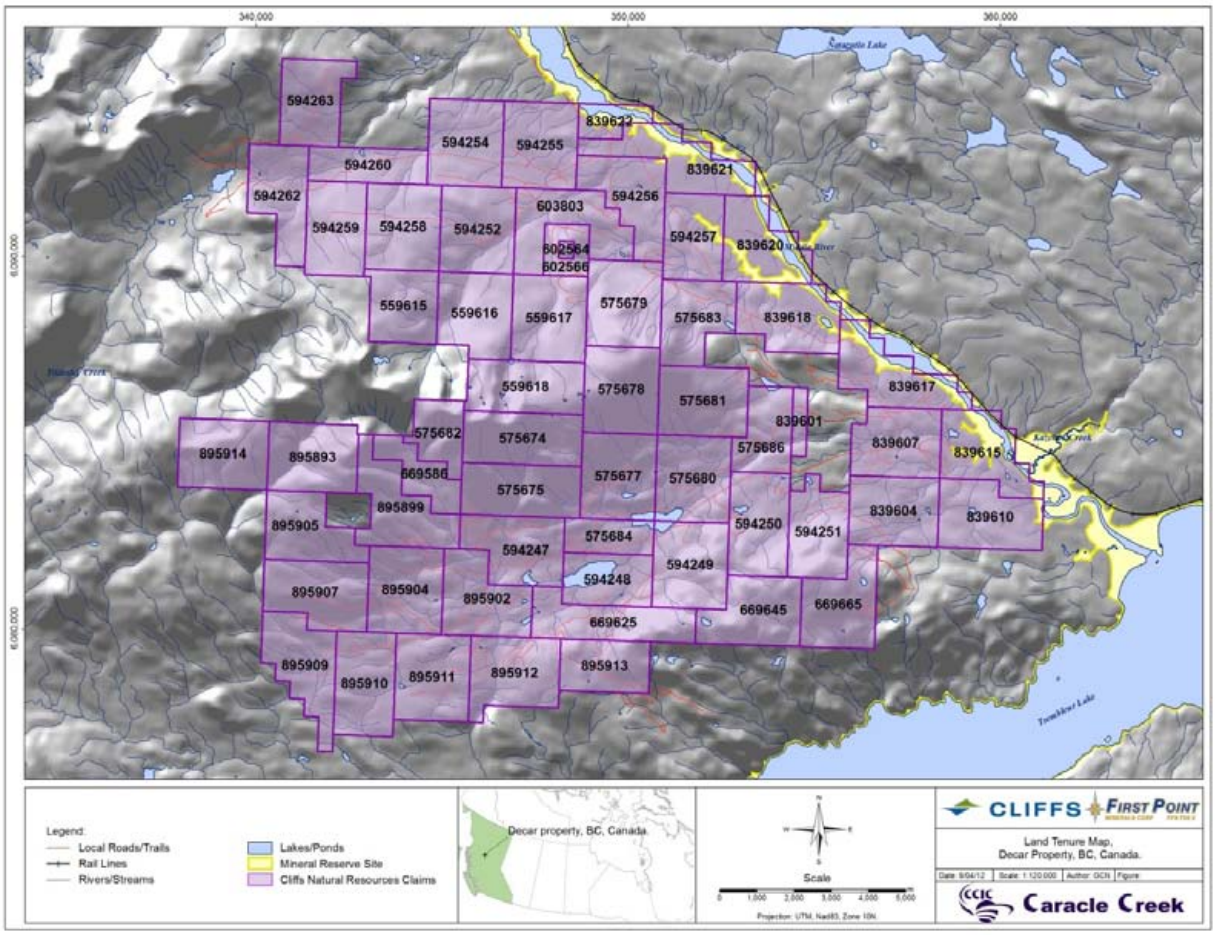

Figure 2-2: Map showing the mineral claims of the Decar Property. A map at a scale of 1:50,000 is shown in Appendix 3

Cliffs and First Point are parties to an option agreement dated November 12, 2009 and amended on September 12, 2011. Effective as of September 12, 2011, Cliffs owns 51 % interest in the Decar Property. Cliffs has the option to increase its interest to:

1. 60 % by completing a NI43-101 preliminary economic assessment

2. 65 % by completing a NI43-101 prefeasibility study

3. 75 % by completing a bankable feasibility study.

Upon completion of Cliffs earn-in to the Project the parties will enter into a joint venture. The parties' initial participating interests in the joint venture will equal their respective interests in the Decar property at the time the joint venture is formed. If Cliffs' or First Point's interest be reduced to 10 %, this interest will be converted to 1 % NSR. First Point, in addition to holding a participating interest in the joint venture, will retain a 1% NSR, which will increase to 2% if First Point is the party whose participating interest is diluted to less than 10%. Cliffs is the operator of the Decar Property.

In addition, Cliffs subscribed for 14,376,069 common shares of First Point at a price of $0.09 per share for a total investment of $1,293,846 upon execution of the option agreement.

The surface rights are owned by the Crown. Parts of several claims at the east end of the Property overlap with "district lots" (Figure 2-3). In British Columbia, district lots are primary parcels of land that have been surveyed (www.ltsa.ca). The Crown may have sold these lots to private individuals who may own the surface rights. Exploration in this area can still occur but any exploration activity needs to be announced to the surface rights holders. Caracle Creek reviewed the status of the district lots on the Government of British Columbia website (https://www.mtonline.gov.bc.ca/mtov/home.do) and did not notice any reference to mineral rights. A small part of the claims in the southwest overlap with Rubyrock Lake Provincial Park. No exploration can occur in the area of the Provincial Park.

Caracle Creek is not aware of any royalties, back-in rights, payments, or other agreements and encumbrances to which the property is subject to other than the ones mentioned above.

No exploration activities can take place on the Property from May 15 to June 15 of every year because the Property is located within mountain caribou habitat (BC Ministry of Environment Order U-7-003).

Caracle Creek is not aware of any environmental liabilities to which the Property is subject.

A Mineral & Coal Exploration Activities & Reclamation Permit, issued by the Ministry of Energy and Mines, is required to explore in British Columbia. A permit (MX-13-208) has been granted and is valid until December 15, 2014; this permit covers the exploration recommended in this Report.

Caracle Creek is not aware of any significant factors and risks that may affect the access, title, or the right or ability to perform work on the Property.

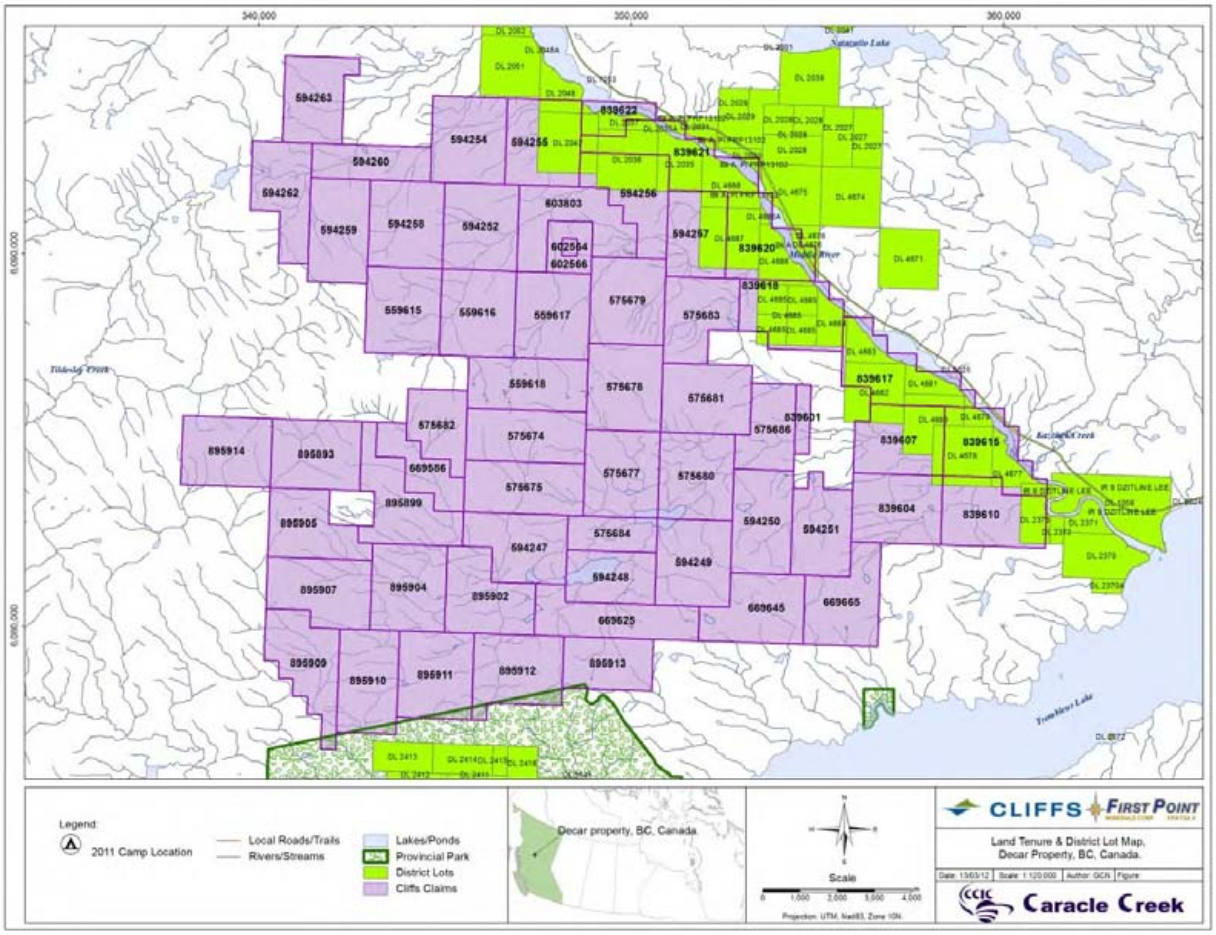

Figure 2-3: Map showing surface rights distribution on the Cliffs claims. Most of the surface rights (purple) are held by the Crown. Some (green) are held by private individuals.

3.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

3.1 Access

The Decar Property can be legally accessed from Fort St. James, located ~90 km southeast of the Property, on Forestry Roads. From Fort St. James, Stuart Lake Highway/BC-27N leads to Tachie Road after 2.3 km. After 39 km on Tachie Road, a right turn (north) leads to Leo Creek Forestry Road and after 38.5 km on Leo Creek

Forestry Road a left (northwest) turn leads to Leo-Kazcheck Forestry Road (300 Road). At the 348 km mark a left turn (west) leads to Leo-Sakenichie Forestry Road (900 Road). At the 902 km mark, a left turn (southeast) leads onto the Leo-Middle Forestry Road (700 Road) which leads to the Property. At the 728 km mark, a right turn (west) leads onto Baptiste Creek Forestry Road. The Baptiste prospect and the exploration camp are located on Baptiste Creek Forestry Road at 9 km from the turn from the Leo-Middle Forestry Road (Figure 3-1).

Fort St. James offers all services including accommodation, stores, gas stations, a bank and medical services. The closest city is Vanderhoof (54 km southeast of Fort St. James) and the closest airport is in Prince George (152 km southeast of Fort St. James). The town of Smithers is located ~120 km by air from the Property. A seasonally operating ferry across Babine Lake can be used to reach Smithers during the summer months. Smithers also has a commercial airport.

A rail line runs along the east bank of Middle River, immediately east of the claim block. The rail line is operated by the British Columbia Railway Company.

3.2 Climate and Vegetation

Average temperature and precipitation data for 1971-2000 from Environment Canada (/www.climate.weatheroffice.gc.ca/climate_normals/) for Fort St. James (closest weather station to the property) indicate that the daily average temperature ranges from -11.3ºC in January to 15.3ºC in July. The highest average accumulation of rain for a month is 48.1 mm in June. The highest average accumulation of snow for a month is 49 cm in November. The highest average snow depth is 48.4 cm in December.

Drilling can be conducted year round except during the period of May 15 to June 15 which is the calving season of the mountain caribou (BC Ministry of Environment Order U-7-003). Geological mapping and outcrop sampling can be conducted June to October when there is no snow on the ground.

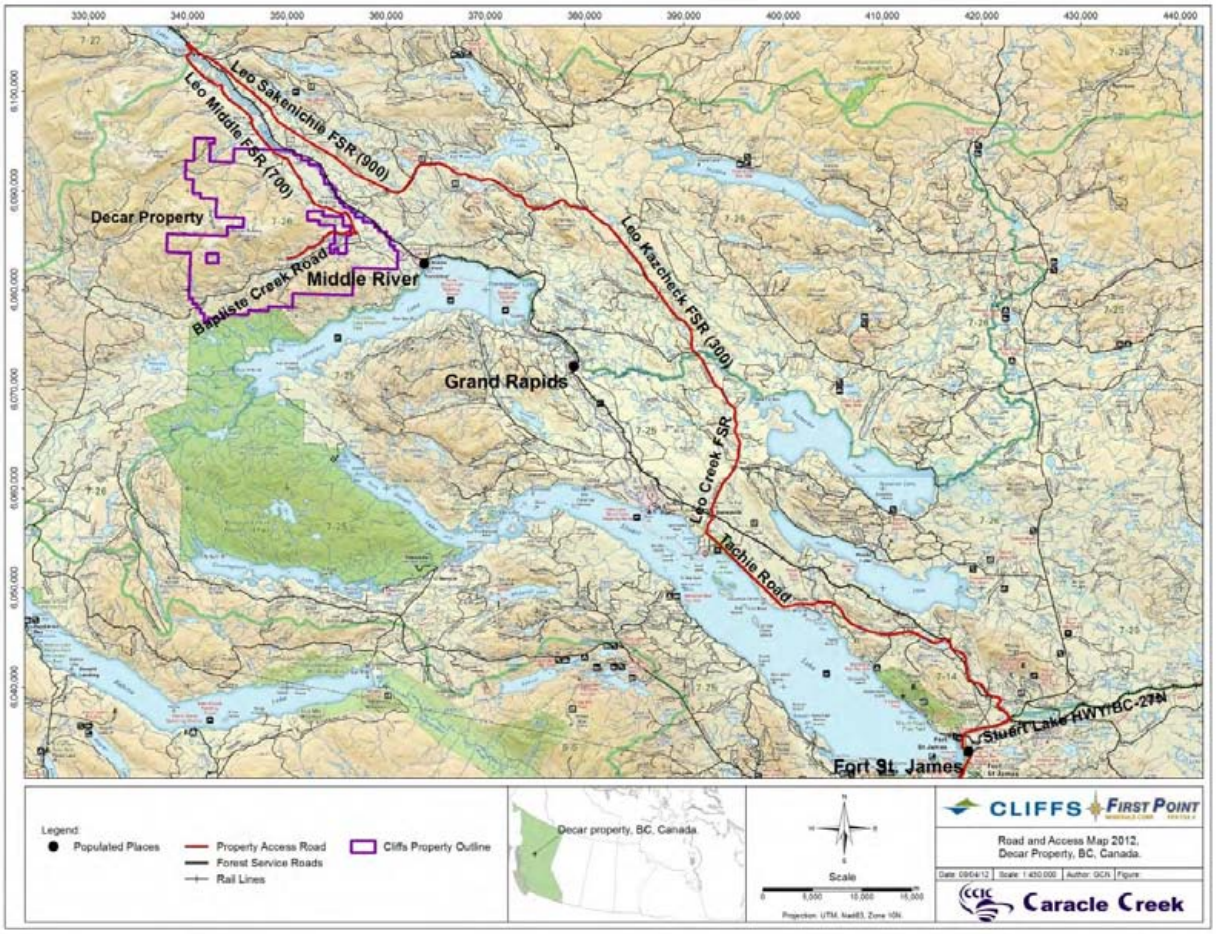

Figure 3-1: Map showing the access to the Property from Fort St. James, BC.

The Property is covered with dense forest in the lower elevations. The dominant trees are sub-alpine fir, hybrid white spruce and paper birch. Minor Douglas fir and trembling aspen also occur. In addition, Whitebark Pine occurs in the Mt. Sydney Williams area. Typical understorey consists of sitka alder, Douglas maple and various berries. Some of the tree populations on the Property have been degraded by natural threats including blister rust and mountain pine beetle infestation.

3.3 Physiography

The Property is characterized by elevation changes from ~ 700 m near Middle River to the peak of Mt. Sidney Williams (1986 m). Mt. Sidney Williams forms the centre of the Property. Sidney Creek forms a deep valley; the creek drains into Trembleur Lake.

3.4 Infrastructure and Local Resources

Water is readily available from local streams, rivers and lakes. The nearest power line is located east of Middle River, immediately east of the claim block.

The population of Fort St. James is 2,278 people (Statistics Canada, www.statcan.gc.ca). Unskilled labour is readily available in the area.

Logging is ongoing in the general area and associated infrastructure, including logging roads, is present.

Discussion on potential tailings storage areas, potential waste disposal areas and potential processing tailings storage area for mining operations is not relevant to this project at this time.

4.0 HISTORY

Several companies completed exploration on the Decar Property (Table 4-1).

Table 4-1: List of companies that completed work on the Decar Property.

Company	Year	Exploration	Results
Geological Survey of Canada	1942	prospecting	found 9 chromite occurrences
D. Stelling	1974	rock chip sampling	Cr values between 0.2 % and 0.4 %; best result 0.72 %
Mountaineer Mines Ltd.	1979	prospecting	found the "Van Decar Creek" deposit
		trenching, sampling	17.8 % Cr to 38.9 % Cr
Northgane Minerals Ltd.	1982	airborne VLF-EM and magnetometer	delineated 2 NW striking magnetic anomalies
Lacana Mining Corp./U.Mowat	1987	rock, soil, silt and heavy mineral sampling	Pt potential determined to be poor, Au-bearing soil anomalies were found
	1988	soil, silt rock sampling	soil sampling unsuccessful due to swampy conditions and overburden
		prospecting, mapping	silicified zones were identified to have elevated Au
		trenching	1.29 oz/t Au (=36.5 g/t)
Viceroy Resource Corp./U.Mowat	1990	mapping	map at a scale of 1:1,000
		7 drill holes totalling 305.3 m	elevated Au was found in serpentinized sections of the ultramafics; highest value was 5830 ppb Au
Minnova Inc./U. Mowat	1991	5 drill holes totalling 511.4 m	Au values below expectations; best Au value was 4910 ppb
Teryl Resources Corp./U.Mowat	1994	742.7 m of drilling	no mineralization intersected
U. Mowat	1996	geochemical and petrographic analyses	awaruite was discovered
U. Mowat	1997	sampling and metallurgical testing	61 % of all samples contain 1500 to 1599 ppm Ni; Ni may be extracted economically
U. Mowat	1998	mapping, sampling	diorite in the West Peak area interpreted to host a gold-bearing porphyry
U. Mowat	1999	mapping, sampling on Mid claims	listwanite and talc zones found
		metallurgical analysis on the 1994	150 mesh produces more elevated Ni values than 100

Company	Year	Exploration	Results
		drill hole pulps	mesh fraction
U. Mowat	2000	mapping, sampling of West Peak area	only weak sulfide mineralization found
U. Mowat	2002	sampling near Mt. Sidney Williams	results inconclusive
U. Mowat	2003	sampling on Mid claims	no mineralization found
U. Mowat	2004	soil sampling on One-Eye and Klone 1 claims	up to 2399 ppb Au detected
U. Mowat	2006	soil and rock sampling	soil sampling did not return significant values; rock samples contained up to 1731 ppm Ni and 927 pm Cr.
Noranda Exploration Company Ltd.	1989	prospecting and sampling near Baptiste Creek	no significant metal values were reported
Global Metals Ltd.	1994/1995	remote sensing on Green claims	satellite images used to plan drilling program
	1995	29 drill holes totalling 498.4 m	drilling delineated an estimated 2,800,000 kg of jade and tremolite
First Point Minerals Corp.	2007	rock sampling	average Ni grade of 60 samples was 0.21 % Ni
	2008	rock and soil sampling	presence of awaruite confirmed
	2009	mapping, rock sampling at the Sidney, Baptiste and Van prospects	Ni values ranged from 1142 to 2753 ppm
	2010	Airborne magnetic and ground IP surveys	Magnetic anomalies were delineated; no correlation between IP response and awaruite mineralization was determined

4.1 Geological Survey of Canada – 1942

During the summer of 1942, J.E. Armstrong and H.W. Little, of the Geological Survey of Canada, conducted prospecting and found several chromite deposits in the ultrabasic rocks of the Pauline Group area (Stelling, 1974). Nine chromite deposits were found in the dunites and peridotites exposed in the Middle River Range which lies southwest of the village of Middle River (Guinet, 1980).

4.2 Douglas Stelling – 1974

In August 1974, Douglas Stelling performed rock chip sampling and prospecting on claims #130968-130971, dubbed Pauline #1-4 (the Pauline Group), located at latitude 54° 54’ and longitude 125° 23’ which is about 2 miles (3.2km) east of Mount Sidney Williams and about 3 miles (4.8km) west of the Middle River. The assaying was done by Min-En Laboratories Ltd. Chromite disseminated in dunite returned assay values of 0.2% to 0.4% Cr with a best assay result of 0.72%. A selected sample of dunite with massive chromite returned a value of 9.8% Cr (Stelling, 1974).

4.3 Mountaineer Mines Limited – 1979

From September to October 1979, Mountaineer Mines Ltd. conducted reconnaissance prospecting on the Cr 1-5 claims within the Omineca mining division, with the goal of establishing the location of chromite showings. A serpentinized peridotite-dunite batholith (the Trembleur intrusions) was found to underlie Mount Sydney Williams, with several serpentinized peridotite-dunite sills outcropping both Mount Sydney Williams and Tsitutl Mountain. The main zone, known as the Van Decar Creek deposit, is an irregular-shaped lens occurring at 3700 feet (1127.8m) and noted to be approximately 5 feet (1.5m) wide by 40 feet (12.1m) long. The main showing is 5 feet (1.5m) by 25 feet (7.6m) in area and contains at least 50% Cr. A hand trench was dug and sampled. Assays returned values from 17.8% Cr to 38.9% Cr. More prospecting was recommended to test the extent of the dunite bodies (Guinet, 1980).

4.4 Northgane Minerals Limited – 1982

On March 13, 1982, Western Geophysical Aero Data Ltd., on behalf of Northgane Minerals Ltd., conducted an airborne VLF-EM and magnetometer survey of approximately 310 line kilometers on the Cr 1 to Cr 6 claims in the Omineca mining division. The survey was performed to define boundaries of the ultrabasic rocks and identify trends for further chromite exploration. Two areas of magnetic highs were determined to be striking northwest, separated by a prominent northwest trending low. The highs were interpreted to be zones of ultrabasic rocks. Anomalies of very high magnetic intensity within the magnetic high zones were interpreted to be serpentinized phases (Pezzot and Vincent, 1982).

4.5 Ursula Mowat – 1987-2006

In **July, September, and October, 1987**, the Mount Sidney Williams area was explored by Lacana Mining Corporation under option agreement from Mowat. Rock, soil, silt, and heavy mineral samples were taken over the Van 1-2, Klone 1-2, and Mid claims. Klone 3-8 and One-Eye 1 claims were also staked at this time. The platinum potential of the property was determined to be very poor. Only one sample returned any Pt/Pd values (55/73ppb). Gold values up to 3780ppb were returned from a rusty-weathering listwanite. Quartz veins varying from 20cm to 3m in width returned low Au values of maximum 43ppb. Gold-bearing soil anomalies (up to 19,900ppb Au) and soils with high arsenic content were interpreted to indicate zones of auriferous listwanite that are overburden covered. Additional prospecting was recommended (Mowat, Jan.1988).

In **July to September 1988**, Lacana Mining Corporation, still under option agreement from Mowat, carried out an exploration program on the Klone Group and Van Group (~UTM 346103E, 6086085N). Line cutting, soil sampling, silt sampling, rock sampling, prospecting and mapping, and trenching were performed on the property.

Some prospecting and soil sampling was also conducted on the Mid Claim. Silicified zones were found to have higher gold values. Soil geochemistry was determined to be misleading due to broken listwanite zones along with an overburden of swamp-like conditions and glacial outwash containing listwanite debris. Trench #1, located approximately 200 m northwest of Tear Drop Lake, is on a fault zone and returned values up to 1.29 oz/t (36.5g/t) Au and was recommended for extension (Mowat, Dec. 1988).

From **July to August 1990,** a mapping and drilling program was conducted on the Mount Sidney Williams property by the Viceroy Resource Corporation. Viceroy acted as the operator on the project and shared exploration expenditures with Channel Resources Ltd, who held the property under option from U. Mowat. Mapping concentrated in areas of known listwanite at a scale of 1:1000. Seven holes totaling 305.3m was drilled. Silicified zones, shear zones, listwanite, and some serpentinized sections of ultramafic were found to carry gold. The best value was found in a bleached section of norite in Hole 6 and returned 5830ppb Au. Future geophysical surveys were recommended (Mowat, 1990).

In **August 1991,** Minnova Inc. conducted a 511.4m, 5 hole, BQ drilling program on the Mount Sidney Williams property, which was 100% owned by U. Mowat. Overall, gold values returned were determined to be very low and most holes missed their target or failed to prove mineralization with depth. A best gold value returned was 4910 ppb in hole 3 (Mowat, 1991).

In **July 1994**, Teryl Resources Corp. conducted a program of drilling and minor soil sampling on the Mount Sidney Williams gold property, which was 100% owned by U. Mowat. Ten holes totalling 742.7m were drilled. The drilling failed to intersect any gold-bearing mineralization, but did reveal carbonate listwanite zones in the ultramafics and volcaniclastics, as well as numerous thrust faults. The drill program affirmed that geophysical readings are not reliable in this region. Thirty-one follow-up drill holes were recommended. A total of 58 soil samples were collected and analysed by ICP; no results were discussed. All soils were deemed residual (Mowat, 1994).

In **July 1996** First Point Minerals collected outcrop grab samples as well as core samples from previous drilling from the Mount Sidney Williams property in order to perform geochemical and petrographical analysis to assess the property prior to entering into an option agreement with Ursula Mowat. Results from these analyses revealed that nickel that had been previously discovered in rock and soil samples was from either disseminated awaruite or nickel-iron alloy rather than from nickel in silicates. Further testing was recommended to test the potential of a large, low-grade nickel-cobalt-gold-chromite open pit deposit (Mowat, Jan. 1997). First Point optioned the property as a result of the 1996 sampling.

From **June to August 1997** Ursula Mowat and First Point Minerals Corporation conducted a sampling and metallurgical testing program on Mowat's Mount Sidney Williams Property in order to test the feasibility of an awaruite and/or nickel deposit. Ni values up to 2353 ppm were found in late stage dunites. The majority of samples taken (61%) fell between 1500 and 1599 ppm Ni. Awaruite was found to be present and metallurgical work performed on two samples by Process Research indicated that it may be processed by magnetic separation. The metallurgical tests included magnetic separation, gravity separation, and sulphuric acid leach tests (Mowat, Nov. 1997). First Point dropped the option in late 1997.

In **July 1998**, Ursula Mowat completed mapping and sampling in the West Peak and Baptiste Creek areas of the Mount Sidney Williams property. Sampling indicated that mineralized diorite in the West Peak area, an area located between approximately 400m and 5km west of West Lake, may host a gold-bearing porphyry. Silt samples also indicated several possible new locations for gold exploration. Thin section examinations revealed that not all silvery minerals in the area are awaruite, which, due to its malleable nature, is smeared in drill core and thus more dominantly visible. Other silvery minerals were hematite (and potentially magnetite; Mowat, 1998).

In **June 1999** Ursula Mowat commissioned mapping and sampling on the Mid claim. In **August 1999** rock samples were collected and analyzed throughout the Mount Sidney Williams property. Potentially economic listwanite and talc zones in the Mid claim were described. Drill core pulps from hole 94-10 of the 1994 drilling program were also re-analyzed to compare optimal grind size for Ni extraction. A finer grind of ~150 mesh size was determined to produce more elevated nickel values than the ~100 size fraction (Mowat, 1999).

During **August 2000** a previously unexplored area of the West Peak location was mapped and sampled on behalf of Mowat. Ultramafics sampled in the West Peak area were not prospective for Pt or Pd bearing mineralization. However, weak sulphide mineralization in the volcanics was weakly Pt and Pd bearing (Mowat, 2001).

In **August 2002**, rock samples were collected and analyzed from selected areas of the Mount Sidney Williams property by Ursula Mowat in order to try and locate the source of several geochemical anomalies outlined by previous sampling. Results were inconclusive (Mowat, 2002).

In **July 2003**, new clear cuts on the Mid claim and outcrops on the Klone 7 claim were examined and sampled by Mowat. Rock samples were analyzed for Au, Pt, and Pd. No mineralization of economic significance was revealed (Mowat, 2004).

In **September 2004** soil sampling was conducted on the One-Eye 1 (claim #239772) and Klone 1 (claim #239554) claims, west of Van Decar Creek and Mount Sidney Williams. Mowat was the operator of this

program. Gold was found throughout the sampled area, from trace levels up to 2399 ppb Au on the Klone 1 claim (Mowat, 2005).

In **July 2006**, on behalf of Mowat, baseline and grid lines were established to assist in locating and mapping a quartz-carbonate-talc +/- mariposite zone mentioned in a thesis by H.W. Little in 1947. Soil and rock samples were also collected. Due to poor soil development and till, soil sampling returned no significant gold values. Rock samples returned values up to 1731 ppm Ni and 927 ppm Cr (Mowat, 2007).

4.6 Noranda Exploration Company Limited – 1989

In June 1989, Eric A. Shaede, with assistance from Noranda Exploration Company Ltd., staked and prospected a 20 unit claim over the Baptiste Creek canyon. None of the rock or silt samples collected contained any gold or base metals. Only one rock sample contained elevated arsenic (Shaede, 1990).

4.7 First Point – 2007-2010

In **August 2007** First Point conducted a field program of prospecting and rock sampling on the Decar Property in an effort to determine the economic potential for disseminated nickel-iron (Ni-Fe) alloy targets. Sixty rock samples were collected and analyzed with an average value of 0.21% Ni. The program was successful in locating ultramafic rocks with nickel grades potentially suitable for low grade bulk mineable targets (Voormeij and Bradshaw, 2008).

From **July to September 2008** First Point collected rock and soil samples from the Decar property. Nickel-iron alloy (awaruite) was confirmed to be present over wide areas of the property, with nickel content ranging from 68 to 85%. Metallurgical testing, mapping, sampling, magnetic surveys, and a drill program were recommended to follow up the extent and economic feasibility of the mineralization (Britten, 2009).

In **June and October 2009** bedrock mapping was completed and rock and sediment samples were collected by First Point under an option-joint venture with Cliffs Natural Resources. Rocks were analyzed with a Niton XRF analyzer. Nickel values ranged from 1142 to 2753 ppm over the Baptiste, Sidney, and Van Target areas. The best stream sediment sample returned 4791ppm Ni. Detailed metallurgical testing and geophysical surveys were recommended for future work (Britten, 2010).

In **2010**, First Point commissioned a ground induced polarization survey was completed on the Baptiste and Sidney targets by P. E. Walcott and Associates to differentiate coarse-grained from fine-grained awaruite.

However, no correlation between IP response and awaruite mineralization was observed. (Britten and Rabb, 2010).

4.8 Cliffs Natural Resources Exploration Canada Inc.

Cliffs Natural Resources Exploration Canada Inc. commissioned a helicopter-borne magnetic gradiometer survey on the entire property. The survey was completed by Aeroquest International Ltd. A total of 1,638 line km at a line spacing of 150 km was flown. Several zone of strong magnetic response were delineated (Britten and Rabb, 2010).

5.0 GEOLOGICAL SETTING AND MINERALIZATION

5.1 Regional Geology

The Decar Property is located in the Intermontane Belt of central British Columbia (Figure 5-1). The Intermontane Belt consists of sedimentary, mafic and ultramafic volcanic and plutonic rocks. The belt formed starting in the Early Jurassic when island arcs collided with the North American continent.

Decar is located within the Cache Creek Terrane (Figure 5-2) which consists of the Sitlika assemblage and the Cache Creek Complex (Figure 5-3). The Sitlika assemblage to the west of the property consists of two components: A Permian-Triassic volcanic unit, and an overlying Upper Triassic to Lower Jurassic clastic sedimentary unit (Schiarizza and MacIntyre, 1998). The Cache Creek Complex is a sequence of upper Paleozoic and lower Mesozoic oceanic rocks imbricated by a series of west-directed thrust faults occurring in Early to Middle Jurassic time (Schiarizza and MacIntyre, 1998). Schiarizza and MacIntyre (1998) define four litho-tectonic units within the Cache Creek Complex. The Trembleur ultramafic unit and the overlying North Arm Succession are interpreted as mantle and crustal portions, respectively of an ophiolite sequence that is in thrust contact with the clastic sedimentary rocks of the Sitlika assemblage to the west. The eastern part of the complex consists of a succession of pelagic metasedimentary rocks in faulted contact with the ophiolite sequence to the west. These metasedimentary rocks are referred to as the phyllite-chert unit of the Cache Creek Complex. The eastern margin of the Cache Creek belt is made up of thick limestone units that are in stratigraphic and/or fault contact with the phyllite-chert unit.

Geological contacts are typically faulted or sheared by a combination of thrust faults formed during obduction of the Cache Creek and Stikine Terranes. These faults are later cross cut by right lateral strike slip shear along regional northwest trending faults such as the Pinchi Fault, east of the Decar Property. The regional northwest

trending faults are later cross cut by northeast trending right lateral strike slip faults such as the Trembleur Lake Fault and the Tildesly Creek Fault (Britten and Rabb, 2011).

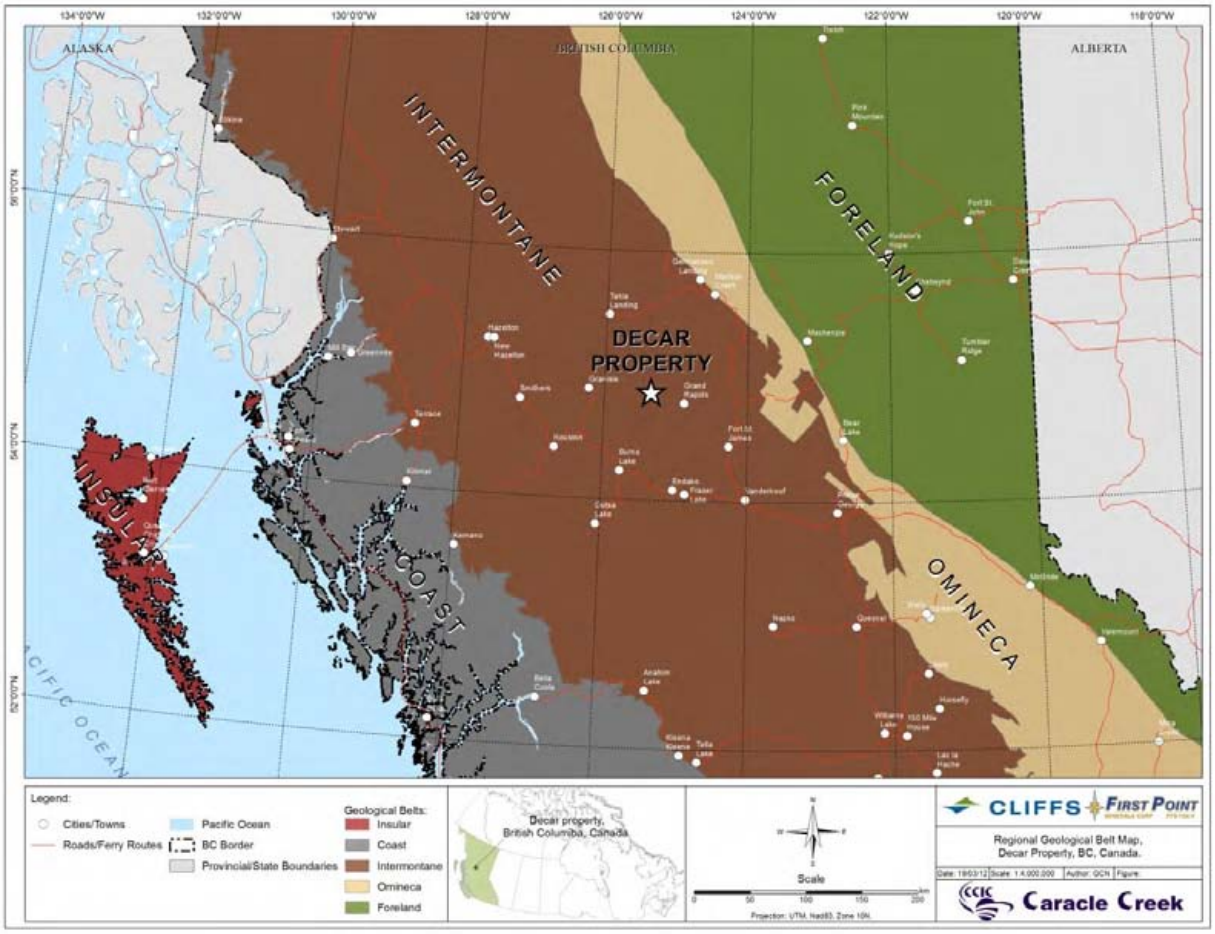

Figure 5-1: Regional geological map showing the location of the Decar Property in the Intermontane Belt of British Columbia.

5.2 Local Geology

The Decar claims occur within or are adjacent to the clastic sedimentary unit of the Sitlika assemblage and two of the litho-tectonic units of the Cache Creek Complex defined by Schiarizza and MacIntyre (1998). The two litho-tectonic units are the Trembleur ultramafic complex and the North Arm succession. The older Trembleur ultramafic unit lithologies are predominantly pyroxene-phyric peridotites (harzburgite), lesser fine grained ultramafics, and dunites. The dominant alteration types are serpentinization and carbonate-silicification with lesser talc-listwanite alteration. The Trembleur ultramafic unit is interpreted to be the mantle and lower crustal

portion of an ophiolite sequence. The North Arm Succession lithologies consist of diabasic to gabbroic intrusives, cherts, limestones, phyllites, and diabase and hornblende-feldspar porphyry dikes. Alteration is localized with zones of strong chlorite and epidote alteration with disseminated pyrite and quartz-carbonate veining. The North Arm succession is interpreted to be the crustal portion of the ophiolite sequence mentioned in the description of the Trembleur ultramafic unit. The clastic sedimentary unit of the Sitlika Assemblage consists of slate, siltstone, and sandstone. Bedding units are typically steeply dipping, likely folded, and are bound by fault contact with the older Trembleur ultramafic unit. The Trembleur Ultramafic unit and the North Arm Succession juxtapose one another and the older Trembleur unit overthrusts the younger North Arm Succession (Schiarizza and MacIntyre, 1998).

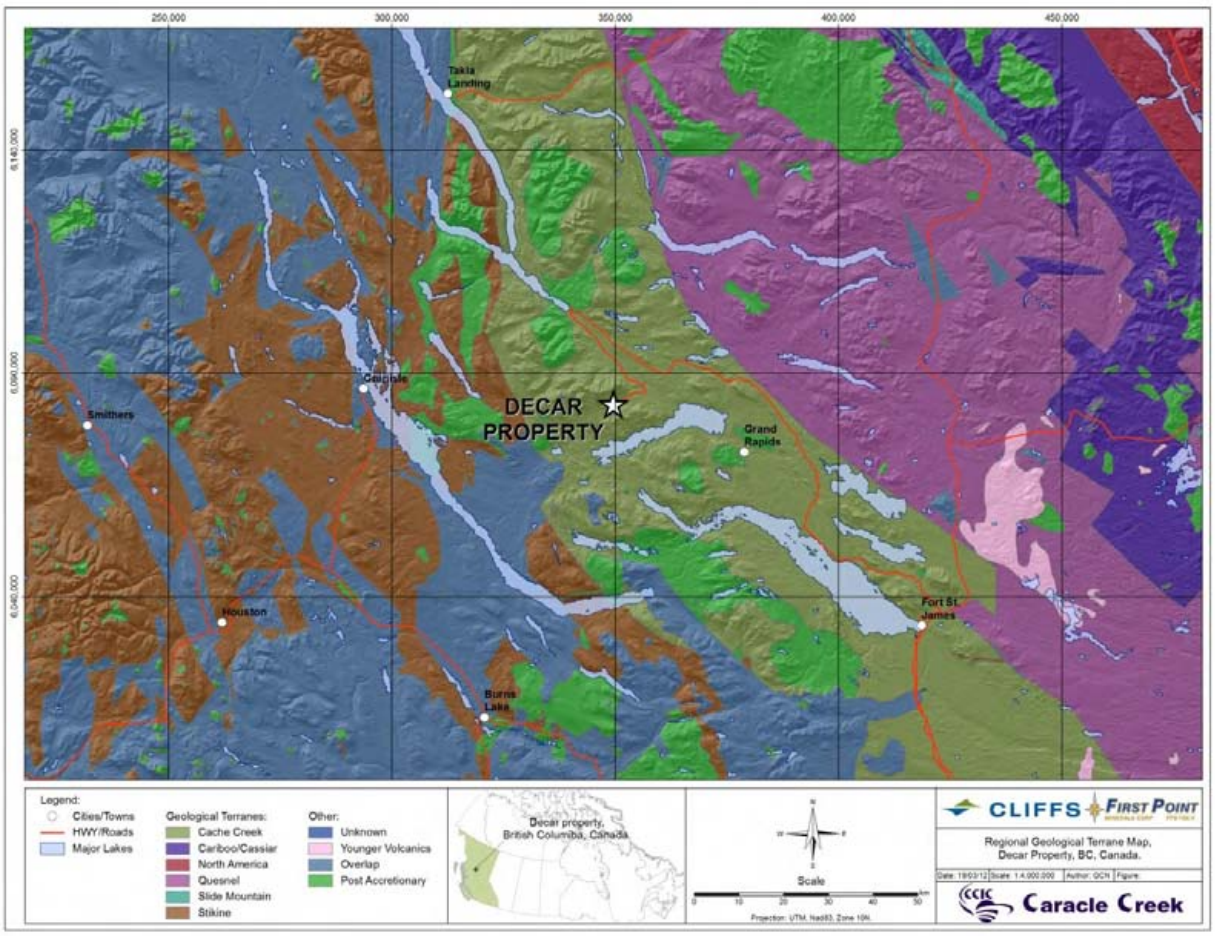

Figure 5-2: Decar Property shown on a terrane map.

5.3 Property Geology

The Trembleur ultramafic complex measures more than 15km northwest to southeast and is on average 5.5 km wide on the Decar property. The Trembleur ultramafic complex represents the oldest rocks on the Decar property; the predominant rock type of the complex is peridotite with minor dunite. The ultramafic complex is in faulted contact with metavolcanic and sedimentary rocks of the Sitlika Assemblage. The faulted contact is inferred due to the absence of the upper portions of an idealized ophiolite sequence. Massive gabbro, likely coeval with the ophiolite sequence, intrudes the metavolcanics to the west of the claim block. Intrusions consisting of stocks and dykes vary in composition and are most likely younger than the ophiolite sequence (Schiarizza and MacIntyre, 1998). Rock type descriptions were compiled from Schiarizza and MacIntyre (1998), Britten and Rabb (2011) and logging by Caracle Creek.

5.3.1 Rock Types

Peridotite: Peridotite is dark green to black, varies from 10-40% medium grained pyroxene group minerals in a medium grained, relict olivine-rich matrix that is strongly serpentinized. The texture is generally massive with locally foliated textures and structural overprinting. Micro-fracturing, breccias, pseudo-breccias, and penetratively deformed (schistose) textures are also common features of the unit.

Dunite: Dunite occurs as pods, layers, breccia fragments, and boudinaged fragments within the peridotite. It is generally fine grained and featureless with the exception of shear zones where it is incorporated to form tectonic breccia with ductile boudinaged fragments within the more resistant ground mass. It typically occurs along the western margin of the Baptiste target area and the Mount Sidney Williams ridge. There are fragments of peridotite in pods of dunite and both can contain awaruite.

Gabbro: Gabbro occurs as fine to medium grained stocks and 5-10m wide dykes up to 50 m in length that trend northeast to east in the southern end of the Decar claims. Stocks measure ~100 m in length and are elongated to the west and northwest. The texture is typically massive; the gabbros are interpreted to be a layer of the ophiolite sequence between the peridotite and the metavolcanic rocks.

Metavolcanic rocks: The metavolcanic rocks consist of basalts, crystal-ash tuff, and rare trachyte. The basalts are generally featureless with variable chlorite and local epidote alteration and are massive to brecciated in texture. The metavolcanic rocks mostly occur as two panels along the southwestern edge of the Baptiste target, and in the central portion of the Decar Property northeast of the Sidney target. The southwestern panel is relatively continuous and approximately 700m thick. It consists of sedimentary rocks (described below) in addition to the metavolcanic rocks and is in fault contact with the ultramafic rocks. The metavolcanic rocks

northeast of the Sidney target have a more dismembered character than the southern panel and are poorly exposed at the surface. The metavolcanic rocks generally do not contain magnetite.

Mudstone: Mudstones or phyllites occur as thin beds dipping 60° to the southwest and are approximately 100 m thick on average. Minor chert and rare limestone are also associated with the phyllite. This unit is structurally up section of the metavolcanic rocks west of the Baptise target. In the panel north of the Sidney target, sedimentary rocks are mostly black phyllite and mudstone with minor tuff and dip vertically on the southwest part of the panel.

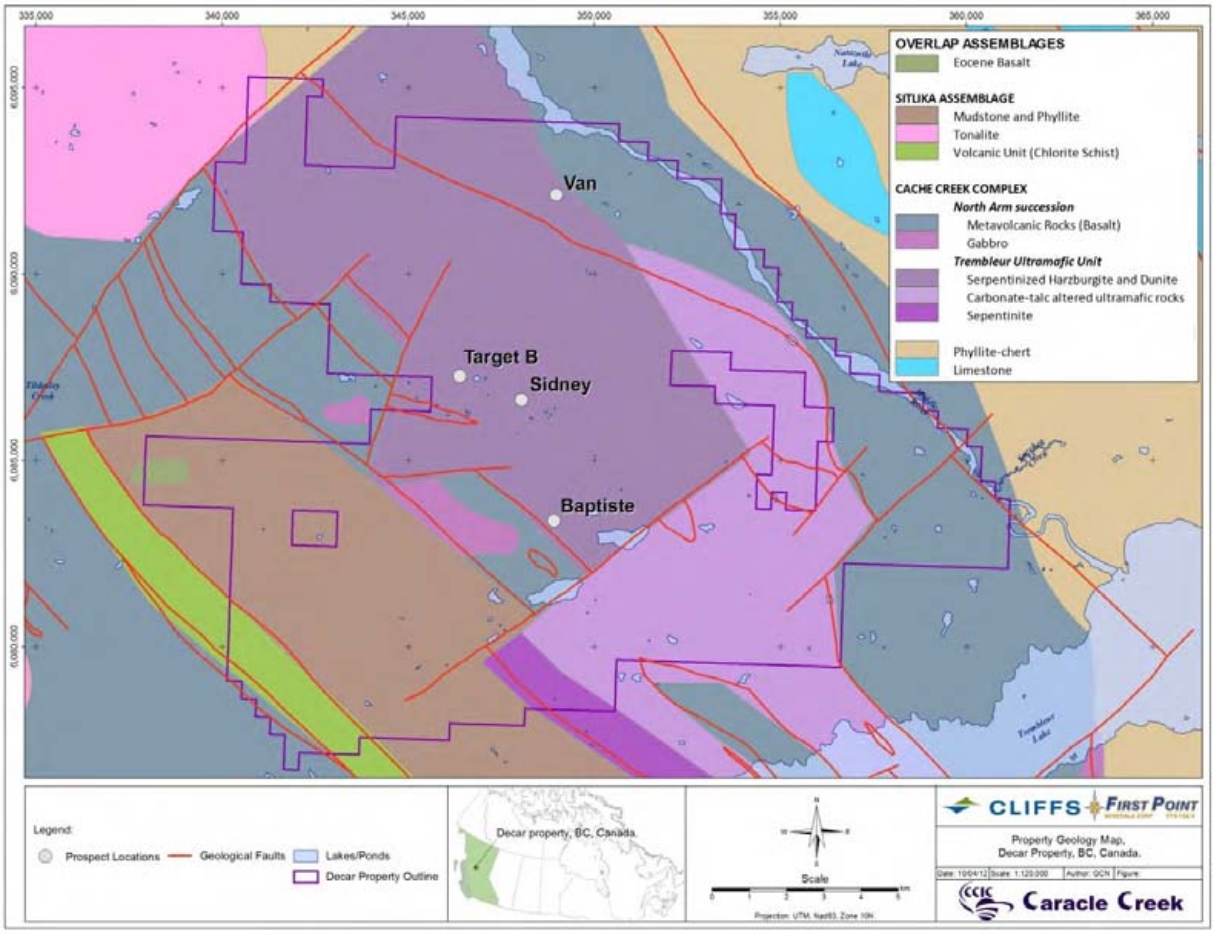

Figure 5-3: Property geology map (modified from McIntyre and Schiarizza, 1998).

Phyllite: A thinly bedded unit of significant thickness composed of phyllite, slate, and mudstone is in fault contact to the southwest of the two metavolcanic panels (described above) due to a major northwest trending fault. These sedimentary units are considered to be part of the Sitlika Assemblage. The bedding of the clastic sediment facies is at 75° to the southwest with tight folding structures locally.

Intermediate Intrusions: A medium grained feldspar porphyry stock intrudes Fe-carbonate altered ultramafics in the southwest area of the property. The intrusion is too small to be shown on Figure 5-3. The stock is approximately 600 m long, trends to the east and forms a topographic high. Alteration is sericite-chlorite-Fe carbonate-calcite with Fe-oxide staining and sulphides in the intrusion and the peridotite country rock. Several smaller dykes and other irregular intrusions typically trend northwest and west and are spatially associated with intense pervasive Fe-carbonate-silicification which is magnetite destructive in the peridotites.

Overburden: The Decar Property is covered by large sections of overburden including: talus, scree, glacial till, glacial fluvial, glacial lacustrine, alluvial, and other general surface cover.

5.3.2 Structure

The ultramafic rocks appear to have undergone multiple breakage and brecciation events prior to and during serpentinization. Cross-cutting microveinlets are abundant. At the outcrop level these relationships are not discernible according to Britten and Rabb (2011). Post alteration faults and shear zones are marked by brittle features such as slickensides, gouge, fault breccia, and shear fabrics. Two major fault zones as indicated by northwest trending, sub vertical structures were delineated where the southernmost fault makes up the boundary between the peridotite of the east Baptiste target and the metavolcanics in the west Baptiste target. Foliations within the ultramafic rocks dip sub vertical and trend to the northwest with broad zones that are thought to mimic diffuse faults or shear zone. Strong schistosity and shear fabrics present in the phyllite unit and the ultramafics on the southwest side of the property suggest a fault contact (Britten and Rabb, 2011).

Cumulate layers observed in the peridotite are typically small, rare, and discontinuous in nature. Dips are variable with several sub-vertical attitudes and azimuths varying from north to northeast. Britten and Rabb (2011) suggests that the deformation could be related to a northerly trending fold axis but note that there is no indication of similar deformation events in overlying metavolcanic panels. The metavolcanic rocks may represent a lithological unconformity that was underthrust by the Trembleur ultramafic and later translated (Britten and Rabb, 2011).

5.3.3 Alteration

The two major alteration types of the peridotites on the Decar property are serpentinization and Fe carbonate alteration/silicification. The peridotites on the Property are serpentinized to varying degrees; however, there are several parts of the Property that have not been explored within the northwest portion. Serpentinization of the peridotites consists of chrysotile, lizardite, and secondary magnetite as well as minor brucite, awaruite and chromite with trace amounts of pentlandite and heazlewoodite where mostly olivine has been altered in the

peridotites and dunites. Rare, discontinuous crack-seal carbonate micro-veinlets are later stage than all serpentinization-possibly indicative of subsiding metasomatism and brittle deformation (Britten and Rabb, 2011). Pyroxenes are partially to completely altered to serpentine or tremolite and magnetite with minor brucite (Britten and Rabb, 2011).

Several small sericite+chlorite+Fe-Mg carbonate(s)+magnetite±sulphides (primarily pyrite) altered feldspar-porphyry intrusions are spatially associated with an alteration assemblage of Fe-carbonate-silica in the southeast part of the property. This area is dominated by Fe-Mg carbonate alteration with a strong Fe-staining caused by weathering of Fe carbonate alteration. North to northeast trending, moderately east dipping, later stage en echelon quartz veins cross-cut alteration zones in the western end of the feldspar-porphyry intrusion. Listwanite dominates locally with pyrite and rare chalcopyrite associated with this alteration assemblage (Britten and Rabb, 2011).

5.4 Mineralization

The mineralization consists of the nickel-iron alloy awaruite ($Ni_{2-3}Fe$). Awaruite is pervasively disseminated in serpentinized peridotite; it occurs as relatively coarse grains between <50 to 400 µm in size. Awaruite has been observed throughout the entire extent of the peridotite but four zones of stronger mineralization have been delineated. The four zones are the Baptiste, Sidney, Target B and the Van targets (Figure 5-3). The mineralization formed during serpentinization as a result of the break-down of nickeliferous olivine and the formation of the nickel-iron alloy. No structural controls are obvious.

The largest target on the Decar Property is the Baptiste prospect which is ~2.5 km long ~0.6 km wide. A fault forms the edge of the mineralized zone in the southwest, but the mineralization is open in all other directions. The depth of the mineralization at Baptiste has not been determined to date; all drill holes ended in mineralization. Most drill holes were 300 m deep and drilled at an angle of 50° (i.e. to a vertical depth of ~230 m. One drill hole was 600 m long (vertical depth of ~460 m); it also ended in mineralization.

The length, width, depth and continuity of the mineralization at Target B, Sidney and Van have not been determined to date.

Significant portions of all three target areas are occluded by surficial overburden (Britten, 2011).

6.0 DEPOSIT TYPES

The ore mineral at Decar is the Ni-Fe alloy awaruite (Ni_2Fe to Ni_3Fe). Awaruite is hosted by serpentinized peridotite. The mineral forms during serpentinization of peridotite whereby nickeliferous olivine is altered to serpentine minerals and awaruite (+magnetite) under conditions of low oxygen fugacity (Frost, 1985).

Terrestrial awaruite was first described from the west coast of the South Island of New Zealand where it was found in heavy black sand (Ulrich, 1980). It occurs in peridotites in several locations worldwide, including the Dumont nickel deposit, Quebec (Staples et al., 2011). At the Dumont deposit, awaruite occurs as grains of < 1mm; awaruite is spatially associated with magnetite and chromite blebs and occurs where serpentinization is near complete (Staples et al., 2011). Although sulfides are abundant in the Dumont deposit, there are zones where only the Ni-alloy is present.

7.0 DRILLING

The drilling program at Decar was completed between July 1 and October 26, 2011. Thirty five diamond drill holes totalling 10856.7 m were completed at the Baptiste prospect and one diamond drill hole totalling 304.5 was completed at the Target B prospect. Cliffs contracted three drilling companies: Apex Diamond Drilling Ltd. of Smithers, BC, Element Drilling Ltd. of Winnipeg, MB, and Midpoint Drilling Ltd. of Langley, BC. Two helicopter-portable drill rigs, one skid drill rig and one rig that was helicopter-portable but could be converted to be a skid rig were used.

The core diameter of the first 100-150 m of each hole was HQ (63.5 mm). The core diameter of the remainder of the holes was NQ (47.6 mm). The holes were started in HQ in order to be able to reduce to NQ in case of unfavorable ground conditions.

Table 7-1 summarizes the drill hole details. In addition to the holes drilled in 2011, seven holes drilled by First Point in 2010 were also included in the resource estimate. These holes are listed in Table 7-2. Figure 7-1 shows the locations of all holes drilled in 2011 and Figure 7-2 shows the holes drilled at Baptiste in 2010 and 2011.

Table 7-1: Details of the 2011 drill holes.

Hole Number	Claim Number	Easting	Northing	Elevation (m)	Azimuth (°)	Dip (°)	Length (m)
11B001	559616	346398	6087268	1657	180	-60	304.5
11BAP001	575677	349184	6083272	967	332.00	-49	275.0
11BAP002	575675	348671	6083308	1024	0.00	-49	309.0
11BAP003	575675	348421	6083211	1069	10.00	-51	310.9
11BAP004	575675	348246	6083207	1088	10.00	-51	304.5
11BAP005	575677	348846	6083111	995	1.20	-52	304.5

Hole Number	Claim Number	Easting	Northing	Elevation (m)	Azimuth (°)	Dip (°)	Length (m)
11BAP006	575677	348967	6083639	1023	328.70	-47	302.0
11BAP007	575675	348665	6083094	1022	0.00	-50	304.5
11BAP008	575675	348068	6083274	1144	25.00	-49	302.0
11BAP009	575675	348463	6083348	1056	20.00	-50	606.3
11BAP010	575677	349263	6083556	1018	332.00	-50	302.0
11BAP011	575677	349090	6083445	1026	332.50	-49	302.0
11BAP012	575675	348284	6083401	1094	40.00	-52	301.5
11BAP013	575675	348352	6083592	1119	25.00	-50	300.2
11BAP014	575677	349347	6083394	1000	329.10	-52	301.4
11BAP015	575677	349518	6083487	1037	332.00	-50	304.6
11BAP016	575677	348796	6083554	1036	345.00	-50	302.0
11BAP017	575675	348527	6083554	1081	10.00	-48	305.0
11BAP018	575675	347808	6083637	1259	24.20	-53	301.5
11BAP019	575675	347702	6083450	1254	28.00	-51	300.5
11BAP020	575675	348219	6083660	1177	25.00	-49	300.0
11BAP021	575677	349173	6083736	1031	28.00	-47	302.0
11BAP022	575675	347889	6083371	1204	28.00	-54	302.0
11BAP023	575677	349401	6083711	1020	332.50	-51	301.1
11BAP024	575677	349085	6083913	1060	319.80	-49	302.0
11BAP025	575675	347534	6083560	1255	28.00	-50	301.4
11BAP026	575677	348901	6083816	1063	332.50	-49	305.0
11BAP027	575675	347723	6083897	1318	23.00	-52	301.5
11BAP028	575675	347355	6083639	1269	28.00	-51	298.4
11BAP029	575675	347988	6083560	1199	28.00	-48	298.4
11BAP030	575677	349348	6083852	1038	303.10	-49	301.5
11BAP031	575677	348740	6083741	1079	345.00	-49	301.0
11BAP032	575675	348083	6083739	1239	28.00	-50	304.8
11BAP033	575677	349588	6083810	1032	326.00	-50	301.4
11BAP034	575675	347623	6083732	1296	28.00	-49	298.4
11BAP035	575675	347940	6083796	1275	32.40	-50	298.4
TOTAL 2011							**11161.2**

Table 7-2: Details of the 2010 drill holes included in the current resource estimate.

Hole Number	Claim Number	Easting	Northing	Elevation (m)	Azimuth (°)	Dip (°)	Length (m)
2010DDH001	575677	349025	6083205	970	330.00	-50	322.2
2010DDH002	575677	348870	6083375	978	330.00	-50	306.9
2010DDH003	575675	348135	6083475	1142	50.00	-50	340.5
2010DDH004	575675	348135	6083475	1142	330.00	-50	93.0
2010DDH005	575677	349700	6083653	1018	50.00	-50	236.8
2010DDH006	575677	349700	6083653	1018	330.00	-50	340.5
2010DDH007	575677	349025	6083205	970	150.00	-50	71.0
TOTAL							**1710.8**

The collar coordinates were surveyed using a differential global positioning system (DGPS), with the exception of drill hole 11B001 which was surveyed with a hand-held GPS. The downhole surveying was completed using a Reflex Gyro downhole survey instrument for most holes and with a Reflex EZ-Shot downhole survey instrument for the remaining holes.

The average thickness of the overburden was 12.55 m although much thinner overburden was observed locally (minimum thickness: 2.25 m; maximum thickness: 44.8 m).

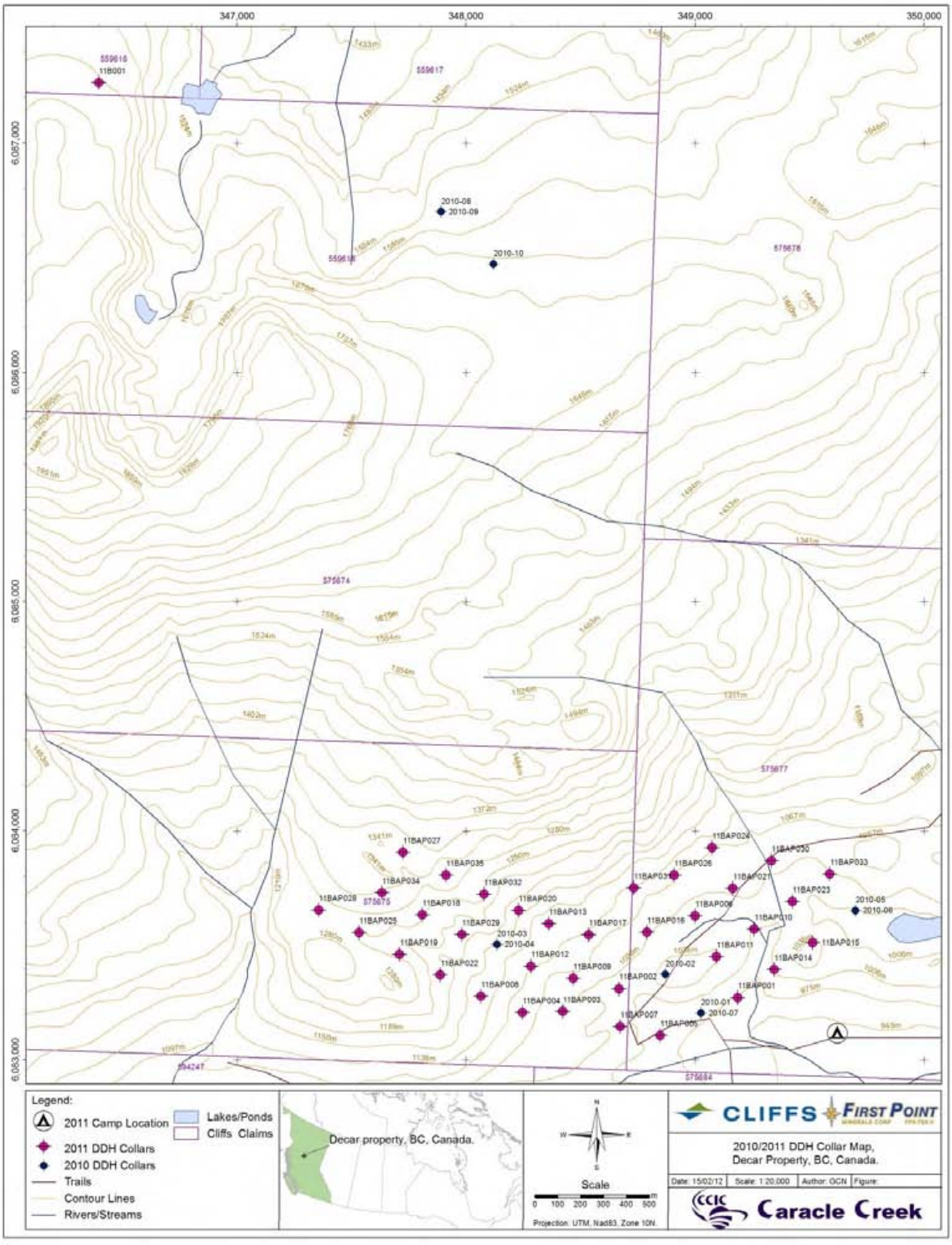

Figure 7-1: Map showing all holes drilled in 2011. Drill holes 2010-08, -09, -10 were drilled at the Sidney target in 2010. Hole 11B001 was drilled in the Target B area in 2011.

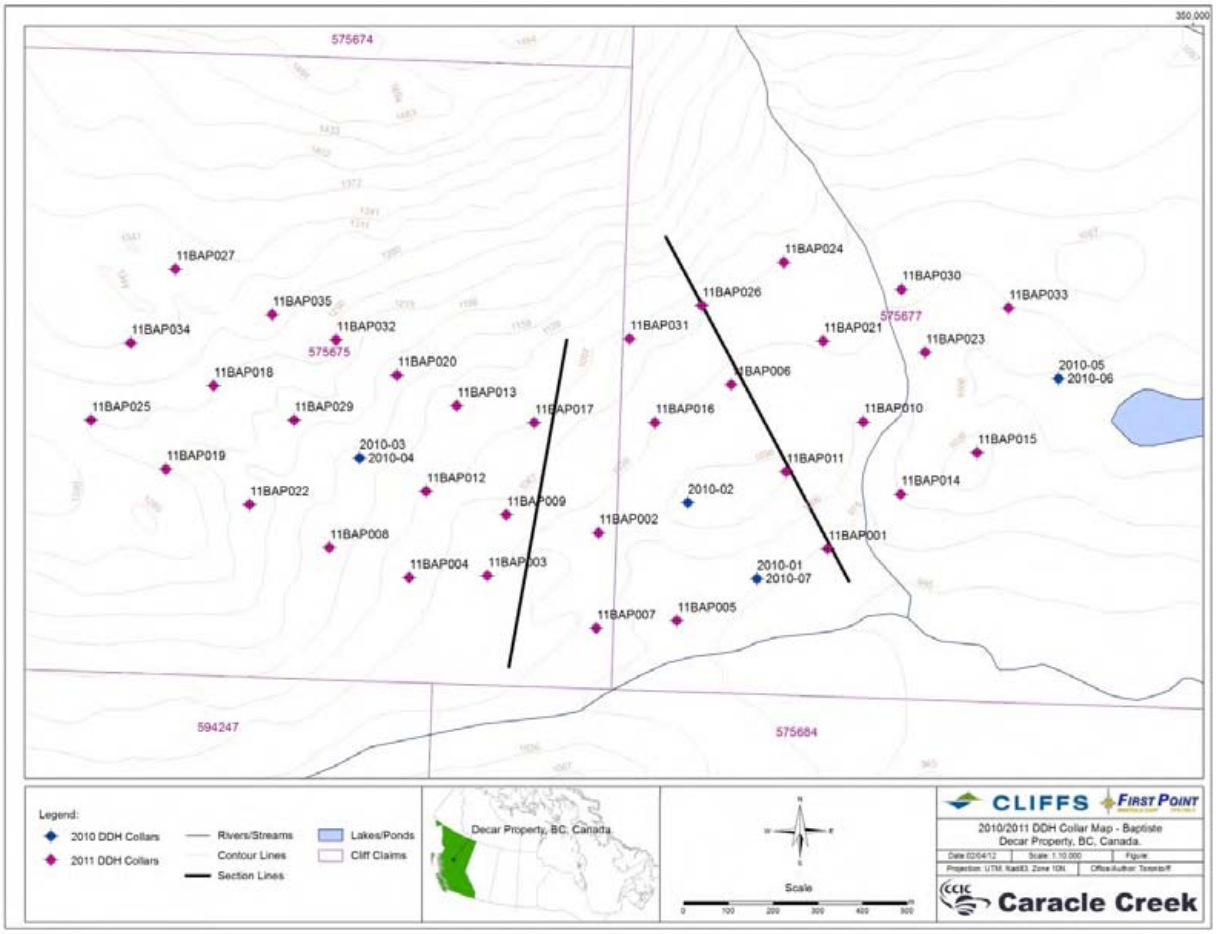

Figure 7-2: Drill holes drilled at the Baptiste prospect. The black lines show the directions of the cross-sections shown in Figures 7-4 and 7-5.

The drill core was placed in wooden core trays at the drill site, labelled with the hole ID and box number and logged on site. The core boxes were labelled with aluminium tag indicating the hole number and the core interval stored in each box.

The core is stored in core racks outside of the core logging facility. The core storage racks are fenced with a locked gate (Figure 7-3).

Abundant fractures and faults occurred in the Decar drill core which resulted in average core recoveries of only ~90 %.

All holes were sampled in regular intervals: a one meter sample was collected every four meters for the entire length of the hole.

Figure 7-3: Core storage location in Fort St. James, BC.

7.1 Drill Data and Drilling Results

Pervasive, disseminated awaruite mineralization is present consistently in peridotite in all drill holes which is consistent with the interpretation that awaruite formed during serpentinization of the peridotite. Figure 7-4 and Figure 7-5 show sections through the ore body demonstrating the continuity and homogeneity of the mineralization; the locations of section lines are shown Figure 7-2. The various dykes cross-cutting the peridotites are unmineralized. The average total Ni grade in the peridotite is approximately 0.199 % Ni, including Ni hosted

in silicates and Ni hosted in awaruite. Only Ni hosted in awaruite is recoverable. Awaruite is strongly magnetic and can be recovered by Davis tube analysis; therefore, Ni hosted by awaruite is termed Davis tube recoverable (DTR) Ni in this Report. The DTR Ni grade is slightly more variable within the peridotite than total Ni (Figure 7-6; Figure 7-7) with holes 11BAP002, 11BAP0015, 11BAP024, 11BAP026, 11BAP031 and 11BAP033 exhibiting low grade zones of several tens of meters (e.g., Figure 7-8) with total Ni grades equally high as in the rest of the holes. Samples in all other holes exhibit consistent grade averaging 0.11 % DTR Ni, with maximum values of 0.2 % DTR Ni.

The mineralization is cut-off by a fault in the southwest but appears to be open in all other directions, including at depth. The true thickness of the mineralized zone is therefore unknown to date.

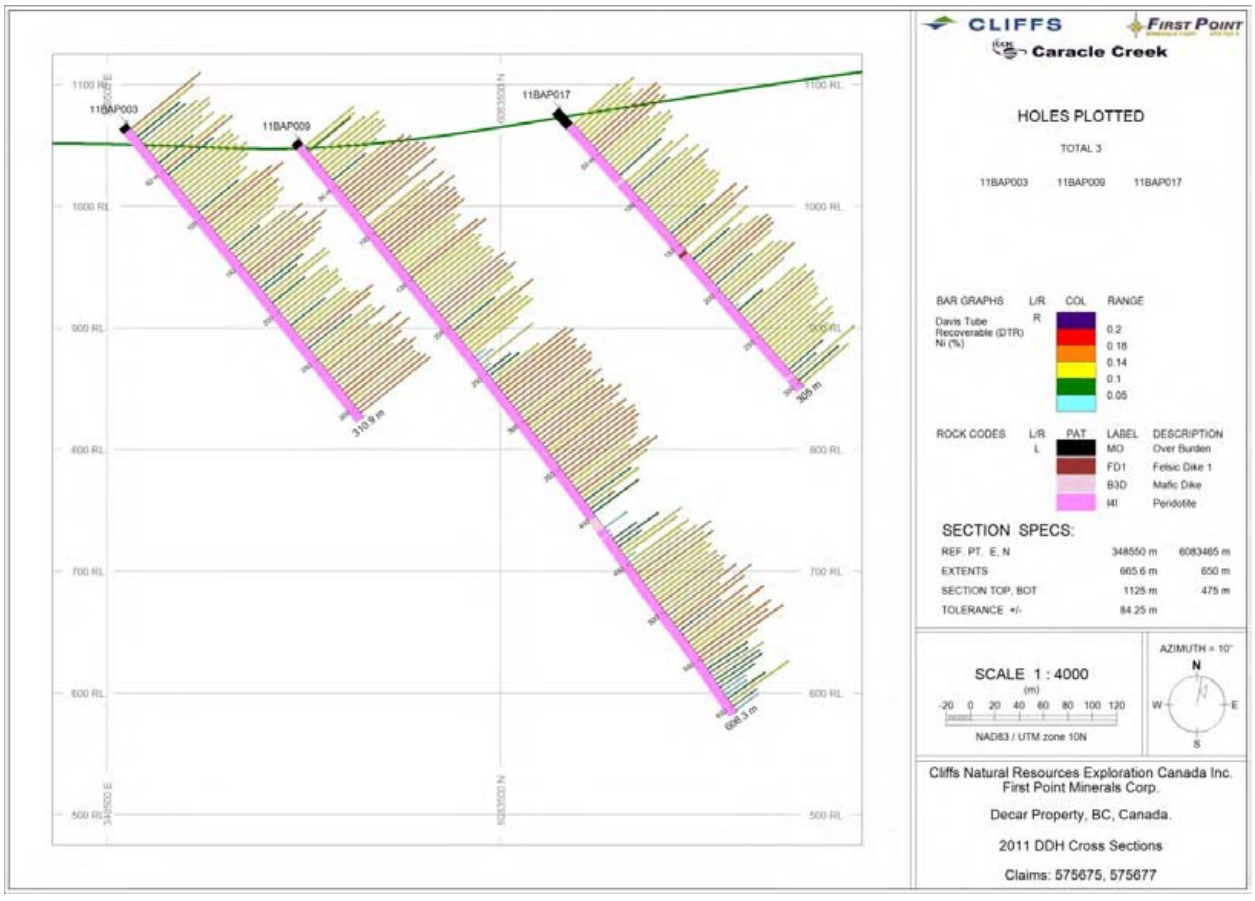

Figure 7-4: NNE-SSW cross-section along holes 11BAP003, 11BAP009 and 11BAP017.

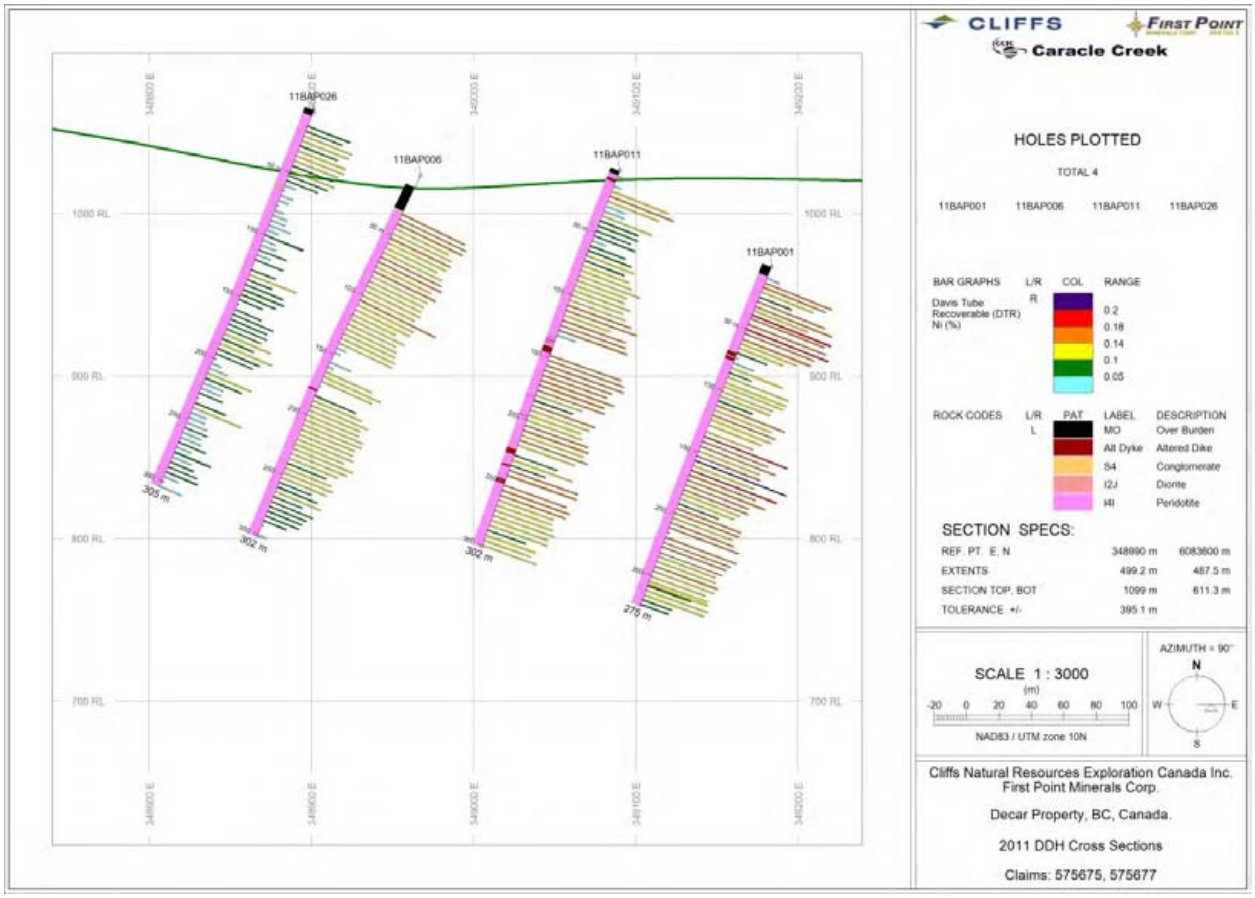

Figure 7-5: NW-SE cross-section along holes 11BAP001, 11BAP011, 11BAP006 and 11BAP026.

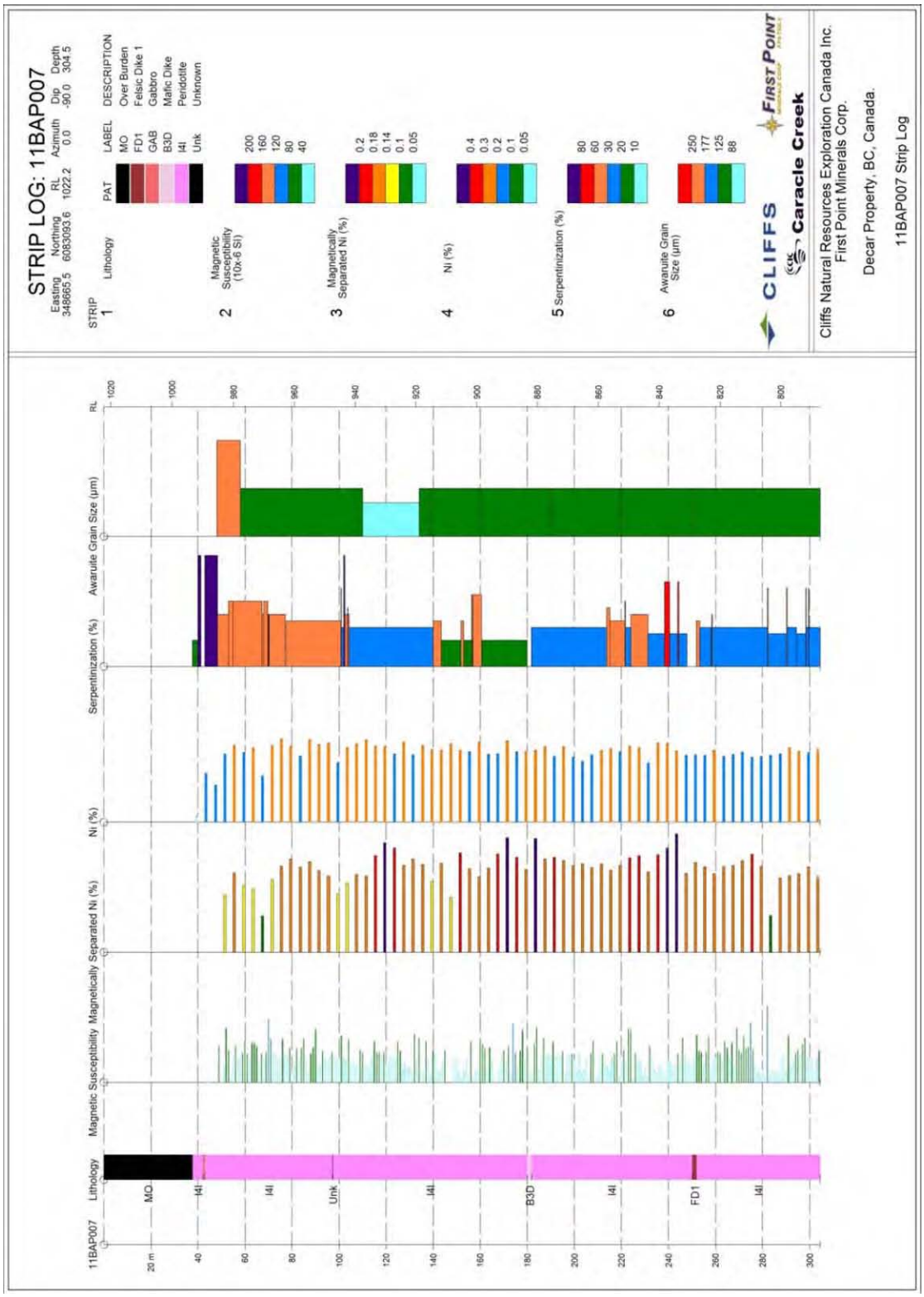

Figure 7-6: Strip log of hole 11BAP007.

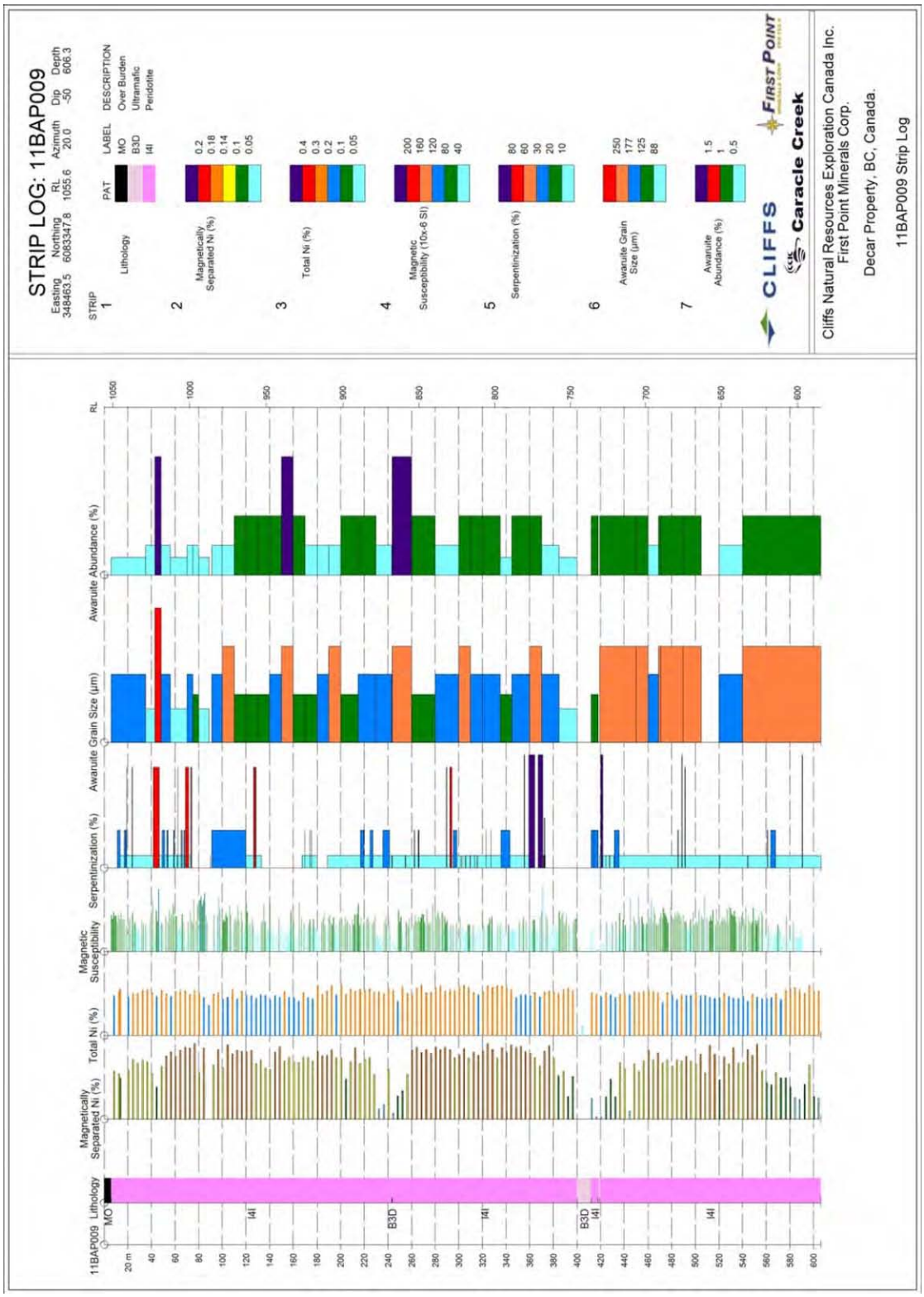

Figure 7-7: Strip log of hole 11BAP009.

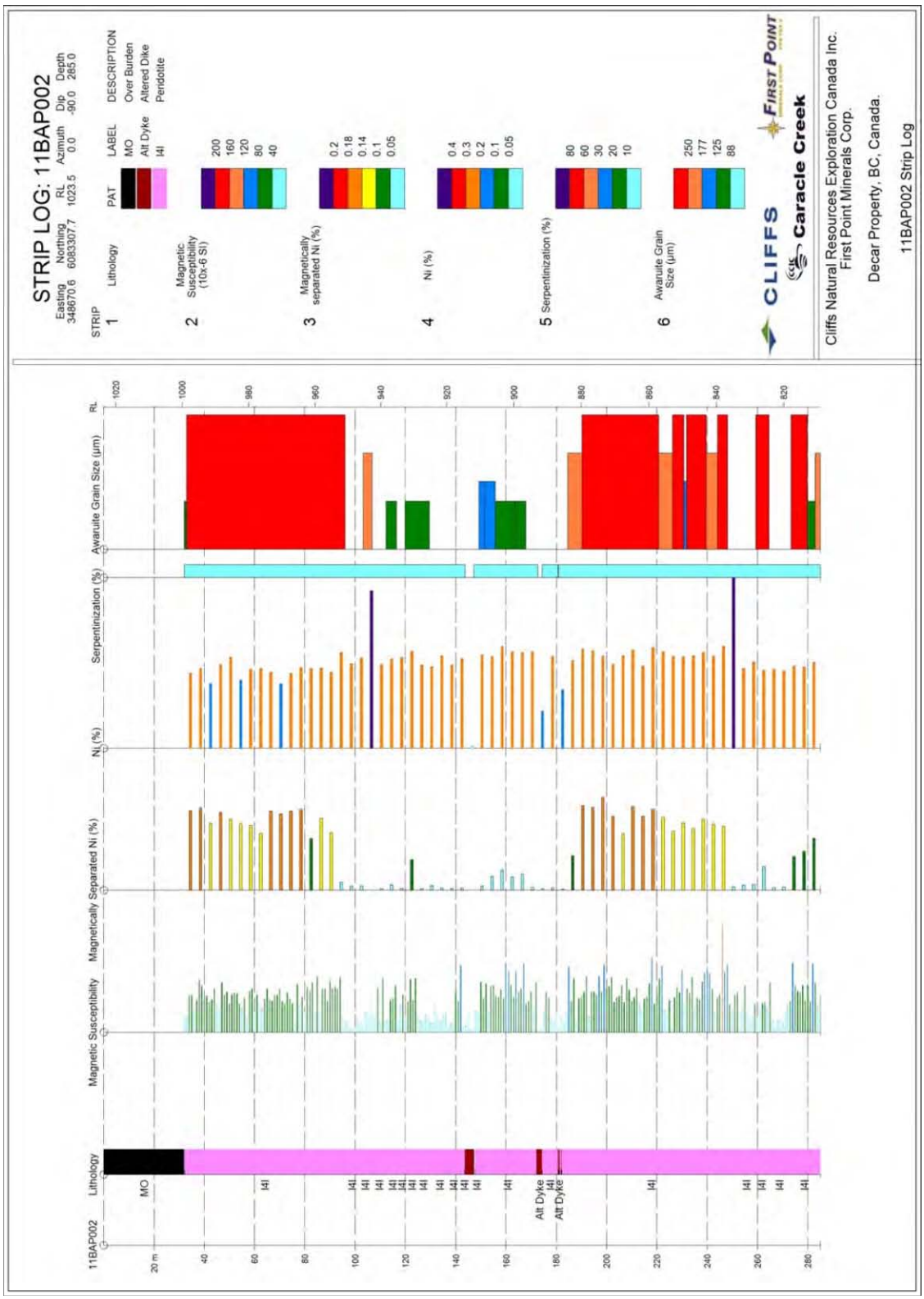

Figure 7-8: Strip log of hole 11BAP002. The Davis tube recoverable (DTR) Ni is low from ~100 m to 180 m.

8.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

8.1 Sample Preparation

Drill core selected for sampling was cut in half using core saws. Drill core samples of 1 m length were collected every fourth meter along the drill hole, irrespective of rock type. Samples were put in plastic bags with pre-numbered sample tags. Certified reference materials (CRM) and blanks were inserted into the sample stream in regular intervals: every 20th sample was a CRM or a blank. CRM OREAS 13b, produced by Ore Research and Exploration Pty Ltd. ("ORE"), was used as a CRM for the ICP analyses and CRM OREAS 73a, also produced by ORE, was used for the XRF analyses. Table 8-1 lists the average Ni values and standard deviations of the CRMs.

Table 8-1: Overview of the certified reference materials (CRM) used during the 2011 drilling program.

CRM Name	Average Ni	Standard Deviation	Method	Matrix
OREAS 13b	2247 ppm	155 ppm	4-acid digestion	PGE, Cu, Ni, Au in gabbro
OREAS 73a	1.44%	0.06%	Fusion	Ni-sulfide in ultramafic material

Coarse-grained silica purchased from Analytical Solutions Inc. was used as blank for the ICP and XRF analyses.

Every 25th sample was cut in half again and the quarter core sample was analyzed as a duplicate. In addition, 50 kg of representative Decar peridotite was homogenized and ground to 200 mesh by Cliffs. This material was inserted into the samples stream to test the repeatability of the Davis tube metallurgical analysis.

Individual sample bags were collected in rice bags, transported to Smithers, BC, by the camp expediter CJL Enterprises and shipped to the Activation Laboratories ("Actlabs"), Ancaster, ON, by Bandsra Transportation Systems Ltd. via transport truck. Actlabs' quality system is accredited to the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 17025 standards. The ISO/IEC 17025 certification includes ISO 9001 and ISO 9002 specifications (www.actlabs.com). There is no relationship between Actlabs and Cliffs other than that Cliffs has engaged Actlabs to complete the analysis of the Decar drill core samples.

The drill core was transported to Fort St. James where it is stored at 1390 Highway 27. The core storage area is surrounded by a chain-link and barb-wire fence (Figure 8-1, Figure 8-2).

Figure 8-1: Core storage area in Fort St. James

Figure 8-2: Drill core is wrapped and stored on pallets.

8.2 Sample Analyses

At Actlabs, the drill core samples were crushed up to 85 % passing 10 mesh (2 mm), 250 g were split and pulverized to 95 % passing 200 mesh (74 µm).

Three different analyses were performed on all samples:

(1) Major oxides (whole rock) + selected trace elements (incl. Ni and Cr) by Li metaborite/tetraborate fusion and instrument finish (ICP)

(2) Davis tube magnetic separation using the parameters listed in Table 8-2

(3) Major oxides (whole rock) + selected trace elements (incl. Ni and Cr) of the Davis tube magnetic concentrate by Li metaborite/tetraborate fusion X-ray fluorescence (XRF)

Table 8-2: Parameters of the Davis tube analysis.

Parameter	Value
Magnetic field strength (Gauss)	3500
Flow rate (ml/min)	400
Tube angle (degree)	45
Stroke rate (strokes/min)	90
Tube diameter (OD, mm)	40
Agitation period (min)	9
Start mass (g)	30

A total of 2938 samples were analyzed.

Specific gravity measurements were completed on 325 samples by measuring the mass of the drill core samples in air and in water and calculating the specific gravity using the following formula: (mass of sample in air)/((mass of sample in air) – (mass of sample in water)).

The sample preparation, security and analytical procedures are adequate.

9.0 DATA VERIFICATION

9.1 Caracle Creek Site Visit

Caracle Creek geologist Elisabeth Ronacher visited the Property on October 5 and 6, 2011. During the site visit, core from drill holes 11BAP019, 11BAP024 and 11 BAP022 was inspected (Figure 9-1). The core shack and core cutting facilities were visited (Figure 9-2). In addition, a helicopter tour of the Baptiste, Sidney, Van and Target B prospects was completed. This tour provided an excellent overview of the topography and drainage of the Property and access to the Property.

Figure 9-1: Drill core from hole 11BAP024, 185 m. The rocks are strongly serpentinized with relict pyroxene and olivine in a serpentine matrix.

Figure 9-2: Core logging facility at Decar.

9.2 Assay Quality Control

9.2.1 External Certified Reference Materials (CRM)

Two CRMs were added to the samples stream, OREAS 13b and OREAS 73a. Every 20th sample was either a CRM or a blank. The certified average values and standard deviations for Ni are provided in Table 8-1. Quality control analysis consists of verifying the analyzed value of the CRM. CRM analysis results are considered acceptable if they fall within ± 3 standard deviations of the certified average value.

OREAS 13b was analyzed by ICP and all of the 83 CRMs passed (Figure 9-3). A slight bias low was observed in the first batch of samples whereas the CRM in batches starting with job A11-13075 showed a slight bias high.

The performance of this standard is acceptable. OREAS 13b was also analyzed by XRF. As expected, the confidence limits are significantly lower for the XRF analysis; a slight bias was observed.

OREAS 73a was analyzed by XRF and all 81 CRMs passed (Figure 9-4). The variability of the standard results is very low indicating that the standard deviations as defined for lithium-metaborate fusion ICP analysis are less tight than for lithium-metaborate fusion XRF analysis (pers. commun. Craig Hamlin, Ore Research & Exploration Pty Ltd, June 23, 2012).

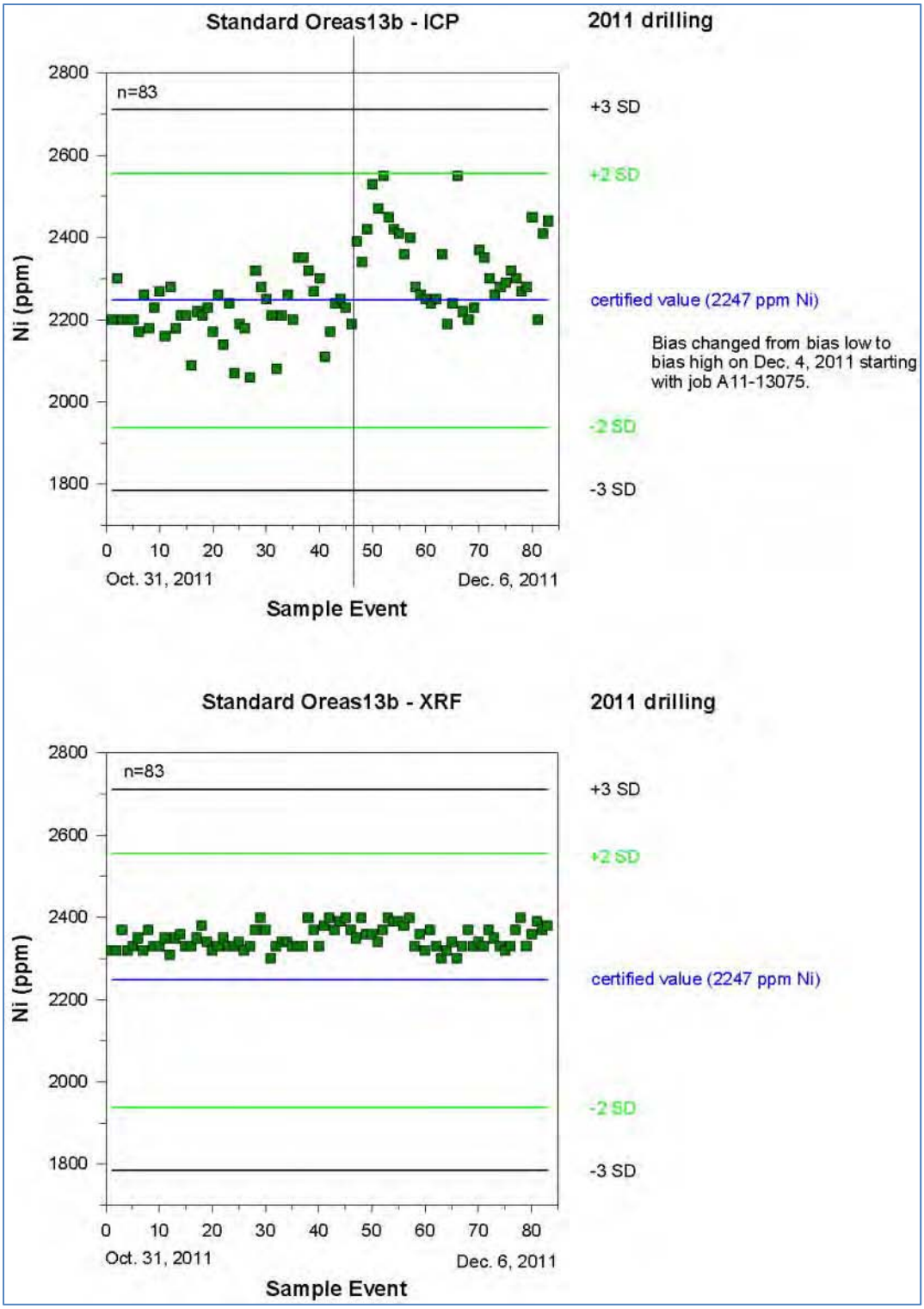

Figure 9-3: Performance of OREAS 13b with time.

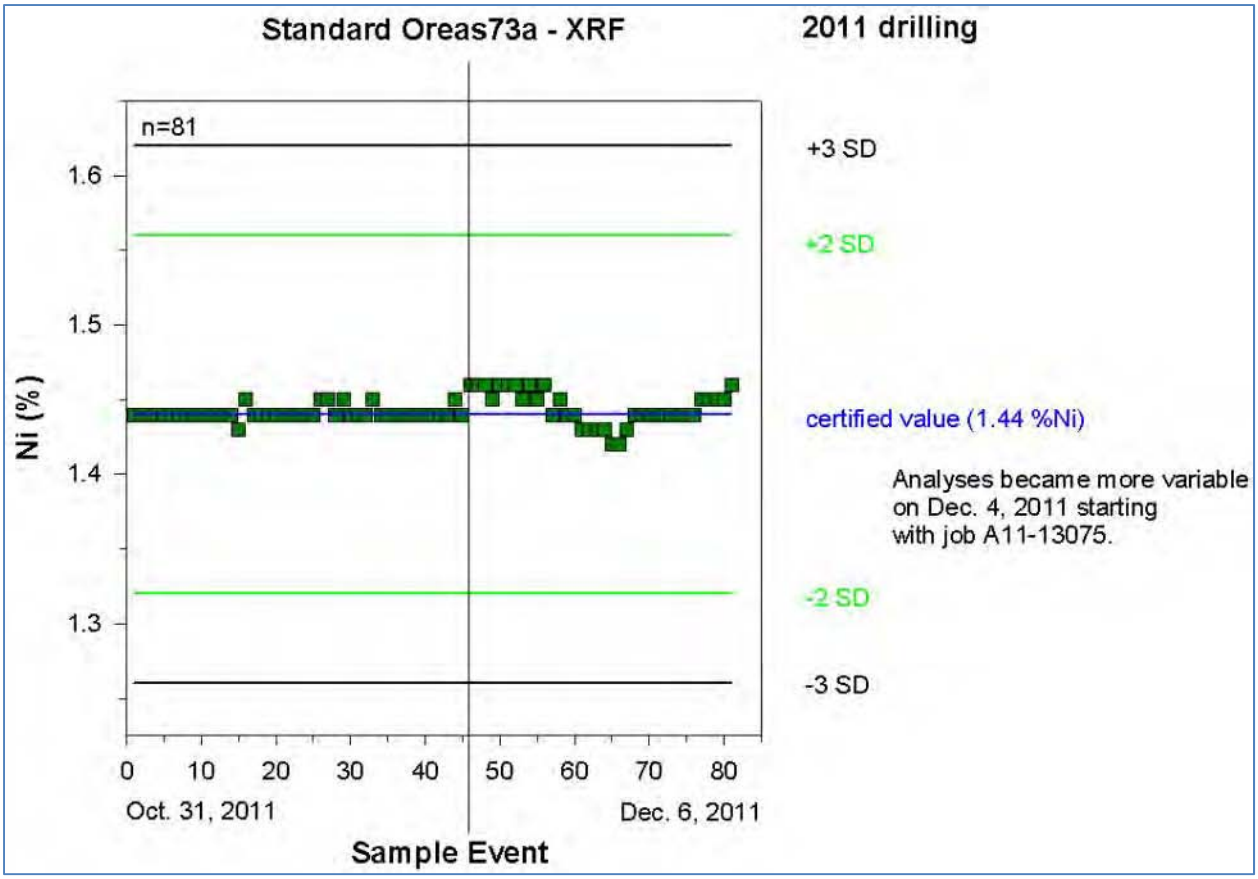

Figure 9-4: Performance of OREAS 73a with time.

9.2.2 Blanks

The performance of the blanks inserted into the sample stream is shown in Figure 9-5. Blanks are considered acceptable if they fall within 3 times the detection limit for the element of interest. The detection limit for Ni was 0.01 % for the ICP analysis and 0.003 % for the XRF analysis. All ICP blanks passed; one XRF blank failed. The single XRF blank failure is likely due to a sample mix up. The blank performance is acceptable.

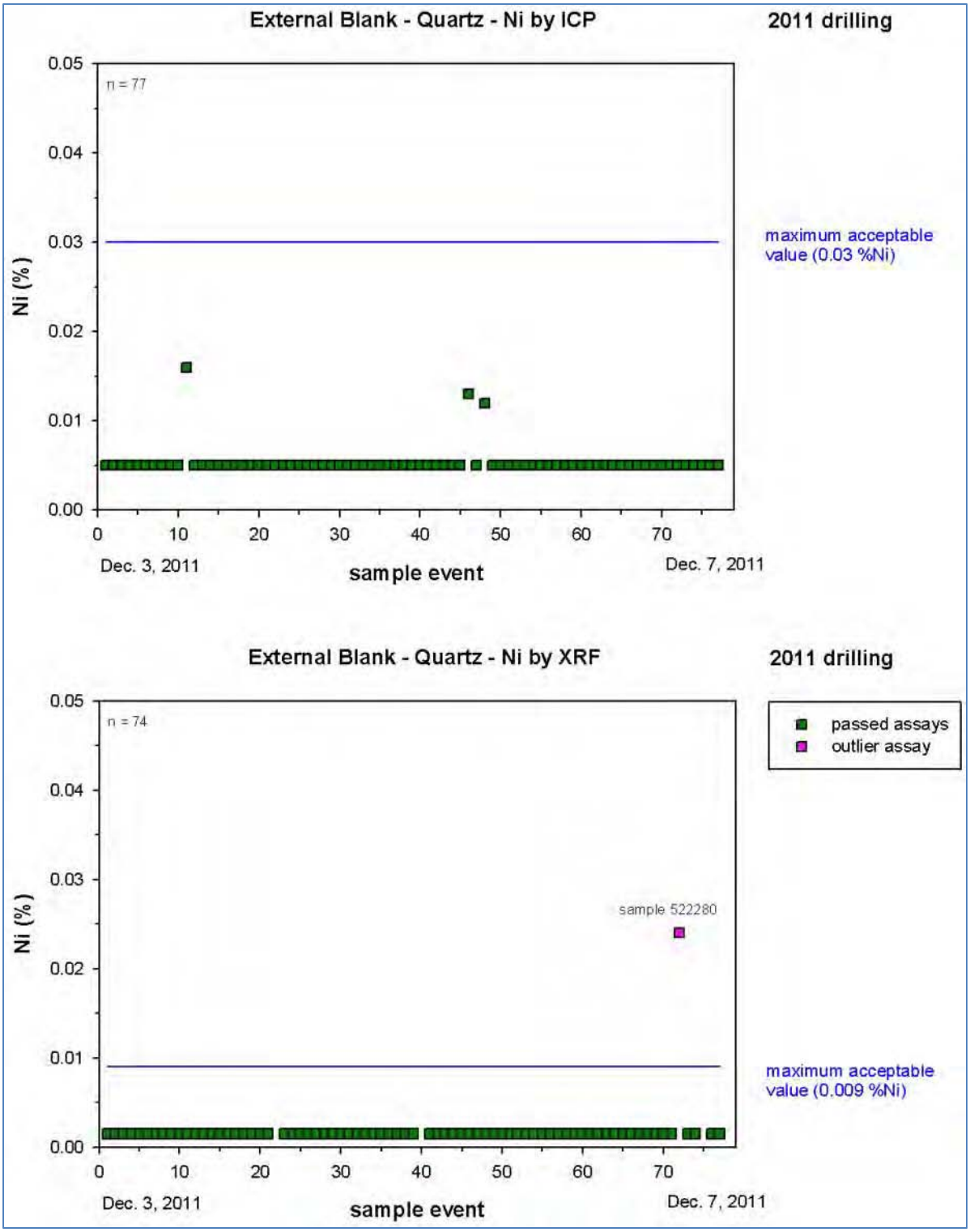

Figure 9-5: Performance of blanks inserted into the sample stream.

9.2.3 Core Duplicates

Quarter core duplicates of every 25th sample were analyzed by ICP, Davis tube and XRF. The head sample Ni by ICP duplicates are shown in Figure 9-6. The original sample is plotted on the abscissa and the duplicate on the ordinate. A regression line was calculated after eliminating 13 outliers which results in a failure rate of 8.1 % given that the total population consisted of 161 samples. The correlation coefficient is 0.92 which is acceptable for core duplicates. The blue lines in Figure 9-6 to Figure 9-18 are 95% confidence bands representing the uncertainties of the estimated regression line based on the duplicate data. The red lines are 95% prediction bands covering the area that additional duplicates are predicted to fall in at a 95% confidence level.

The second plot in Figure 9-6 to Figure 9-18 shows the absolute difference between the pairs plotted against the duplicate pair mean. This plot is another graphic representation of the relationship between grade and precision where lower grades have a smaller pair absolute difference than higher grades.

Figure 9-7 shows the Davis tube magnetic fraction for the core duplicates. The correlation coefficient is 0.91 excluding 13 outliers and the failure rate is 8.7 %.

Figure 9-8 shows the correlation between original and core duplicate samples for Davis tube concentrate Ni as analyzed by XRF. The correlation coefficient is 0.92 excluding 9 outliers and the failure rate is 6 %.

Figure 9-9 shows the correlation between original and core duplicate samples for Davis tube recoverable Ni. The correlation coefficient is 0.94 excluding 9 outliers and the failure rate is 6 %.

All core duplicates are acceptable.

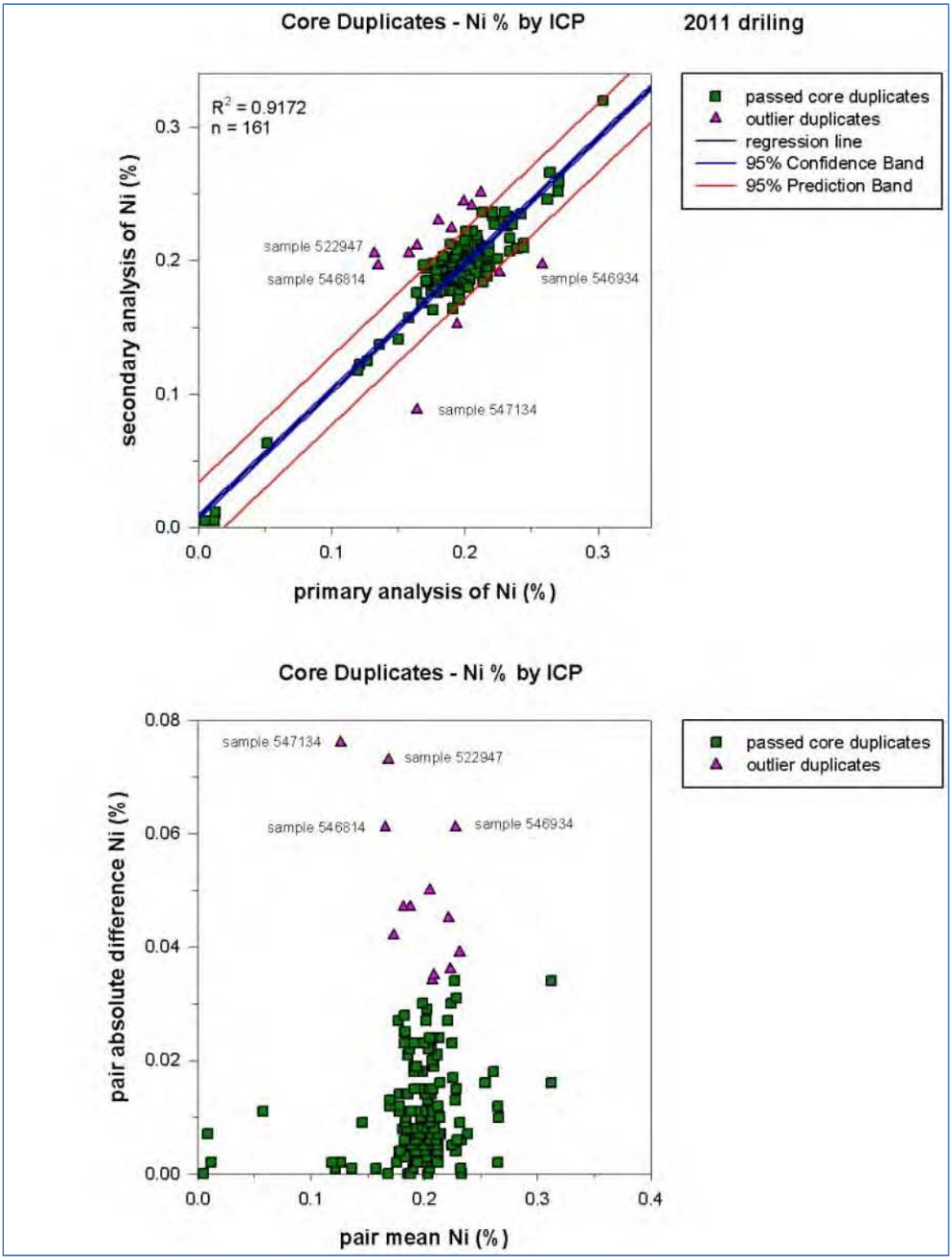

Figure 9-6: Performance of core duplicates for Ni as analyzed by ICP.

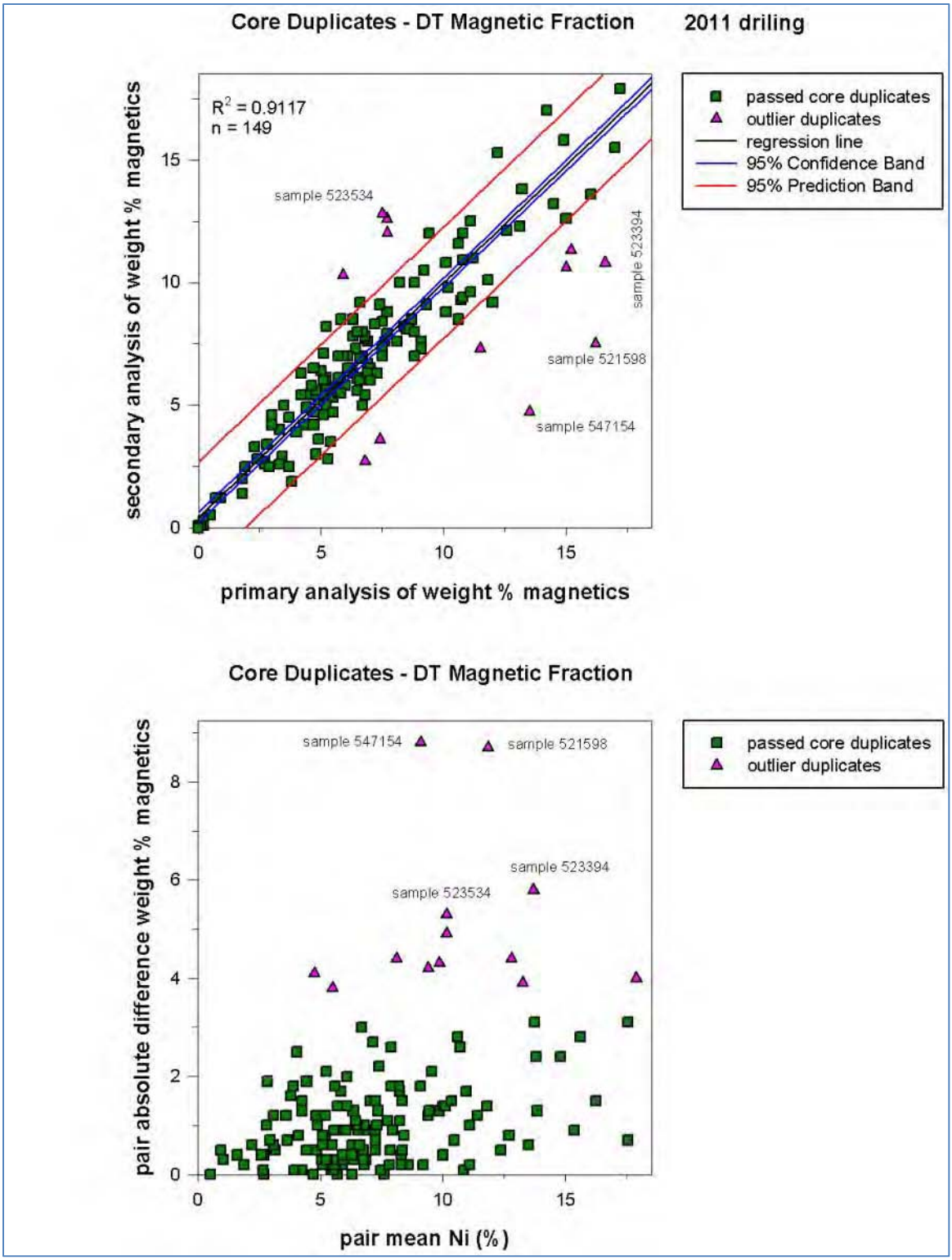

Figure 9-7: Performance of the Davis tube magnetic fraction of the core duplicates.

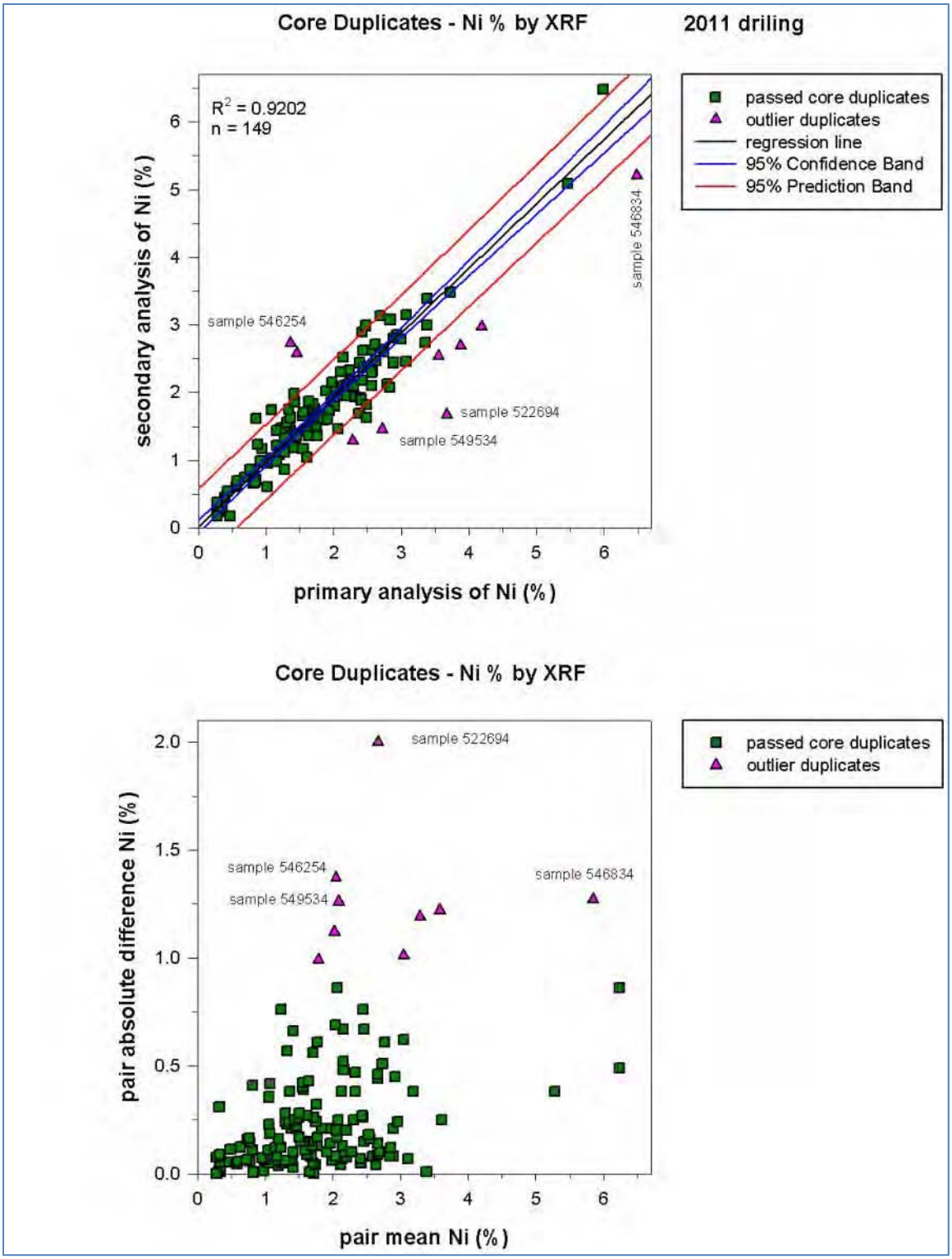

Figure 9-8: Performance of core duplicates for Ni as analyzed by XRF on the Davis tube concentrate.

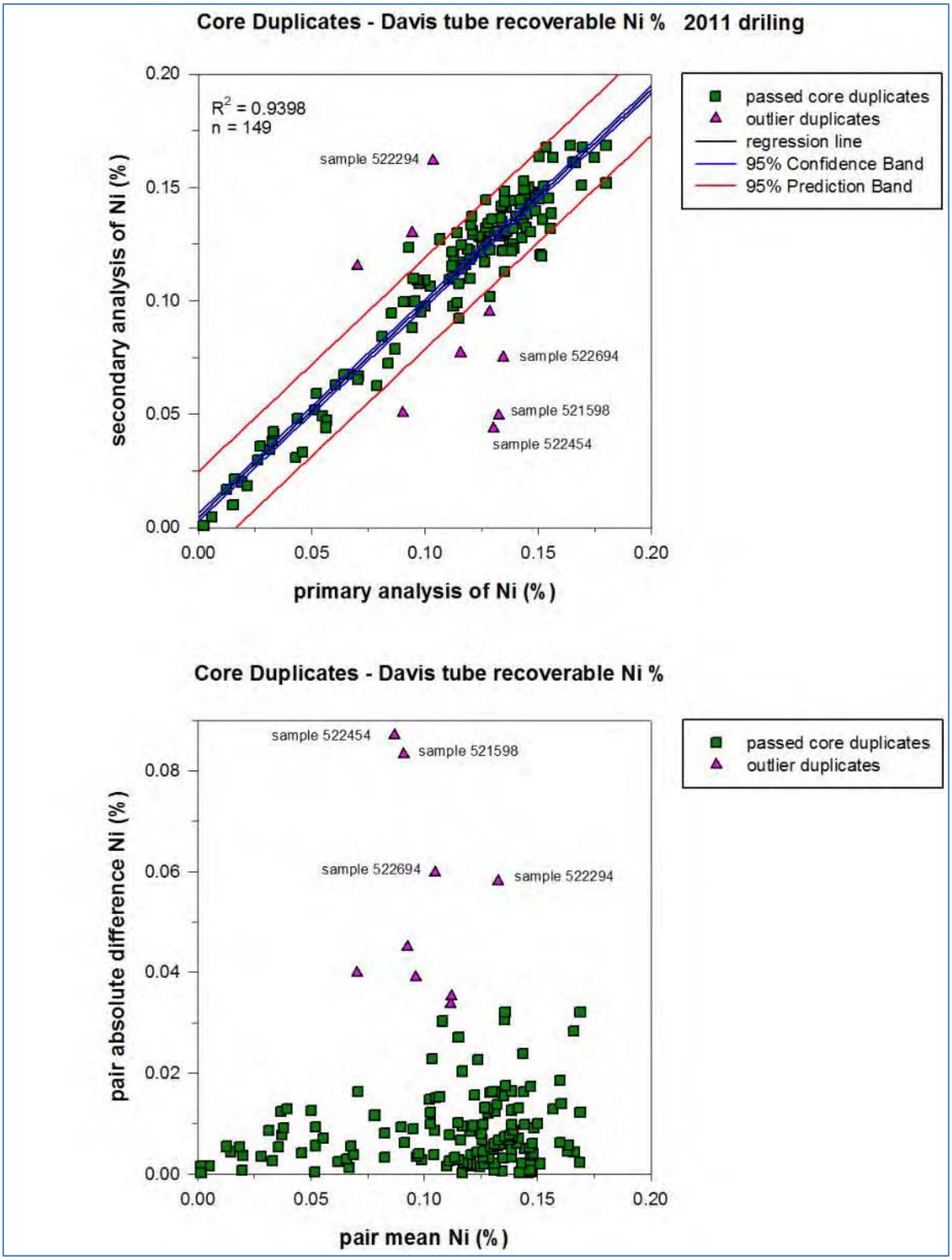

Figure 9-9: Performance of core duplicates for Davis tube recoverable Ni.

9.2.4 Preparation Duplicates

Actlabs inserted preparation duplicates as a routine internal QC measure. Preparation duplicates are duplicates of the coarse crush material and measure the error of sample size reduction and analysis.

Figure 9-10 shows the preparation duplicates for Ni as analyzed by ICP. The correlation coefficient is 0.94 excluding 6 outliers and the failure rate is 7.3 %.

Figure 9-11 shows the preparation duplicates for the Davis tube magnetic fraction. The correlation coefficient is 0.94 excluding 5 outliers and the failure rate is 8.9 %.

Figure 9-12 shows the preparation duplicates for Ni as analyzed by XRF. The correlation coefficient is 0.93 excluding 4 outliers and the failure rate is 9.5 %.

Figure 9-13 shows the preparation duplicates for the Davis tube recoverable Ni. The correlation coefficient is 0.90 excluding 4 outliers and the failure rate is 9.3 %.

The preparation duplicates are acceptable, however, Caracle Creek recommends that Actlabs inserts preparation duplicates in regular and more frequent intervals in the future. This will allow for more statistically meaningful analysis and interpretation of the preparation duplicates.

9.2.5 Pulp Duplicates

Actlabs inserted pulp duplicates for the Ni ICP and XRF analysis but did not use pulp duplicates for the Davis tube analysis. Figure 9-14 shows the pulp duplicates for Ni analyzed by ICP. The correlation coefficient is 0.97 excluding 4 outliers and the failure rate is 1.9 %. Figure 9-15 shows the pulp duplicates for Ni analyzed by XRF. The correlation coefficient is 0.97. There are 2 outliers and the failure rate is 10.5 %.

The pulp duplicates for ICP and XRF are acceptable. Caracle Creek recommends that Actlabs include pulp duplicates for the Davis tube in the future.

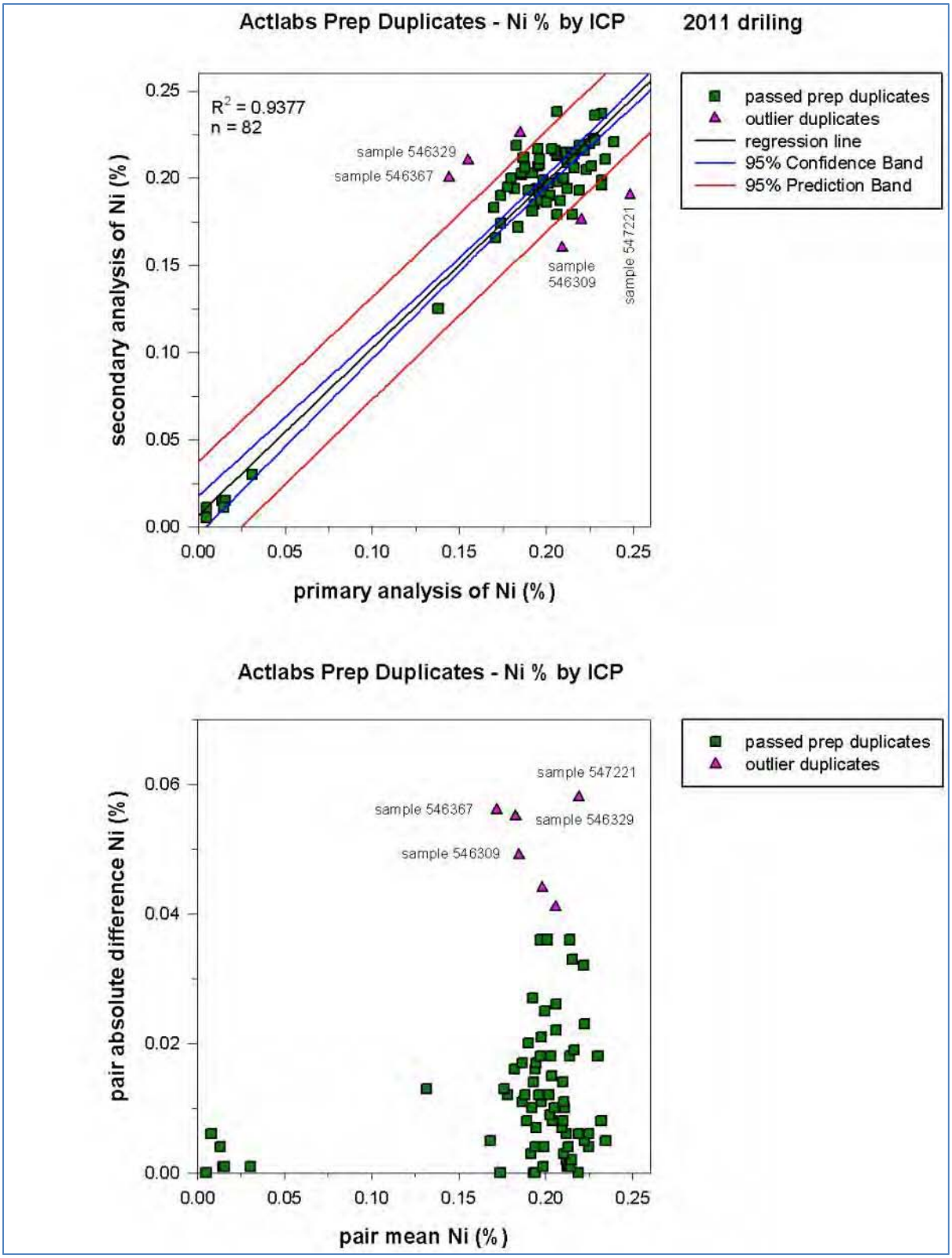

Figure 9-10: Performance of preparation duplicates for Ni as analyzed by ICP

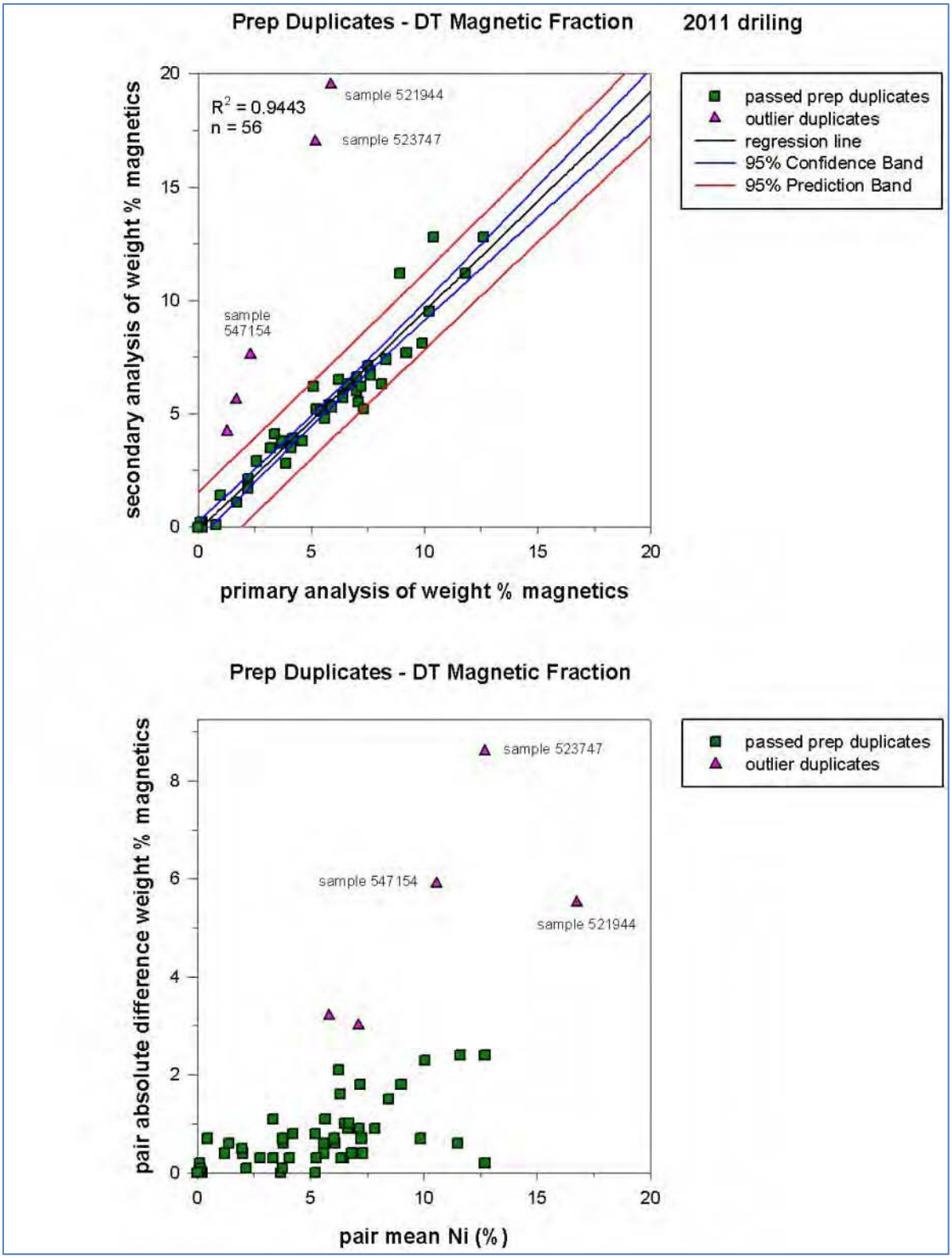

Figure 9-11: Performance of the Davis tube magnetic fraction of the preparation duplicates.

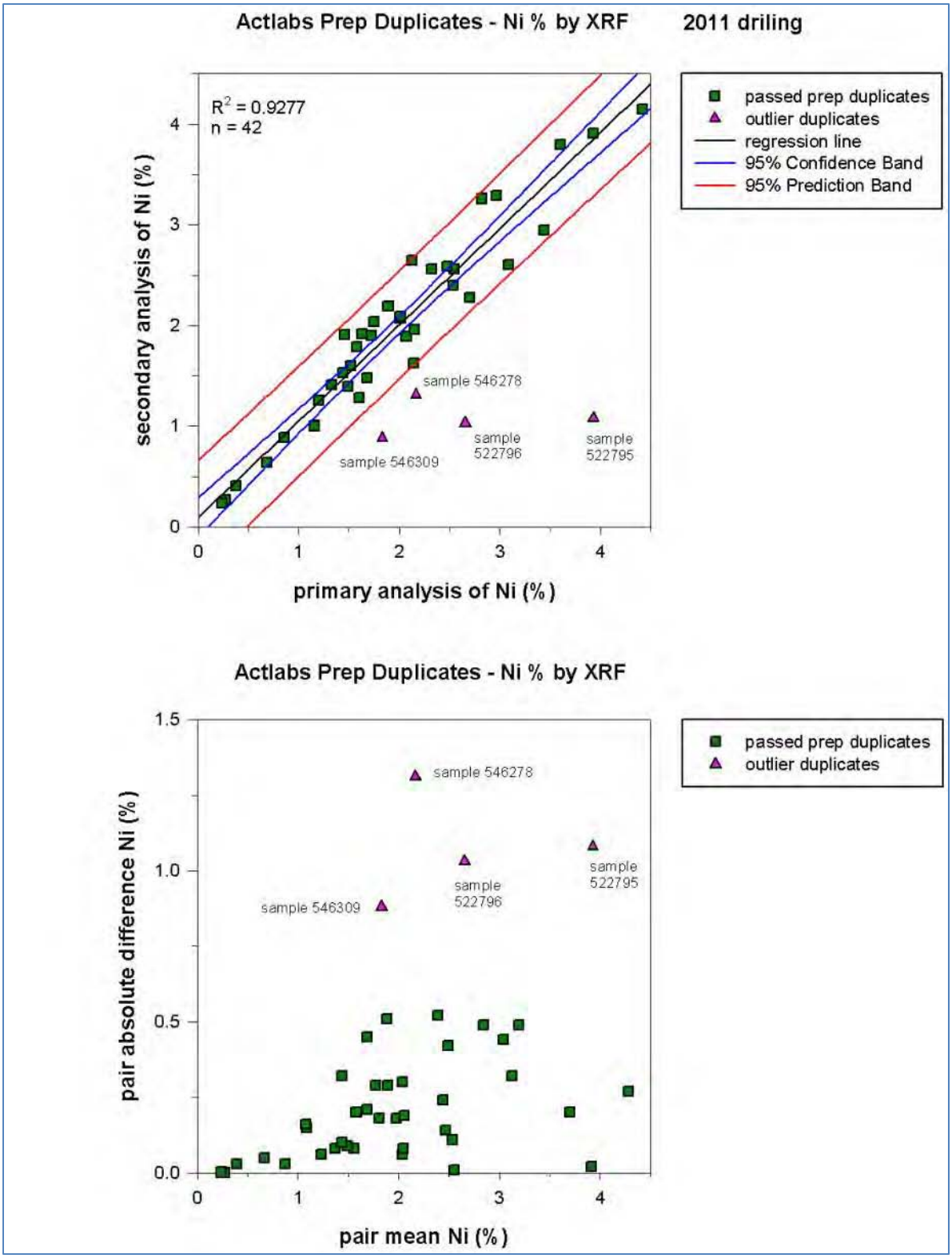

Figure 9-12: Performance of preparation duplicates for Ni as analyzed by XRF on the Davis tube concentrate.

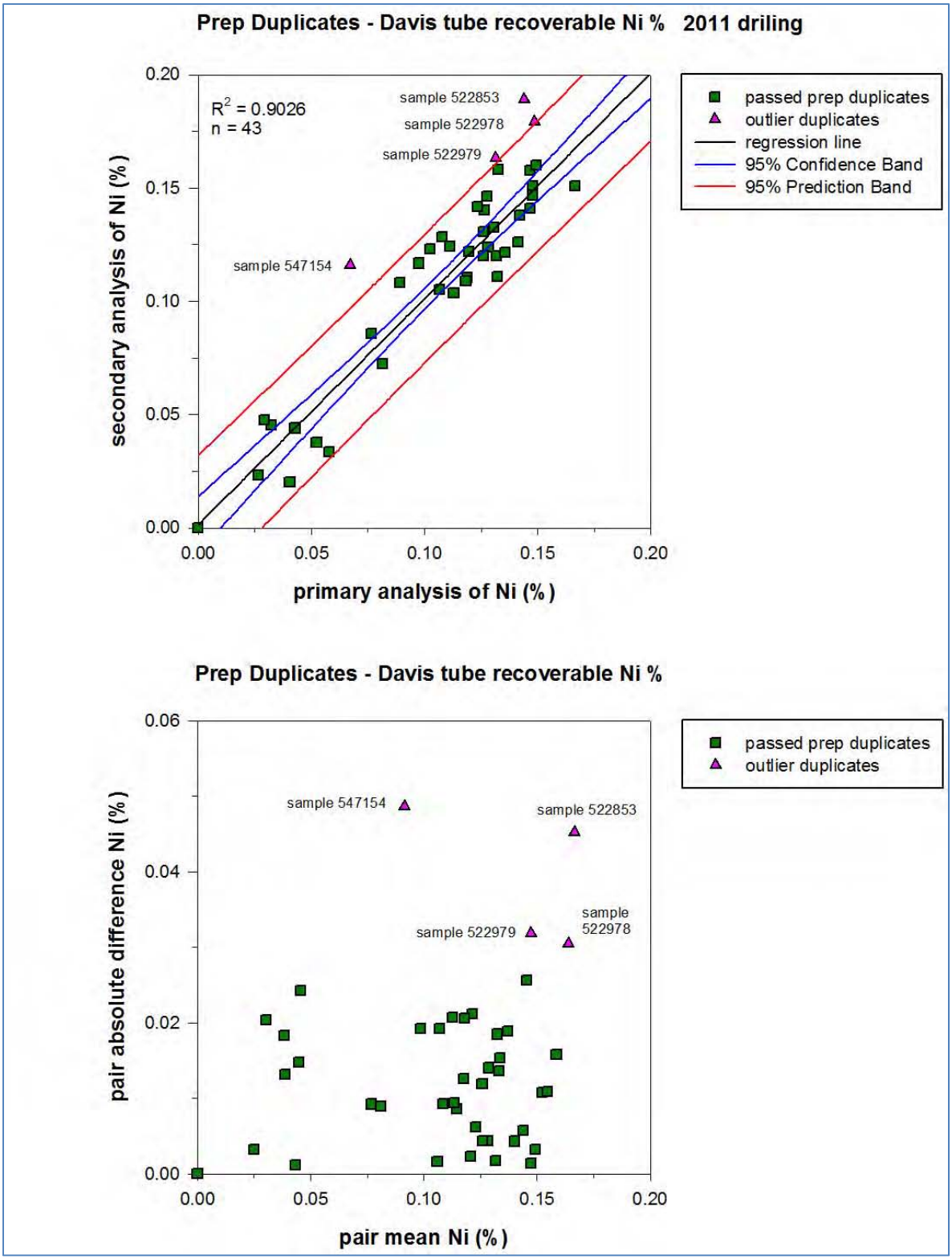

Figure 9-13: Performance of preparation duplicates for Davis tube recoverable Ni.

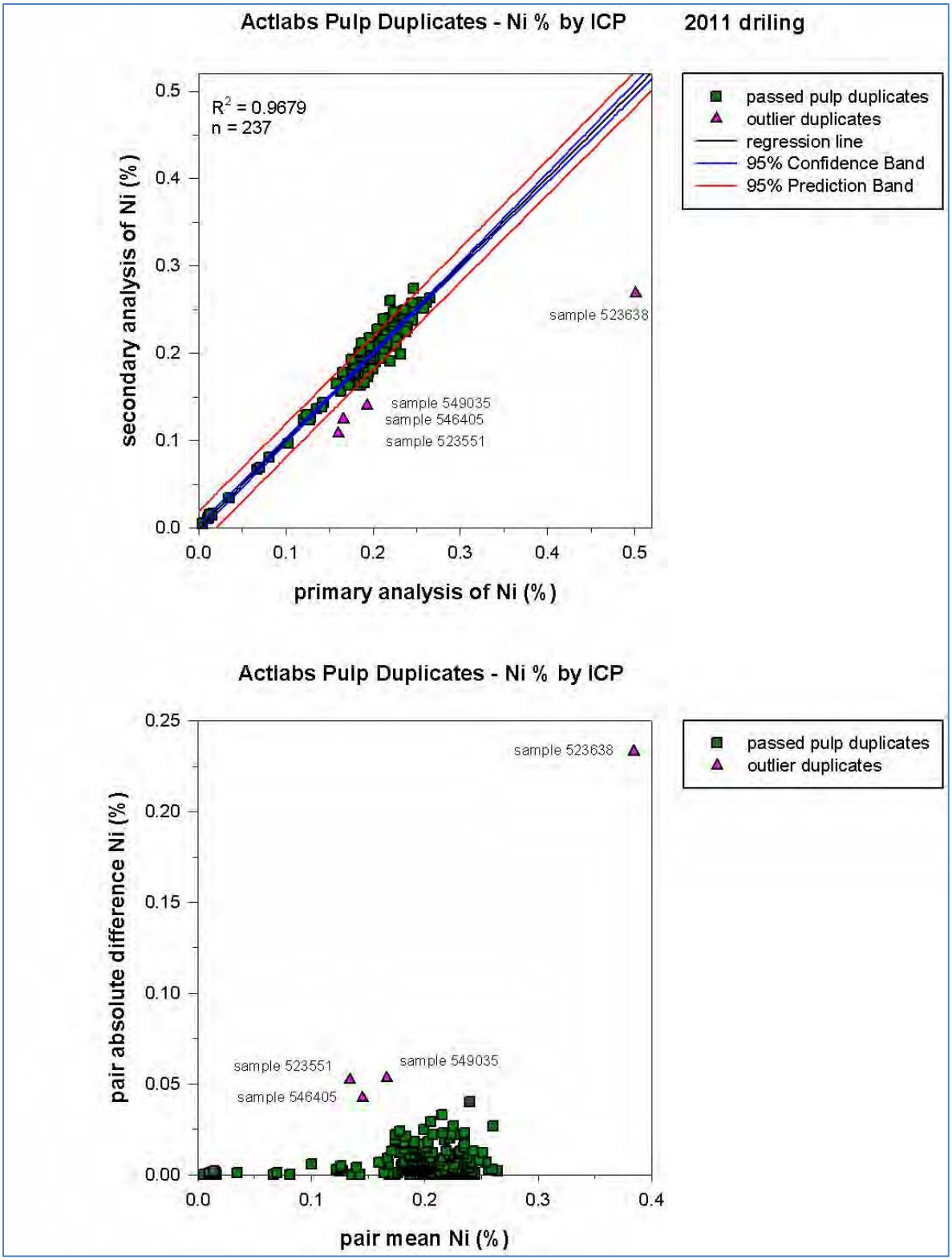

Figure 9-14: Pulp duplicates for Ni (ICP).

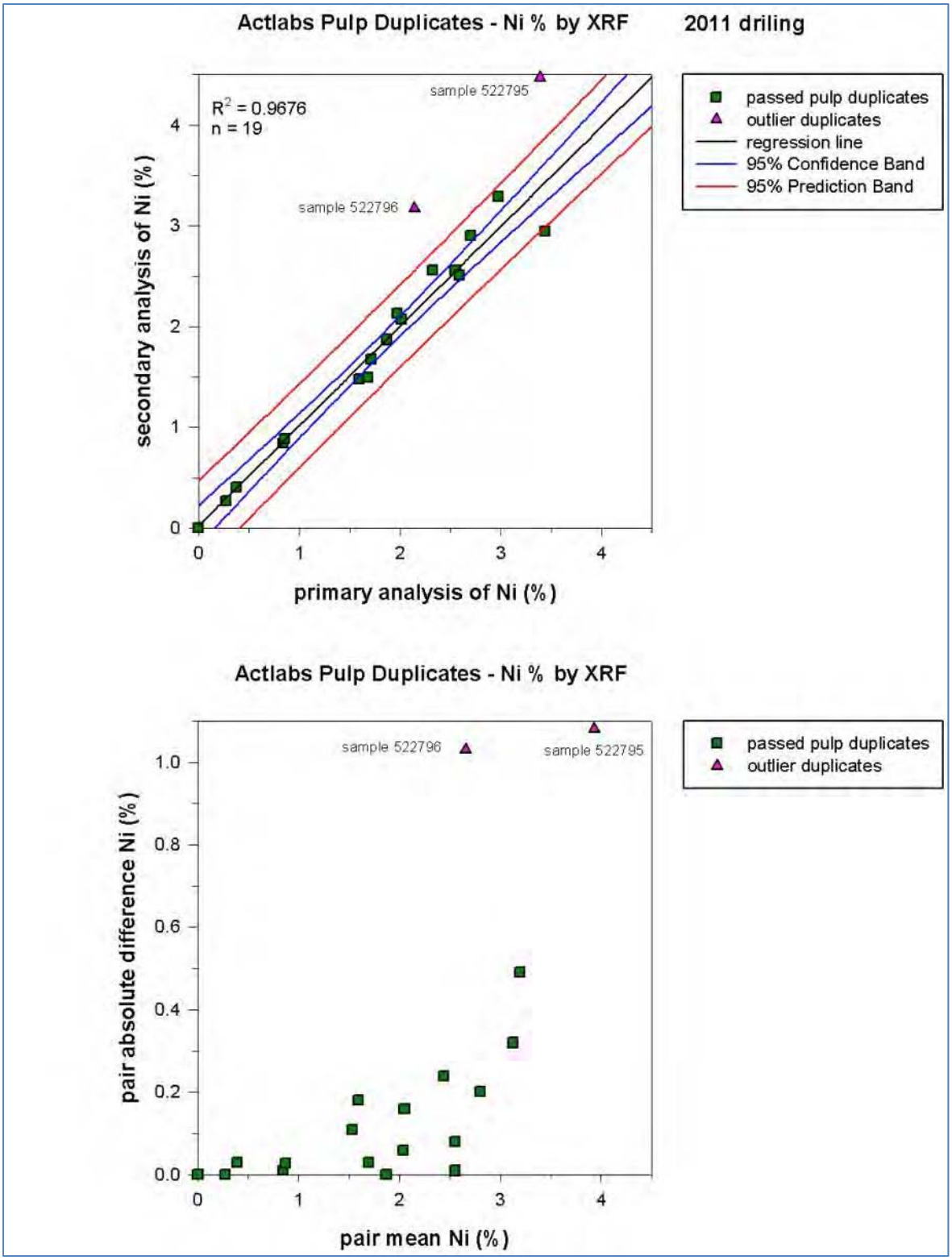

Figure 9-15: Pulp duplicates for Ni (XRF).

9.2.6 Check Assays

Pulps of 10 % of the samples were sent to an outside laboratory to test the accuracy of the assay data. Caracle Creek submitted 343 samples including standards, blanks and duplicates to SGS Vancouver. SGS is an ISO/IEC17025:2005 certified laboratory.

The ICP Ni analysis cannot be compared because different techniques were used by the two laboratories. Actlabs used a lithium metaborite fusion whereas SGS used a sodium peroxide fusion.

Figure 9-16 shows the results for the Davis tube magnetic weight fraction. The correlation coefficient is 0.9977 excluding 8 outliers; the failure rate is 2.8 %.

Figure 9-17 shows the original samples for the Ni analyses by XRF plotted against the check assays. The correlation coefficient is 0.9555 excluding 18 outliers; the failure rate is 6.4 %.

Figure 9-18 shows the Davis tube recoverable Ni results for the check assays. The correlation coefficient is 0.9182 excluding 27 outliers. The failure rate is 9.6 %.

The discrepancies in the performance of the check assays may be due to differences in the set-up of the Davis tube between the two laboratories. SGS was asked to adjust the magnetic field strength but was only able to increase it to ~3700 Gauss. In addition, SGS used a start mass of 20 g whereas Actlabs used 30 g as feed for the Davis tube. SGS required 1.5 g of concentrate material for the XRF analysis and had to use a pyrosulfate fusion for any concentrates of less than 1.5 g. Table 9-1 lists the parameters used by Actlabs and SGS.

Table 9-1: Comparison of the Davis tube parameters used by Actlabs and SGS.

	Actlabs	**SGS-Vancouver**
Magnetic field strength (Gauss)	3500	3500
Flow rate (ml/min)	400	400
Tube angle (degree)	45	45
Stroke rate (strokes/min)	90	90
Tube diameter (OD, mm)	40	41
Agitation period (min)	9	4
Start mass (g)	30	20

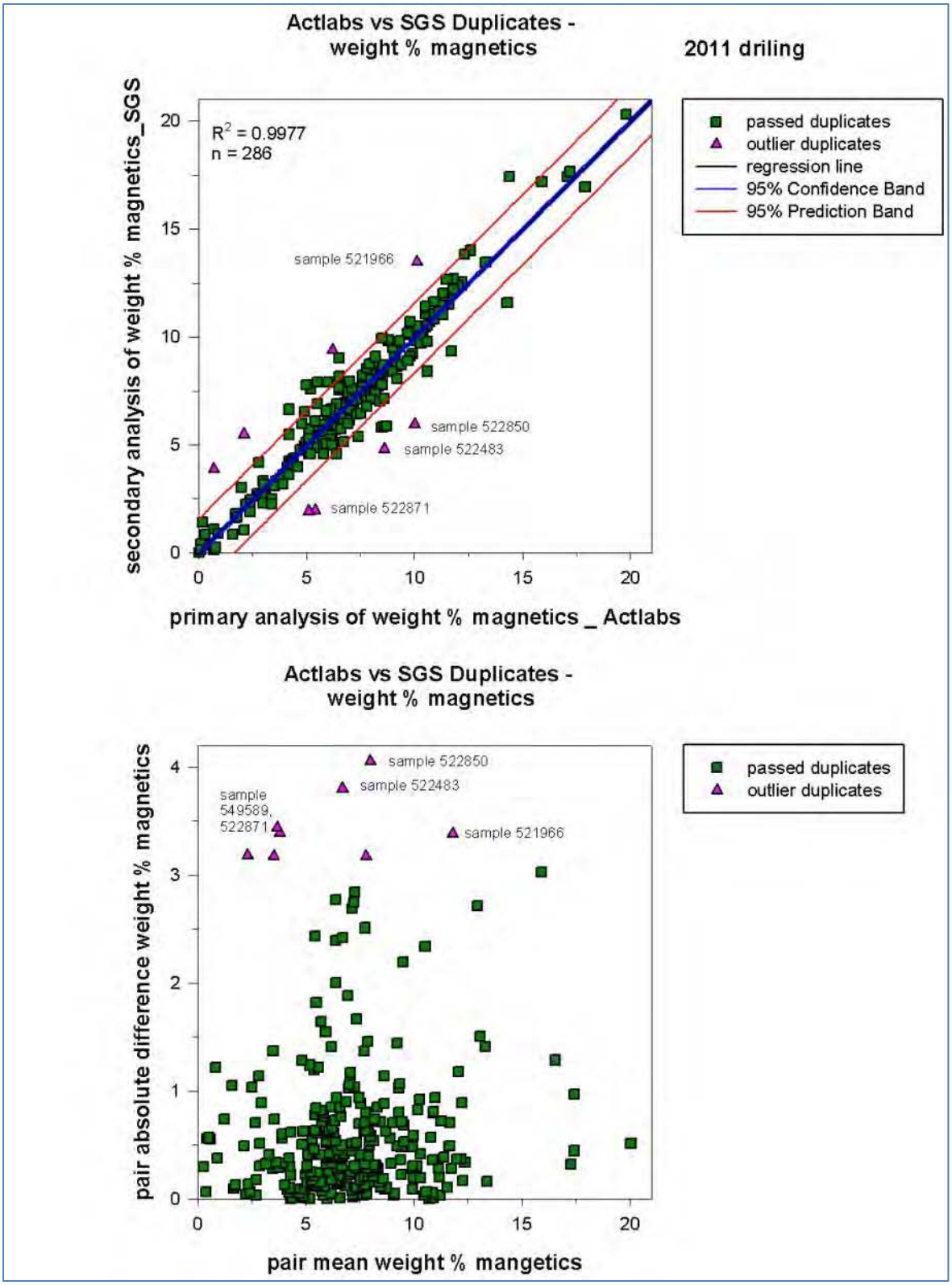

Figure 9-16: Plot showing the original samples vs. the check samples for the Davis tube magnetic weight fraction.

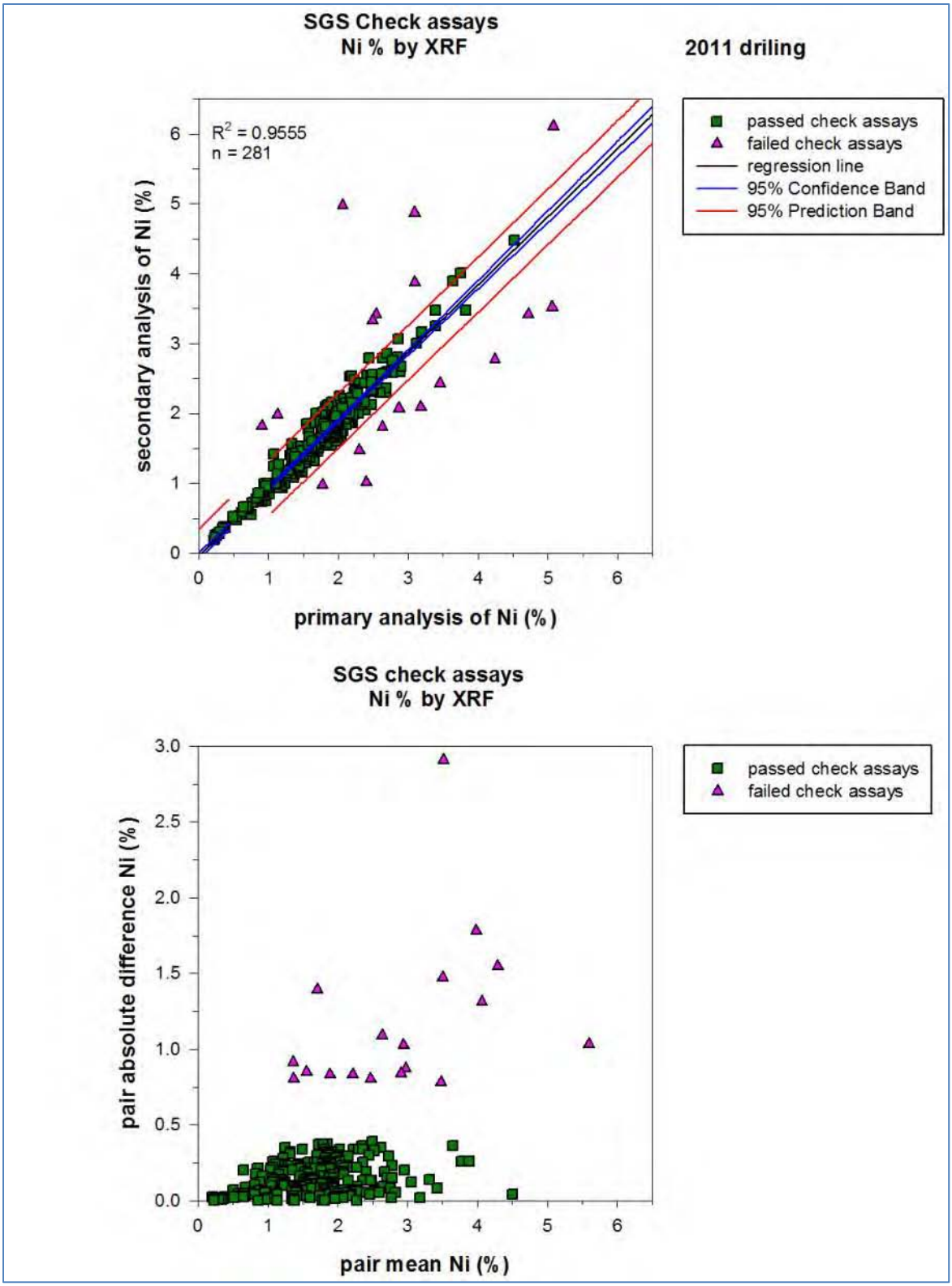

Figure 9-17: Plot showing the original samples vs. the check samples for the Ni analysis by XRF.

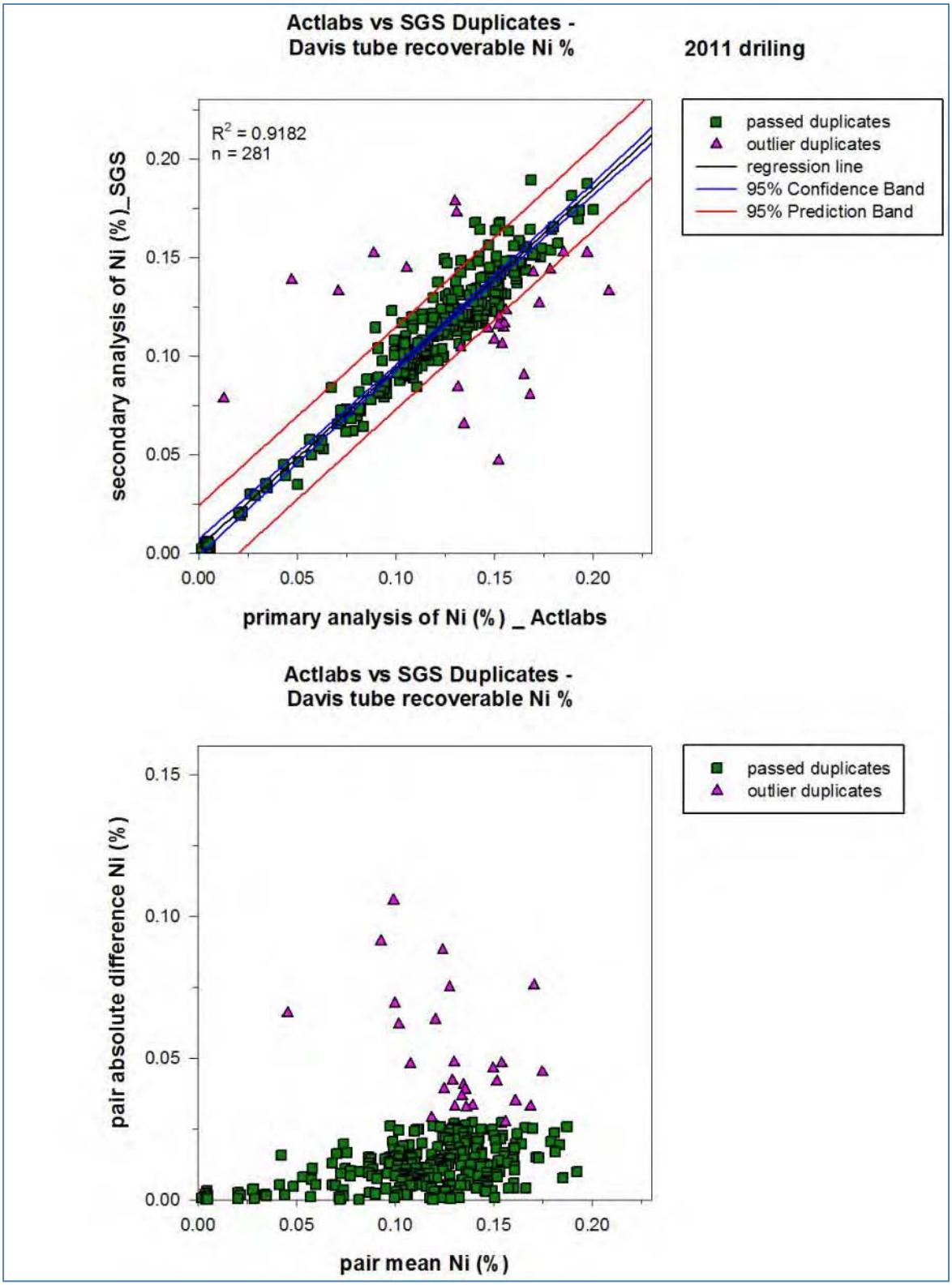

Figure 9-18: Plot showing the original samples vs. the check samples for the Davis tube recoverable Ni.

Caracle Creek concludes based on the quality control review that the data collected during the 2011 drilling program, including the reassays of the 2010 drill hole samples, are adequate and can be used for the purpose of resource estimation. However, Caracle Creek recommends analyzing Davis tube pulp duplicates and a larger number of Davis tube preparation duplicates.

10.0 MINERAL RESOURCE ESTIMATES

10.1 Introduction

Caracle Creek International Consulting (Caracle Creek) was retained by Cliffs Natural Resources Exploration Canada Inc. ("Cliffs") to complete a mineral resource estimate for their Decar nickel project located in British Columbia, Canada. The Decar project is a large, undeveloped, low grade nickel deposit which has the potential to be mined by open pit. Nickel mineralization occurs as widely disseminated nickel-iron alloy (awaruite) in serpentinized rocks within a 15 × 5 km, block of peridotite. There has been no previous resource estimation work completed to date on the Decar nickel project.

The mineral resource reported herein is based on drilling information as of December 31st 2011. All of the drill hole data, including collars, assays, survey and lithology, were compiled into a database which links directly to the geological modelling and resource estimation software. The mineral resource estimation was evaluated using geostatistical block modeling methods constrained by a mineralised wireframe. GEMCOM's GEMS resource modeling software V.6.3 was used to generate the block model and perform the grade estimation. Grades for Ni were estimated using the ordinary kriging method of interpolation. The mineral resources have been estimated in conformity with the CIM "Mineral Resource and Mineral Reserves Estimation Best Practices" guidelines and were classified according to the CIM Standard Definition for Mineral Resources and Mineral Reserves (December 2005) guidelines. The mineral resources are reported in accordance with the Canadian Securities Administrators National Instrument 43-101.

Independent, NI 43-101 compliant resources at the Decar property were estimated by Jason Baker P.Eng., a Geological Engineer with Caracle Creek. QA/QC was completed by Caracle Creek on the assays prior to incorporation in the 3D model (Section 12, Data Verification). Because of his education, project experience and affiliation to a recognized professional association, Mr. Baker is a "qualified person" independent of Cliffs in accordance with NI 43-101 guidelines. Mineral resources were calculated for the Decar project by the methods

described above. The Mineral Resource Statement reported for the Decar project is presented in Table 10-1 using a 0.06 Ni% cut-off grade.

Table 10-1: Mineral resource statement[1] (Caracle Creek, March 29, 2012).

Resource Category	Quantity (Tonnes)[2]	Grade Ni (%)	Contained Ni (Tonnes)[1]
Inferred	1,197,000,000	0.113	1,352,610

[1] Reported at a cut-off grade of 0.06 Ni%. Mineral resources are not mineral reserves and do not have demonstrated economic viability.
[2] Tonnes have been rounded to the nearest 10,000. Grade has been rounded to three (3) significant digits.

This report summarizes the methodology, data and validation techniques used by Caracle Creek in estimating the mineral resources for the Decar project.

10.2 Resource Estimation Methodology

10.2.1 Resource Database, Preparation & Compositing

In 2010, First Point and Cliffs conducted a drill program which includes 7 drill holes in the current deposit area. In 2011 Caracle Creek, on behalf of Cliffs Natural Resources, conducted a 35 hole drill program (See table 10-2).

Table 10-2: Data used in estimating the mineral resources at Decar.

Drill program	# of Holes	# of Samples
2010	7 (2557 m)	306
2011	35 (10857 m)	2558
Total	**42 (13414 m)**	**2864**

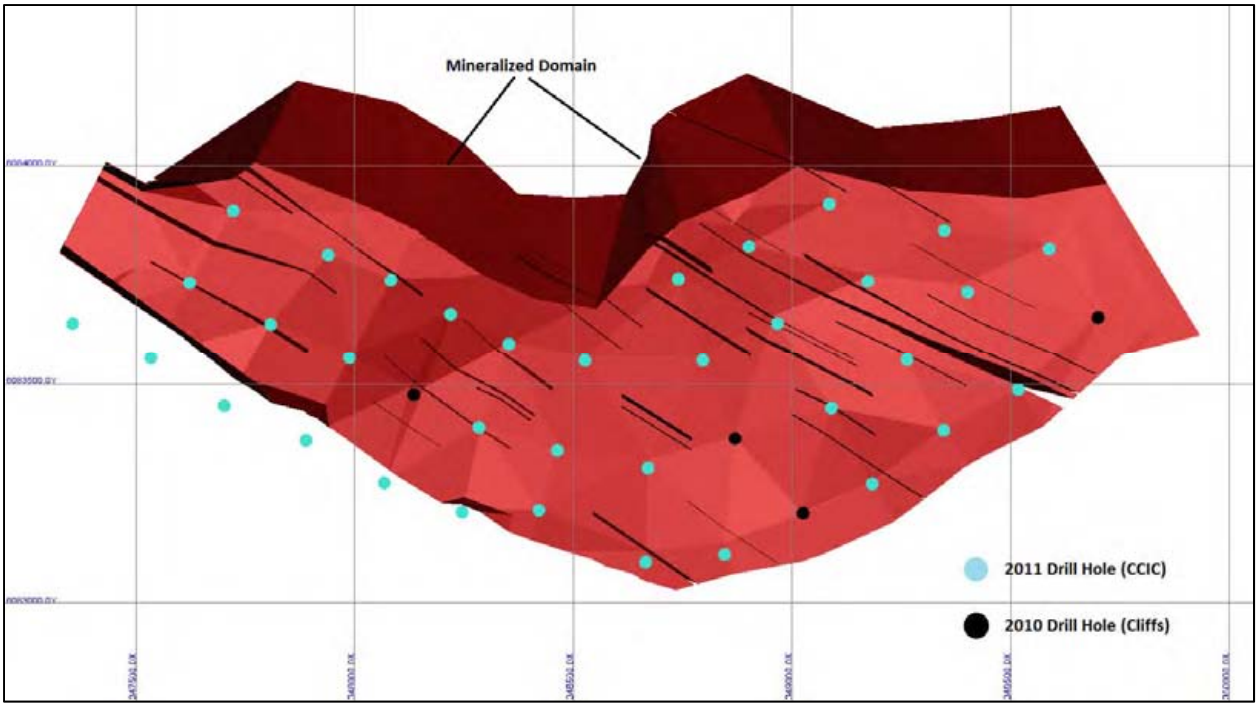

Figure 10-1: Drill hole distribution of the 2010 and 2011 drilling programs.

The data results of each drill program were compiled by Caracle Creek and imported into GEMS including, collars, survey, and assay data. The drill core from the 2010 program was logged by First Point personnel. Caracle Creek logged all core from the 2011 drill program and compiled the lithology data for importation into GEMS. The lithology data of the 2010 drill program was also imported into GEMS by Caracle Creek.

The following section describes how the mineralized domains were used to constrain the resource estimation as well as how compositing and outliers were dealt with in this project. The results of the specific gravity analysis are also discussed.

10.2.1.1 Geological Modeling & Mineralized Domains

Geological modeling was performed by Caracle Creek using the raw drill hole data, drill core logs and down hole survey data in conjunction with regional and local geology maps. Down hole survey data was provided by DGI Geoscience Inc., which included lithology contacts and orientations. At the time this report was prepared, the DGI down hole survey information was only available for 14 of the 42 holes in the drill hole data base. There are several dyke systems that crosscut the mineralized domain. The dykes are un-mineralized resulting in zero grade assay values where dykes are present. A geological domain was created for the dykes using the drill logs. The drill logs were then correlated to the DGI down hole survey data, and all dykes identified in the drill logs showed an orientation of dipping 60° – 80° SW. The mineralized domain consists entirely of peridotite and serpentinized

peridotite. The zones of serpentinized rock were included in the mineralized domain. The dyke domain was subtracted from the mineralized domain in order to eliminate the zero grade assays from the mineralized domain (Figure 10-1 and Figure 10-2).

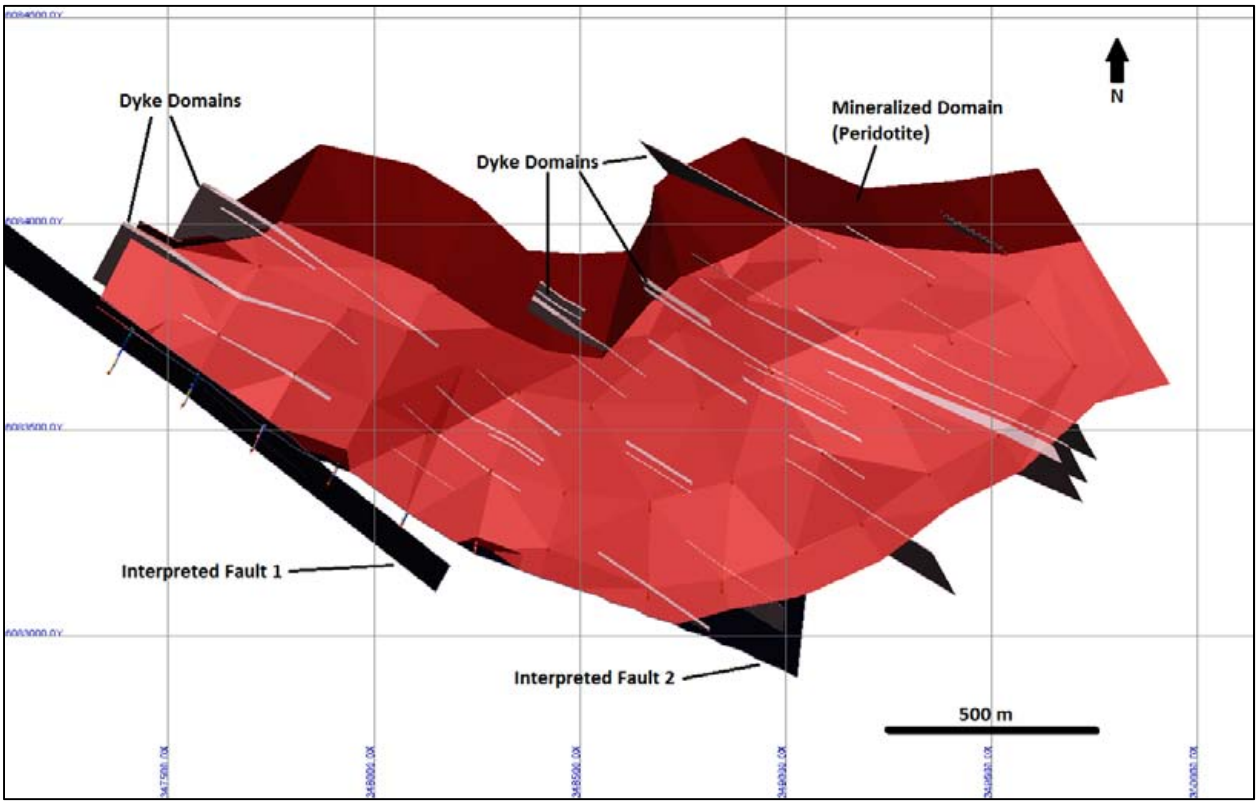

Figure 10-2: Plan view of the geology model and the mineralized domain.

Figure 10-2 and Figure 10-3 show the interpreted faults, dyke domains and the mineralized domain used to constrain the resource estimation. The mineralized domain was defined using the 42 drill holes from the 2010 and 2011 drill programs. The drill holes were drilled in a sectional pattern with a drill hole spacing of 200 meters between sections and along section (Figure 10-1). The mineralized domain was projected 100 meters (1/2 drill hole spacing) beyond the last drill hole, on all sides of the mineralized domain. Due to the low variability of the Ni grade, and the potential for bulk open pit mining, a grade cut-off was not used when constructing the mineralized domain. This resulted in all grade assays being included in the mineralized domain. The topography surface was created using the drill hole collar elevations.

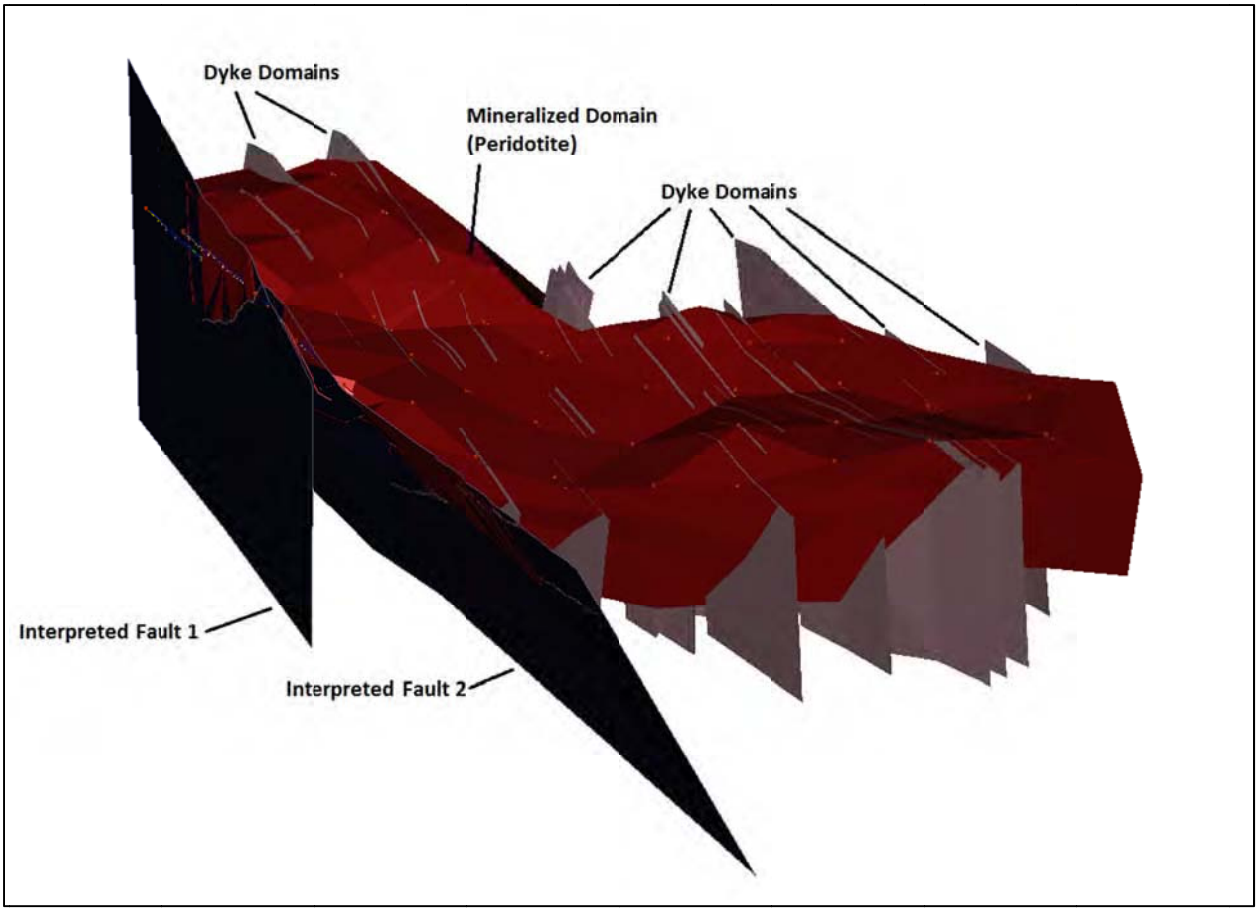

Figure 10-3: 3D view of the geology model and the mineralized domain (looking NW).

10.2.1.2 Data Analysis & Compositing

All the raw assays within the mineralized domain were extracted from the data base for statistical analysis. This included a total of 2560 assay intervals, of which 2532 (99%) had an assay interval length of 1 meter (Figure 10-4 and Figure 10-5). The remaining 28 assays intervals were of varying lengths between 0.47 and 6.0 meters. Assays were taken over 1 meter in every 4 meters, resulting in 3 meters of un-sampled assay interval between assays. This was intentionally done due to the very low variability in the grade. Considering the large scale of the deposit, the very high percentage of 1 meter assay interval lengths (99%), the consistent un-sampled assay interval and the planned vertical block height of 10 meters, it was determined that compositing the data was not required. The estimation parameters set for the mineral resources were allowed to interpolate through un-sampled intervals. Zero grades were not assigned.

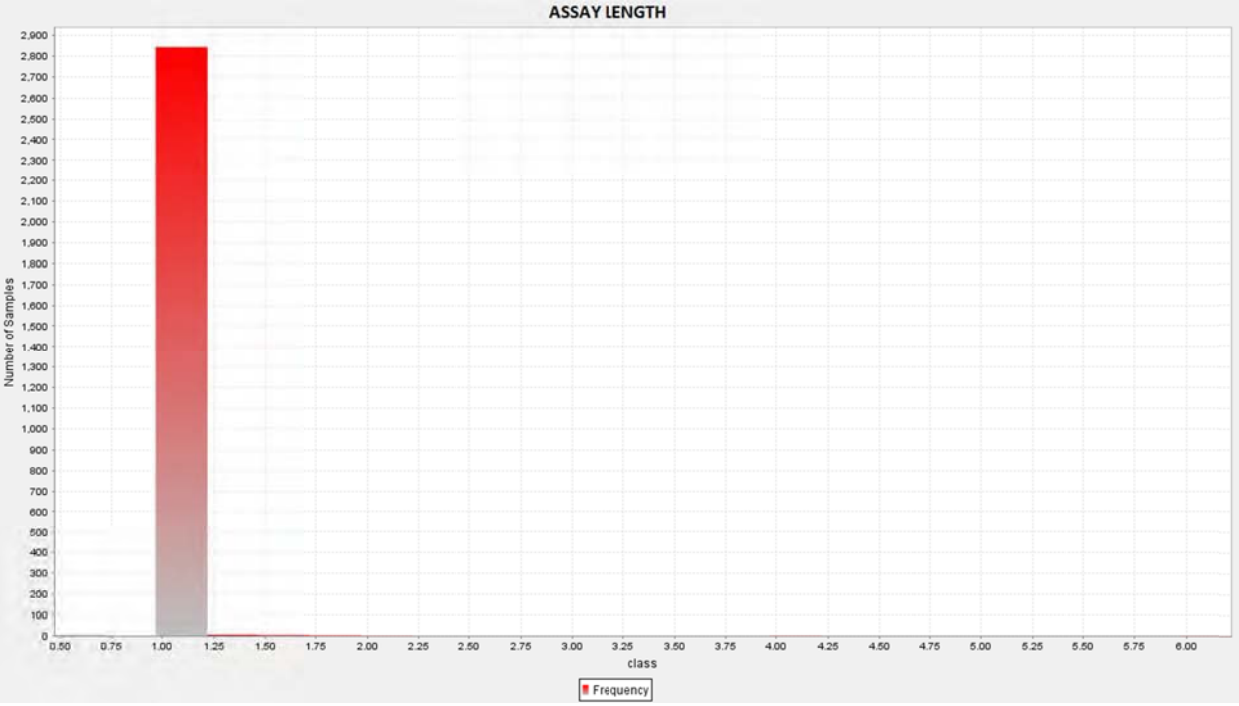

Figure 10-4: Histogram plot showing the distribution of assay lengths.

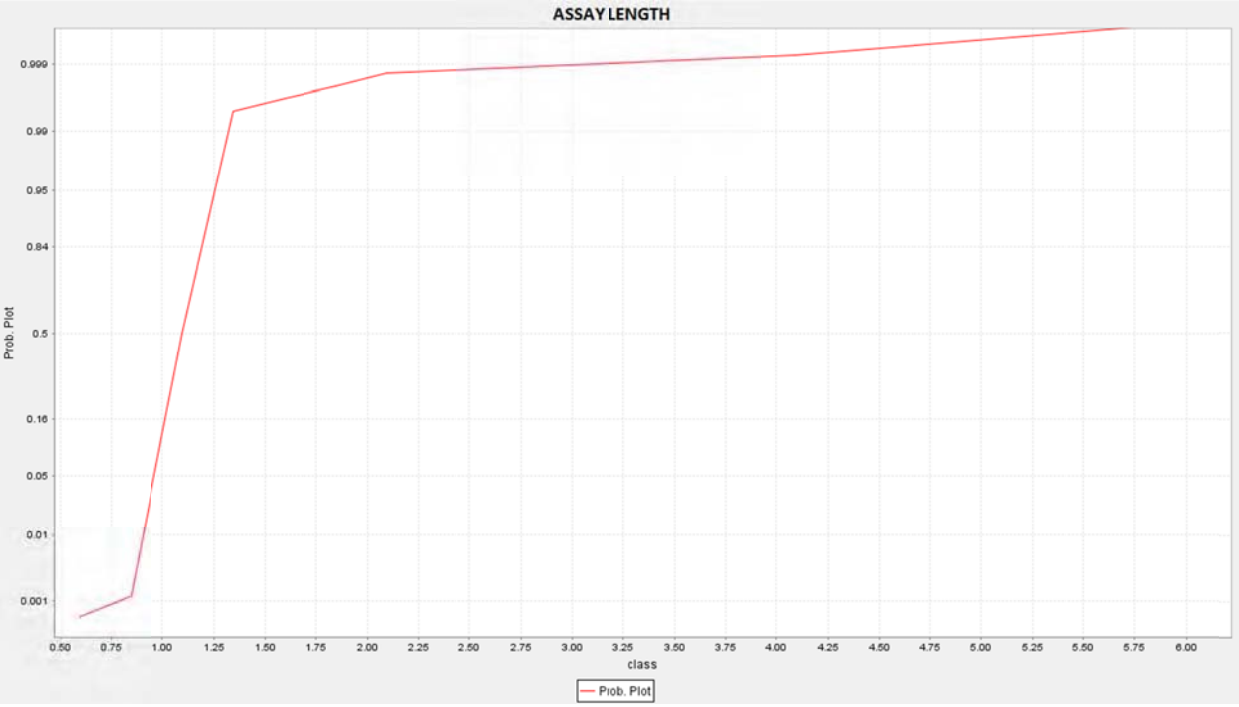

Figure 10-5: Probability plot showing the distribution of assay lengths.

Basic assay statistics were calculated for all raw assays within the mineralized domain. See Table 10-3 and Figure 10-6 for the results.

Table 10-3: Summary of raw assay data statistics for all samples within the mineralized domain.

Sample Data	Quantity
Number of Samples	2560
Minimum Value (Ni %)	0.00
Maximum Value (Ni %)	0.27
Mean (Ni %)	0.117
50th Percentile (Median) (Ni %)	0.124
95th Percentile (Ni %)	0.167
Variance (Ni %)	0.0016
Standard Deviation (Ni %)	0.04
Coefficient of Variation	0.34

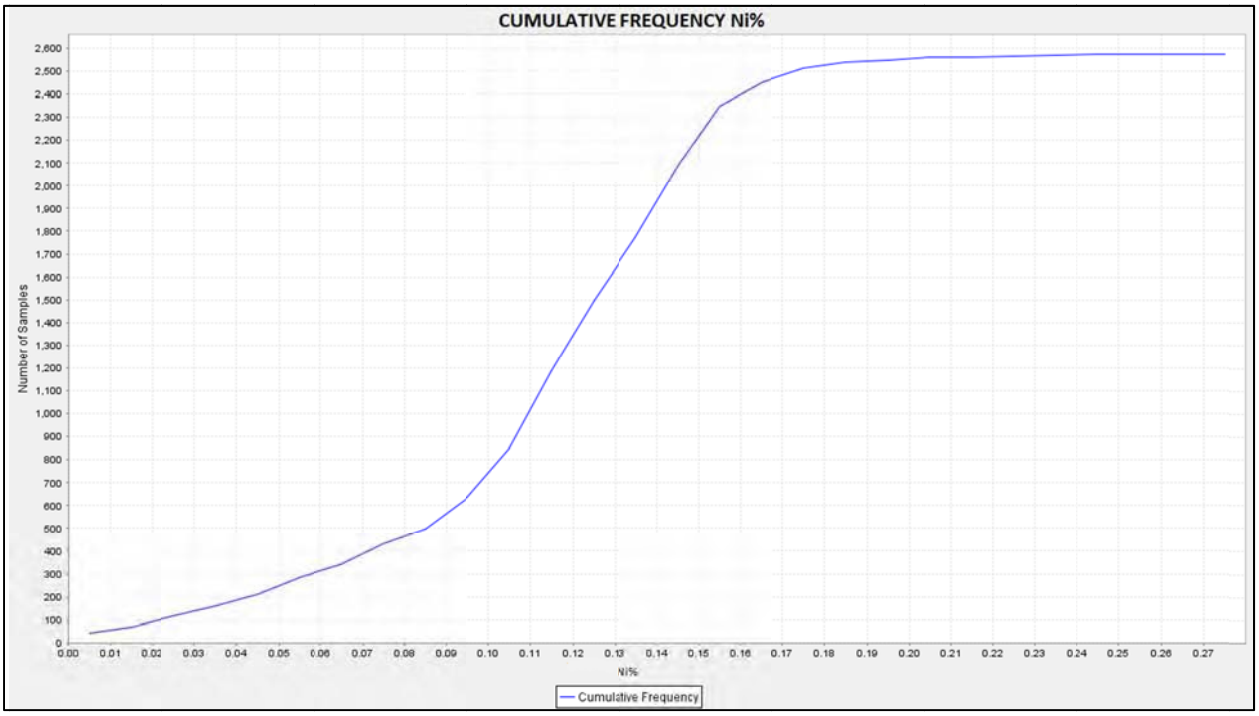

Figure 10-6: Ni % cumulative frequency plot.

10.2.1.3 Grade Capping

Caracle Creek performed a capping analysis on the raw assay data using histogram plots and probability plots. Sensitivity of mean grade to change in capping value was also analyzed (Table 10-4). Figure 10-7 shows the histogram plot for the raw Ni% assay data, including all outliers.

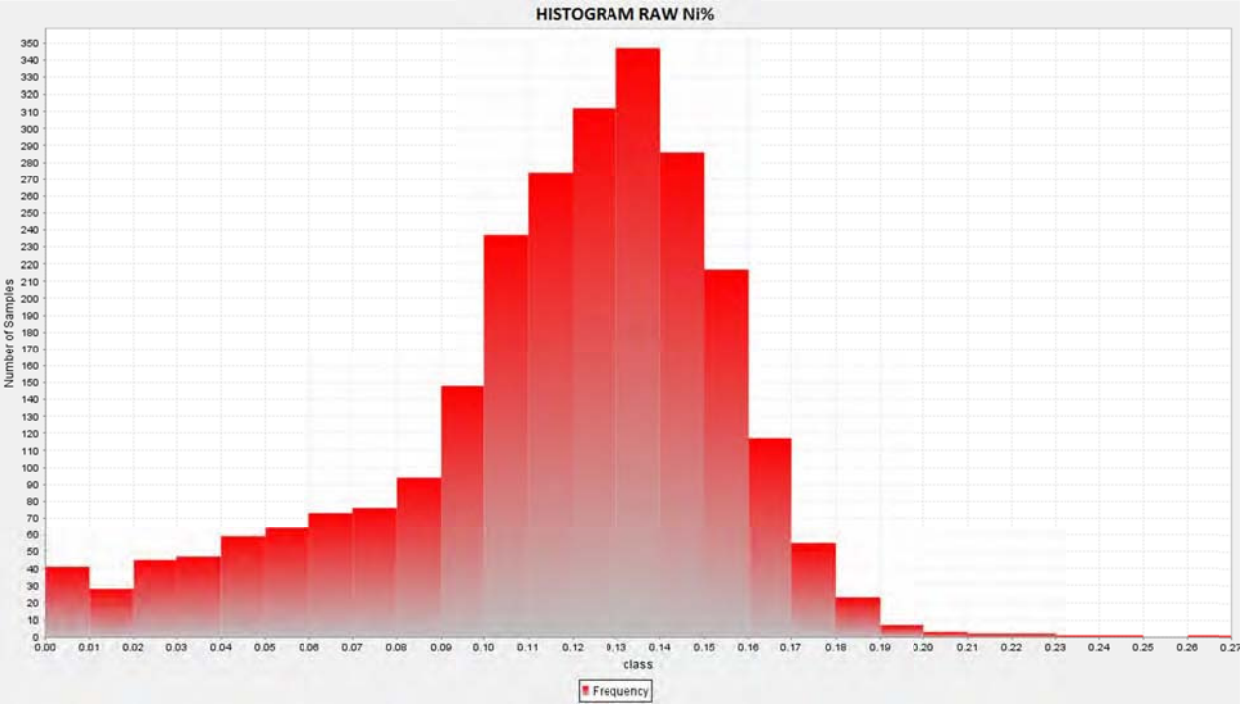

Figure 10-7: Histogram showing Ni % grade distribution.

Table 10-4: Sensitivity of mean Ni % with change in capping value.

Sample Data	Raw Assay No Cap	0.21% Ni Cap	0.20% Ni Cap
Number of Samples	2560	2560	2560
Minimum Value (Ni %)	0.00	0.00	0.00
Maximum Value (Ni %)	0.27	0.21	0.20
Mean (Ni %)	0.1167	0.1167	0.1167
50th Percentile (Median) (Ni %)	0.124000	0.124000	0.124000

As a result of the capping analysis Caracle concluded that capping the data was not required for the following reasons:

1) The grade range of Ni % values was small with respect to the mean and median, i.e. the median of the data set (0.124 Ni %) was slightly less than half of the maximum value (0.27 Ni %).

2) It can be demonstrated through sensitivity analysis that capping the data does not have a significant effect on the mean of the data set (See Table 14-4).

Therefore, Caracle Creek used the raw un-capped assay data to perform the grade estimation.

10.2.1.4 Specific Gravity

Two sources of Specific Gravity (SG) data were available. The first source was from Activation Laboratories (Actlabs) where specific gravity measurements were completed on 325 samples by measuring the mass of the drill core in air and in water and calculating the specific gravity using the following formula: (mass of sample in air)/(mass of sample in air) – (mass of sample in water). Of the 325 samples used, 299 samples were within peridotite (mineralized domain). The samples within the mineralized domain averaged 2.72.

The second source of SG data was from DGI Geoscience Inc. using the down hole survey data. DGI collected 49,944 SG measurements, of which 37,839 SG Measurements were taken within the peridotite (mineralized domain). The measurements within the mineralized domain averaged 2.75 (Table 10-5).

Table 10-5: Summary of SG analysis inside the mineralized domain.

Source	Avg. SG	# of Measurements
Activation Laboratories (Actlabs)	2.72	299
DGI Geoscience Inc.	2.75	37,839

Although there are far more measurements from the DGI analysis, the results from Activation Laboratories analysis is considered by Caracle Creek to be more reliable due to the methodology of the measurement. Therefore, as a conservative approach, Caracle Creek used an SG value of 2.70 in the resource estimation. Due to the relatively small sample size from Activation Laboratories analysis the SG data was not populated throughout the block model using geostatistical estimation, instead, a value of 2.70 was assigned to all the blocks inside the mineralized domain. The tonnage for each block was calculated as follows:

Block volume (5m × 5m × 5m) × (SG) × (the proportion of the block within the solid)

10.2.2 Variography

Caracle Creek evaluated the spatial distribution of Ni using variograms. The raw assay data was viewed in 3D as a starting point to help determine Ni continuity directions. An omnidirectional variogram was created to assist in

determining the range of correlation within the mineralized domain. The variogram analysis considered sensitivities with orientations of the major, semi-major, and minor axis of the variogram. The variogram analysis was performed using Gemcom Software's GEMS V6.3.

Figure 10-8 shows an example of a variogram calculated for Ni within the mineralized domain in the direction of the major axis.

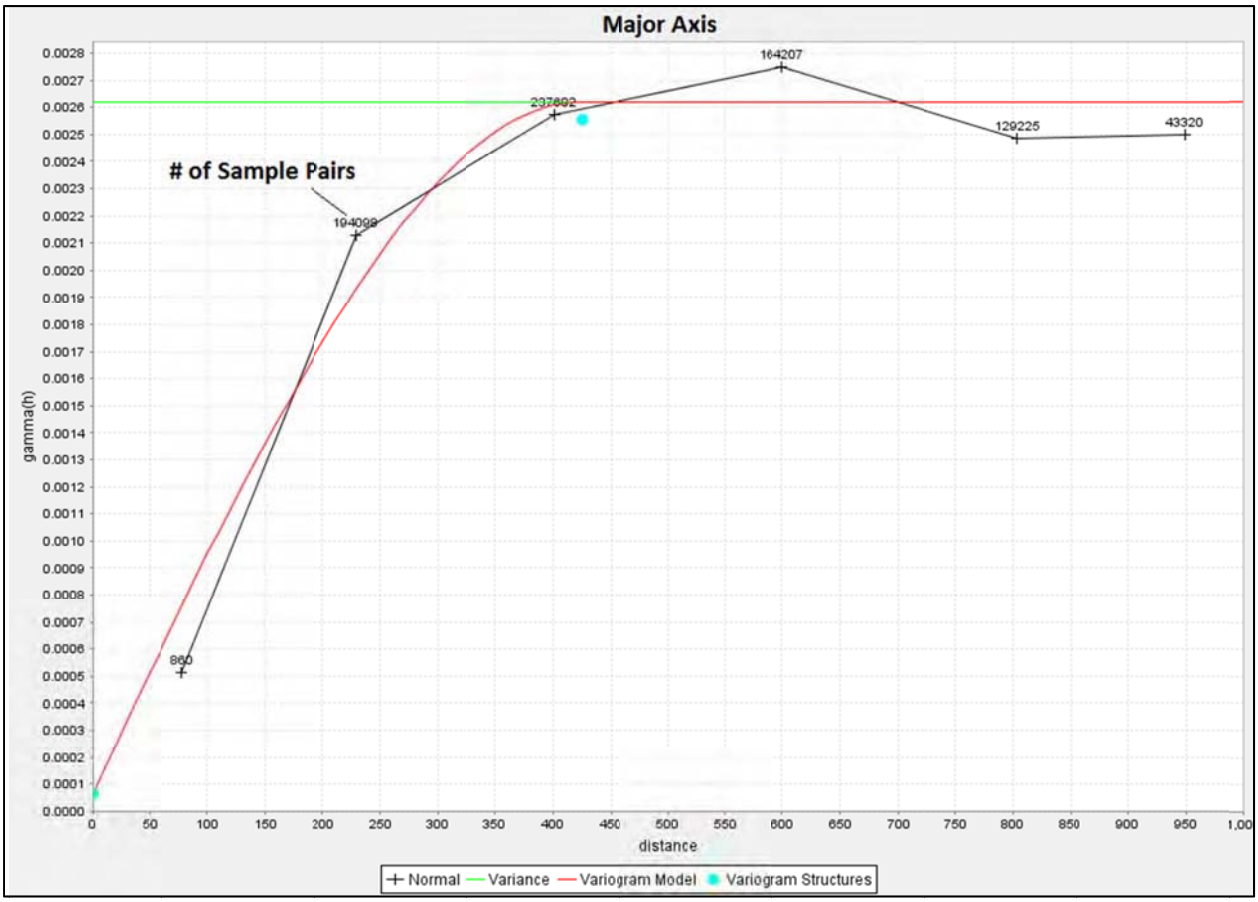

Figure 10-8: Variogram for Ni in the mineralized domain in the C direction. The dotted black line represents the variogram, the smooth red line represents the fitted model. Gamma (h) is the variance.

10.2.3 Block Model

The block model definitions for Decar are shown in Table 10-6. Partial percents were used as part of the volume estimation. The block volumes were adjusted using the partial percents based on the proportion of the block that was inside the wire framed solids representing the mineralization. The block model origin coordinates are represented by the Maximum "X", Maximum "Y" and Minimum "Z". Positive rotation is clockwise about any

axis. Based on the anticipated mining methods, the size of the mineralized domain and the drill hole spacing, Caracle Creek chose a block size of 40m × 40m × 10m. The model was rotated 60° counter-clockwise from north.

Table 10-6: Block model definitions for Decar.

	Y (m)	X (m)	Z (m)
Origin Coordinates (m)	6082400	349482	1380
Block Size	40	40	10
Rotation	0	-60	0
Number Of Blocks	40	70	84

10.2.3.1 Grade Estimation Strategy

Grade estimation was based on ordinary kriging using two passes. The first pass was the most restrictive in terms of search radius, the minium/maximum number of samples required as well as the minimum number of holes required. The second pass was less restrictive under the same terms. The first pass populated approximately 40% of the blocks, with the rest of the blocks within the mineralized domain being populated by the second pass. The search ellipse radius and orientation were chosen to reflect variogram range and orientation. Table 10-7 summarizes the parameters used in the grade estimation. Figure 10-9 shows a 3D representation of the block model color coded by Ni grade.

Table 10-7: Parameters used in the grade definition.

	Pass 1	Pass 2
Method of Interpolation	Ordinary Kriging	Ordinary Kriging
Search Radius	50% of Variogram range	100% of Variogram Range
Search Type	Octant	Ellipsoidal
Min # of Samples	15	5
Max # of Samples	40	40
Min # of Holes	2	1
Max # of Samples per Hole	15	40

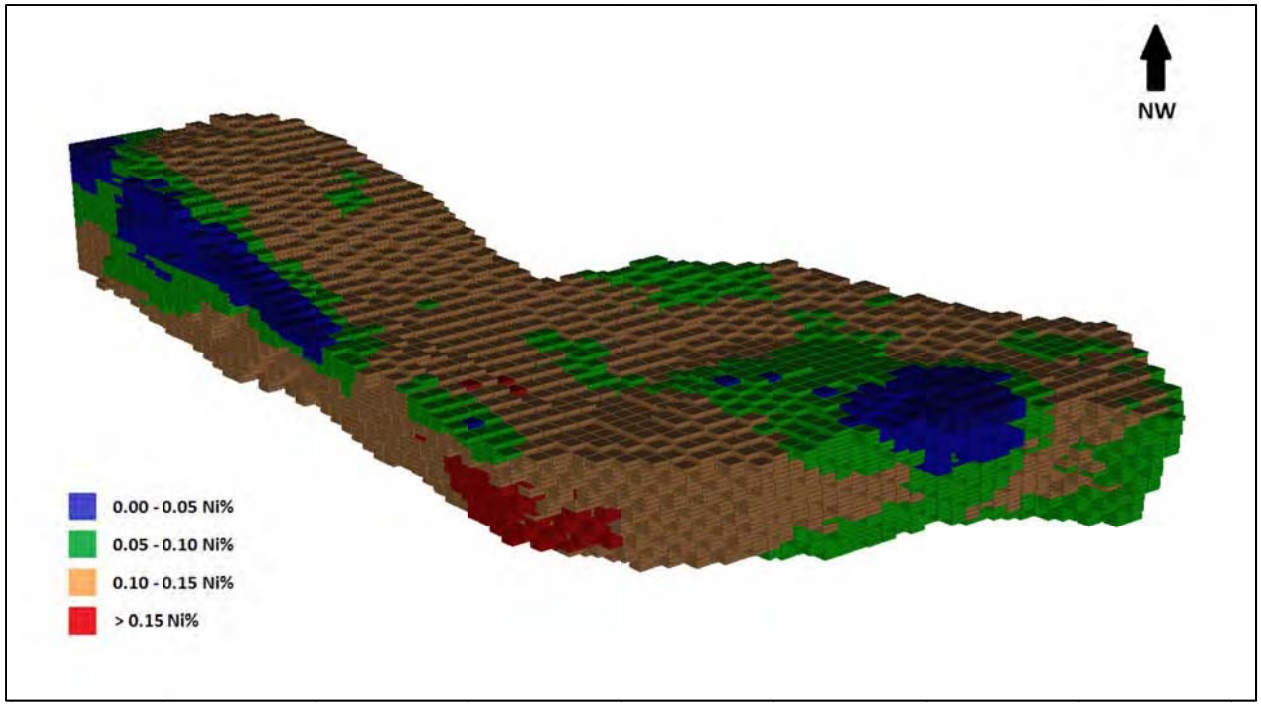

Figure 10-9: 3D view showing the block model.

10.2.4 Resource Model Validation

The validity of the block model was evaluated using four techniques. 1) Caracle Creek constructed a parallel estimation model for Ni% using an inverse distance method of estimation (power of two). The results were within 5% deviation in total tonnes and Ni grade to that of the original model. 2) Statistical comparisons were made between the interpolated blocks from both the ordinary kriging and inverse distance models and the raw assay data (See Table 10-8). 3) The reported total block model tonnage and grade were also compared to a sectional volume method of estimation, which does not involve block modeling. A weighted average of all Ni assays within the mineralized domain was calculated along with the volume of the mineralized domain. The results were within 5% to that of the original block grade estimation. 4) The interpolated block grades were visually checked on section and level plans and compared to the raw assay data.

Table 10-8: Block model vs. raw assay data statistical analysis.

Statistic	Raw Assay Data	OK Interpolation	ID^2 Interpolation
Mean	0.117	0.107	0.108
Median	0.124	0.112	0.113
Variance	0.0016	0.0009	0.0008
Max Value	0.270	0.178	0.181

10.2.5 Mineral Resource Classification

Based on the study reported herein, delineated mineralization at Decar is classified in part as **mineral resource** according to the following NI 43-101 definitions:

> *"In this Instrument, the terms "mineral resource", "inferred mineral resource", "indicated mineral resource" and "measured mineral resource" have the meanings ascribed to those terms by the Canadian Institute of Mining, Metallurgy and Petroleum, as the CIM Standards on Mineral Resources and Reserves Definitions and Guidelines adopted by CIM Council on December 11, 2005, as those definitions may be amended from time to time by the Canadian Institute of Mining, Metallurgy, and Petroleum."*

> *"A **Mineral Resource** is a concentration or occurrence of natural solid, inorganic or fossilized organic material in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge."*

Mineral resources are not mineral reserves as economic viability of the property has not yet been shown. The terms Measured, Indicated and Inferred are defined in NI 43-101 as follows:

> *"A **'Measured Mineral Resource'** is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough to confirm both geological and grade continuity."*

*"An '**Indicated Mineral Resource**' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed."*

*"An '**Inferred Mineral Resource**' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes."*

The estimated tonnages for the mineralized domain at Decar are classified as Inferred resources, as described in the following sections. There were no resources classified as Indicated due to the lack of continuous sampling in the drill holes (i.e. Samples were taken in 4 meter intervals).

10.3 Mineral Resource Statement

Mineral resources for Decar were classified by Mr. Jason Baker, P.Eng, an appropriate independent qualified person. Classification was done in accordance with the CIM Standard Definition for Mineral Resources and Mineral Reserves (December 2005) guidelines. The mineral resources for the Decar project are reported at a cut-off grade of 0.06 Ni%. Caracle Creek considers this reporting cut-off to be conservative as Decar is a new style of deposit where benchmarking is not possible. The Mineral Resource Statement for the Decar project is summarized in Table 10-9.

Table 10-9: Mineral resource statement[1] (Caracle Creek, March 29, 2012).

Resource Category	Quantity (Tonnes)[1]	Grade Ni (%)	Contained Ni (Tonnes)[2]
Inferred	1,197,000,000	0.113	1,352,610

[1] *Reported at a cut-off grade of 0.06 Ni %. Mineral resources are not mineral reserves and do not have demonstrated economic viability.*
[2] *Tonnes have been rounded to the nearest 10,000. Grade has been rounded to three (3) significant digits.*

The block model tonnage and grade were calculated at various cut-off grades in order to demonstrate the sensitivity of the resource estimate with respect to reporting cut-off grade. The results are shown in Table 10-10. It should be stressed to the reader that the figures presented in Table 10-10 are not to be misconstrued as a mineral resource as they are intended for the sole purpose of demonstrating the sensitivity of the resource estimate with respect to reporting cut-off grade.

Table 10-10: Block model quantities and grades reported at various cut-off grades.

Cut-Off	Tonnes[1]	Ni %
0.02	1,283,530,000	0.108
0.04	1,257,920,000	0.110
0.06[2]	**1,197.040,000**	**0.113**
0.08	1,060,460,000	0.118
0.10	862,030,000	0.125
0.12	486.770,000	0.135

Note: *[1]Tonnes have been rounded to the nearest 10,000. Grade has been rounded to three (3) significant digits .These figures are not to be misconstrued as mineral resource as they are intended for the sole purpose of demonstrating the sensitivity of the resource estimate with respect to reporting cut-off grade.*
[2] The base-case mineral resource was estimated at a cut-off of 0.06 % Ni.

Mineral resource estimates for the Decar project presented in this report are effective as of the 29th day of March, 2012 (Table 10-9).

10.4 Issues That Could Affect the Mineral Resource

There are no known factors related to permitting, legal, title, taxation, socio-economic, environmental, and marketing or political issues which could materially affect the mineral resource at the time of reporting. The estimation parameters set for the mineral resources were allowed to interpolate through un-sampled intervals. Zero grades were not assigned.

11.0 INTERPRETATION AND CONCLUSIONS

The Decar Nickel Property consists of 59 mineral claims and is located ~90 km northwest of Fort St. James, British Columbia, Canada. Cliffs and First Point are parties to an option agreement and effective as of September 12, 2011, Cliffs owns 51 % interest in the Decar Property.

Nickel is hosted by ultramafic rocks of the Cache Creek Terrane. The nickel alloy awaruite ($Ni_{2-3}Fe$) was first reported in the Decar peridotites in the 1990s. Awaruite forms during serpentinization of the peridotite.

In 2011, a drilling program consisting of 36 diamond drill holes totalling 11,465.6 m was completed. A total of 35 holes were drilled on the Baptiste target and one hole was drilled in the Target B area. All holes showed consistent mineralization in the form of disseminated awaruite hosted by peridotite. No awaruite exists in various dykes that cut the peridotite body. In the southwest of the Baptiste area, the mineralization is cut off by a fault but the mineralization is open in all other directions, including at depth.

The 2011 drilling data and reassayed core from the 2010 drilling managed by First Point were used to build a geological model and estimate a mineral resource. The resource estimate results are shown in Table 11-1.

Table 11-1: Results of the resource estimate.

Resource Category	Quantity (Tonnes)[2]	Grade Ni (%)	Contained Ni (Tonnes)[1]
Inferred	1,197,000,000	0.113	1,352,610

[1] Reported at a cut-off grade of 0.06 Ni%. Mineral resources are not mineral reserves and do not have demonstrated economic viability.
2 Tonnes have been rounded to the nearest 10,000. Grade has been rounded to three (3) significant digits.

Based on the 2011 exploration program – including diamond drilling and geophysical surveys – on the metallurgical test work and the resource estimate, Caracle Creek concludes that the Decar Property has significant potential for an indicated resource that can be the basis of a prefeasibility study.

Caracle Creek does not expect any significant risks and uncertainties that could affect the reliability or confidence in the exploration information, including the results of the diamond drilling and geophysical surveys, in the mineral resource estimate, or the projected economic outcomes.

12.0 RECOMMENDATIONS

Based on the 2011 drilling program and the current resource estimate, Caracle Creek recommends further diamond drilling to estimate an indicated resource. Caracle Creek recommends drilling 49 holes totalling 16,500 m to reach this goal. The anticipated cost of this drilling program is shown in Table 12-1.

Table 12-1: Proposed budget for the recommended exploration.

Item	Unit	No of Units	Cost/Unit	Cost
Drilling				
Diamond drilling	m	16,500	$170	$2,805,000
Geologists	man days	480	$1,000	$480,000
Camp	month	4	$400,000	$1,600,000
Equipment (incl. vehicles, excavators etc.)	month	4	$10,000	$40,000
Assaying	sample	4500	$100	$450,000
sub-TOTAL				**$5,375,000**
Resource				
Resource estimate	hour	350	$190	$66,500
43-101 report (incl. QC)	hour	550	$160	$88,000
sub-TOTAL				**$154,500**
Lidar survey				$150,000
sub-TOTAL				**$150,000**
TOTAL				**$5,679,500**

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Appendix 1

Certificates of Qualified Persons

Elisabeth Ronacher
25 Frood Road
Sudbury, Ontario, Canada, P3C 4Y9
Telephone: 705-671-1801
Email: eronacher@caraclecreek.com

CERTIFICATE OF QUALIFIED PERSON

I, Elisabeth Ronacher, do hereby certify that:

1. I am employed as Managing Geologist for the geological consulting firm of Caracle Creek International Consulting Inc. Canada ("Caracle Creek").
2. I am responsible or jointly responsible for all sections, except Section 9 (Mineral Resource Estimates) of the Assessment Report titled "Assessment Report, Decar Nickel Property, British Columbia, Canada" dated August 16, 2012 and prepared for Cliffs Natural Resources Exploration Canada Inc.
3. I hold the following academic qualifications: M.Sc. Geology (1997), University of Vienna, Vienna, Austria; Ph.D. Geology (2002), University of Alberta, Edmonton, Canada.
4. I am a member in good standing of the Association of Professional Geologists of Ontario (APGO), member # 1476, the Association of Professional Engineers and Geoscientists of British Columbia, member # 37651, the Society of Economic Geologists (SEG) and the Society for Geology Applied to Mineral Deposits (SGA).
5. I have worked on exploration projects worldwide (including Canada, Mongolia, China, Austria) and have worked on Au, Cu, base metal, Cu-Ni PGE and U deposits since 2003. I am a Qualified Person for the purpose of the National Instrument 43-101.
6. I am independent of the issuers of this Report according to section 1.5 of National Instrument 43-101.
7. I visited the Property on October 5 and 6, 2011.
8. I have had no involvement with the Property that forms the subject of this Assessment Report prior to managing the 2011 drilling program.
9. As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Dated this 16th Day of August, 2012

Elisabeth Ronacher, Ph.D., P.Geo.
Managing Geologist, Caracle Creek Canada

Luc Harnois
755 D'Iberville #4
Longueuil, QC, Canada, J4H 2G7
Telephone: 514-237-7003
Email: harnois@cciconline.ca

CERTIFICATE OF QUALIFIED PERSON

I, Luc Harnois, do hereby certify that:

1. I am employed as Senior Project Geologist for the geological consulting firm of Caracle Creek International Consulting Inc. Canada ("Caracle Creek").
2. I am jointly responsible for all sections of the Technical Report titled "Assessment Report, Decar Nickel Property, British Columbia, Canada" dated August 16, 2012 and prepared for Cliffs Natural Resources Exploration Canada Inc. and First Point Minerals Corp.
3. I am a graduate of Université du Québec à Montréal, Department of Earth Sciences, Montréal, 1980. I completed a M.Sc. (Université du Québec à Montréal, Department of Earth Sciences, Montréal, 1983) and a Ph.D. (Carleton University, Department of Geology, Ottawa, 1987).
4. I am a member in good standing of Ordre des Géologues du Québec (OGQ; member #478) and Association of Professional Engineers and Geoscientists of the Province of Manitoba (APEGM; member #31170G) and Association of Professional Engineers and Geoscientists of British Colombia (APEGBC; license number #37537).
5. I have been employed in the mineral exploration field world-wide for an aggregate total of 6 years, in positions ranging from junior geologist to project manager. During these years, I have worked on several deposit types, including gold deposits and massive sulphides deposits. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements as a Qualified Person for the purposes of NI 43-101.
6. I have visited the Property from 26th August to 5th November 2011 and from 25th June to 10th October 2012.
7. I am independent of the parties involved in the transaction for which this report is required, other than providing consulting services.
8. I have no prior involvement with the Property that forms the subject of this Technical Report.
9. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them, including electronic publication in the public company files on their websites accessible by the public.
10. As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Dated this 16th Day of August, 2012

Luc Harnois

Luc Harnois, PhD., P. Geo.
Senior Project Geologist, Caracle Creek Canada

Jason Baker
5 Short Lane
Fall River, Nova Scotia, Canada, B2T 1H7
Telephone: 902-209-2037
Email: jbaker@caraclecreek.com

CERTIFICATE OF QUALIFIED PERSON

I, Jason Baker, do hereby certify that:

1. I am employed as Geological Engineer for the geological consulting firm of Caracle Creek International Consulting Inc. Canada ("Caracle Creek").
2. I am responsible for Section 9 (Mineral Resource Estimates) of the Assessment Report titled "Assessment Report, Decar Nickel Property, British Columbia, Canada" dated August 16, 2012 and prepared for Cliffs Natural Resources Exploration Canada Inc.
3. I hold the following academic qualifications: B.Eng. (2000) Dalhousie University (TUNS), Halifax, Nova Scotia.
4. I am a member of the Association of Professional Engineers of Nova Scotia (APENS#9627) and the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC 37720).
5. I have worked over 12 years in geological modelling and resource calculations in both exploration (Gold, Lead & Zinc) and operations (Coal, Gypsum, Lead and Zinc). I am a Qualified Person for the purpose of the National Instrument 43-101.
6. I have not visited the Decar Nickel Property.
7. I am independent of the issuer of this report applying all the tests in section 1.5 of National Instrument 43-101.
8. I have no prior involvement with the Property that forms the subject of this Technical Report.
9. As of the date of this certificate, to the best of my knowledge, information and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Dated this 16th Day of August, 2012

Jason Baker, B. Eng., P. Eng.
Geological Engineer, Caracle Creek Canada

Appendix 2

Drill Logs

BHID:	11B001	**UTM East:**	346398	**Collar Dip:**	-60.0°	**Core Storage:**	Fort St. James, BC
Location:	Target B	**UTM North:**	6087268	**Collar Az:**	180.0°		
Start Date:	10/10/2011	**Elevation (m):**	1657	**Length (m):**	304.5	**Logged By:**	Luc Harnois
End Date:	14/10/2011	**Datum:**	NAD 83	**Final Depth (m):**	304.5		
Claim #:	559616	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
121.6	176.8	-60.8	Reflex	
213.1	173.2	-61.9	Reflex	
304.5	170.0	-62.5	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	2.9	Over Burden					
2.9	15	Peridotite					
15	20.8	Sedimentary rock					
20.8	20.92	Peridotite					
20.92	21	Wacke					
21	134	Peridotite	522819	30	31	1	0.029
			522821	34	35	1	0.072
			522822	38	39	1	0.117
			522823	42	43	1	0.072
			522824	46	47	1	0.116
			522825	50	51	1	0.149
			522826	54	55	1	0.142
			522827	58	59	1	0.108
			522828	64	65	1	0.111
			522829	68	69	1	0.127
			522830	72	73	1	0.105
			522831	76	77	1	0.166
			522832	80	81	1	0.152
			522833	84	85	1	0.197
			522834	88	89	1	0.169

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522836	92	93	1	0.170
			522837	96	97	1	0.151
			522838	100	101	1	0.132
			522839	104	105	1	0.144
			522841	108	109	1	0.119
			522842	112	113	1	0.090
			522843	116	117	1	0.110
			522844	120	121	1	0.104
			522845	124	125	1	0.092
			522846	128	129	1	0.108
			522847	132	133	1	0.111
134	134.54	Felsic Dike 2					
134.54	135.85	Peridotite					
135.85	136.9	Felsic Dike 1	522848	136	137	1	0.004
136.9	145.3	Peridotite	522849	140	141	1	0.185
			522850	144	145	1	0.132
145.3	304.5	Peridotite	522851	148	149	1	0.151
			522852	152	153	1	0.168
			522853	156	157	1	0.189
			522854	160	161	1	0.180
			522856	164	165	1	0.156
			522857	168	169	1	0.197
			522858	172	173	1	0.147
			522859	176	177	1	0.182
			522861	180	181	1	0.193
			522862	184	185	1	0.153
			522863	188	189	1	0.140
			522864	192	193	1	0.160
			522865	196	197	1	0.143
			522866	200	201	1	0.151
			522867	204	205	1	0.193
			522868	208	209	1	0.105
			522869	212	213	1	0.143

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522870	216	217	1	0.151
			522871	220	221	1	0.135
			522872	224	225	1	0.153
			522873	228	229	1	0.167
			522874	232	233	1	0.127
			522876	236	237	1	0.136
			522877	240	241	1	0.154
			522878	244	245	1	0.108
			522879	248	249	1	0.099
			522881	252	253	1	0.105
			522882	256	257	1	0.129
			522883	260	261	1	0.132
			522884	264	265	1	0.131
			522885	268	269	1	0.116
			522886	272	273	1	0.119
			522887	276	277	1	0.130
			522888	280	281	1	0.147
			522889	284	285	1	0.154
			522890	288	289	1	0.082
			522891	292	293	1	0.119
			522892	296	297	1	0.093
			522893	300	301	1	0.126

BHID:	11BAP001	**UTM North:**	349183.522	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM East:**	6083271.688	**Collar Az:**	333.0°		
Start Date:	01/07/2011	**Elevation (m):**	967.128	**Length (m):**	275.2	**Logged By:**	Luc Harnois
End Date:	12/07/2011	**Datum:**	NAD 83	**Final Depth (m):**	275.2		
Claim #:	575677	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	332.0	-49.3	Reflex	
5.0	331.7	-49.4	Reflex	
10.0	331.9	-49.4	Reflex	
15.0	332.1	-49.4	Reflex	
20.0	332.1	-49.4	Reflex	
25.0	332.3	-49.3	Reflex	
30.0	332.2	-49.4	Reflex	
35.0	332.3	-49.4	Reflex	
40.0	332.4	-49.4	Reflex	
45.0	332.5	-49.4	Reflex	
50.0	332.6	-49.4	Reflex	
55.0	332.5	-49.4	Reflex	
60.0	332.4	-49.5	Reflex	
65.0	332.2	-49.5	Reflex	
70.0	332.4	-49.5	Reflex	
75.0	332.4	-49.5	Reflex	
80.0	332.3	-49.6	Reflex	
85.0	332.3	-49.6	Reflex	
90.0	332.3	-49.7	Reflex	
95.0	332.3	-49.6	Reflex	
100.0	332.4	-49.5	Reflex	
105.0	332.4	-49.5	Reflex	
110.0	332.4	-49.5	Reflex	
115.0	332.5	-49.5	Reflex	
120.0	332.6	-49.6	Reflex	
125.0	332.5	-49.7	Reflex	

Depth (m)	Azimuth°	Dip°	Test Type	Comments
130.0	332.2	-49.7	Reflex	
135.0	332.6	-49.7	Reflex	
140.0	332.5	-49.7	Reflex	
145.0	332.7	-49.6	Reflex	
150.0	332.8	-49.7	Reflex	
155.0	332.9	-49.6	Reflex	
160.0	333.0	-49.5	Reflex	
165.0	333.2	-49.4	Reflex	
170.0	333.4	-49.3	Reflex	
175.0	333.4	-49.2	Reflex	
180.0	333.6	-49.1	Reflex	
185.0	333.7	-49.1	Reflex	
190.0	333.8	-49.0	Reflex	
195.0	334.1	-48.9	Reflex	
200.0	334.1	-48.9	Reflex	
205.0	334.1	-48.9	Reflex	
210.0	334.2	-49.0	Reflex	
215.0	334.2	-49.0	Reflex	
220.0	334.4	-49.0	Reflex	
225.0	334.5	-49.1	Reflex	
230.0	334.5	-49.1	Reflex	
235.0	334.6	-49.2	Reflex	
240.0	334.7	-49.3	Reflex	
245.0	334.8	-49.1	Reflex	
250.0	335.1	-49.1	Reflex	
255.0	335.4	-48.9	Reflex	
260.0	335.6	-48.8	Reflex	
265.0	335.7	-48.6	Reflex	

Lithology			Assay				
From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	7.5	Over Burden					
7.5	70	Peridotite	523501	8.65	9.65	1	0.030
			523502	12.5	13.5	1	0.153
			523503	15.95	16.95	1	0.143
			523504	19.74	20.74	1	0.118
			523505	23.9	24.9	1	0.074
			523506	27.55	28.55	1	0.155
			523507	31.62	32.62	1	0.175
			523508	34.78	35.78	1	0.123
			523509	38.49	39.49	1	0.180
			523510	41.34	42.34	1	0.169
			523511	46.06	47.06	1	0.177
			523512	50.05	51.05	1	0.187
			523513	53.5	54.5	1	0.158
			523514	58.02	59.02	1	0.155
			523516	61.54	62.54	1	0.126
			523517	65.26	66.26	1	0.101
			523518	69.15	70.15	1	0.068
70	73.08	Altered Dike	523519	72.98	73.98	1	0.007
73.08	74.02	Peridotite					
74.02	76.67	Altered Dike					
76.67	250.32	Peridotite	523521	77.24	78.24	1	0.047
			523522	81.3	82.3	1	0.117
			523523	85.14	86.14	1	0.050
			523524	88.78	89.78	1	0.139
			523525	93.17	94.17	1	0.138
			523526	96.28	97.28	1	0.136
			523527	100.21	101.21	1	0.116
			523528	103.89	104.89	1	0.113
			523529	107.67	108.67	1	0.079
			523530	111.58	112.58	1	0.156
			523531	115.45	116.45	1	0.130

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			523532	119.29	120.29	1	0.143
			523533	123.21	124.21	1	0.137
			523534	127.31	128.31	1	0.120
			523536	132.74	133.74	1	0.107
			523537	136.57	137.57	1	0.189
			523538	140.5	141.5	1	0.150
			523539	144.47	145.47	1	0.171
			523541	148.54	149.54	1	0.138
			523542	152.37	153.37	1	0.145
			523543	156.15	157.15	1	0.208
			523544	160.14	161.14	1	0.140
			523545	163.94	164.94	1	0.195
			523546	167.75	168.75	1	0.151
			523547	171.78	172.78	1	0.176
			523548	175.75	176.75	1	0.144
			523549	179.7	180.7	1	0.147
			523550	183.27	184.27	1	0.131
			523551	187.13	188.13	1	0.123
			523552	191.09	192.09	1	0.091
			523553	194.97	195.97	1	0.146
			523554	198.7	199.7	1	0.146
			523556	202.69	203.69	1	0.135
			523557	206.81	207.81	1	0.142
			523558	210.72	211.72	1	0.158
			523559	214.65	215.65	1	0.006
			523561	218.57	219.57	1	0.161
			523562	222.87	223.52	0.65	0.151
			523563	226.41	227.41	1	0.145
			523564	231.32	231.79	0.47	0.141
			523565	234.35	235.35	1	0.129
			523566	238.21	239.21	1	0.133
			523567	242.12	243.12	1	0.142
			523568	246.09	247.09	1	0.139

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
250.32	250.42	Altered Dike	523569	250.33	251.33	1	0.121
250.42	275	Peridotite	523570	254.28	255.28	1	0.131
			523577	256.79	257.89	1.1	0.134
			523571	258.14	259.14	1	0.098
			523572	261.82	262.82	1	0.139
			523573	265.63	266.63	1	0.133
			523574	269.58	270.58	1	0.066
			523576	273.41	274.41	1	0.062

BHID:	11BAP002	**UTM East:**	348670.6	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083308	**Collar Az:**	0.0°		
Start Date:	13/07/2011	**Elevation (m):**	1023.531	**Length (m):**	309.0	**Logged By:**	Luc Harnois
End Date:	20/07/2011	**Datum:**	NAD 83	**Final Depth (m):**	309.0		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	0.0	-48.7	Reflex	
5.0	359.8	-48.5	Reflex	
10.0	359.4	-48.6	Reflex	
15.0	359.4	-48.9	Reflex	
20.0	359.3	-48.9	Reflex	
25.0	359.1	-49.1	Reflex	
30.0	359.5	-49.1	Reflex	
35.0	359.5	-49.1	Reflex	
40.0	359.6	-49.3	Reflex	
45.0	359.7	-49.4	Reflex	
50.0	359.8	-49.4	Reflex	
55.0	359.9	-49.3	Reflex	
60.0	359.7	-49.3	Reflex	
65.0	359.8	-49.4	Reflex	
70.0	360.0	-49.4	Reflex	
75.0	0.0	-49.4	Reflex	
80.0	0.1	-49.3	Reflex	
85.0	0.1	-49.5	Reflex	
90.0	0.2	-49.5	Reflex	
95.0	0.2	-49.5	Reflex	
100.0	0.4	-49.7	Reflex	
105.0	0.7	-49.7	Reflex	
110.0	0.6	-49.8	Reflex	
115.0	0.8	-49.6	Reflex	
120.0	1.1	-49.4	Reflex	
125.0	1.1	-49.6	Reflex	

Depth (m)	Azimuth°	Dip°	Test Type	Comments
130.0	1.4	-49.3	Reflex	
135.0	1.7	-49.1	Reflex	
140.0	1.9	-49.0	Reflex	
145.0	2.0	-48.8	Reflex	
150.0	2.3	-48.7	Reflex	
155.0	2.5	-48.6	Reflex	
160.0	2.9	-48.5	Reflex	
165.0	3.1	-48.4	Reflex	
170.0	3.2	-48.3	Reflex	
175.0	3.3	-48.2	Reflex	
180.0	3.5	-48.3	Reflex	
185.0	3.6	-48.2	Reflex	
190.0	3.7	-48.3	Reflex	
195.0	3.9	-48.3	Reflex	
200.0	4.1	-48.2	Reflex	
205.0	4.5	-48.2	Reflex	
210.0	4.8	-48.2	Reflex	
215.0	5.0	-48.2	Reflex	
220.0	5.1	-48.1	Reflex	
225.0	5.4	-48.1	Reflex	
230.0	5.6	-48.1	Reflex	
235.0	5.8	-48.1	Reflex	
240.0	6.0	-48.0	Reflex	
245.0	6.2	-48.1	Reflex	
250.0	6.4	-48.1	Reflex	
255.0	6.8	-48.0	Reflex	
260.0	6.8	-48.1	Reflex	
265.0	7.1	-48.0	Reflex	
270.0	7.5	-47.9	Reflex	
275.0	7.8	-47.9	Reflex	
280.0	8.2	-47.8	Reflex	
285.0	8.4	-47.8	Reflex	

Lithology			Assay				
From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	31.98	Over Burden					
31.98	96	Peridotite	523578	34	35	1	0.153
			523579	38	39	1	0.159
			523581	42	43	1	0.129
			523582	46	47	1	0.150
			523583	50	51	1	0.137
			523584	54	55	1	0.128
			523585	58	59	1	0.124
			523586	62	63	1	0.109
			523587	66	67	1	0.152
			523588	70	71	1	0.147
			523589	74	75	1	0.152
			523590	78	79	1	0.155
			523591	82	83	1	0.099
			523592	86	87	1	0.139
			523593	90	91	1	0.110
			523594	94	95	1	0.016
96	101.38	Serpentinite	523596	98	99	1	0.008
101.38	106.2	Peridotite	523597	102	103	1	0.008
			523598	106	107	1	0.000
106.2	106.8	Serpentinite	523599	110	111	1	0.003
106.8	112.06	Peridotite					
112.06	112.24	Serpentinite					
112.24	117.26	Peridotite	523601	114	115	1	0.011
117.26	117.41	Serpentinite					
117.41	119.67	Peridotite	523602	118	119	1	0.004
119.67	119.77	Serpentinite					
119.77	125.29	Peridotite	523603	122	123	1	0.059
125.29	128.67	Serpentinite	523604	126	127	1	0.003
128.67	138.48	Peridotite	523605	130	131	1	0.009
			523606	134	135	1	0.005
			523607	138	139	1	0.004

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
138.48	139.58	Serpentinite					
139.58	142.93	Peridotite	523608	142	143	1	0.004
142.93	143.58	Serpentinite					
143.58	147.27	Altered Dike	523609	146	147	1	
147.67	148.87	Serpentinite					
148.87	172.12	Peridotite	523610	150	151	1	0.009
			523611	154	155	1	0.027
			523612	158	159	1	0.039
			523613	162	163	1	0.026
			523614	166	167	1	0.032
			523616	170	171	1	0.006
172.12	174.3	Altered Dike					
174.3	180.65	Peridotite	523617	174	175	1	0.003
			523618	178	179	1	0.005
180.65	180.95	Altered Dike					
180.95	181.1	Peridotite					
181.1	181.3	Altered Dike					
181.3	181.94	Peridotite					
181.94	182.14	Altered Dike	523619	182	183	1	0.002
182.14	253.06	Peridotite	523621	186	187	1	0.067
			523622	190	191	1	0.163
			523623	194	195	1	0.159
			523624	198	199	1	0.178
			523625	202	203	1	0.142
			523626	206	207	1	0.109
			523627	210	211	1	0.161
			523628	214	215	1	0.142
			523629	218	219	1	0.156
			523630	222	223	1	0.140
			523631	226	227	1	0.113
			523632	230	231	1	0.129
			523633	234	235	1	0.118
			523634	238	239	1	0.136

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			523636	242	243	1	0.127
			523637	246	247	1	0.122
			523638	250	251	1	0.007
253.06	257.99	Serpentinite	523639	254	255	1	0.010
257.99	265.02	Peridotite	523641	258	259	1	0.012
			523642	262	263	1	0.046
265.02	272.14	Serpentinite	523643	266	267	1	0.005
			523644	270	271	1	0.006
272.14	309.04	Peridotite	523645	274	275	1	0.065
			523646	278	279	1	0.075
			523647	282	283	1	0.100
			523648	286	287	1	0.110
			523649	290	291	1	0.154
			523650	294	295	1	0.139
			523651	298	299	1	0.138
			523652	302	303	1	0.099
			523653	306	307	1	0.142
			523643	266	267	1	0.223
			523644	270	271	1	0.218
			523645	274	275	1	0.232
			523646	278	279	1	0.230
			523647	282	283	1	0.243
			523648	286	287	1	0.248
			523649	290	291	1	0.234
			523650	294	295	1	0.243
			523651	298	299	1	0.242
			523652	302	303	1	0.209
			523653	306	307	1	0.227

BHID:	11BAP003	**UTM East:**	348421.3	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083211	**Collar Az:**	333.0°		
Start Date:	21/07/2011	**Elevation (m):**	1068.597	**Length (m):**	310.9	**Logged By:**	Luc Harnois
End Date:	24/07/2011	**Datum:**	NAD 83	**Final Depth (m):**	310.9		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	10.0	-50.9	Reflex	
5.0	9.8	-50.8	Reflex	
10.0	9.8	-50.8	Reflex	
15.0	10.2	-50.8	Reflex	
20.0	10.3	-51.0	Reflex	
25.0	10.1	-51.1	Reflex	
30.0	10.1	-51.0	Reflex	
35.0	10.3	-50.9	Reflex	
40.0	10.2	-50.9	Reflex	
45.0	9.9	-50.9	Reflex	
50.0	9.8	-50.9	Reflex	
55.0	9.9	-50.8	Reflex	
60.0	10.0	-50.8	Reflex	
65.0	10.0	-50.9	Reflex	
70.0	10.3	-50.9	Reflex	
75.0	10.3	-50.9	Reflex	
80.0	10.4	-50.8	Reflex	
85.0	10.8	-50.6	Reflex	
90.0	10.9	-50.5	Reflex	
95.0	11.0	-50.8	Reflex	
100.0	11.3	-50.8	Reflex	
105.0	11.4	-50.8	Reflex	
110.0	11.6	-50.8	Reflex	
115.0	11.7	-50.8	Reflex	
120.0	11.8	-50.9	Reflex	
125.0	11.9	-50.8	Reflex	

Depth (m)	Azimuth°	Dip°	Test Type	Comments
130.0	11.9	-50.9	Reflex	
135.0	12.2	-50.8	Reflex	
140.0	12.4	-50.8	Reflex	
145.0	12.5	-50.9	Reflex	
150.0	12.8	-51.0	Reflex	
155.0	12.9	-51.2	Reflex	
160.0	13.2	-51.1	Reflex	
165.0	13.1	-51.4	Reflex	
170.0	13.2	-51.4	Reflex	
175.0	13.6	-51.4	Reflex	
180.0	13.6	-51.5	Reflex	
185.0	13.7	-51.4	Reflex	
190.0	13.8	-51.4	Reflex	
195.0	13.9	-51.2	Reflex	
200.0	14.1	-51.3	Reflex	
205.0	14.2	-51.3	Reflex	
210.0	14.4	-51.2	Reflex	
215.0	14.6	-51.2	Reflex	
220.0	14.8	-51.2	Reflex	
225.0	15.0	-51.2	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	5.61	Over Burden					
5.61	310.9	Peridotite	523654	6	7	1	0.152
			523656	10	11	1	0.130
			523657	14	15	1	0.093
			523658	18	19	1	0.099
			523659	22	23	1	0.118
			523661	26	27	1	0.137
			523662	30	31	1	0.132
			523663	34	35	1	0.107
			523664	38	39	1	0.128

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			523665	42	43	1	0.076
			523666	46	47	1	0.139
			523667	50	51	1	0.149
			523668	54	55	1	0.100
			523669	58	59	1	0.130
			523670	62	63	1	0.130
			523671	66	67	1	0.134
			523672	70	71	1	0.123
			523673	74	75	1	0.138
			523674	78	79	1	0.135
			523676	82	83	1	0.129
			523677	86	87	1	0.103
			523678	90	91	1	0.112
			523679	94	95	1	0.087
			523681	98	99	1	0.122
			523682	102	103	1	0.146
			523683	106	107	1	0.166
			523684	110	111	1	0.134
			523685	114	115	1	0.142
			523686	118	119	1	0.131
			523687	122	123	1	0.138
			523688	126	127	1	0.120
			523689	130	131	1	0.105
			523690	134	135	1	0.066
			523691	138	139	1	0.116
			523692	142	143	1	0.148
			523693	146	147	1	0.126
			523694	150	151	1	0.144
			523696	154	155	1	0.127
			523697	158	159	1	0.172
			523698	162	163	1	0.152
			523699	166	167	1	0.146
			523701	170	171	1	0.124

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			523702	174	175	1	0.093
			523703	178	179	1	0.074
			523704	182	183	1	0.130
			523705	186	187	1	0.131
			523706	190	191	1	0.071
			523707	194	195	1	0.113
			523708	198	199	1	0.110
			523709	202	203	1	0.123
			523710	206	207	1	0.117
			523711	210	211	1	0.118
			523712	214	215	1	0.077
			523713	218	219	1	0.114
			523714	222	223	1	0.114
			523716	226	227	1	0.128
			523717	230	231	1	0.154
			523718	234	235	1	0.142
			523719	238	239	1	0.093
			523721	242	243	1	0.130
			523722	246	247	1	0.132
			523723	250	251	1	0.147
			523724	254	255	1	0.107
			523725	258	259	1	0.124
			523726	262	263	1	0.163
			523727	266	267	1	0.137
			523728	270	271	1	0.168
			523729	274	275	1	0.143
			523730	278	279	1	0.118
			523731	282	283	1	0.141
			523732	286	287	1	0.155
			523733	290	291	1	0.141
			523734	294	295	1	0.139
			523736	298	299	1	0.143
			523737	302	303	1	0.150

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			523738	306	307	1	0.153

BHID:	11BAP004	**UTM East:**	348245.8	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083207	**Collar Az:**	10.0°		
Start Date:	24/07/2011	**Elevation (m):**	1087.965	**Length (m):**	304.5	**Logged By:**	Luc Harnois
End Date:	31/07/2011	**Datum:**	NAD 83	**Final Depth (m):**	304.5		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	10.0	-51.0	Reflex	
5.0	10.4	-50.9	Reflex	
10.0	10.0	-51.0	Reflex	
15.0	10.1	-51.1	Reflex	
20.0	10.2	-51.1	Reflex	
25.0	10.3	-51.2	Reflex	
30.0	10.6	-51.2	Reflex	
35.0	10.5	-51.3	Reflex	
40.0	10.7	-51.2	Reflex	
45.0	10.4	-51.4	Reflex	
50.0	10.3	-51.4	Reflex	
55.0	10.3	-51.4	Reflex	
60.0	10.4	-51.4	Reflex	
65.0	10.4	-51.4	Reflex	
70.0	10.5	-51.5	Reflex	
75.0	10.6	-51.7	Reflex	
80.0	10.3	-51.7	Reflex	
85.0	10.4	-51.8	Reflex	
90.0	10.4	-51.8	Reflex	
95.0	10.5	-51.8	Reflex	
100.0	10.4	-51.8	Reflex	
105.0	10.4	-51.8	Reflex	
110.0	10.4	-51.9	Reflex	
115.0	10.4	-51.6	Reflex	
120.0	10.5	-51.8	Reflex	
125.0	10.4	-51.9	Reflex	

Depth (m)	Azimuth°	Dip°	Test Type	Comments
130.0	10.5	-51.8	Reflex	
135.0	10.5	-51.8	Reflex	
140.0	10.6	-51.8	Reflex	
145.0	10.6	-51.8	Reflex	
150.0	10.6	-51.8	Reflex	
155.0	10.7	-51.8	Reflex	
160.0	10.7	-51.9	Reflex	
165.0	10.7	-51.9	Reflex	
170.0	10.7	-52.0	Reflex	
175.0	10.7	-52.1	Reflex	
180.0	10.8	-52.2	Reflex	
185.0	10.8	-52.2	Reflex	
190.0	11.0	-52.2	Reflex	
195.0	11.2	-52.3	Reflex	
200.0	11.3	-52.3	Reflex	
205.0	11.4	-52.4	Reflex	
210.0	11.5	-52.4	Reflex	
215.0	11.8	-52.3	Reflex	
220.0	11.8	-52.3	Reflex	
225.0	11.9	-52.3	Reflex	
230.0	11.7	-52.3	Reflex	
235.0	11.8	-52.4	Reflex	
240.0	11.8	-52.4	Reflex	
245.0	11.9	-52.5	Reflex	
250.0	11.9	-52.6	Reflex	
255.0	11.6	-52.7	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	8.27	Over Burden					
8.27	11.8	Wacke					
11.8	13.31	Altered Dike					
13.31	15.39	Wacke					

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
15.39	15.78	Altered Dike					
15.78	17.67	Wacke					
17.67	17.89	Felsic Dike 1					
17.89	20.18	Wacke					
20.18	20.31	Felsic Dike 1					
20.31	20.55	Wacke					
20.55	21.72	Altered Dike					
21.72	24.23	Wacke					
24.23	24.84	Felsic Dike 1					
24.84	25.65	Wacke					
25.65	26.23	Altered Dike					
26.23	29.44	Wacke					
29.44	29.7	Felsic Dike 1					
29.7	30.31	Wacke					
30.31	30.9	Felsic Dike 1					
30.9	31.03	Wacke					
31.03	31.1	Felsic Dike 1					
31.1	31.22	Wacke					
31.22	31.58	Felsic Dike 1					
31.58	32.07	Wacke					
32.07	32.42	Felsic Dike 1					
32.42	34.56	Wacke					
34.56	36.26	Altered Dike					
36.26	36.32	Felsic Dike 1					
36.32	36.84	Altered Dike					
36.84	36.99	Felsic Dike 2					
36.99	37.36	Felsic Dike 1	523739	37	38	1	
37.36	37.74	Altered Dike					
37.74	37.85	Peridotite					
37.85	38.21	Felsic Dike 1					
38.21	38.51	Peridotite					
38.51	38.6	Felsic Dike 2					
38.6	39.18	Felsic Dike 1	523741	39	40	1	

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
39.18	39.23	Felsic Dike 2					
39.23	39.49	Peridotite					
39.49	39.54	Felsic Dike 2					
39.54	43.03	Felsic Dike 1					
43.03	43.73	Felsic Dike 1					
43.73	43.85	Felsic Dike 2					
43.85	44.8	Peridotite	523742	44	45	1	0.005
44.8	45.17	Felsic Dike 1	523743	45	46	1	0.005
45.17	46.38	Peridotite	523744	46	47	1	0.008
46.38	46.81	Felsic Dike 1					
46.81	70.29	Peridotite	523745	47	48	1	0.027
			523746	51	52	1	0.033
			523747	55	56	1	0.020
			523748	59	60	1	0.027
			523749	63	64	1	0.047
			523750	67	68	1	0.023
70.29	70.75	Altered Dike					
70.75	98.13	Peridotite	522751	71	72	1	0.061
			522752	79.5	80.5	1	0.119
			522753	86	87	1	0.121
			522754	87	88	1	0.100
			522756	88	89	1	0.101
			522757	89	90	1	0.068
			522758	90	91	1	0.102
			522759	91	92	1	0.151
			522761	92	93	1	0.154
			522762	93	94	1	0.153
98.13	102.03	Altered Dike					
102.03	179.73	Peridotite	522763	103	104	1	0.072
			522764	107	108	1	0.143
			522765	111	112	1	0.125
			522766	115	116	1	0.116
			522767	119	120	1	0.138

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522768	123	124	1	0.134
			522769	127	128	1	0.143
			522770	131	132	1	0.136
			522771	135	136	1	0.144
			522772	139	140	1	0.132
			522773	143	144	1	0.171
			522774	147	148	1	0.139
			522776	151	152	1	0.167
			522777	155	156	1	0.156
			522778	159	160	1	0.145
			522779	163	164	1	0.153
			522781	167	168	1	0.164
			522782	171	172	1	0.142
			522783	175	176	1	0.151
			522784	179	180	1	0.049
179.73	180.02	Unknown					
180.02	182.18	Peridotite					
182.18	182.58	Altered Dike					
182.58	182.81	Wacke					
182.81	185.69	Altered Dike	522785	183	184	1	
185.69	304.5	Peridotite	522786	187	188	1	0.148
			522787	191	192	1	0.127
			522788	195	196	1	0.163
			522789	199	200	1	0.095
			522790	203	204	1	0.183
			522791	207	208	1	0.140
			522792	211	212	1	0.117
			522793	215	216	1	0.155
			522794	219	220	1	0.137
			522796	223	224	1	0.158
			522797	227	228	1	0.155
			522798	231	232	1	0.151
			522799	235	236	1	0.094

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522801	239	240	1	0.120
			522802	243	244	1	0.152
			522803	247	248	1	0.114
			522804	251	252	1	0.131
			522805	255	256	1	0.145
			522806	259	260	1	0.147
			522807	263	264	1	0.154
			522808	267	268	1	0.153
			522809	271	272	1	0.092
			522810	275	276	1	0.090
			522811	279	280	1	0.109
			522812	283	284	1	0.148
			522813	287	288	1	0.138
			522814	291	292	1	0.142
			522816	295	296	1	0.098
			522817	299	300	1	0.137
			522818	303	304	1	0.125
			522799	235	236	1	0.228
			522801	239	240	1	0.225
			522802	243	244	1	0.183
			522803	247	248	1	0.174
			522804	251	252	1	0.190
			522805	255	256	1	0.218
			522806	259	260	1	0.189
			522807	263	264	1	0.216
			522808	267	268	1	0.168
			522809	271	272	1	0.237
			522810	275	276	1	0.212
			522811	279	280	1	0.163
			522812	283	284	1	0.203
			522813	287	288	1	0.205
			522814	291	292	1	0.204
			522816	295	296	1	0.186

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522817	299	300	1	0.182
			522818	303	304	1	0.229

BHID:	11BAP005	**UTM East:**	348845.6	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083111	**Collar Az:**	333.0°		
Start Date:	01/08/2011	**Elevation (m):**	994.828	**Length (m):**	304.5	**Logged By:**	Luc Harnois
End Date:	06/08/2011	**Datum:**	NAD 83	**Final Depth (m):**	304.5		
Claim #:	575677	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	1.2	-51.5	Reflex	
109.4	1.2	-51.5	Reflex	
191.7	2.6	-52.3	Reflex	
304.5	5.5	-53.5	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	44.8	Over Burden					
44.8	76.3	Peridotite	522894	45	46	1	0.134
			522896	49	50	1	0.136
			522897	53	54	1	0.159
			522898	57	58	1	0.119
			522899	61	62	1	0.139
			522901	65	66	1	0.143
			522902	69	70	1	0.166
			522903	73	74	1	0.158
76.3	76.6	Felsic Dike 1					
76.6	179.5	Peridotite	522904	77	78	1	
			522905	81	82	1	0.142
			522906	85	86	1	0.138
			522907	89	90	1	0.118
			522908	93	94	1	0.144
			522909	97	98	1	0.134
			522910	101	102	1	0.142
			522911	105	106	1	0.131
			522912	109	110	1	0.157

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522913	113	114	1	0.128
			522914	117	118	1	0.144
			522916	121	122	1	0.145
			522917	125	126	1	0.150
			522918	129	130	1	0.160
			522919	133	134	1	0.147
			522921	137	138	1	0.158
			522922	141	142	1	0.152
			522923	145	146	1	0.169
			522924	149	150	1	0.161
			522925	153	154	1	0.144
			522926	157	158	1	0.174
			522927	161	162	1	0.143
			522928	165	166	1	0.143
			522929	169	170	1	0.161
			522930	173	174	1	0.111
			522931	177	178	1	0.136
179.5	179.8	Altered Dike					
179.8	304.5	Peridotite	522932	181	182	1	0.099
			522933	185	186	1	0.151
			522934	189	190	1	0.149
			522936	193	194	1	0.153
			522937	197	198	1	0.133
			522938	201	202	1	0.158
			522939	205	206	1	0.158
			522941	209	210	1	0.171
			522942	213	214	1	0.149
			522943	217	218	1	0.158
			522944	221	222	1	0.143
			522945	225	226	1	0.157
			522946	229	230	1	0.133
			522947	233	234	1	0.107
			522948	237	238	1	0.126

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522949	241	242	1	0.155
			522950	245	246	1	0.144
			522951	249	250	1	0.144
			522952	253	254	1	0.133
			522953	257	258	1	0.157
			522954	261	262	1	0.165
			522956	265	266	1	0.179
			522957	269	270	1	0.185
			522958	273	274	1	0.156
			522959	277	278	1	0.167
			522961	281	282	1	0.164
			522962	285	286	1	0.155
			522963	289	290	1	0.148
			522964	293	294	1	0.162
			522965	297	298	1	0.142
			522966	301	302	1	0.149
			522965	297	298	1	0.186
			522966	301	302	1	0.198

BHID:	11BAP006	**UTM East:**	348967.11	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083639.15	**Collar Az:**	333.0°		
Start Date:	02/09/2011	**Elevation (m):**	1023.31	**Length (m):**	302.0	**Logged By:**	Luc Harnois
End Date:	07/09/2011	**Datum:**	NAD 83	**Final Depth (m):**	302.0		
Claim #:	575677	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	328.7	-47.0	Reflex	
59.0	328.7	-47.0	Reflex	
107.0	327.4	-47.3	Reflex	
167.0	330.2	-47.5	Reflex	
206.0	333.2	-47.6	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
10	29.9	Over Burden					
29.9	31.3	Conglomerat					
31.3	179.4	Peridotite	523382	32	33	1	0.149
			523383	36	37	1	0.157
			523384	40	41	1	0.154
			523385	44	45	1	0.127
			523386	48	49	1	0.139
			523387	52	53	1	0.142
			523388	56	57	1	0.137
			523389	60	61	1	0.122
			523390	64	65	1	0.138
			523391	68	69	1	0.141
			523392	72	73	1	0.148
			523393	76	77	1	0.130
			523394	80	81	1	0.145
			523396	84	85	1	0.132
			523397	88	89	1	0.128
			523398	92	93	1	0.128

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			523399	96	97	1	0.132
			523401	100	101	1	0.123
			523402	104	105	1	0.179
			523403	108	109	1	0.132
			523404	112	113	1	0.129
			523405	116	117	1	0.101
			523406	120	121	1	0.128
			523407	124	125	1	0.113
			523408	128	129	1	0.119
			523409	132	133	1	0.121
			523410	136	137	1	0.126
			523411	140	141	1	0.123
			523412	144	145	1	0.022
			523413	148	149	1	0.013
			523414	152	153	1	0.002
			523415	156	157	1	0.048
			523416	160	161	1	0.013
			523417	164	165	1	0.108
			523418	168	169	1	0.133
			523419	172	173	1	0.117
			523421	176	177	1	0.004
179.4	180.9	Altered Dike	523422	180	181	1	
180.9	291	Peridotite	523423	184	185	1	0.095
			523424	188	189	1	0.113
			523425	192	193	1	0.131
			523426	196	197	1	0.117
			523427	200	201	1	0.120
			523428	204	205	1	0.134
			523429	208	209	1	0.134
			523430	212	213	1	0.124
			523431	216	217	1	0.124
			523432	220	221	1	0.128
			523433	224	225	1	0.111

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			523434	228	229	1	0.137
			523436	232	233	1	0.128
			523437	236	237	1	0.112
			523438	240	241	1	0.090
			523439	244	245	1	0.105
			523441	248	249	1	0.113
			523442	252	253	1	0.104
			523443	256	257	1	0.074
			523444	260	261	1	0.092
			523445	264	265	1	0.103
			523446	268	269	1	0.067
			523447	272	273	1	0.095
			523448	276	277	1	0.085
			523449	280	281	1	0.081
			523450	284	285	1	0.077
			523451	288	289	1	0.053
291	302	Peridotite	523452	292	293	1	0.005
			523453	296	297	1	0.002
			523454	300	301	1	0.019

BHID:	11BAP007	**UTM East:**	348665.5	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083094	**Collar Az:**	333.0°		
Start Date:	15/08/2011	**Elevation (m):**	1022.244	**Length (m):**	304.5	**Logged By:**	Luc Harnois
End Date:	20/08/2011	**Datum:**	NAD 83	**Final Depth (m):**	304.5		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	0.0	-49.6	Reflex	
5.0	0.2	-50.0	Reflex	
10.0	0.1	-49.8	Reflex	
15.0	0.2	-50.0	Reflex	
20.0	0.3	-50.0	Reflex	
25.0	0.6	-50.0	Reflex	
30.0	0.4	-49.4	Reflex	
35.0	0.2	-50.1	Reflex	
40.0	0.3	-50.2	Reflex	
45.0	0.1	-50.4	Reflex	
50.0	359.9	-50.5	Reflex	
55.0	359.9	-50.5	Reflex	
60.0	359.7	-50.5	Reflex	
65.0	359.9	-50.5	Reflex	
70.0	359.7	-50.7	Reflex	
75.0	359.8	-50.7	Reflex	
80.0	359.9	-50.7	Reflex	
85.0	359.7	-50.7	Reflex	
90.0	359.6	-50.7	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	37.75	Over Burden					
37.75	42.18	Peridotite	522967	39	40	1	
42.18	42.99	Gabbro					
42.99	97.2	Peridotite	522968	43	44	1	

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522969	47	48	1	
			522970	51	52	1	0.110
			522971	55	56	1	0.152
			522972	59	60	1	0.129
			522973	63	64	1	0.122
			522974	67	68	1	0.070
			522976	71	72	1	0.140
			522977	75	76	1	0.166
			522978	79	80	1	0.179
			522979	83	84	1	0.163
			522981	87	88	1	0.174
			522982	91	92	1	0.157
			522983	95	96	1	0.146
97.2	97.4	Unknown					
97.4	180.04	Peridotite	522984	99	100	1	0.112
			522985	103	104	1	0.133
			522986	107	108	1	0.150
			522987	111	112	1	0.147
			522988	115	116	1	0.185
			522989	119	120	1	0.210
			522990	123	124	1	0.200
			522991	127	128	1	0.167
			522992	131	132	1	0.179
			522993	135	136	1	0.169
			522994	139	140	1	0.136
			522996	143	144	1	0.171
			522997	147	148	1	0.105
			522998	151	152	1	0.191
			522999	155	156	1	0.161
			521251	159	160	1	0.145
			521252	163	164	1	0.161
			521253	167	168	1	0.189
			521254	171	172	1	0.220

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521255	175	176	1	0.182
			521256	179	180	1	0.159
180.04	181.8	Mafic Dike					
181.8	250.08	Peridotite	521257	183	184	1	0.218
			521258	187	188	1	0.179
			521259	191	192	1	0.182
			521260	195	196	1	0.176
			521261	199	200	1	0.166
			521262	203	204	1	0.169
			521263	207	208	1	0.163
			521264	211	212	1	0.170
			521266	215	216	1	0.158
			521267	219	220	1	0.167
			521268	223	224	1	0.181
			521269	227	228	1	0.186
			521271	231	232	1	0.154
			521272	235	236	1	0.187
			521273	239	240	1	0.200
			521274	243	244	1	0.227
			521275	247	248	1	0.152
250.08	251.9	Felsic Dike 1	521276	251	252	1	0.173
251.9	304.5	Peridotite	521277	255	256	1	0.164
			521278	259	260	1	0.151
			521279	263	264	1	0.165
			521280	267	268	1	0.167
			521281	271	272	1	0.176
			521282	275	276	1	0.188
			521283	279	280	1	0.165
			521284	283	284	1	0.071
			521286	287	288	1	0.143
			521287	291	292	1	0.147
			521288	295	296	1	0.151

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521289	299	300	1	0.165
			521291	303	304	1	0.144
			521287	291	292	1	0.211
			521288	295	296	1	0.201
			521289	299	300	1	0.197
			521291	303	304	1	0.206

BHID:	11BAP008	**UTM East:**	348067.8	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083274	**Collar Az:**	25.0°		
Start Date:	14/08/2011	**Elevation (m):**	1143.634	**Length (m):**	302.0	**Logged By:**	Luc Harnois
End Date:	23/08/2011	**Datum:**	NAD 83	**Final Depth (m):**	302.0		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	25.0	-48.7	Reflex	
5.0	25.3	-48.9	Reflex	
10.0	25.3	-49.3	Reflex	
15.0	25.3	-48.8	Reflex	
20.0	24.6	-48.3	Reflex	
25.0	24.7	-48.4	Reflex	
30.0	24.7	-48.6	Reflex	
35.0	24.6	-48.4	Reflex	
40.0	24.5	-48.3	Reflex	
45.0	24.6	-48.2	Reflex	
50.0	24.7	-48.1	Reflex	
55.0	24.9	-48.0	Reflex	
60.0	25.1	-47.9	Reflex	
65.0	25.3	-47.9	Reflex	
70.0	25.5	-47.8	Reflex	
75.0	25.8	-47.8	Reflex	
80.0	25.8	-47.8	Reflex	
85.0	25.9	-47.7	Reflex	
90.0	26.0	-47.6	Reflex	
95.0	26.0	-47.6	Reflex	
100.0	25.8	-47.7	Reflex	
105.0	25.8	-47.7	Reflex	
110.0	25.8	-47.7	Reflex	
115.0	25.7	-47.7	Reflex	
120.0	25.6	-47.8	Reflex	
125.0	25.6	-47.8	Reflex	

Depth (m)	Azimuth°	Dip°	Test Type	Comments
130.0	25.6	-47.8	Reflex	
135.0	25.6	-47.8	Reflex	
140.0	25.4	-47.9	Reflex	
145.0	25.4	-47.9	Reflex	
150.0	25.4	-48.0	Reflex	
155.0	25.5	-48.0	Reflex	
160.0	25.5	-48.0	Reflex	
165.0	25.6	-48.0	Reflex	
170.0	25.6	-48.0	Reflex	
175.0	25.6	-47.9	Reflex	
180.0	25.4	-48.1	Reflex	
185.0	25.2	-48.0	Reflex	
190.0	25.2	-48.1	Reflex	
195.0	25.0	-48.1	Reflex	
200.0	25.0	-48.0	Reflex	
205.0	24.9	-48.2	Reflex	
210.0	25.0	-48.2	Reflex	
215.0	25.2	-48.2	Reflex	
220.0	25.4	-48.2	Reflex	
225.0	25.5	-48.2	Reflex	
230.0	25.6	-48.3	Reflex	
235.0	25.9	-48.3	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	9.8	Over Burden					
9.8	12.32	Peridotite	521292	10	11	1	
12.32	17.85	Peridotite	521293	14	15	1	
17.85	18.85	Mafic Dike					
18.85	30.1	Peridotite	521294	18	19	1	
			521295	22	23	1	
			521296	26	27	1	
30.1	30.24	Mafic Dike	521297	30	31	1	
30.24	45.84	Peridotite	521298	34	35	1	

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521299	38	39	1	
			521300	42	43	1	
45.84	63.3	Peridotite	521301	46	47	1	
			521302	50	51	1	
			521303	54	55	1	
			521304	58	59	1	
			521306	62	63	1	
63.3	63.75	Mafic Dike					
63.75	81.82	Peridotite	521307	66	67	1	
			521308	70	71	1	
			521309	74	75	1	
			521311	78	79	1	
81.82	90.31	Peridotite	521312	82	83	1	
			521313	86	87	1	
			521314	90	91	1	
90.31	101.45	Peridotite	521315	94	95	1	
			521316	98	99	1	0.007
101.45	102.9	Mafic Dike	521317	102	103	1	0.003
102.9	112.6	Peridotite	521318	106	107	1	0.012
			521319	110	111	1	0.003
112.6	114.21	Mafic Dike	521320	114	115	1	0.007
114.21	121.6	Peridotite	521321	118	119	1	0.024
121.6	124.7	Lamprophyre	521322	122	123	1	0.000
124.7	131.81	Peridotite	521323	126	127	1	0.005
			521324	130	131	1	
131.81	134.16	Mafic Dike	521326	134	135	1	0.001
134.16	158.01	Peridotite	521327	138	139	1	0.027
			521328	142	143	1	0.042
			521329	146	147	1	0.035
			521331	150	151	1	0.052
			521332	154	155	1	0.069
			521333	158	159	1	0.000

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
158.01	159.02	Lamprophyre					
159.02	172.85	Peridotite	521334	162	163	1	0.154
			521335	166	167	1	0.132
			521336	170	171	1	0.141
172.85	173	Felsic Dike 1					
173	258.4	Peridotite	521337	174	175	1	0.142
			521338	178	179	1	0.147
			521339	182	183	1	0.144
			521340	186	187	1	0.182
			521341	190	191	1	0.137
			521342	194	195	1	0.114
			521343	198	199	1	0.123
			521344	202	203	1	0.133
			521346	206	207	1	0.139
			521347	210	211	1	0.116
			521348	214	215	1	0.141
			521349	218	219	1	0.082
			521351	222	223	1	0.131
			521352	226	227	1	0.120
			521353	230	231	1	0.171
			521354	234	235	1	0.172
			521355	238	239	1	0.158
			521356	242	243	1	0.179
			521357	246	247	1	0.152
			521358	250	251	1	0.165
			521359	254	255	1	0.152
			521360	258	259	1	0.039
258.4	263.5	Mafic Dike	521361	262	263	1	
263.5	302	Peridotite	521362	266	267	1	0.143
			521363	270	271	1	0.096
			521364	274	275	1	0.145
			521366	278	279	1	0.104
			521367	282	283	1	0.159

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521368	286	287	1	0.137
			521369	290	291	1	0.099
			521371	294	295	1	0.069
			521372	298	299	1	0.148

BHID:	11BAP009	**UTM East:**	348463.5	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083348	**Collar Az:**	20.0°		
Start Date:	21/08/2011	**Elevation (m):**	1055.571	**Length (m):**	606.3	**Logged By:**	Luc Harnois
End Date:	30/08/2011	**Datum:**	NAD 83	**Final Depth (m):**	606.3		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	20.0	-50.0	Reflex	
150.0	24.8	-50.6	Reflex	
200.0	19.9	-50.6	Reflex	
247.0	24.1	-51.0	Reflex	
338.0	29.4	-51.3	Reflex	
384.0	30.9	-51.8	Reflex	
430.0	35.6	-51.6	Reflex	
475.0	34.2	-51.6	Reflex	
521.0	26.0	-51.3	Reflex	
567.0	46.4	-50.4	Reflex	
606.3	41.0	-49.6	Reflex	

Lithology

From (m)	To (m)	Lithology
0	5.9	Over Burden
5.9	243.24	Peridotite

Assay

Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
521373	8	9	1	0.108
521374	12	13	1	0.102
521375	13	14	1	0.092
521376	20	21	1	0.110
521377	24	25	1	0.135
521378	28	29	1	0.127
521379	32	33	1	0.133
521380	36	37	1	0.129
521381	40	41	1	0.103
521382	44	45	1	0.073
521383	48	49	1	0.118

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521384	52	53	1	0.142
			521386	56	57	1	0.152
			521387	60	61	1	0.142
			521388	64	65	1	0.155
			521389	68	69	1	0.162
			521391	72	73	1	0.161
			521392	76	77	1	0.171
			521393	80	81	1	0.105
			521394	84	85	1	0.160
			521395	88	89	1	
			521396	92	93	1	0.122
			521397	96	97	1	0.157
			521398	100	101	1	0.117
			521399	104	105	1	0.168
			521400	108	109	1	0.147
			521401	112	113	1	0.155
			521402	116	117	1	0.152
			521403	120	121	1	0.152
			521404	124	125	1	0.155
			521405	128	129	1	0.126
			521406	132	133	1	0.134
			521407	136	137	1	0.115
			521408	140	141	1	0.112
			521409	144	145	1	0.151
			521410	148	149	1	0.163
			521411	152	153	1	0.131
			521412	156	157	1	0.140
			521413	160	161	1	0.128
			521414	164	165	1	0.127
			521416	168	169	1	0.139
			521417	172	173	1	0.140
			521418	176	177	1	0.130
			521419	180	181	1	0.153

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521421	184	185	1	0.143
			521422	188	189	1	0.144
			521423	192	193	1	0.156
			521424	196	197	1	0.139
			521425	200	201	1	0.138
			521426	204	205	1	0.091
			521427	208	209	1	0.130
			521428	212	213	1	0.161
			521429	216	217	1	0.125
			521430	220	221	1	0.135
			521431	224	225	1	0.139
			521432	228	229	1	0.100
			521433	232	233	1	0.022
			521434	236	237	1	0.033
			521436	240	241	1	0.113
243.24	243.54	Mafic Dike					
243.54	399.75	Peridotite	521437	244	245	1	0.014
			521438	248	249	1	0.052
			521439	252	253	1	0.064
			521537	256	257	1	0.101
			521441	260	261	1	0.155
			521442	264	265	1	0.162
			521443	268	269	1	0.150
			521444	272	273	1	0.156
			521445	276	277	1	0.148
			521446	280	281	1	0.163
			521447	284	285	1	0.157
			521448	288	289	1	0.163
			521449	292	293	1	0.157
			521450	296	297	1	0.139
			521451	300	301	1	0.145
			521452	304	305	1	0.159
			521453	308	309	1	0.138

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521454	312	313	1	0.151
			521456	316	317	1	0.144
			521457	320	321	1	0.155
			521458	324	325	1	0.170
			521459	328	329	1	0.157
			521461	332	333	1	0.138
			521462	336	337	1	0.162
			521463	340	341	1	0.150
			521464	344	345	1	0.167
			521465	348	349	1	0.162
			521466	352	353	1	0.164
			521467	356	357	1	0.153
			521468	360	361	1	0.148
			521469	364	365	1	0.139
			521470	368	369	1	0.119
			521471	372	373	1	0.153
			521472	376	377	1	0.166
			521473	380	381	1	0.137
			521474	384	385	1	0.098
			521476	388	389	1	0.108
			521477	392	393	1	0.052
			521478	396	397	1	0.097
399.75	412	Mafic Dike	521479	400	401	1	
			521481	404	405	1	
			521482	408	409	1	
412	418.06	Peridotite	521483	412	413	1	0.047
			521484	416	417	1	0.005
418.06	419.3	Mafic Dike					
419.3	606.25	Peridotite	521485	420	421	1	0.005
			521486	424	425	1	0.051
			521487	428	429	1	0.090
			521488	432	433	1	0.050
			521489	436	437	1	0.128

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521490	440	441	1	0.113
			521491	444	445	1	0.018
			521492	448	449	1	0.125
			521493	452	453	1	0.107
			521494	456	457	1	0.131
			521496	460	461	1	0.156
			521497	464	465	1	0.134
			521498	468	469	1	0.149
			521499	472	473	1	0.127
			521501	476	477	1	0.133
			521502	480	481	1	0.119
			521503	484	485	1	0.133
			521504	488	489	1	0.131
			521505	492	493	1	0.141
			521506	496	497	1	0.131
			521507	500	501	1	0.124
			521508	504	505	1	0.147
			521509	508	509	1	0.104
			521510	512	513	1	0.166
			521511	516	517	1	0.146
			521512	520	521	1	0.089
			521513	524	525	1	0.140
			521514	528	529	1	0.125
			521516	532	533	1	0.161
			521517	536	537	1	0.127
			521518	540	541	1	0.127
			521519	544	545	1	0.157
			521521	548	549	1	0.144
			521522	552	553	1	0.169
			521523	556	557	1	0.109
			521524	560	561	1	0.083
			521525	564	565	1	0.078
			521526	568	569	1	0.105

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521527	572	573	1	0.093
			521528	576	577	1	0.093
			521529	580	581	1	0.073
			521530	584	585	1	0.049
			521531	588	589	1	0.044
			521532	592	593	1	0.079
			521533	596	597	1	0.122
			521534	600	601	1	0.051
			521536	604	605	1	0.048
			521534	600	601	1	0.215
			521536	604	605	1	0.219

BHID:	11BAP010	**UTM East:**	349263	**Collar Dip:**	-48.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083556	**Collar Az:**	300.0°		
Start Date:	24/08/2011	**Elevation (m):**	1017.792	**Length (m):**	302.0	**Logged By:**	Luc Harnois
End Date:	28/08/2011	**Datum:**	NAD 83	**Final Depth (m):**	302.0		
Claim #:	575677	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	332.0	-50.0	Reflex	
134.0	324.3	-50.3	Reflex	
302.0	335.5	-50.3	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	11.9	Over Burden					
11.9	27.7	Peridotite	522251	14	15	1	0.219
			522252	18	19	1	0.211
			522253	22	23	1	0.215
			522254	26	27	1	0.224
27.7	29	Altered Dike					
29	29.68	Serpentinite					
29.68	30.1	Altered Dike	522256	30	31	1	0.16
30.1	30.31	Serpentinite					
30.31	31.51	Altered Dike					
31.51	35.35	Peridotite	522257	34	35	1	0.188
35.35	35.49	Altered Dike					
35.49	41.7	Serpentinite	522258	38	39	1	0.189
41.7	57.81	Peridotite	522259	42	43	1	0.231
			522261	46	47	1	0.214
			522262	50	51	1	0.229
			522263	54	55	1	0.234
57.81	58.05	Altered Dike	522264	58	59	1	0.223
58.05	92.59	Serpentinite	522265	62	63	1	0.221
			522266	66	67	1	0.212

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522267	70	71	1	0.188
			522268	74	75	1	0.212
			522269	78	79	1	0.216
			522270	82	83	1	0.215
			522271	86	87	1	0.214
			522272	90	91	1	0.201
92.59	92.75	Altered Dike					
92.75	99.65	Serpentinite	522273	94	95	1	0.119
			522274	98	99	1	0.218
99.65	99.88	Altered Dike					
99.88	101.03	Serpentinite					
101.03	101.42	Altered Dike					
101.42	103.41	Serpentinite	522276	102	103	1	0.19
103.41	105.25	Altered Dike					
105.25	112.1	Serpentinite	522277	106	107	1	0.211
			522278	110	111	1	0.206
112.1	113.3	Altered Dike					
113.3	113.97	Serpentinite					
113.97	118.63	Altered Dike	522279	114	115	1	0.011
			522281	118	119	1	0.065
118.63	132.41	Serpentinite	522282	122	123	1	0.206
			522283	126	127	1	0.192
			522284	130	131	1	0.173
132.41	134.2	Altered Dike	522285	134	135	1	0.147
134.2	193.27	Serpentinite	522286	138	139	1	0.215
			522287	142	143	1	0.215
			522288	146	147	1	0.209
			522289	150	151	1	0.221
			522290	154	155	1	0.17
			522291	158	159	1	0.201
			522292	162	163	1	0.184
			522293	166	167	1	0.213
			522294	170	171	1	0.204

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522296	174	175	1	0.244
			522297	178	179	1	0.194
			522298	182	183	1	0.202
			522299	186	187	1	0.216
			522301	190	191	1	0.195
193.27	197.7	Altered Dike	522302	194	195	1	0.029
197.7	199.78	Serpentinite	522303	198	199	1	0.104
199.78	203.84	Altered Dike	522304	202	203	1	0.054
203.84	244.95	Serpentinite	522305	206	207	1	0.209
			522306	210	211	1	0.227
			522307	214	215	1	0.218
			522308	218	219	1	0.185
			522309	222	223	1	0.215
			522310	226	227	1	0.194
			522311	230	231	1	0.211
			522312	234	235	1	0.205
			522313	238	239	1	0.216
			522314	242	243	1	0.226
244.95	302	Serpentinite	522316	246	247	1	0.193
			522317	250	251	1	0.176
			522318	254	255	1	0.199
			522319	258	259	1	0.176
			522321	262	263	1	0.192
			522322	266	267	1	0.198
			522323	270	271	1	0.23
			522324	274	275	1	0.172
			522325	278	279	1	0.203
			522326	282	283	1	0.189
			522327	286	287	1	0.212
			522328	290	291	1	
			522329	294	295	1	
			522330	298	299	1	

BHID:	11BAP011	**UTM East:**	349090	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083445	**Collar Az:**	330.0°		
Start Date:	28/08/2011	**Elevation (m):**	1026.273	**Length (m):**	302.0	**Logged By:**	Luc Harnois
End Date:	01/09/2011	**Datum:**	NAD 83	**Final Depth (m):**	302.0		
Claim #:	575677	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	332.5	-49.1	Reflex	
5.0	332.6	-49.1	Reflex	
10.0	332.3	-49.2	Reflex	
15.0	332.4	-49.3	Reflex	
20.0	332.5	-49.3	Reflex	
25.0	332.4	-49.4	Reflex	
30.0	332.6	-49.4	Reflex	
35.0	332.6	-49.5	Reflex	
40.0	332.6	-49.6	Reflex	
45.0	332.7	-49.6	Reflex	
50.0	332.7	-49.7	Reflex	
55.0	332.8	-49.7	Reflex	
60.0	332.8	-49.8	Reflex	
65.0	332.8	-49.8	Reflex	
70.0	332.8	-49.9	Reflex	
75.0	333.1	-49.9	Reflex	
80.0	333.3	-49.9	Reflex	
85.0	333.4	-49.9	Reflex	
90.0	333.6	-50.0	Reflex	
95.0	333.8	-50.1	Reflex	
100.0	333.9	-50.1	Reflex	
105.0	334.0	-50.1	Reflex	
110.0	334.2	-50.1	Reflex	
115.0	334.3	-50.2	Reflex	
120.0	334.3	-50.2	Reflex	
125.0	334.4	-50.3	Reflex	

Depth (m)	Azimuth°	Dip°	Test Type	Comments
130.0	334.4	-50.3	Reflex	
135.0	334.6	-50.3	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	3.7	Over Burden					
3.7	7.39	Serpentinite	522331	4	5	1	0.010
7.39	9.41	Altered Dike	522332	8	9	1	
9.41	135.07	Serpentinite	522333	12	13	1	0.017
			522334	16	17	1	0.129
			522336	20	21	1	0.146
			522337	24	25	1	0.117
			522338	28	29	1	0.044
			522339	32	33	1	0.046
			522341	36	37	1	0.113
			522342	40	41	1	0.087
			522343	44	45	1	0.090
			522344	48	49	1	0.079
			522345	52	53	1	0.093
			522346	56	57	1	0.032
			522347	60	61	1	0.080
			522348	64	65	1	0.098
			522349	68	69	1	0.107
			522350	72	73	1	0.090
			522351	76	77	1	0.105
			522352	80	81	1	0.115
			522353	84	85	1	0.138
			522354	88	89	1	0.112
			522356	92	93	1	0.111
			522357	96	97	1	0.129
			522358	100	101	1	0.116
			522359	104	105	1	0.125
			522361	108	109	1	0.143

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522362	112	113	1	0.159
			522363	116	117	1	0.104
			522364	120	121	1	0.142
			522365	124	125	1	0.147
			522366	128	129	1	0.154
			522367	132	133	1	0.042
135.07	135.29	Altered Dike					
135.29	137.31	Serpentinite	522368	136	137	1	
137.31	138	Altered Dike					
138	139.29	Serpentinite					
139.29	139.65	Altered Dike					
139.65	142.42	Serpentinite	522369	140	141	1	
142.42	147.21	Altered Dike	522370	144	145	1	
147.21	182.1	Serpentinite	522371	148	149	1	0.161
			522372	152	153	1	0.170
			522373	156	157	1	0.174
			522374	160	161	1	0.152
			522376	164	165	1	0.145
			522377	168	169	1	0.164
			522378	172	173	1	0.146
			522379	176	177	1	0.151
			522381	180	181	1	0.104
182.1	182.2	Altered Dike					
182.2	197.45	Serpentinite	522382	184	185	1	0.088
			522383	188	189	1	0.141
			522384	192	193	1	0.132
			522385	196	197	1	0.118
197.45	197.8	Altered Dike					
197.8	224	Serpentinite	522386	200	201	1	0.124
			522387	204	205	1	0.142
			522388	208	209	1	0.146
			522389	212	213	1	0.139
			522390	216	217	1	0.153

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522391	220	221	1	0.128
224	228.2	Altered Dike	522392	224	225	1	
			522393	228	229	1	0.097
228.2	236.77	Serpentinite	522394	232	233	1	0.135
			522396	236	237	1	0.079
236.77	238.13	Altered Dike					
238.13	248.15	Serpentinite	522397	240	241	1	0.154
			522398	244	245	1	0.156
			522399	248	249	1	
248.15	249.62	Altered Dike					
249.62	250	Serpentinite					
250	251.48	Altered Dike					
251.48	302	Serpentinite	522401	252	253	1	0.142
			522402	256	257	1	0.152
			522403	260	261	1	0.147
			522404	264	265	1	0.124
			522405	268	269	1	0.124
			522406	272	273	1	0.130
			522407	276	277	1	0.138
			522408	280	281	1	0.128
			522409	284	285	1	0.130
			522410	288	289	1	0.086
			522411	292	293	1	0.111
			522412	296	297	1	0.105
			522413	300	301	1	0.122

BHID:	11BAP012	**UTM East:**	348284.1	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083401	**Collar Az:**	333.0°		
Start Date:	31/08/2011	**Elevation (m):**	1094.229	**Length (m):**	301.5	**Logged By:**	Luc Harnois
End Date:	03/09/2011	**Datum:**	NAD 83	**Final Depth (m):**	301.5		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	40.0	-51.7	Reflex	
5.0	40.6	-51.6	Reflex	
10.0	40.9	-51.5	Reflex	
15.0	41.1	-51.4	Reflex	
20.0	40.8	-51.4	Reflex	
25.0	41.0	-51.4	Reflex	
30.0	41.0	-51.5	Reflex	
35.0	41.3	-51.6	Reflex	
40.0	41.2	-51.7	Reflex	
45.0	41.0	-51.7	Reflex	
50.0	41.1	-51.8	Reflex	
55.0	41.2	-51.9	Reflex	
60.0	41.3	-52.1	Reflex	
65.0	41.3	-52.2	Reflex	
70.0	41.2	-52.4	Reflex	
75.0	41.4	-52.3	Reflex	
80.0	41.3	-52.4	Reflex	
85.0	41.5	-52.5	Reflex	
90.0	41.8	-52.5	Reflex	
95.0	41.8	-52.7	Reflex	
100.0	41.9	-52.7	Reflex	
105.0	42.0	-52.8	Reflex	
110.0	41.9	-52.9	Reflex	
115.0	41.3	-53.2	Reflex	
120.0	41.6	-52.8	Reflex	

Lithology			Assay				
From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	14.43	Over Burden					
14.43	29.2	Peridotite	522451	18	19	1	0.135
			522452	22	23	1	0.116
			522453	26	27	1	0.122
29.2	29.35	Felsic Dike 1					
29.35	31.3	Peridotite	522454	30	31	1	0.130
31.3	31.5	Felsic Dike 1					
31.5	49.34	Peridotite	522456	34	35	1	0.146
			522457	38	39	1	0.163
			522458	42	43	1	0.148
			522459	46	47	1	0.149
49.34	49.7	Felsic Dike 1					
49.7	66.85	Peridotite	522461	50	51	1	0.153
			522462	54	55	1	0.050
			522463	58	59	1	0.147
			522464	62	63	1	0.082
			522465	66	67	1	0.145
66.85	67.21	Felsic Dike 1					
67.21	68.2	Peridotite					
68.2	68.7	Diorite					
68.7	84.28	Peridotite	522466	70	71	1	0.054
			522467	74	75	1	0.078
			522468	78	79	1	0.127
			522469	82	83	1	0.062
84.28	88.21	Diorite	522470	86	87	1	
88.21	103.3	Peridotite	522471	90	91	1	0.156
			522472	94	95	1	0.135
			522473	98	99	1	
			522474	102	103	1	
103.3	104.49	Gabbro					
104.49	158.6	Peridotite	522476	106	107	1	0.136
			522477	110	111	1	0.149

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522478	114	115	1	0.137
			522479	118	119	1	0.159
			522481	122	123	1	0.125
			522482	126	127	1	0.118
			522483	130	131	1	0.152
			522484	134	135	1	0.144
			522485	138	139	1	0.143
			522486	142	143	1	0.147
			522487	146	147	1	0.146
			522488	150	151	1	0.155
			522489	154	155	1	0.179
			522490	158	159	1	0.123
158.6	158.7	Unknown					
158.7	160.44	Peridotite					
160.44	160.47	Unknown					
160.47	172.7	Peridotite	522491	162	163	1	0.138
			522492	166	167	1	0.174
			522493	170	171	1	0.190
172.7	173.62	Diorite					
173.62	174.94	Peridotite	522494	174	175	1	0.012
174.94	179.49	Diorite	522496	178	179	1	
179.49	184.5	Peridotite	522497	182	183	1	0.120
184.5	184.55	Unknown					
184.55	301.45	Peridotite	522498	186	187	1	0.154
			522499	190	191	1	0.175
			522501	194	195	1	0.168
			522502	198	199	1	0.176
			522503	202	203	1	0.173
			522504	206	207	1	0.159
			522505	210	211	1	0.160
			522506	214	215	1	0.145
			522507	218	219	1	0.159
			522508	222	223	1	0.160

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522509	226	227	1	0.154
			522510	230	231	1	0.156
			522511	234	235	1	0.147
			522512	238	239	1	0.170
			522513	242	243	1	0.174
			522514	246	247	1	0.175
			522516	250	251	1	0.153
			522517	254	255	1	0.173
			522518	258	259	1	0.157
			522519	262	263	1	0.136
			522521	266	267	1	0.154
			522522	270	271	1	0.159
			522523	274	275	1	0.149
			522524	278	279	1	0.163
			522525	282	283	1	0.150
			522526	286	287	1	0.130
			522527	290	291	1	0.156
			522528	294	295	1	0.156
			522529	298	299	1	0.134

BHID:	11BAP013	**UTM East:**	348352.4	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083592	**Collar Az:**	25.0°		
Start Date:	03/09/2011	**Elevation (m):**	1119.043	**Length (m):**	300.2	**Logged By:**	Luc Harnois
End Date:	14/09/2011	**Datum:**	NAD 83	**Final Depth (m):**	300.2		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	25.0	-50.2	Reflex	
5.0	25.9	-49.8	Reflex	
10.0	26.4	-49.3	Reflex	
15.0	26.4	-49.6	Reflex	
20.0	26.4	-49.5	Reflex	
25.0	26.5	-49.5	Reflex	
30.0	26.3	-49.5	Reflex	
35.0	26.4	-49.5	Reflex	
40.0	26.4	-49.4	Reflex	
45.0	26.4	-49.3	Reflex	
50.0	26.4	-49.3	Reflex	
55.0	26.5	-49.2	Reflex	
60.0	26.4	-49.2	Reflex	
65.0	26.2	-49.2	Reflex	
70.0	25.8	-49.3	Reflex	
75.0	25.7	-49.5	Reflex	
80.0	25.5	-49.5	Reflex	
85.0	25.5	-49.5	Reflex	
90.0	25.5	-49.5	Reflex	
95.0	25.5	-49.4	Reflex	
100.0	25.5	-49.2	Reflex	
105.0	25.2	-49.3	Reflex	
110.0	25.2	-49.4	Reflex	
115.0	25.3	-49.5	Reflex	
120.0	25.2	-49.2	Reflex	
125.0	25.2	-49.4	Reflex	

Depth (m)	Azimuth°	Dip°	Test Type	Comments
130.0	25.0	-49.7	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	7.32	Over Burden					
7.32	8.93	Over Burden					
8.93	26.93	Peridotite	523301	9	10	1	0.126
			523302	13	14	1	0.122
			523303	17	18	1	0.155
			523304	21	22	1	0.128
			523305	25	26	1	0.141
26.93	27.4	Serpentinite					
27.4	45.42	Peridotite	523306	29	30	1	0.119
			523307	33	34	1	0.128
			523308	37	38	1	0.126
			523309	41	42	1	0.158
			523310	45	46	1	0.179
45.42	46.3	Serpentinite					
46.3	216.05	Peridotite	523311	49	50	1	0.167
			523312	53	54	1	0.197
			523313	57	58	1	0.153
			523314	61	62	1	0.142
			523316	65	66	1	0.144
			523317	69	70	1	0.134
			523318	73	74	1	0.139
			523319	77	78	1	0.142
			523321	81	82	1	0.126
			523322	85	86	1	0.148
			523323	89	90	1	0.130
			523324	93	94	1	0.137
			523325	97	98	1	0.163
			523326	101	102	1	0.142
			523327	105	106	1	0.145

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			523328	109	110	1	0.155
			523329	113	114	1	0.162
			523330	117	118	1	0.151
			523331	121	122	1	0.146
			523332	125	126	1	0.142
			523333	129	130	1	0.127
			523334	133	134	1	0.133
			523336	137	138	1	0.146
			523337	141	142	1	0.139
			523338	145	146	1	0.124
			523339	149	150	1	0.146
			523341	153	154	1	0.120
			523342	157	158	1	0.133
			523343	161	162	1	0.170
			523344	165	166	1	0.148
			523345	169	170	1	0.145
			523346	173	174	1	0.138
			523347	177	178	1	0.152
			523348	181	182	1	0.150
			523349	185	186	1	0.147
			523350	189	190	1	0.140
			523351	193	194	1	0.157
			523352	197	198	1	0.151
			523353	201	202	1	0.155
			523354	205	206	1	0.157
			523356	209	210	1	0.163
			523357	213	214	1	0.131
216.05	225.45	Gabbro	523358	217	218	1	
			523359	221	222	1	
			523361	225	226	1	
225.45	237.65	Peridotite	523362	229	230	1	0.148
			523363	233	234	1	0.134
			523364	237	238	1	0.025

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
237.65	239.7	Gabbro					
239.7	262.6	Peridotite	523365	241	242	1	0.124
			523366	245	246	1	0.133
			523367	249	250	1	0.184
			523368	253	254	1	0.155
			523369	257	258	1	0.131
			523370	261	262	1	0.117
262.6	265.65	Gabbro	523371	265	266	1	0.002
265.65	297.1	Peridotite	523372	269	270	1	0.172
			523373	273	274	1	0.098
			523374	277	278	1	0.090
			523376	281	282	1	0.116
			523377	285	286	1	0.085
			523378	289	290	1	0.055
			523379	293	294	1	0.062
			523381	297	298	1	0.045
297.1	297.52	Peridotite					
297.52	300.23	Peridotite					

BHID:	11BAP014	**UTM East:**	349346.7	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083394	**Collar Az:**	333.0°		
Start Date:	04/09/2011	**Elevation (m):**	1000.285	**Length (m):**	301.4	**Logged By:**	Luc Harnois
End Date:	07/09/2011	**Datum:**	NAD 83	**Final Depth (m):**	301.4		
Claim #:	575677	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	329.1	-52.4	Reflex	
50.0	329.1	-52.4	Reflex	
150.0	331.9	-53.4	Reflex	
200.9	332.9	-53.9	Reflex	
301.4	330.0	-55.2	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	3.9	Over Burden					
3.9	4.4	Over Burden					
4.4	10.3	Quartz Monzonite					
10.3	19.25	Quartz Monzonite					
19.25	137.5	Peridotite	523456	20	21	1	0.020
			523457	24	25	1	0.027
			523458	28	29	1	0.022
			523459	32	33	1	0.016
			523461	36	37	1	0.036
			523462	40	41	1	0.041
			523463	44	45	1	0.071
			523464	48	49	1	0.089
			523465	52	53	1	0.095
			523466	56	57	1	0.107
			523467	60	61	1	0.065
			523468	64	65	1	0.117
			523469	68	69	1	0.095
			523470	72	73	1	0.119

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			523471	76	77	1	0.108
			523472	80	81	1	0.136
			523473	84	85	1	0.106
			523474	88	89	1	0.135
			523476	92	93	1	0.130
			523477	96	97	1	0.112
			523478	100	101	1	0.130
			523479	104	105	1	0.134
			523481	108	109	1	0.125
			523482	112	113	1	0.150
			523483	116	117	1	0.128
			523484	120	121	1	0.126
			523485	124	125	1	0.128
			523486	128	129	1	0.139
			523487	132	133	1	0.147
			523488	136	137	1	0.126
137.5	137.9	Altered Dike					
137.9	203.7	Peridotite	523489	140	141	1	0.159
			523490	144	145	1	0.111
			523491	148	149	1	0.163
			523492	152	153	1	0.141
			523493	156	157	1	0.110
			523494	160	161	1	0.120
			523496	164	165	1	0.127
			523497	168	169	1	0.144
			523498	172	173	1	0.160
			523499	176	177	1	0.144
			523251	180	181	1	0.163
			523252	184	185	1	0.173
			523253	188	189	1	0.135
			523254	192	193	1	0.151
			523256	196	197	1	0.130
			523257	200	201	1	0.133

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
203.7	203.91	Altered Dike					
203.91	211.1	Peridotite	523258	204	205	1	0.102
			523259	208	209	1	0.150
211.1	211.5	Altered Dike					
211.5	266.4	Peridotite	523261	212	213	1	0.108
			523262	216	217	1	0.151
			523263	220	221	1	0.139
			523264	224	225	1	0.143
			523265	228	229	1	0.148
			523266	232	233	1	0.127
			523267	236	237	1	0.118
			523268	240	241	1	0.139
			523269	244	245	1	0.147
			523270	248	249	1	0.150
			523271	252	253	1	0.136
			523272	256	257	1	0.115
			523273	260	261	1	0.129
			523274	264	265	1	0.127
266.4	267.1	Altered Dike					
267.1	268.6	Altered Dike					
268.6	279.5	Peridotite	523276	268	269	1	0.007
			523277	272	273	1	0.091
			523278	276	277	1	0.134
279.5	282.85	Altered Dike	523279	280	281	1	
282.85	286.7	Peridotite	523281	284	285	1	0.080
286.7	295.05	Altered Dike	523282	288	289	1	0.002
			523283	292	293	1	
295.05	296.1	Peridotite	523284	296	297	1	0.008
296.1	301.44	Peridotite	523285	300	301	1	0.117

BHID:	11BAP015	**UTM East:**	349517.7	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083487	**Collar Az:**	332.0°		
Start Date:	07/09/2011	**Elevation (m):**	1037.369	**Length (m):**	304.6	**Logged By:**	Luc Harnois
End Date:	15/09/2011	**Datum:**	NAD 83	**Final Depth (m):**	304.6		
Claim #:	575677	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	332.0	-50.0	Reflex	
50.0	333.5	-50.3	Reflex	
99.0	331.8	-50.7	Reflex	
152.0	329.7	-51.8	Reflex	
304.5	329.5	-53.3	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	3.51	Over Burden					
3.51	14.07	Monzonite	522530	6	7	1	0.005
			522531	10	11	1	0.004
14.07	14.4	Altered Dike	522532	14	15	1	
14.4	16.4	Mafic Dike					
16.4	16.6	Altered Dike					
16.6	16.91	Mafic Dike					
16.91	17.25	Altered Dike					
17.25	17.56	Mafic Dike					
17.56	18.84	Altered Dike	522533	18	19	1	
18.84	18.94	Mafic Dike					
18.94	19.35	Altered Dike					
19.35	19.65	Mafic Dike					
19.65	20.05	Altered Dike					
20.05	26.2	Granodiorite	522534	22	23	1	
			522536	26	27	1	
26.2	26.4	Mafic Dike					
26.4	26.82	Granodiorite					

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
26.82	27.18	Altered Dike					
27.18	27.27	Mafic Dike					
27.27	27.77	Altered Dike					
27.77	29.5	Mafic Dike					
29.5	30.2	Altered Dike	522537	30	31	1	
30.2	31.06	Mafic Dike					
31.06	31.1	Altered Dike					
31.1	31.4	Mafic Dike					
31.4	31.44	Altered Dike					
31.44	34.6	Mafic Dike					
34.6	35.2	Altered Dike	522538	34	35	1	
35.2	35.24	Mafic Dike					
35.24	66.1	Granodiorite	522539	38	39	1	0.003
			522541	42	43	1	
			522542	46	47	1	0.003
			522543	50	51	1	
			522544	54	55	1	0.002
			522545	58	59	1	
			522546	62	63	1	0.001
			522547	66	67	1	0.002
66.1	79.74	Peridotite	522548	70	71	1	0.047
			522549	74	75	1	0.035
			522550	78	79	1	0.041
79.74	82.35	Mafic Dike	522551	82	83	1	0.030
82.35	90.45	Peridotite	522552	86	87	1	0.052
			522553	90	91	1	
90.45	91.16	Mafic Dike					
91.16	92.18	Peridotite					
92.18	93.29	Mafic Dike					
93.29	95.43	Peridotite	522554	94	95	1	
95.43	96.47	Mafic Dike					
96.47	215.05	Peridotite	522556	98	99	1	0.031
			522557	102	103	1	0.056

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522558	106	107	1	0.073
			522559	110	111	1	0.081
			522561	114	115	1	0.095
			522562	118	119	1	0.107
			522563	122	123	1	0.075
			522564	126	127	1	0.066
			522565	130	131	1	0.056
			522566	134	135	1	0.070
			522567	138	139	1	0.093
			522568	142	143	1	0.088
			522569	146	147	1	0.069
			522570	150	151	1	0.087
			522571	154	155	1	0.084
			522572	158	159	1	0.065
			522573	162	163	1	0.064
			522574	166	167	1	0.064
			522576	170	171	1	0.067
			522577	174	175	1	0.040
			522578	178	179	1	0.015
			522579	182	183	1	0.045
			522581	186	187	1	0.040
			522582	190	191	1	0.036
			522583	194	195	1	0.043
			522584	198	199	1	0.045
			522585	202	203	1	0.021
			522586	206	207	1	0.025
			522587	210	211	1	0.017
			522588	214	215	1	0.019
215.05	219.49	Gabbro	522589	218	219	1	
219.49	229.9	Peridotite	522590	222	223	1	0.022
229.9	231.55	Gabbro	522591	226	227	1	0.065
			522592	230	231	1	
231.55	240.7	Peridotite	522593	234	235	1	0.145

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522594	238	239	1	0.002
240.7	241.7	Diorite					
241.7	251	Peridotite	522596	242	243	1	0.020
			522597	246	247	1	0.149
			522598	250	251	1	0.032
251	251.7	Diorite					
251.7	304.6	Peridotite	522599	254	255	1	0.169
			522601	258	259	1	0.148
			522602	262	263	1	0.127
			522603	266	267	1	0.135
			522604	270	271	1	0.119
			522605	274	275	1	0.125
			522606	278	279	1	0.115
			522607	282	283	1	0.088
			522608	286	287	1	0.120
			522609	290	291	1	0.119
			522610	294	295	1	0.101
			522611	298	299	1	0.096
			522612	302	303	1	0.102

BHID:	11BAP016	**UTM East:**	348796.1	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083554	**Collar Az:**	345.0°		
Start Date:	07/09/2011	**Elevation (m):**	1035.832	**Length (m):**	302.0	**Logged By:**	Luc Harnois
End Date:	14/09/2011	**Datum:**	NAD 83	**Final Depth (m):**	302.0		
Claim #:	575677	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	345.0	-50.0	Reflex	
53.0	347.0	-49.0	Reflex	
152.0	345.9	-49.2	Reflex	
203.0	344.4	-50.0	Reflex	
251.0	350.3	-50.3	Reflex	
302.0	351.1	-50.4	Reflex	

Lithology

From (m)	To (m)	Lithology
0	16.73	Over Burden
16.73	103.8	Peridotite

Assay

Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
546001	25	26	1	0.164
546002	29	30	1	0.129
546003	33	34	1	0.017
546004	37	38	1	0.069
546005	41	42	1	0.111
546006	45	46	1	0.044
546007	50	51	1	0.169
546008	54	55	1	0.176
546009	59	60	1	0.140
546010	64	65	1	0.114
546011	69	70	1	0.158
546012	74	75	1	0.133
546013	79	80	1	0.132
546014	84	85	1	0.121
546016	89	90	1	0.123
546017	94	95	1	0.142

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546018	99	100	1	0.166
103.8	106.53	Diorite	546019	104	105	1	
106.53	111.6	Peridotite	546021	109	110	1	0.013
111.6	114	Diorite					
114	115.63	Peridotite	546022	114	115	1	
115.63	116.46	Altered Dike					
116.46	202.08	Peridotite	546023	119	120	1	0.125
			546024	124	125	1	0.113
			546025	129	130	1	0.147
			546026	134	135	1	0.142
			546027	139	140	1	0.164
			546028	144	145	1	0.140
			546029	149	150	1	0.129
			546030	154	155	1	0.153
			546031	159	160	1	0.135
			546032	164	165	1	0.141
			546033	168	169	1	0.140
			546034	173	174	1	0.135
			546036	178	179	1	0.141
			546037	183	184	1	0.148
			546038	188	189	1	0.127
			546039	193	194	1	0.135
			546041	198	199	1	0.132
202.08	202.4	Felsic Dike 1					
202.4	215.8	Peridotite	546042	203	204	1	0.119
			546043	208	209	1	0.104
			546044	213	214	1	0.007
215.8	217.2	Altered Dike					
217.2	253.15	Peridotite	546045	218	219	1	0.004
			546046	223	224	1	0.118
			546047	228	229	1	0.116
			546048	233	234	1	0.112
			546049	238	239	1	0.124

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546050	243	244	1	0.119
			546051	253	254	1	0.034
253.15	257.15	Altered Dike					
257.15	273.35	Peridotite	546052	258	259	1	0.010
			546053	263	264	1	0.001
			546054	268	269	1	0.022
			546056	273	274	1	0.004
273.35	278	Diorite					
278	302	Peridotite	546057	278	279	1	0.001
			546058	283	284	1	0.108
			546059	288	289	1	0.106
			546061	293	294	1	0.120
			546062	298	299	1	0.094

BHID:	11BAP017	**UTM East:**	348526.6	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083554	**Collar Az:**	10.0°		
Start Date:	14/09/2011	**Elevation (m):**	1080.986	**Length (m):**	305.0	**Logged By:**	Luc Harnois
End Date:	22/09/2011	**Datum:**	NAD 83	**Final Depth (m):**	305.0		
Claim #:	575677	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	10.0	-47.8	Reflex	
5.0	10.4	-47.8	Reflex	
10.0	10.5	-47.7	Reflex	
15.0	10.7	-47.6	Reflex	
20.0	10.7	-47.9	Reflex	
25.0	10.8	-47.9	Reflex	
30.0	10.8	-47.9	Reflex	
35.0	10.8	-48.0	Reflex	
40.0	10.9	-48.1	Reflex	
45.0	10.9	-48.1	Reflex	
50.0	11.0	-48.1	Reflex	
55.0	11.1	-48.2	Reflex	
60.0	11.1	-48.3	Reflex	
65.0	11.1	-48.4	Reflex	
70.0	11.3	-48.4	Reflex	
75.0	11.4	-48.5	Reflex	
80.0	11.6	-48.5	Reflex	
85.0	12.1	-48.5	Reflex	
90.0	12.2	-48.6	Reflex	
95.0	12.4	-48.6	Reflex	
100.0	12.5	-48.6	Reflex	
105.0	12.7	-48.6	Reflex	
110.0	12.8	-48.6	Reflex	
115.0	12.9	-48.7	Reflex	
120.0	13.0	-48.7	Reflex	
125.0	13.2	-48.8	Reflex	

Depth (m)	Azimuth°	Dip°	Test Type	Comments
130.0	13.4	-48.9	Reflex	
135.0	13.5	-48.9	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	17	Over Burden					
17	77.6	Peridotite	521538	18	19	1	0.103
			521539	22	23	1	0.129
			521541	26	27	1	0.114
			521542	30	31	1	0.108
			521543	34	35	1	0.128
			521544	38	39	1	0.153
			521545	42	43	1	0.153
			521546	46	47	1	0.143
			521547	50	51	1	0.151
			521548	54	55	1	0.104
			521549	58	59	1	0.124
			521550	62	63	1	0.137
			521551	66	67	1	0.134
			521552	70	71	1	0.111
			521553	74	75	1	0.096
77.6	80.35	Mafic Dike	521554	78	79	1	
80.35	156.2	Peridotite	521556	82	83	1	0.106
			521557	86	87	1	0.133
			521558	90	91	1	0.085
			521559	94	95	1	0.117
			521561	98	99	1	0.136
			521562	102	103	1	0.114
			521563	106	107	1	0.143
			521564	110	111	1	0.127
			521565	114	115	1	0.123
			521566	118	119	1	0.120
			521567	122	123	1	0.127

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521568	126	127	1	0.130
			521569	130	131	1	0.121
			521570	134	135	1	0.106
			521571	138	139	1	0.079
			521572	142	143	1	0.141
			521573	146	147	1	0.126
			521574	150	151	1	0.152
			521576	154	155	1	0.119
156.2	159.5	Felsic Dike 1	521577	158	159	1	
159.5	194	Peridotite	521578	162	163	1	0.130
			521579	166	167	1	0.082
			521581	170	171	1	0.103
			521582	174	175	1	0.132
			521583	178	179	1	0.148
			521584	182	183	1	0.147
			521585	186	187	1	0.145
			521586	190	191	1	0.134
194	194.24	Mafic Dike	521587	194	195	1	0.083
194.24	264.56	Peridotite	521588	198	199	1	0.123
			521589	202	203	1	0.135
			521590	206	207	1	0.139
			521591	210	211	1	0.150
			521592	214	215	1	0.118
			521593	218	219	1	0.008
			521594	222	223	1	0.056
			521596	226	227	1	0.123
			521597	230	231	1	0.140
			521598	234	235	1	0.133
			521599	238	239	1	0.142
			521601	242	243	1	0.133
			521602	246	247	1	0.129
			521603	250	251	1	0.129
			521604	254	255	1	0.123

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521605	258	259	1	0.100
			521606	262	263	1	0.130
264.56	265	Mafic Dike					
265	290.66	Peridotite	521607	266	267	1	0.101
			521608	270	271	1	0.126
			521609	274	275	1	0.121
			521610	278	279	1	0.103
			521611	282	283	1	0.109
			521612	286	287	1	0.077
			521613	290	291	1	0.054
290.66	292.95	Mafic Dike					
292.95	305	Peridotite	521614	294	295	1	0.134
			521616	298	299	1	0.091
			521617	302	303	1	0.106

BHID:	11BAP018	**UTM East:**	347808.1	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083637	**Collar Az:**	24.2°		
Start Date:	12/10/2011	**Elevation (m):**	1259.288	**Length (m):**	301.5	**Logged By:**	Luc Harnois
End Date:	16/10/2011	**Datum:**	NAD 83	**Final Depth (m):**	301.5		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	24.2	-53.0	Reflex	
50.0	24.2	-53.0	Reflex	
102.0	25.2	-53.0	Reflex	
155.0	28.3	-53.0	Reflex	
198.0	30.6	-53.0	Reflex	
244.0	31.1	-53.0	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	8.69	Over Burden					
8.69	54.84	Peridotite	547159	12	13	1	0.102
			547161	16	17	1	0.163
			547162	20	21	1	0.091
			547163	24	25	1	0.116
			547164	28	29	1	0.117
			547165	32	33	1	0.109
			547166	36	37	1	0.124
			547167	40	41	1	0.117
			547168	44	48	4	0.135
			547169	48	52	4	0.133
			547170	52	53	1	0.125
54.84	55.1	Diorite					
55.1	162.22	Peridotite	547171	56	57	1	0.101
			547172	60	61	1	0.110
			547173	64	65	1	0.124
			547174	68	69	1	0.111

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			547176	72	73	1	0.106
			547177	76	77	1	0.116
			547178	80	81	1	0.102
			547179	84	85	1	0.122
			547181	88	89	1	0.110
			547182	92	93	1	0.037
			547183	96	97	1	0.110
			547184	100	101	1	0.106
			547185	104	105	1	0.100
			547186	108	109	1	0.135
			547187	112	113	1	0.115
			547188	116	117	1	0.108
			547189	120	121	1	0.115
			547190	124	125	1	0.113
			547191	128	129	1	0.115
			547192	132	133	1	0.120
			547193	136	137	1	0.127
			547194	140	141	1	0.147
			547196	144	145	1	0.155
			547197	148	149	1	0.113
			547198	152	153	1	0.109
			547199	156	157	1	0.132
			547201	160	161	1	0.148
162.22	165.02	Lamprophyre	547202	164	165	1	
165.02	165.26	Altered Dike					
165.26	165.42	Lamprophyre					
165.42	245.93	Peridotite	547203	168	169	1	0.135
			547204	172	173	1	0.124
			547205	176	177	1	0.116
			547206	180	181	1	0.120
			547207	184	185	1	0.124
			547208	188	189	1	0.134
			547209	192	193	1	0.128

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			547210	196	197	1	0.140
			547211	200	201	1	0.172
			547212	204	205	1	0.103
			547213	208	209	1	0.146
			547214	212	213	1	0.129
			547216	216	217	1	0.136
			547217	220	221	1	0.129
			547218	224	225	1	0.146
			547219	228	229	1	0.134
			547221	232	233	1	0.151
			547222	236	237	1	0.145
			547223	240	241	1	0.145
			547224	244	245	1	0.167
245.93	250.4	Granodiorite	547225	248	249	1	0.169
250.4	268.35	Peridotite	547226	252	253	1	0.157
			547227	256	257	1	
			547228	260	261	1	0.165
			547229	264	265	1	0.107
			547230	268	269	1	
268.35	275.27	Granodiorite	547231	272	273	1	
275.27	298.64	Peridotite	547232	276	277	1	0.115
			547233	280	281	1	0.172
			547234	284	285	1	0.164
			547236	288	289	1	0.210
			547237	292	293	1	0.119
			547238	296	297	1	0.166
298.64	299.15	Altered Dike					
299.15	301.2	Peridotite	547239	300	301	1	0.164
301.2	301.45	Altered Dike					

BHID:	11BAP019	**UTM East:**	347701.8	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083450	**Collar Az:**	28.0°		
Start Date:	15/09/2011	**Elevation (m):**	1254.364	**Length (m):**	300.5	**Logged By:**	Luc Harnois
End Date:	24/09/2011	**Datum:**	NAD 83	**Final Depth (m):**	300.5		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	28.0	-50.9	Reflex	
10.0	28.1	-50.9	Reflex	
20.0	28.0	-50.9	Reflex	
30.0	27.8	-50.6	Reflex	
40.0	27.5	-49.9	Reflex	
50.0	27.6	-49.6	Reflex	
60.0	27.5	-49.4	Reflex	
70.0	27.5	-49.7	Reflex	
80.0	27.5	-49.8	Reflex	
90.0	27.6	-49.8	Reflex	
100.0	27.5	-50.0	Reflex	
110.0	27.4	-50.0	Reflex	
120.0	27.5	-49.9	Reflex	
130.0	27.4	-50.0	Reflex	
140.0	27.5	-50.0	Reflex	
150.0	27.6	-50.0	Reflex	
160.0	27.6	-50.0	Reflex	
170.0	27.7	-50.1	Reflex	
180.0	27.5	-50.2	Reflex	
190.0	27.6	-50.3	Reflex	
200.0	27.6	-50.5	Reflex	
210.0	27.7	-50.6	Reflex	
220.0	27.8	-50.7	Reflex	
230.0	28.0	-50.9	Reflex	
240.0	28.0	-51.1	Reflex	
250.0	28.2	-51.2	Reflex	

Depth (m)	Azimuth°	Dip°	Test Type	Comments
260.0	28.5	-51.3	Reflex	
270.0	28.6	-51.3	Reflex	
280.0	28.6	-51.5	Reflex	
290.0	28.5	-51.6	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	3.5	Over Burden					
3.5	26.9	Argillite	521618	6	7	1	
			521619	10	11	1	
			521621	14	15	1	
			521622	18	19	1	
			521623	22	23	1	
			521624	26	27	1	
26.9	62.42	Conglomerat	521625	30	31	1	
			521626	34	35	1	
			521627	38	39	1	
			521628	42	43	1	
			521629	46	47	1	
			521630	50	51	1	
			521631	54	55	1	
			521632	58	59	1	
			521633	62	63	1	
62.42	62.76	Mafic Dike					
62.76	64.67	Conglomerat					
64.67	66.13	Mafic Dike	521634	66	67	1	
66.13	78.1	Conglomerat	521636	70	71	1	
			521637	74	75	1	
			521638	78	79	1	
78.1	83.2	Peridotite	521639	82	83	1	
83.2	86.48	Mafic Dike	521641	86	87	1	

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
86.48	94.94	Peridotite	521642	90	91	1	
			521643	94	95	1	
94.94	96.7	Mafic Dike					
96.7	97.46	Peridotite					
97.46	97.59	Mafic Dike					
97.59	101	Peridotite	521644	98	99	1	0.032
101	106.55	Mafic Dike	521645	102	103	1	
			521646	106	107	1	
106.55	108.06	Peridotite					
108.06	110	Mafic Dike					
110	110.6	Peridotite	521647	110	111	1	0.004
110.6	113.4	Mafic Dike					
113.4	215.1	Peridotite	521648	114	115	1	0.043
			521649	118	119	1	
			521650	122	123	1	0.028
			521651	126	127	1	0.034
			521652	130	131	1	0.034
			521653	134	135	1	0.035
			521654	138	139	1	0.026
			521656	142	143	1	0.044
			521657	146	147	1	0.071
			521658	150	151	1	0.032
			521659	154	155	1	0.044
			521661	158	159	1	0.059
			521662	162	163	1	0.068
			521663	166	167	1	0.057
			521664	170	171	1	0.044
			521665	174	175	1	0.069
			521666	178	179	1	0.058
			521667	182	183	1	0.054
			521668	186	187	1	0.049
			521669	190	191	1	0.057
			521670	194	195	1	0.086

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521671	198	199	1	0.042
			521672	202	203	1	0.103
			521673	206	207	1	0.099
			521674	210	211	1	0.113
			521676	214	215	1	0.079
215.1	217.52	Mafic Dike					
217.52	225.33	Peridotite	521677	218	219	1	0.024
			521678	222	223	1	0.120
225.33	225.84	Mafic Dike					
225.84	231.4	Peridotite	521679	226	227	1	0.008
			521681	230	231	1	0.007
231.4	237.98	Mafic Dike	521682	234	235	1	
237.98	300.45	Peridotite	521683	238	239	1	0.019
			521684	242	243	1	0.077
			521685	246	247	1	0.075
			521686	250	251	1	0.080
			521687	254	255	1	0.061
			521688	258	259	1	0.122
			521689	262	263	1	0.114
			521690	266	267	1	0.141
			521691	270	271	1	0.134
			521692	274	275	1	0.119
			521693	278	279	1	0.133
			521694	282	283	1	0.132
			521696	286	287	1	0.155
			521697	290	291	1	0.141
			521698	294	295	1	0.123
			521699	298	299	1	0.163

BHID:	11BAP020	**UTM East:**	348219.3	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083660	**Collar Az:**	25.0°		
Start Date:	21/09/2011	**Elevation (m):**	1177.099	**Length (m):**	300.0	**Logged By:**	Luc Harnois
End Date:	09/10/2011	**Datum:**	NAD 83	**Final Depth (m):**	300.0		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	25.0	-49.2	Reflex	
5.0	25.3	-48.8	Reflex	
10.0	25.4	-48.6	Reflex	
15.0	25.2	-48.6	Reflex	
20.0	25.8	-48.6	Reflex	
25.0	25.6	-48.5	Reflex	
30.0	25.6	-48.7	Reflex	
35.0	25.6	-48.8	Reflex	
40.0	25.7	-48.8	Reflex	
45.0	26.0	-48.9	Reflex	
50.0	25.8	-48.7	Reflex	
55.0	25.8	-48.8	Reflex	
60.0	25.9	-48.8	Reflex	
65.0	26.2	-48.8	Reflex	
70.0	26.3	-49.0	Reflex	
75.0	26.3	-49.0	Reflex	
80.0	26.4	-49.0	Reflex	
85.0	26.3	-49.1	Reflex	
90.0	26.3	-49.2	Reflex	
95.0	26.3	-49.2	Reflex	
100.0	26.3	-49.1	Reflex	
105.0	26.2	-48.9	Reflex	
110.0	26.1	-49.1	Reflex	

Lithology			Assay				
From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	6.9	Over Burden					
6.9	217.64	Peridotite	547001	12	13	1	0.112
			547002	16	17	1	0.135
			547003	20	21	1	0.134
			547004	24	25	1	0.128
			547005	28	29	1	0.126
			547006	32	33	1	0.128
			547007	36	37	1	0.115
			547008	40	41	1	0.162
			547009	44	45	1	0.141
			547010	48	49	1	0.143
			547011	52	53	1	0.162
			547012	56	57	1	0.141
			547013	60	61	1	0.129
			547014	64	65	1	0.148
			547016	68	69	1	0.147
			547017	72	73	1	0.170
			547018	76	77	1	0.162
			547019	80	81	1	0.135
			547021	84	85	1	0.152
			547022	88	89	1	0.163
			547023	92	93	1	0.141
			547024	96	97	1	0.102
			547025	100	101	1	0.128
			547026	104	105	1	0.132
			547027	108	109	1	0.140
			547028	112	113	1	0.110
			547029	116	117	1	0.142
			547030	120	121	1	0.142
			547031	124	125	1	0.127
			547032	128	129	1	0.126
			547033	132	133	1	0.126

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			547034	136	137	1	0.148
			547036	140	141	1	0.134
			547037	144	145	1	0.098
			547038	148	149	1	0.145
			547039	152	153	1	0.157
			547041	156	157	1	0.145
			547042	160	161	1	0.142
			547043	164	165	1	0.152
			547044	168	169	1	0.156
			547045	172	173	1	0.141
			547046	176	177	1	0.132
			547047	180	181	1	0.145
			547048	184	185	1	0.142
			547049	188	189	1	0.155
			547050	192	193	1	0.135
			547051	196	197	1	0.133
			547052	200	201	1	0.121
			547053	204	205	1	0.124
			547054	208	209	1	0.125
			547056	212	213	1	0.144
			547057	216	217	1	0.137
217.64	218.06	Altered Dike					
218.06	300	Peridotite	547058	220	221	1	0.106
			547059	224	225	1	0.108
			547061	228	229	1	0.117
			547062	232	233	1	0.115
			547063	236	237	1	0.117
			547064	240	241	1	0.110
			547065	244	245	1	0.095
			547066	248	249	1	0.131
			547067	252	253	1	0.117
			547068	256	257	1	0.115
			547069	260	261	1	0.114

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			547070	264	265	1	0.110
			547071	268	269	1	0.112
			547072	272	273	1	0.092
			547073	276	277	1	0.057
			547074	280	281	1	0.084
			547076	284	285	1	0.052
			547077	288	289	1	0.039
			547078	292	293	1	0.055
			547079	296	296.57	0.57	0.121

BHID:	11BAP021	**UTM East:**	349173.4	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083736	**Collar Az:**	28.0°		
Start Date:	22/09/2011	**Elevation (m):**	1030.686	**Length (m):**	302.0	**Logged By:**	Luc Harnois
End Date:	27/09/2011	**Datum:**	NAD 83	**Final Depth (m):**	302.0		
Claim #:	575677	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	28.0	-46.6	Reflex	
5.0	28.0	-46.4	Reflex	
10.0	28.2	-46.2	Reflex	
15.0	28.4	-46.0	Reflex	
20.0	28.4	-46.4	Reflex	
25.0	28.2	-46.3	Reflex	
30.0	28.4	-46.3	Reflex	
35.0	28.2	-46.3	Reflex	
40.0	28.2	-46.3	Reflex	
45.0	28.2	-46.3	Reflex	
50.0	28.0	-46.4	Reflex	
55.0	28.1	-46.3	Reflex	
60.0	27.7	-46.5	Reflex	
65.0	27.6	-46.6	Reflex	
70.0	27.6	-46.5	Reflex	
75.0	27.6	-46.6	Reflex	
80.0	27.6	-46.6	Reflex	
85.0	27.7	-46.7	Reflex	

Lithology

From (m)	To (m)	Lithology
0	22.25	Over Burden
22.25	94.45	Peridotite

Assay

Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
546063	23	24	1	0.069
546064	28	29	1	0.105
546065	33	34	1	0.085
546066	38	39	1	0.079

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546067	43	44	1	0.093
			546068	48	49	1	0.078
			546069	53	54	1	0.119
			546070	58	59	1	0.112
			546071	63	64	1	0.113
			546072	68	69	1	0.113
			546073	73	74	1	0.116
			546074	78	79	1	0.114
			546076	83	84	1	0.118
			546077	88	89	1	0.124
			546078	93	94	1	0.103
94.45	94.59	Altered Dike					
94.59	300.38	Peridotite	546079	98	99	1	0.105
			546081	103	104	1	0.115
			546082	108	109	1	0.093
			546083	113	114	1	0.117
			546084	118	119	1	0.108
			546085	123	124	1	0.123
			546086	128	129	1	0.108
			546087	133	134	1	0.120
			546088	138	139	1	0.122
			546089	143	144	1	0.134
			546090	148	149	1	0.128
			546091	153	154	1	0.137
			546092	158	159	1	0.121
			546093	163	164	1	0.123
			546094	168	169	1	0.149
			546096	173	174	1	0.126
			546097	178	179	1	0.117
			546098	183	184	1	0.131
			546099	188	189	1	0.132
			546101	193	194	1	0.140
			546102	198	199	1	0.127

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546103	203	204	1	0.116
			546104	208	209	1	0.121
			546105	213	214	1	0.140
			546106	218	219	1	0.124
			546107	223	224	1	0.181
			546108	228	229	1	0.140
			546109	233	234	1	0.106
			546110	238	239	1	0.130
			546111	243	244	1	0.129
			546112	248	249	1	0.122
			546113	253	254	1	0.162
			546114	258	259	1	0.138
			546116	263	264	1	0.154
			546117	268	269	1	0.149
			546118	273	274	1	0.134
			546119	278	279	1	0.183
			546121	283	284	1	0.136
			546122	288	289	1	0.138
			546123	293	294	1	0.145
			546124	298	299	1	0.104
300.38	302	Diorite					

BHID:	11BAP022	**UTM East:**	347888.8	**Collar Dip:**	-55.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083371	**Collar Az:**	28.0°		
Start Date:	24/09/2011	**Elevation (m):**	1204.406	**Length (m):**	302.0	**Logged By:**	Luc Harnois
End Date:	28/09/2011	**Datum:**	NAD 83	**Final Depth (m):**	302.0		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	28.0	-54.5	Reflex	
10.0	27.8	-54.6	Reflex	
20.0	27.6	-54.9	Reflex	
30.0	27.5	-55.0	Reflex	
40.0	27.3	-55.0	Reflex	
50.0	27.2	-54.9	Reflex	
60.0	26.9	-54.8	Reflex	
70.0	26.9	-54.8	Reflex	
80.0	26.9	-55.0	Reflex	
90.0	26.7	-54.9	Reflex	
100.0	26.7	-54.9	Reflex	
110.0	26.6	-55.0	Reflex	
120.0	26.5	-55.2	Reflex	
130.0	26.5	-55.3	Reflex	
140.0	26.2	-55.4	Reflex	
150.0	26.2	-55.6	Reflex	
160.0	26.5	-55.4	Reflex	
170.0	26.4	-55.5	Reflex	
180.0	26.2	-55.5	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	21.73	Over Burden					
21.73	41.68	Peridotite	522613	22	23	1	
			522614	26	27	1	
			522616	30	31	1	

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522617	34	35	1	
			522618	38	39	1	
41.68	45.8	Conglomerat	522619	42	43	1	
45.8	45.85	Mylonite					
45.85	46.46	Conglomerat	522621	46	47	1	
46.46	47.02	Conglomerat					
47.02	49.95	Mylonite					
49.95	52.02	Conglomerat	522622	50	51	1	
52.02	55.84	Conglomerat	522623	54	55	1	
55.84	56.95	Gabbro	522624	58	59	1	
56.95	62.05	Conglomerat	522625	62	63	1	
62.05	78.4	Conglomerat	522626	66	67	1	
			522627	70	71	1	
			522628	74	75	1	
			522629	78	79	1	
78.4	82.8	Sedimentary rock	522630	82	83	1	
82.8	92.2	Conglomerat	522631	86	87	1	
			522632	90	91	1	
92.2	97.5	Sedimentary rock	522633	94	95	1	0.033
			522634	98	99	1	0.015
97.5	103.5	Peridotite	522636	102	103	1	0.014
103.5	105.15	Gabbro					
105.15	108.9	Peridotite	522637	106	107	1	0.053
108.9	109.57	Gabbro					
109.57	255.73	Peridotite	522638	110	111	1	0.045
			522639	114	115	1	0.086
			522641	118	119	1	0.122
			522642	122	123	1	0.044
			522643	126	127	1	0.117
			522644	130	131	1	0.059
			522645	134	135	1	0.139
			522646	138	139	1	0.073
			522647	142	143	1	0.130

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522648	146	147	1	0.114
			522649	150	151	1	0.123
			522650	154	155	1	0.140
			522651	158	159	1	0.127
			522652	162	163	1	0.107
			522653	166	167	1	0.120
			522654	170	171	1	0.120
			522656	174	175	1	0.114
			522657	178	179	1	0.140
			522658	182	183	1	0.146
			522659	186	187	1	0.146
			522661	190	191	1	0.163
			522662	194	195	1	0.127
			522663	198	199	1	0.131
			522664	202	203	1	0.159
			522665	206	207	1	0.131
			522666	210	211	1	0.184
			522667	214	215	1	0.043
			522668	218	219	1	0.115
			522669	222	223	1	0.135
			522670	226	227	1	0.089
			522671	230	231	1	0.140
			522672	234	235	1	0.173
			522673	238	239	1	0.013
			522674	242	243	1	0.098
			522676	246	247	1	0.124
			522677	250	251	1	0.103
255.73	256.43	Diorite	522678	256	257	1	0.147
256.43	302	Peridotite	522679	257	258	1	0.151
			522681	264	265	1	0.135
			522682	268	269	1	0.159
			522683	272	273	1	0.159
			522684	276	277	1	0.161

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522685	280	281	1	0.161
			522686	284	285	1	0.145
			522687	288	289	1	0.153
			522688	292	293	1	0.154
			522689	296	297	1	0.117
			522690	300	301	1	0.155

BHID:	11BAP023	**UTM East:**	349401.4	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083711	**Collar Az:**	333.0°		
Start Date:	28/09/2011	**Elevation (m):**	1020.141	**Length (m):**	301.1	**Logged By:**	Luc Harnois
End Date:	03/10/2011	**Datum:**	NAD 83	**Final Depth (m):**	301.1		
Claim #:	575677	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	332.5	-51.2	Reflex	
5.0	332.3	-51.3	Reflex	
10.0	332.1	-50.6	Reflex	
15.0	331.9	-49.9	Reflex	
20.0	331.7	-49.8	Reflex	
25.0	331.6	-49.9	Reflex	
30.0	331.9	-49.6	Reflex	
35.0	331.7	-50.0	Reflex	
40.0	331.6	-50.1	Reflex	
45.0	331.6	-50.2	Reflex	
50.0	331.5	-50.1	Reflex	
55.0	331.6	-50.2	Reflex	
60.0	331.6	-50.2	Reflex	
65.0	331.6	-50.3	Reflex	
70.0	331.4	-50.3	Reflex	
75.0	331.3	-50.2	Reflex	
80.0	331.3	-50.3	Reflex	
85.0	331.3	-50.4	Reflex	

Lithology

From (m)	To (m)	Lithology
0	32.7	Over Burden
32.7	41.8	Peridotite
41.8	44.23	Diorite
44.23	75.5	Peridotite

Assay

Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
546125	33	34	1	0.143
546126	37	38	1	0.105
546127	41	42	1	0.061
546128	45	46	1	0.108

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546129	49	50	1	0.150
			546130	53	54	1	0.136
			546131	57	58	1	0.139
			546132	61	62	1	0.144
			546133	64	65	1	0.152
			546134	68	69	1	0.148
			546136	72	73	1	0.080
75.5	77.67	Altered Dike	546137	76	77	1	0.030
77.67	301.14	Peridotite	546138	80	81	1	0.112
			546139	84	85	1	0.121
			546141	88	89	1	0.105
			546142	92	93	1	0.112
			546143	96	97	1	0.102
			546144	100	101	1	0.098
			546145	104	105	1	0.102
			546146	108	109	1	0.112
			546147	112	113	1	0.099
			546148	116	117	1	0.087
			546149	120	121	1	0.132
			546150	124	125	1	0.098
			546151	130	131	1	0.102
			546152	134	135	1	0.099
			546153	138	139	1	0.085
			546154	142	143	1	0.103
			546156	146	147	1	0.112
			546157	150	151	1	0.109
			546158	154	155	1	0.108
			546159	158	159	1	0.111
			546161	162	163	1	0.129
			546162	166	167	1	0.130
			546163	170	171	1	0.123
			546164	174	175	1	0.074
			546165	178	179	1	0.154

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546166	182	183	1	0.153
			546167	186	187	1	0.133
			546168	190	191	1	0.110
			546169	194	195	1	0.138
			546170	198	199	1	0.163
			546171	202	203	1	0.125
			546172	206	207	1	0.138
			546173	210	211	1	0.144
			546174	214	215	1	0.156
			546176	218	219	1	0.163
			546177	222	223	1	0.125
			546178	226	227	1	0.146
			546179	230	231	1	0.132
			546181	234	235	1	0.144
			546182	238	239	1	0.146
			546183	242	243	1	0.155
			546184	246	247	1	0.168
			546185	250	251	1	0.141
			546186	254	255	1	0.154
			546187	258	259	1	0.142
			546188	262	263	1	0.175
			546189	266	267	1	0.134
			546190	272	273	1	0.117
			546191	276	277	1	0.125
			546192	280	281	1	0.147
			546193	284	285	1	0.137
			546194	288	289	1	0.143
			546196	292	293	1	0.131
			546197	296	297	1	0.094
			546198	300	301	1	0.098

BHID:	11BAP024	**UTM East:**	349085.2	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083913	**Collar Az:**	319.8°		
Start Date:	27/09/2011	**Elevation (m):**	1060.468	**Length (m):**	302.0	**Logged By:**	Luc Harnois
End Date:	01/10/2011	**Datum:**	NAD 83	**Final Depth (m):**	302.0		
Claim #:	575677	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	319.8	-48.6	Reflex	
59.0	319.8	-48.6	Reflex	
113.0	318.3	-48.7	Reflex	
164.0	317.7	-48.4	Reflex	
203.0	322.6	-49.0	Reflex	
254.0	321.7	-49.5	Reflex	
302.0	323.4	-49.4	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	6.1	Over Burden					
6.1	7.6	Over Burden					
7.6	133.15	Peridotite	523286	10	11	1	0.116
			523287	14	15	1	0.099
			523288	18	19	1	0.085
			523289	22	23	1	0.103
			523290	26	27	1	0.099
			523291	30	31	1	0.104
			523292	34	35	1	0.095
			523293	38	39	1	0.101
			523294	42	43	1	0.126
			523296	46	47	1	0.102
			523297	50	51	1	0.140
			523298	54	55	1	0.104
			523299	58	59	1	0.091
			521751	62	63	1	0.107

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521752	66	67	1	0.059
			521753	70	71	1	0.070
			521754	74	75	1	0.079
			521756	78	79	1	0.081
			521757	82	83	1	0.107
			521758	86	87	1	0.133
			521759	90	91	1	0.104
			521761	94	95	1	0.133
			521762	98	99	1	0.121
			521763	102	103	1	0.123
			521764	106	107	1	0.136
			521765	110	111	1	0.120
			521766	114	115	1	0.120
			521767	118	119	1	0.103
			521768	122	123	1	0.039
			521769	126	127	1	0.034
			521770	130	131	1	0.018
133.15	141.85	Altered Dike	521771	134	135	1	0.006
			521772	138	139	1	0.001
141.85	178.9	Peridotite	521773	142	143	1	0.103
			521774	146	147	1	0.094
			521776	150	151	1	0.124
			521777	154	155	1	0.121
			521778	158	159	1	0.101
			521779	162	163	1	0.137
			521781	166	167	1	0.141
			521782	170	171	1	0.135
			521783	174	175	1	0.126
			521784	178	179	1	0.055
178.9	185.95	Altered Dike	521785	182	183	1	
185.95	200.05	Peridotite	521786	186	187	1	0.007
			521787	190	191	1	0.059
			521788	194	195	1	0.080

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521789	198	199	1	0.006
200.05	203.4	Altered Dike	521790	202	203	1	0.002
203.4	217.95	Peridotite	521791	206	207	1	0.071
			521792	210	211	1	0.103
			521793	214	215	1	0.043
217.95	219.75	Diorite	521794	218	219	1	
219.75	302	Peridotite	521796	222	223	1	0.033
			521797	226	227	1	0.006
			521798	230	231	1	0.060
			521799	234	235	1	0.085
			521801	238	239	1	0.125
			521802	242	243	1	0.131
			521803	246	247	1	0.132
			521804	250	251	1	0.137
			521805	254	255	1	0.140
			521806	258	259	1	0.136
			521807	262	263	1	0.124
			521808	266	267	1	0.030
			521809	270	271	1	0.137
			521810	274	275	1	0.146
			521811	278	279	1	0.125
			521812	282	283	1	0.130
			521813	286	287	1	0.128
			521814	290	291	1	0.138
			521816	294	295	1	0.168
			521817	298	299	1	0.138

BHID:	11BAP025	**UTM East:**	347534	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083559	**Collar Az:**	28.0°		
Start Date:	29/09/2011	**Elevation (m):**	1255.119	**Length (m):**	301.4	**Logged By:**	Luc Harnois
End Date:	03/10/2011	**Datum:**	NAD 83	**Final Depth (m):**	301.4		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	28.0	-49.5	Reflex	
5.0	28.4	-49.6	Reflex	
10.0	28.2	-49.5	Reflex	
15.0	27.9	-49.6	Reflex	
20.0	27.7	-49.8	Reflex	
25.0	27.6	-49.7	Reflex	
30.0	27.5	-49.7	Reflex	
35.0	27.3	-49.8	Reflex	
40.0	27.1	-49.9	Reflex	
45.0	27.1	-50.0	Reflex	
50.0	27.4	-49.8	Reflex	
55.0	27.1	-49.9	Reflex	

Lithology

From (m)	To (m)	Lithology
0	7.2	Over Burden
7.2	7.8	Over Burden
7.8	41.82	Argillite
41.82	54.3	Argillite

Assay

Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
521818	10	11	1	
521819	14	15	1	
521821	18	19	1	
521822	22	23	1	
521823	26	27	1	
521824	30	31	1	
521825	34	35	1	
521826	38	39	1	
521827	42	43	1	

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521828	46	47	1	
			521829	50	51	1	
			521830	54	55	1	
54.3	55.67	Altered Dike					
55.67	76.2	Argillite	521831	58	59	1	
			521832	62	63	1	
			521833	66	67	1	
			521834	70	71	1	
			521836	74	75	1	
76.2	80.2	Diorite	521837	78	79	1	
80.2	84.89	Diorite	521838	82	83	1	
84.89	85.95	Diorite					
85.95	87.95	Altered Dike	521839	86	87	1	
87.95	91.29	Altered Dike	521841	90	91	1	
91.29	136.35	Peridotite	521842	94	95	1	
			521843	98	99	1	0.006
			521844	102	103	1	0.005
			521845	106	107	1	0.008
			521846	110	111	1	0.011
			521847	114	115	1	0.011
			521848	118	119	1	0.015
			521849	122	123	1	0.011
			521850	126	127	1	0.011
			521851	130	131	1	0.011
			521852	134	135	1	0.016
136.35	137.75	Altered Dike					
137.75	208	Peridotite	521853	138	139	1	0.021
			521854	142	143	1	0.046
			521856	146	147	1	0.052
			521857	150	151	1	0.062
			521858	154	155	1	0.050
			521859	158	159	1	0.050
			521861	162	163	1	0.055

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521862	166	167	1	0.075
			521863	170	171	1	0.085
			521864	174	175	1	0.094
			521865	178	179	1	0.101
			521866	182	183	1	0.090
			521867	186	187	1	0.114
			521868	190	191	1	0.107
			521869	194	195	1	0.106
			521870	198	199	1	0.112
			521871	202	203	1	0.080
			521872	206	207	1	0.082
208	211.8	Diorite	521873	210	211	1	
211.8	301.44	Peridotite	521874	214	215	1	0.061
			521876	218	219	1	0.092
			521877	222	223	1	0.092
			521878	226	227	1	0.094
			521879	230	231	1	0.117
			521881	234	235	1	0.135
			521882	238	239	1	0.095
			521883	242	243	1	0.094
			521884	246	247	1	0.078
			521885	250	251	1	0.149
			521886	254	255	1	0.139
			521887	258	259	1	0.087
			521888	262	263	1	0.136
			521889	266	267	1	0.123
			521890	270	271	1	0.142
			521891	274	275	1	0.152
			521892	278	279	1	0.163
			521893	282	283	1	0.139
			521894	286	287	1	0.135
			521896	290	291	1	0.131
			521897	294	295	1	0.151

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521898	298	299	1	0.142

BHID:	11BAP026	**UTM East:**	348901.5	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083816	**Collar Az:**	333.0°		
Start Date:	02/10/2011	**Elevation (m):**	1063.377	**Length (m):**	305.0	**Logged By:**	Luc Harnois
End Date:	07/10/2011	**Datum:**	NAD 83	**Final Depth (m):**	305.0		
Claim #:	575677	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	332.5	-49.5	Reflex	
5.0	332.1	-49.5	Reflex	
10.0	332.3	-49.5	Reflex	
15.0	332.3	-49.5	Reflex	
20.0	332.3	-49.6	Reflex	
25.0	332.5	-49.7	Reflex	
30.0	332.4	-49.7	Reflex	
35.0	332.5	-49.7	Reflex	
40.0	332.5	-49.8	Reflex	
45.0	332.4	-49.8	Reflex	
50.0	332.4	-49.8	Reflex	
55.0	332.4	-49.8	Reflex	
60.0	332.4	-49.9	Reflex	
65.0	332.3	-50.0	Reflex	
70.0	332.3	-49.6	Reflex	
75.0	332.2	-49.1	Reflex	
80.0	332.2	-49.7	Reflex	
85.0	332.3	-49.7	Reflex	
90.0	332.3	-49.6	Reflex	
95.0	332.3	-49.6	Reflex	
100.0	332.4	-49.6	Reflex	
104.0	327.5	-49.3	Reflex	
105.0	332.5	-49.7	Reflex	
110.0	332.6	-49.7	Reflex	
115.0	332.7	-49.8	Reflex	
120.0	332.7	-49.7	Reflex	

Depth (m)	Azimuth°	Dip°	Test Type	Comments
125.0	332.8	-49.6	Reflex	
130.0	333.0	-49.6	Reflex	
155.0	329.7	-49.1	Reflex	
251.0	331.0	-49.4	Reflex	
302.0	330.6	-48.9	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	4.48	Over Burden					
4.48	37.84	Peridotite	546199	12	13	1	0.096
			546201	16	17	1	0.084
			546202	20	21	1	0.109
			546203	24	25	1	0.106
			546204	28	29	1	0.086
			546205	32	33	1	0.108
			546206	36	37	1	0.109
37.84	38.51	Diorite					
38.51	61.82	Peridotite	546207	40	41	1	0.100
			546208	44	45	1	0.092
			546209	48	49	1	0.101
			546210	52	53	1	0.089
			546211	56	57	1	0.071
			546212	60	61	1	0.026
61.82	64	Diorite					
64	305	Peridotite	546213	64	65	1	0.005
			546214	68	69	1	0.027
			546216	72	73	1	0.022
			546217	76	77	1	0.004
			546218	80	81	1	0.020
			546219	84	85	1	0.032
			546221	88	89	1	0.033
			546222	92	93	1	0.050
			546223	96	97	1	0.027

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546224	100	101	1	0.088
			546225	104	105	1	0.030
			546226	108	109	1	0.034
			546227	112	113	1	0.063
			546228	116	117	1	0.031
			546229	120	121	1	0.065
			546230	124	125	1	
			546231	128	129	1	0.056
			546232	132	133	1	0.107
			546233	136	137	1	0.057
			546234	140	141	1	0.087
			546236	144	145	1	0.094
			546237	148	149	1	0.080
			546238	152	153	1	0.055
			546239	156	157	1	0.003
			546241	160	161	1	0.062
			546242	164	165	1	0.094
			546243	168	169	1	0.084
			546244	172	173	1	0.088
			546245	176	177	1	0.080
			546246	180	181	1	0.106
			546247	184	185	1	0.073
			546248	188	189	1	0.120
			546249	192	193	1	0.096
			546250	196	197	1	0.086
			546251	200	201	1	0.006
			546252	204	205	1	0.023
			546253	208	209	1	0.041
			546254	212	213	1	0.100
			546256	216	217	1	0.084
			546257	220	221	1	0.046
			546258	224	225	1	0.045
			546259	228	229	1	0.054

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546261	232	233	1	0.004
			546262	236	237	1	0.071
			546263	240	241	1	0.111
			546264	244	245	1	0.035
			546265	248	249	1	0.037
			546266	252	253	1	0.047
			546267	256	257	1	0.052
			546268	260	261	1	0.042
			546269	264	265	1	0.046
			546270	268	269	1	0.063
			546271	272	273	1	0.034
			546272	276	277	1	0.084
			546273	280	281	1	0.044
			546274	284	285	1	0.055
			546276	288	289	1	0.066
			546277	292	293	1	0.073
			546278	296	297	1	0.034
			546279	300	301	1	0.004
			546281	304	305	1	0.050

BHID:	11BAP027	**UTM East:**	347722.7	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083897	**Collar Az:**	28.0°		
Start Date:	04/10/2011	**Elevation (m):**	1317.503	**Length (m):**	301.5	**Logged By:**	Luc Harnois
End Date:	06/10/2011	**Datum:**	NAD 83	**Final Depth (m):**	301.5		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	23.0	-52.2	Reflex	
51.0	22.9	-52.2	Reflex	
100.0	25.0	-52.5	Reflex	
155.0	27.1	-52.5	Reflex	
201.0	26.6	-52.3	Reflex	
246.6	25.1	-53.5	Reflex	
301.4	26.8	-53.3	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	3.3	Over Burden					
3.3	20.9	Peridotite	522691	6	7	1	0.104
			522692	10	11	1	0.168
			522693	14	15	1	0.111
			522694	18	19	1	0.135
20.9	40.5	Peridotite	522696	22	23	1	0.077
			522697	26	27	1	0.039
			522698	30	31	1	0.059
			522699	34	35	1	0.075
			522701	38	39	1	0.099
40.5	43.25	Peridotite	522702	42	43	1	0.124
43.25	57.18	Peridotite	522703	46	47	1	0.089
			522704	50	51	1	0.091
			522705	54	55	1	0.085
57.18	74.6	Peridotite	522706	58	59	1	0.124
			522707	62	63	1	0.060

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522708	66	67	1	0.138
			522709	70	71	1	0.118
			522710	74	75	1	0.015
74.6	79.11	Diorite	522711	78	79	1	
79.11	80.12	Diorite					
80.12	83.64	Peridotite	522712	82	83	1	0.156
83.64	92.28	Peridotite	522713	86	87	1	0.082
			522714	90	91	1	0.096
92.28	103.04	Peridotite	522716	94	95	1	0.164
			522717	98	99	1	0.198
			522718	102	103	1	
103.04	103.26	Diorite					
103.26	105.67	Altered Dike					
105.67	106.67	Diorite					
106.67	108.1	Peridotite	522719	106	107	1	
108.1	116.63	Diorite	522721	110	111	1	
			522722	114	115	1	
116.63	301.45	Peridotite	522723	118	119	1	0.149
			522724	122	123	1	0.127
			522725	126	127	1	0.105
			522726	130	131	1	0.157
			522727	134	135	1	0.158
			522728	138	139	1	0.154
			522729	142	143	1	0.117
			522730	146	147	1	0.151
			522731	150	151	1	0.128
			522732	154	155	1	0.121
			522733	158	159	1	0.128
			522734	162	163	1	0.128
			522736	166	167	1	0.133
			522737	170	171	1	0.116
			522738	174	175	1	0.104
			522739	178	179	1	0.101

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			522741	182	183	1	0.132
			522742	186	187	1	0.124
			522743	190	191	1	0.101
			522744	194	195	1	0.125
			522745	198	199	1	0.110
			522746	202	203	1	0.103
			522747	206	207	1	0.106
			522748	210	211	1	0.121
			522749	214	215	1	0.131
			522750	218	219	1	0.117
			546751	222	223	1	0.121
			546752	226	227	1	0.139
			546753	230	231	1	0.122
			546754	234	235	1	0.113
			546756	238	239	1	0.101
			546757	242	243	1	0.108
			546758	246	247	1	0.064
			546759	250	251	1	0.101
			546761	254	255	1	0.122
			546762	258	259	1	0.133
			546763	262	263	1	0.117
			546764	266	267	1	0.135
			546765	270	271	1	0.129
			546766	274	275	1	0.124
			546767	278	279	1	0.132
			546768	282	283	1	0.148
			546769	286	287	1	0.123
			546770	290	291	1	0.128
			546771	294	295	1	0.139
			546772	298	299	1	0.129

BHID:	11BAP028	**UTM East:**	347355.1	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083639	**Collar Az:**	28.0°		
Start Date:	03/10/2011	**Elevation (m):**	1269.32	**Length (m):**	298.4	**Logged By:**	Luc Harnois
End Date:	06/10/2011	**Datum:**	NAD 83	**Final Depth (m):**	298.4		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	28.0	-50.9	Reflex	
5.0	28.2	-51.1	Reflex	
10.0	28.2	-51.2	Reflex	
15.0	28.1	-51.1	Reflex	
20.0	28.2	-50.9	Reflex	
25.0	28.1	-51.0	Reflex	
30.0	28.0	-51.1	Reflex	
35.0	28.2	-50.8	Reflex	
40.0	28.2	-50.6	Reflex	
45.0	28.2	-50.7	Reflex	
50.0	28.2	-50.6	Reflex	
55.0	27.6	-50.4	Reflex	
60.0	27.9	-50.6	Reflex	
65.0	27.9	-50.6	Reflex	
70.0	27.8	-50.6	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	5.1	Over Burden					
5.1	10.2	Over Burden					
10.2	75.8	Argillite	521899	14	15	1	
			521901	18	19	1	
			521902	22	23	1	
			521903	26	27	1	
			521904	30	31	1	
			521905	34	35	1	

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521906	38	39	1	
			521907	42	43	1	
			521908	46	47	1	
			521909	50	51	1	
			521910	54	55	1	
			521911	58	59	1	
			521912	62	63	1	
			521913	66	67	1	
			521914	70	71	1	
			521916	74	75	1	
75.8	77.7	Altered Dike	521917	78	79	1	
77.7	93.15	Granodiorite	521918	82	83	1	
			521919	86	87	1	
			521921	90	91	1	
			521922	94	95	1	
93.15	107	Peridotite	521923	98	99	1	
			521924	102	103	1	
			521925	106	107	1	0.001
			521926	110	111	1	0.004
107	110.45	Altered Dike	521927	114	115	1	0.014
110.45	160	Peridotite	521928	118	119	1	0.011
			521929	122	123	1	0.010
			521930	126	127	1	0.033
			521931	130	131	1	0.024
			521932	134	135	1	0.028
			521933	138	139	1	0.028
			521934	142	143	1	0.043
			521936	146	147	1	0.033
			521937	150	151	1	0.055
			521938	154	155	1	0.048
			521939	158	159	1	0.032
			521941	162	163	1	0.050
160	196.2	Peridotite	521942	166	167	1	0.060

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521943	170	171	1	0.059
			521944	174	175	1	0.038
			521945	178	179	1	0.033
			521946	182	183	1	0.030
			521947	186	187	1	0.042
			521948	190	191	1	0.063
			521949	194	195	1	0.138
			521950	198	199	1	0.099
196.2	197.13	Altered Dike	521951	202	203	1	0.084
197.13	231.7	Peridotite	521952	206	207	1	0.146
			521953	210	211	1	0.114
			521954	214	215	1	0.146
			521956	218	219	1	0.115
			521957	222	223	1	0.119
			521958	226	227	1	0.167
			521959	230	231	1	0.125
			521961	234	235	1	0.144
			521962	238	239	1	0.139
231.7	231.95	Mafic Dike	521963	242	243	1	0.124
231.95	269.3	Peridotite	521964	246	247	1	0.128
			521965	250	251	1	0.137
			521966	254	255	1	0.119
			521967	258	259	1	0.123
			521968	262	263	1	0.115
			521969	266	267	1	0.132
			521970	270	271	1	0.131
			521971	274	275	1	0.153
			521972	278	279	1	0.149
269.3	269.75	Altered Dike	521973	282	283	1	0.146
269.75	298.39	Peridotite	521974	286	287	1	0.121
			521976	290	291	1	0.138
			521977	294	295	1	0.118

BHID:	11BAP029	**UTM East:**	347988.3	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083560	**Collar Az:**	28.0°		
Start Date:	07/10/2011	**Elevation (m):**	1199.237	**Length (m):**	298.4	**Logged By:**	Luc Harnois
End Date:	11/10/2011	**Datum:**	NAD 83	**Final Depth (m):**	298.4		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	28.0	-48.3	Reflex	
5.0	27.8	-48.6	Reflex	
10.0	28.0	-48.9	Reflex	
15.0	28.2	-48.9	Reflex	
20.0	28.2	-49.0	Reflex	
25.0	28.3	-49.0	Reflex	
30.0	28.2	-49.0	Reflex	
35.0	28.3	-49.1	Reflex	
40.0	28.1	-49.2	Reflex	
45.0	28.1	-49.2	Reflex	
50.0	28.3	-49.1	Reflex	
55.0	28.4	-49.2	Reflex	
60.0	28.5	-49.2	Reflex	
65.0	28.5	-49.2	Reflex	
70.0	28.1	-49.0	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	8.1	Over Burden					
8.1	8.4	Over Burden					
8.4	227.75	Peridotite	521978	11	12	1	0.125
			521979	15	16	1	0.116
			521981	19	20	1	0.133
			521982	23	24	1	0.128
			521983	27	28	1	0.095
			521984	31	32	1	0.122

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			521985	35	36	1	0.073
			521986	39	40	1	0.150
			521987	43	44	1	0.244
			521988	47	48	1	0.152
			521989	51	52	1	0.113
			521990	55	56	1	0.121
			521991	59	60	1	0.108
			521992	63	64	1	0.104
			521993	67	68	1	0.097
			521994	71	72	1	0.094
			521996	75	76	1	0.068
			521997	79	80	1	0.082
			521998	83	84	1	0.055
			521999	87	88	1	0.064
			549001	91	92	1	0.100
			549002	95	96	1	0.074
			549003	99	100	1	0.056
			549004	103	104	1	0.149
			549005	107	108	1	0.122
			549006	111	112	1	0.087
			549007	115	116	1	0.108
			549008	119	120	1	0.089
			549009	123	124	1	0.124
			549010	127	128	1	0.130
			549011	131	132	1	0.121
			549012	135	136	1	0.113
			549013	139	140	1	0.133
			549014	143	144	1	0.135
			549016	147	148	1	0.152
			549017	151	152	1	0.127
			549018	155	156	1	0.133
			549019	159	160	1	0.146
			549021	163	164	1	0.133

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			549022	167	168	1	0.114
			549023	171	172	1	0.153
			549024	175	176	1	0.146
			549025	179	180	1	0.136
			549026	183	184	1	0.158
			549027	187	188	1	0.149
			549028	191	192	1	0.158
			549029	195	196	1	0.111
			549030	199	200	1	0.149
			549031	203	204	1	0.138
			549032	207	208	1	0.148
			549033	211	212	1	0.185
			549034	215	216	1	0.167
			549036	219	220	1	0.152
			549037	223	224	1	0.144
			549038	227	228	1	0.088
227.75	232.3	Diorite	549039	231	232	1	
232.3	298.39	Peridotite	549041	235	236	1	0.000
			549042	239	240	1	0.159
			549043	243	244	1	0.180
			549044	247	248	1	0.172
			549045	251	252	1	0.158
			549046	255	256	1	0.124
			549047	259	260	1	0.138
			549048	263	264	1	0.160
			549049	267	268	1	0.165
			549050	271	272	1	0.172
			549051	275	276	1	0.172
			549052	279	280	1	0.184
			549053	283	284	1	0.145
			549054	287	288	1	0.154
			549056	291	292	1	0.142
			549057	295	296	1	0.147

BHID:	11BAP030	**UTM East:**	349348.5	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083852	**Collar Az:**	303.1°		
Start Date:	07/10/2011	**Elevation (m):**	1037.747	**Length (m):**	301.5	**Logged By:**	Luc Harnois
End Date:	10/10/2011	**Datum:**	NAD 83	**Final Depth (m):**	301.5		
Claim #:	575677	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	303.1	-49.1	Reflex	
50.0	303.1	-49.1	Reflex	
102.0	301.1	-49.7	Reflex	
197.8	298.9	-50.3	Reflex	
243.8	308.1	-50.9	Reflex	
289.6	302.5	-51.2	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	12	Over Burden					
12	166.9	Peridotite	546282	13	14	1	0.116
			546283	17	18	1	0.107
			546284	21	22	1	0.092
			546285	25	26	1	0.114
			546286	29	30	1	0.101
			546287	33	34	1	0.095
			546288	37	38	1	0.113
			546289	41	42	1	0.118
			546290	45	46	1	0.099
			546291	49	50	1	0.097
			546292	53	54	1	0.114
			546293	57	58	1	0.103
			546294	61	62	1	0.115
			546296	65	66	1	0.110
			546297	69	70	1	0.125
			546298	73	74	1	0.106

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546299	77	78	1	0.134
			546301	81	82	1	0.138
			546302	85	86	1	0.111
			546303	89	90	1	0.114
			546304	93	94	1	0.131
			546305	97	98	1	0.128
			546306	101	102	1	0.112
			546307	105	106	1	0.124
			546308	109	110	1	0.113
			546309	113	114	1	0.120
			546310	117	118	1	0.133
			546311	121	122	1	0.151
			546312	125	126	1	0.181
			546313	129	130	1	0.116
			546314	133	134	1	0.151
			546316	137	138	1	0.166
			546317	141	142	1	0.138
			546318	145	146	1	0.148
			546319	149	150	1	0.156
			546321	153	154	1	0.161
			546322	157	158	1	0.149
			546323	161	162	1	0.042
			546324	165	166	1	
166.9	173.2	Granodiorite	546325	169	170	1	
			546326	173	174	1	0.042
173.2	301.45	Peridotite	546327	177	178	1	0.138
			546328	181	182	1	0.137
			546329	185	186	1	0.142
			546330	189	190	1	0.135
			546331	193	194	1	0.122
			546332	197	198	1	0.069
			546333	201	202	1	0.157
			546334	205	206	1	0.144

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546336	209	210	1	0.138
			546337	213	214	1	0.160
			546338	217	218	1	0.132
			546339	221	222	1	0.140
			546341	225	226	1	0.141
			546342	229	230	1	0.165
			546343	233	234	1	0.143
			546344	237	238	1	0.131
			546345	241	242	1	0.121
			546346	245	246	1	0.162
			546347	249	250	1	0.139
			546348	253	254	1	0.150
			546349	257	258	1	0.170
			546350	261	262	1	0.143
			546351	265	266	1	0.151
			546352	269	270	1	0.163
			546353	273	274	1	0.128
			546354	277	278	1	0.121
			546356	281	282	1	0.161
			546357	285	286	1	0.157
			546358	289	290	1	0.128
			546359	293	294	1	0.125
			546361	298	299	1	0.105

BHID:	11BAP031	**UTM East:**	348740.1	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083741	**Collar Az:**	345.0°		
Start Date:	08/10/2011	**Elevation (m):**	1078.511	**Length (m):**	301.0	**Logged By:**	Luc Harnois
End Date:	11/11/2010	**Datum:**	NAD 83	**Final Depth (m):**	301.0		
Claim #:	575677	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	345.0	-49.2	Reflex	
5.0	344.8	-49.3	Reflex	
10.0	344.8	-49.3	Reflex	
15.0	344.9	-49.4	Reflex	
20.0	344.9	-49.5	Reflex	
25.0	345.0	-49.5	Reflex	
30.0	345.1	-49.5	Reflex	
35.0	345.0	-49.5	Reflex	
40.0	345.0	-49.4	Reflex	
45.0	345.0	-49.6	Reflex	
50.0	344.9	-49.7	Reflex	
55.0	344.9	-49.7	Reflex	
60.0	345.0	-49.8	Reflex	
65.0	345.1	-49.9	Reflex	
70.0	345.3	-49.9	Reflex	
75.0	345.7	-49.7	Reflex	
80.0	345.9	-49.7	Reflex	
85.0	346.1	-49.7	Reflex	
90.0	346.3	-49.7	Reflex	

Lithology

From (m)	To (m)	Lithology
0	5	Over Burden
5	61.43	Peridotite

Assay

Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
546362	8	9	1	0.124
546363	12	13	1	0.098
546364	16	17	1	0.107

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546365	20	21	1	0.137
			546366	24	25	1	0.081
			546367	28	29	1	0.104
			546368	32	33	1	0.102
			546369	36	37	1	0.114
			546370	40	41	1	0.109
			546371	44	45	1	0.003
			546372	48	49	1	0.117
			546373	52	53	1	0.139
			546374	56	57	1	0.006
			546376	60	61	1	
61.43	66.5	Granodiorite	546377	64	65	1	
66.5	82.26	Peridotite	546378	68	69	1	
			546379	72	73	1	0.118
			546381	76	77	1	0.090
			546382	80	81	1	0.120
82.26	85.66	Granodiorite	546383	84	85	1	
85.66	87.39	Peridotite					
87.39	89	Granodiorite	546384	88	89	1	
89	151.3	Peridotite	546385	92	93	1	
			546386	96	97	1	0.021
			546387	100	101	1	0.002
			546388	104	105	1	0.087
			546389	108	109	1	0.082
			546390	112	113	1	0.080
			546391	116	117	1	0.140
			546392	120	121	1	0.067
			546393	124	125	1	0.029
			546394	128	129	1	0.056
			546396	132	133	1	0.076
			546397	136	137	1	0.102
			546398	140	141	1	0.044
			546399	144	145	1	0.046

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546401	148	149	1	0.045
151.3	152	Granodiorite					
152	301	Peridotite	546402	152	153	1	0.052
			546403	156	157	1	0.051
			546404	160	161	1	0.028
			546405	164	165	1	0.052
			546406	168	169	1	0.052
			546407	172	173	1	0.078
			546408	176	177	1	0.078
			546409	180	181	1	0.076
			546410	184	185	1	0.037
			546411	188	189	1	0.079
			546412	192	193	1	0.095
			546413	196	197	1	0.061
			546414	200	201	1	0.057
			546416	204	205	1	0.040
			546417	208	209	1	0.043
			546418	212	213	1	0.039
			546419	216	217	1	0.076
			546421	220	221	1	0.058
			546422	224	225	1	0.039
			546423	228	229	1	0.048
			546424	232	233	1	0.045
			546425	236	237	1	0.016
			546426	240	241	1	0.023
			546427	244	245	1	0.052
			546428	248	249	1	0.060
			546429	252	253	1	0.021
			546430	256	257	1	0.053
			546431	260	261	1	0.033
			546432	264	265	1	0.041
			546433	268	269	1	0.014
			546434	272	273	1	0.033

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546436	276	277	1	0.004
			546437	280	281	1	
			546438	284	285	1	0.012
			546439	288	289	1	
			546441	292	293	1	0.006
			546442	296	297	1	
			546443	300	301	1	

BHID:	11BAP032	**UTM East:**	348082.7	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083739	**Collar Az:**	28.0°		
Start Date:	10/10/2011	**Elevation (m):**	1238.97	**Length (m):**	304.8	**Logged By:**	Luc Harnois
End Date:	16/10/2011	**Datum:**	NAD 83	**Final Depth (m):**	304.8		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	28.0	-50.2	Reflex	
5.0	28.1	-50.6	Reflex	
10.0	28.5	-50.3	Reflex	
15.0	28.6	-50.2	Reflex	
20.0	28.6	-49.9	Reflex	
25.0	28.8	-49.7	Reflex	
30.0	29.2	-49.5	Reflex	
35.0	29.1	-49.5	Reflex	
40.0	29.1	-49.4	Reflex	
45.0	28.8	-49.2	Reflex	
50.0	29.0	-49.2	Reflex	
55.0	29.0	-49.1	Reflex	
60.0	28.9	-49.1	Reflex	
65.0	28.9	-49.1	Reflex	
70.0	28.9	-49.1	Reflex	
75.0	29.0	-49.0	Reflex	
80.0	29.0	-48.8	Reflex	
85.0	29.0	-48.8	Reflex	
90.0	28.8	-48.7	Reflex	
95.0	28.8	-48.7	Reflex	
100.0	28.7	-48.6	Reflex	
105.0	28.7	-48.5	Reflex	
110.0	28.8	-48.5	Reflex	
115.0	29.0	-48.3	Reflex	

Lithology			Assay				
From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	2.25	Over Burden					
2.25	12.2	Peridotite	546773	6	7	1	0.139
			546774	10	11	1	0.121
12.2	22.22	Diorite	546776	14	15	1	
			546777	18	19	1	
			546778	22	23	1	0.043
22.22	304.8	Peridotite	546779	26	27	1	0.141
			546781	30	31	1	0.126
			546782	34	35	1	0.111
			546783	38	39	1	0.099
			546784	42	43	1	0.174
			546785	46	47	1	0.155
			546786	50	51	1	0.148
			546787	54	55	1	0.125
			546788	58	59	1	0.133
			546789	62	63	1	0.114
			546790	66	67	1	0.106
			546791	70	71	1	0.110
			546792	74	75	1	0.124
			546793	78	79	1	0.131
			546794	82	83	1	0.081
			546796	86	87	1	0.121
			546797	90	91	1	0.108
			546798	94	95	1	0.096
			546799	98	99	1	0.077
			546801	102	103	1	0.100
			546802	106	107	1	0.098
			546803	110	111	1	0.076
			546804	114	115	1	0.123
			546805	118	119	1	0.109
			546806	122	123	1	0.076
			546807	126	127	1	0.109

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546808	130	131	1	0.122
			546809	134	135	1	0.124
			546810	138	139	1	0.152
			546811	142	143	1	0.128
			546812	146	147	1	0.140
			546813	150	151	1	0.072
			546814	154	155	1	0.128
			546816	158	159	1	0.136
			546817	162	163	1	0.125
			546818	166	167	1	0.103
			546819	170	171	1	0.130
			546821	174	175	1	0.146
			546822	178	179	1	0.120
			546823	182	183	1	0.128
			546824	186	187	1	0.130
			546825	190	191	1	0.139
			546826	194	195	1	0.099
			546827	198	199	1	0.149
			546828	202	203	1	0.122
			546829	206	207	1	0.108
			546830	210	211	1	0.090
			546831	214	215	1	0.064
			546832	218	219	1	0.103
			546833	222	223	1	0.098
			546834	226	227	1	0.124
			546836	230	231	1	0.086
			546837	234	235	1	0.121
			546838	238	239	1	0.111
			546839	242	243	1	0.004
			546841	246	247	1	0.120
			546842	250	251	1	0.079
			546843	254	255	1	0.065
			546844	258	259	1	0.053

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546845	262	263	1	0.061
			546846	266	267	1	0.049
			546847	270	271	1	0.051
			546848	274	275	1	0.047
			546849	278	279	1	0.030
			546850	282	283	1	0.076
			546851	286	287	1	0.026
			546852	290	291	1	0.065
			546853	294	295	1	0.083
			546854	298	299	1	0.070
			546856	302	303	1	0.058

BHID:	11BAP033	**UTM East:**	349588.3	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083810	**Collar Az:**	326.0°		
Start Date:	11/10/2011	**Elevation (m):**	1031.748	**Length (m):**	301.4	**Logged By:**	Luc Harnois
End Date:	14/10/2011	**Datum:**	NAD 83	**Final Depth (m):**	301.4		
Claim #:	575677	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	326.0	-50.0	Reflex	
51.0	326.0	-50.0	Reflex	
102.0	326.0	-50.0	Reflex	
150.0	323.4	-51.0	Reflex	
198.0	325.7	-51.0	Reflex	
244.0	332.0	-52.0	Reflex	
300.0	326.2	-51.0	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	18.74	Over Burden					
18.74	202.44	Peridotite	547081	20	21	1	0.086
			547082	24	25	1	0.086
			547083	28	29	1	0.088
			547084	32	33	1	0.099
			547085	36	37	1	0.107
			547086	40	41	1	0.100
			547087	44	45	1	0.121
			547088	48	49	1	0.095
			547089	52	53	1	0.111
			547090	56	57	1	0.109
			547091	60	61	1	0.106
			547092	64	65	1	0.115
			547093	68	69	1	0.095
			547094	72	73	1	0.095
			547096	76	77	1	0.112

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			547097	80	81	1	0.120
			547098	84	85	1	0.106
			547099	88	89	1	0.097
			547101	92	93	1	0.091
			547102	96	97	1	0.097
			547103	100	101	1	0.096
			547104	104	105	1	0.088
			547105	108	109	1	0.105
			547106	112	113	1	0.071
			547107	116	117	1	0.109
			547108	120	121	1	0.108
			547109	124	125	1	0.094
			547110	128	129	1	0.116
			547111	132	133	1	0.104
			547112	136	137	1	0.095
			547113	140	141	1	0.119
			547114	144	145	1	0.112
			547116	148	149	1	0.113
			547117	152	153	1	0.128
			547118	156	157	1	0.122
			547119	160	161	1	0.108
			547121	164	165	1	0.108
			547122	168	169	1	0.114
			547123	172	173	1	0.126
			547124	176	177	1	0.130
			547125	180	181	1	0.103
			547126	184	185	1	0.136
			547127	188	189	1	0.106
			547128	192	193	1	0.119
			547129	196	197	1	0.128
			547130	200	201	1	0.070
202.44	204.16	Granodiorite	547131	204	205	1	0.014
204.16	214.43	Peridotite	547132	208	209	1	0.035

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			547133	212	213	1	0.030
214.43	216	Granodiorite					
216	226.19	Peridotite	547134	216	217	1	
			547136	220	221	1	0.023
			547137	224	225	1	0.046
226.19	231.7	Peridotite	547138	228	229	1	
231.7	235.55	Peridotite	547139	232	233	1	0.013
235.55	246.51	Peridotite	547141	236	237	1	0.005
			547142	240	241	1	
			547143	244	245	1	0.013
246.51	301.4	Peridotite	547144	248	249	1	0.035
			547145	252	253	1	0.022
			547146	256	257	1	0.021
			547147	260	261	1	0.025
			547148	264	265	1	0.025
			547149	268	269	1	0.025
			547150	272	273	1	0.039
			547151	276	277	1	0.026
			547152	280	281	1	0.025
			547153	284	285	1	0.054
			547154	288	289	1	0.116
			547156	292	293	1	0.084
			547157	296	297	1	0.012
			547158	300	301	1	0.015

BHID:	11BAP034	**UTM East:**	347622.7	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083732	**Collar Az:**	28.0°		
Start Date:	16/10/2011	**Elevation (m):**	1295.549	**Length (m):**	298.4	**Logged By:**	Luc Harnois
End Date:	20/10/2011	**Datum:**	NAD 83	**Final Depth (m):**	298.4		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	28.0	-49.3	Reflex	
5.0	28.1	-49.5	Reflex	
10.0	28.1	-49.3	Reflex	
15.0	28.2	-49.4	Reflex	
20.0	28.4	-49.4	Reflex	
25.0	28.5	-49.3	Reflex	
30.0	28.5	-49.3	Reflex	
35.0	28.5	-49.4	Reflex	
40.0	28.4	-49.7	Reflex	
45.0	28.1	-49.8	Reflex	
50.0	28.1	-49.8	Reflex	
51.0	21.2	-50.0	Reflex	
55.0	28.0	-49.9	Reflex	
60.0	27.8	-50.0	Reflex	
65.0	27.9	-50.0	Reflex	
70.0	27.8	-50.0	Reflex	
75.0	27.9	-50.0	Reflex	
80.0	28.0	-50.1	Reflex	
85.0	28.2	-50.1	Reflex	
90.0	28.2	-50.1	Reflex	
95.0	28.3	-49.9	Reflex	
100.0	28.2	-50.1	Reflex	
105.0	28.3	-50.2	Reflex	
110.0	28.5	-50.3	Reflex	
115.0	28.5	-50.3	Reflex	
120.0	28.7	-50.3	Reflex	

Depth (m)	Azimuth°	Dip°	Test Type	Comments
125.0	28.7	-50.2	Reflex	
130.0	28.8	-50.3	Reflex	
135.0	28.8	-50.2	Reflex	
140.0	29.0	-50.3	Reflex	
145.0	29.2	-50.3	Reflex	
150.0	29.4	-50.3	Reflex	
152.0	28.9	-50.0	Reflex	
155.0	29.6	-50.3	Reflex	
160.0	29.8	-50.4	Reflex	
165.0	30.0	-50.5	Reflex	
170.0	30.3	-50.5	Reflex	
175.0	30.5	-50.5	Reflex	
180.0	30.7	-50.5	Reflex	
185.0	30.8	-50.5	Reflex	
190.0	30.9	-50.6	Reflex	
195.0	30.8	-50.7	Reflex	
200.0	31.0	-50.7	Reflex	
205.0	31.1	-50.7	Reflex	
210.0	31.3	-50.8	Reflex	
215.0	31.6	-50.8	Reflex	
220.0	31.7	-50.9	Reflex	
225.0	31.5	-50.9	Reflex	
230.0	31.6	-50.8	Reflex	
235.0	32.0	-51.0	Reflex	
240.0	32.1	-50.8	Reflex	
244.0	32.5	-51.0	Reflex	
245.0	32.4	-50.9	Reflex	
250.0	32.5	-50.9	Reflex	
255.0	32.7	-50.9	Reflex	
260.0	32.7	-50.9	Reflex	
265.0	32.7	-50.8	Reflex	
270.0	33.0	-50.7	Reflex	
275.0	33.3	-50.7	Reflex	

Depth (m)	Azimuth°	Dip°	Test Type	Comments
280.0	33.5	-50.8	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	5.44	Over Burden					
5.44	65.95	Peridotite	547241	6	7	1	0.115
			547242	10	11	1	0.136
			547243	14	15	1	0.119
			547244	18	19	1	0.127
			547245	22	23	1	0.103
			547246	26	27	1	0.096
			547247	30	31	1	0.102
			547248	34	35	1	0.126
			547249	38	39	1	0.112
			547250	42	43	1	0.168
			547251	46	47	1	0.104
			547252	50	51	1	0.122
			547253	54	55	1	0.112
			547254	58	59	1	0.126
			547256	62	63	1	0.121
65.95	110.16	Altered Dike	547257	66	67	1	
			547258	70	71	1	0.163
			547259	74	75	1	0.172
			547261	78	79	1	0.148
			547262	82	83	1	0.148
			547263	86	87	1	0.147
			547264	90	91	1	0.180
			547265	94	95	1	0.147
			547266	102	103	1	0.145
			547267	106	107	1	0.115
			547268	110	111	1	0.082
110.16	126	Diorite	547269	114	115	1	
			547270	118	119	1	

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			547271	122	123	1	
126	135.82	Peridotite	547272	126	127	1	0.099
			547273	130	131	1	0.147
			547274	134	135	1	0.140
135.82	138.46	Diorite	547276	138	139	1	0.081
138.46	250.9	Peridotite	547277	142	143	1	0.135
			547278	146	147	1	0.119
			547279	150	151	1	0.093
			547281	154	155	1	0.116
			547282	158	159	1	0.114
			547283	162	163	1	0.109
			547284	166	167	1	0.099
			547285	170	171	1	0.099
			547286	174	175	1	0.096
			547287	178	179	1	0.103
			547288	182	183	1	0.101
			547289	186	187	1	0.120
			547290	190	191	1	0.084
			547291	194	195	1	0.132
			547292	198	199	1	0.115
			547293	202	203	1	0.030
			547294	206	207	1	0.052
			547296	210	211	1	0.100
			547297	214	215	1	0.102
			547298	218	219	1	0.108
			547299	222	223	1	0.103
			547301	226	227	1	0.120
			547302	230	231	1	0.125
			547303	234	235	1	0.149
			547304	238	239	1	0.130
			547305	242	243	1	0.112
			547306	246	247	1	0.143
			547307	250	251	1	0.132

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
250.9	254.3	Unknown	547308	254	255	1	0.149
254.3	298.4	Peridotite	547309	258	259	1	0.140
			547310	262	263	1	0.139
			547311	266	267	1	0.134
			547312	270	271	1	0.139
			547313	274	275	1	0.167
			547314	278	279	1	0.146
			547316	282	283	1	0.153
			547317	286	287	1	0.137
			547318	290	291	1	0.150
			547319	294	295	1	0.144

BHID:	11BAP035	**UTM East:**	347939.7	**Collar Dip:**	-50.0°	**Core Storage:**	Fort St. James, BC
Location:	Baptiste	**UTM North:**	6083796	**Collar Az:**	28.0°		
Start Date:	20/10/2011	**Elevation (m):**	1275.013	**Length (m):**	298.4	**Logged By:**	Luc Harnois
End Date:	26/10/2011	**Datum:**	NAD 83	**Final Depth (m):**	298.4		
Claim #:	575675	**Hole Size:**	HQ-NQ				

Survey Data

Depth (m)	Azimuth°	Dip°	Test Type	Comments
0.0	32.4	-50.0	Reflex	
57.0	32.4	-50.0	Reflex	
99.0	27.9	-51.0	Reflex	
152.0	32.4	-50.0	Reflex	
204.0	30.0	-51.0	Reflex	

Lithology **Assay**

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
0	5.88	Over Burden					
5.88	57.6	Peridotite	546857	6	7	1	0.106
			546858	10	11	1	0.102
			546859	14	15	1	0.135
			546861	18	19	1	0.114
			546862	22	23	1	0.141
			546863	26	27	1	0.134
			546864	30	31	1	0.094
			546865	34	35	1	0.068
			546866	38	39	1	0.100
			546867	42	43	1	0.077
			546868	46	47	1	0.076
			546869	50	51	1	0.100
			546870	54	55	1	0.063
57.6	60.1	Mafic Dike	546871	58	59	1	0.074
60.1	298.4	Peridotite	546872	62	63	1	0.063
			546873	66	67	1	0.074
			546874	70	71	1	0.116

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546876	74	75	1	0.101
			546877	78	79	1	0.119
			546878	82	83	1	0.101
			546879	86	87	1	0.119
			546881	90	91	1	0.108
			546882	94	95	1	0.112
			546883	98	99	1	0.108
			546884	102	103	1	0.136
			546885	106	107	1	0.132
			546886	110	111	1	0.152
			546887	114	115	1	0.141
			546888	118	119	1	0.135
			546889	122	123	1	0.169
			546890	126	127	1	0.143
			546891	130	131	1	0.138
			546892	134	135	1	0.110
			546893	138	139	1	0.140
			546894	142	143	1	0.120
			546896	146	147	1	0.154
			546897	150	151	1	0.160
			546898	154	155	1	0.131
			546899	158	159	1	0.133
			546901	162	163	1	0.148
			546902	166	167	1	0.136
			546903	170	171	1	0.140
			546904	174	175	1	0.147
			546905	178	179	1	0.132
			546906	182	183	1	0.138
			546907	186	187	1	0.133
			546908	190	191	1	0.140
			546909	194	195	1	0.140
			546910	198	199	1	0.133
			546911	202	203	1	0.127

From (m)	To (m)	Lithology	Sample	From (m)	To (m)	Length (m)	DTR Ni (%)
			546912	206	207	1	0.131
			546913	210	211	1	0.135
			546914	214	215	1	0.133
			546916	218	219	1	0.128
			546917	222	223	1	0.145
			546918	226	227	1	0.104
			546919	230	231	1	0.108
			546921	234	235	1	0.123
			546922	238	239	1	0.117
			546923	242	243	1	0.144
			546924	246	247	1	0.117
			546925	250	251	1	0.120
			546926	254	255	1	0.132
			546927	258	259	1	0.136
			546928	262	263	1	0.117
			546929	266	267	1	0.132
			546930	270	271	1	0.094
			546931	274	275	1	0.090
			546932	278	279	1	0.105
			546933	282	283	1	0.053
			546934	286	287	1	0.107
			546936	290	291	1	0.077
			546937	294	295	1	0.094

Appendix 3

Claims Map

335,000 340,000 345,000 350,000 355,000 360,000

6,095,000 6,090,000 6,085,000 6,080,000 6,075,000

Middle River

Natazuño Lake

Gravelly Lake

Pickart Lake

Lower Baptiste Lake

Upper Baptiste Lake

Trembleur Lake

Middle River

594263 594254 594255 839622 839621 594260 594262 594256 603803 594289 594258 594252 594257 602564 839620 602566 559615 559616 559617 575679 575683 839618 559618 575678 575681 1013225 839617 575682 575674 839601 575686 839607 839615 895914 895893 669586 575677 575680 575675 839604 839610 895899 895905 575684 594250 594251 594247 594249 594248 895907 895904 895902 669645 669665 669625 895909 895913 895912 895910 895911

Legend:

- Populated Places
- Exploration Camp
- Local Roads/Trails
- 10m Contours
- 100m Contours
- Rail Lines
- Rivers/Streams
- Lakes/Ponds
- Mineral Reserve Site
- Decar Property Claims
- Decar Property Outline

Cliffs Natural Resources Exploration Canada Inc., Decar property, BC, Canada.

N W E S

Scale

0 500 1,000 1,500 2,000 m

Projection: UTM, Nad83, Zone 10N.

CLIFFS

Land Tenure Map,
Decar Property, British Columbia, Canada.

Date: 03/10/12	Scale: 1:50,000	Author: GCN	Figure:

Caracle Creek

Appendix 4

Assay Certificates

Quality Analysis ... *Innovative Technologies*

Date Submitted: 07-Nov-11
Invoice No.: A11-13078
Invoice Date: 04-Dec-11
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road
Suite 2
Sudbury Ontario P3C 4Y9
Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

15 Pulp samples and 125 Rock samples were submitted for analysis.

The following analytical packages were requested:

Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID

REPORT **A11-13078**

Notes:
Total includes all elements in % oxide to the left of total.

CERTIFIED BY :

Eric Hoffman Ph.D.
President/General Manager

ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1.905.648.9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

SCC Accredited LAB 266
LAB 266 Accrédité CCN

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Cr	Ni	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
523300.1	48.78	15.58	11.43	0.162	4.74	7.71	2.22	2.75	1.137	0.43	1.03	95.97	693	504	20	25	102	2	335	1.008	0.245	523300	49.11	16.12
523300.2																						523300	36.53	2.40
523300.3																						523300	18.60	0.57
546773	38.43	1.68	7.10	0.085	37.30	0.42	0.01	< 0.01	0.019	< 0.01	13.34	98.40	2	< 2	1	9	3	< 1	42	0.239	0.169	546773	20.53	0.95
546774	38.26	1.76	7.08	0.098	37.22	0.92	0.02	< 0.01	0.015	< 0.01	12.66	98.04	< 2	2	< 1	10	3	< 1	46	0.235	0.188	546774	16.39	0.72
546775	38.51	1.69	7.27	0.114	37.52	1.01	0.02	< 0.01	0.016	< 0.01	12.35	98.50	< 2	< 2	< 1	11	2	< 1	49	0.235	0.188	546775	20.72	0.96
546776	49.22	13.59	13.24	0.208	5.38	8.74	5.27	0.20	1.951	0.16	0.65	98.60	16	147	37	39	111	< 1	421	< 0.010	0.015	546776		
546777	48.63	13.67	13.48	0.216	5.42	8.33	5.39	0.29	1.921	0.17	1.15	98.68	20	120	45	39	138	< 1	374	< 0.010	< 0.010	546777		
546778	40.14	5.84	10.13	0.143	24.65	7.95	0.75	0.08	0.816	0.06	7.76	98.32	9	20	16	19	46	< 1	207	0.136	0.133	546778	10.86	1.06
546779	38.18	1.20	7.20	0.118	38.68	0.14	0.01	< 0.01	0.014	< 0.01	12.49	98.03	< 2	< 2	< 1	8	2	< 1	33	0.223	0.195	546779	24.78	0.84
54780.1	49.01	15.76	11.79	0.164	4.86	7.78	2.25	2.77	1.174	0.44	0.90	96.91	698	513	21	25	114	2	341	1.019	0.242	54780	48.42	16.16
54780.2																						54780	36.49	2.40
54780.3																						54780	18.62	0.63
546781	37.21	2.46	9.07	0.111	36.35	0.58	0.03	< 0.01	0.338	0.02	12.13	98.31	< 2	< 2	6	13	14	< 1	99	0.227	0.186	546781	16.78	1.00
546782	39.42	1.33	7.47	0.081	37.74	0.14	< 0.01	< 0.01	0.015	< 0.01	11.97	98.18	< 2	< 2	< 1	9	2	< 1	43	0.235	0.193	546782	17.68	0.94
546783	39.60	1.43	7.27	0.072	37.47	0.42	0.01	< 0.01	0.024	< 0.01	11.92	98.22	< 2	< 2	< 1	8	2	< 1	41	0.205	0.194	546783	12.44	0.77
546784	38.30	0.97	8.15	0.168	38.24	0.84	0.01	< 0.01	0.010	< 0.01	11.74	98.44	< 2	< 2	< 1	10	< 2	< 1	38	0.251	0.164	546784	18.04	0.75
546785	37.74	1.12	7.76	0.135	37.62	1.60	0.02	< 0.01	0.015	< 0.01	11.77	97.79	< 2	< 2	< 1	9	< 2	< 1	39	0.228	0.174	546785	20.77	0.48
546786	37.89	1.33	7.53	0.101	38.71	0.91	< 0.01	< 0.01	0.016	< 0.01	12.31	98.80	< 2	< 2	< 1	9	< 2	< 1	43	0.228	0.175	546786	20.01	0.68
546787	37.47	1.29	8.20	0.111	37.59	1.31	0.02	< 0.01	0.014	< 0.01	12.29	98.29	< 2	< 2	< 1	12	< 2	< 1	50	0.255	0.187	546787	20.47	0.72
546788	37.66	1.32	8.36	0.102	38.07	0.81	0.01	< 0.01	0.014	< 0.01	12.39	98.74	< 2	< 2	< 1	11	< 2	< 1	47	0.229	0.193	546788	9.97	0.53
546789	37.14	1.15	6.85	0.115	38.80	0.69	0.01	< 0.01	0.015	< 0.01	12.83	97.61	< 2	< 2	< 1	9	< 2	< 1	37	0.241	0.194	546789	20.02	0.65
546790	37.88	1.01	7.76	0.116	37.74	0.74	0.01	< 0.01	0.014	< 0.01	12.72	97.98	< 2	< 2	< 1	8	3	< 1	33	0.236	0.198	546790	18.75	0.66
546791	37.84	1.02	7.95	0.105	36.62	1.24	0.02	< 0.01	0.013	< 0.01	12.60	97.41	< 2	< 2	< 1	11	< 2	< 1	44	0.241	0.201	546791	20.22	0.39
546792	37.30	0.68	8.05	0.130	39.64	0.43	< 0.01	< 0.01	0.005	< 0.01	11.24	97.47	< 2	< 2	< 1	7	< 2	< 1	28	0.231	0.199	546792	17.55	0.86
546793	36.89	0.76	7.73	0.098	39.58	0.11	0.01	< 0.01	0.007	< 0.01	12.56	97.74	< 2	< 2	< 1	8	< 2	< 1	28	0.209	0.230	546793	18.96	0.42
546794	38.43	1.25	8.03	0.149	35.59	2.73	0.03	< 0.01	0.015	< 0.01	11.82	98.04	< 2	< 2	< 1	12	< 2	< 1	51	0.238	0.190	546794	14.10	0.81
546795	38.09	1.24	7.64	0.143	35.92	2.44	0.02	< 0.01	0.015	< 0.01	11.94	97.45	< 2	< 2	< 1	12	< 2	< 1	51	0.225	0.196	546795	20.80	0.95
546796	37.54	1.13	7.62	0.134	36.82	1.05	0.02	< 0.01	0.016	< 0.01	13.15	97.48	< 2	< 2	< 1	10	< 2	< 1	39	0.239	0.202	546796	16.16	0.51
547136	37.63	0.68	8.01	0.177	35.86	1.55	0.01	< 0.01	0.004	< 0.01	13.63	97.56	< 2	11	< 1	9	< 2	< 1	41	0.240	0.212	547136	10.44	0.46
547137	37.82	0.66	8.03	0.113	39.21	0.75	0.01	0.01	0.004	< 0.01	13.28	99.89	< 2	3	< 1	10	6	< 1	33	0.278	0.249	547137	19.08	0.63
547138	32.71	0.57	6.76	0.108	33.07	0.93	0.02	< 0.01	0.004	< 0.01	23.64	97.82	< 2	< 2	< 1	8	2	< 1	31	0.202	0.179	547138		
547139	37.06	0.74	7.54	0.105	37.12	1.70	< 0.01	0.01	0.004	< 0.01	14.99	99.28	< 2	9	< 1	9	< 2	< 1	35	0.243	0.227	547139	16.00	0.73
547140.1	49.01	15.69	11.73	0.164	4.84	7.81	2.28	2.72	1.160	0.44	0.62	96.47	701	502	21	25	109	2	339	1.020	0.241	547140	49.15	15.92
547140.2																						547140	36.60	2.44
547140.3																						547140	18.77	0.57
547141	34.90	0.73	7.40	0.125	37.19	2.16	< 0.01	0.04	0.005	< 0.01	17.59	100.1	< 2	8	< 1	10	2	< 1	29	0.245	0.206	547141	16.18	0.60
547142	34.06	0.60	6.90	0.098	35.45	0.91	< 0.01	0.01	0.003	< 0.01	22.65	100.7	< 2	2	< 1	9	< 2	< 1	29	0.210	0.202	547142		
547143	36.06	0.59	7.31	0.112	36.45	2.49	< 0.01	0.04	0.003	< 0.01	16.66	99.69	< 2	23	< 1	8	3	< 1	26	0.205	0.225	547143	13.15	0.42
547144	37.85	0.65	7.96	0.105	40.29	0.44	< 0.01	0.01	0.004	< 0.01	11.79	99.06	< 2	< 2	< 1	8	< 2	< 1	33	0.247	0.241	547144	15.37	0.70
547145	39.22	0.60	7.89	0.116	40.44	1.20	< 0.01	0.01	0.004	< 0.01	9.93	99.40	< 2	2	< 1	10	< 2	< 1	32	0.226	0.237	547145	15.59	0.76
547146	40.37	0.71	7.72	0.118	39.90	1.46	0.01	< 0.01	0.004	< 0.01	8.42	98.71	< 2	< 2	< 1	11	< 2	< 1	46	0.252	0.220	547146	26.53	0.74
547147	38.41	0.69	7.19	0.110	39.81	0.78	< 0.01	0.01	0.004	< 0.01	11.65	98.66	6	< 2	1	11	5	< 1	36	0.265	0.212	547147	15.20	0.64
547148	37.78	0.76	7.51	0.098	38.68	0.46	< 0.01	< 0.01	0.004	< 0.01	12.50	97.81	< 2	< 2	< 1	10	3	< 1	43	0.230	0.205	547148	18.49	0.77
547149	38.43	0.65	8.32	0.119	39.38	0.88	< 0.01	< 0.01	0.005	< 0.01	10.87	98.66	< 2	< 2	< 1	8	< 2	< 1	38	0.255	0.221	547149	15.48	0.53
547150	38.56	0.72	7.54	0.118	40.52	0.35	< 0.01	< 0.01	0.004	< 0.01	12.20	100.0	< 2	< 2	< 1	9	4	< 1	34	0.234	0.223	547150	29.66	0.71
547151	38.27	0.68	8.03	0.109	39.13	0.29	< 0.01	< 0.01	0.003	< 0.01	12.04	98.58	< 2	< 2	< 1	9	< 2	< 1	34	0.237	0.218	547151	25.31	0.69
547152	38.49	0.62	7.49	0.109	38.33	2.71	< 0.01	< 0.01	0.003	< 0.01	11.20	98.94	< 2	< 2	< 1	9	< 2	< 1	38	0.267	0.206	547152	22.55	0.96
547153	38.12	0.62	7.25	0.108	39.85	1.33	< 0.01	< 0.01	0.003	< 0.01	11.39	98.68	< 2	< 2	< 1	9	< 2	< 1	40	0.241	0.220	547153	23.21	1.07
547154	38.24	0.65	7.63	0.108	39.23	0.57	< 0.01	< 0.01	0.003	< 0.01	11.42	97.86	< 2	< 2	< 1	9	< 2	< 1	39	0.243	0.213	547154	30.37	0.90
547155	39.45	1.03	7.63	0.099	39.05	0.55	0.15	0.07	0.004	< 0.01	11.14	99.18	< 2	< 2	< 1	9	6	< 1	40	0.256	0.211	547155	18.17	0.88

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Cr	Ni	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
547156	36.35	0.65	8.08	0.135	39.21	0.89	< 0.01	< 0.01	0.003	< 0.01	12.93	98.28	< 2	< 2	< 1	9	2	< 1	40	0.267	0.224	547156	24.42	1.55
547157	38.07	0.61	7.92	0.110	39.13	0.64	0.04	< 0.01	0.003	< 0.01	12.12	98.64	< 2	< 2	< 1	8	3	< 1	31	0.241	0.219	547157	26.53	1.70
547158	38.38	0.62	7.65	0.113	38.86	0.67	0.08	< 0.01	0.004	0.01	11.33	97.72	< 2	< 2	< 1	9	6	< 1	40	0.257	0.207	547158	16.45	1.22
547159	39.37	1.25	7.85	0.151	37.18	1.01	0.01	< 0.01	0.017	< 0.01	12.33	99.16	< 2	< 2	< 1	12	< 2	< 1	47	0.274	0.197	547159	19.38	0.89
547160	98.05	0.31	0.56	0.005	0.06	0.03	0.02	0.06	0.031	< 0.01	0.20	99.30	29	4	2	< 1	57	< 1	6	< 0.010	< 0.010	547160	98.72	0.31
547161	38.20	0.72	8.40	0.100	40.54	0.06	< 0.01	< 0.01	0.004	0.01	11.99	100.0	< 2	< 2	< 1	4	< 2	< 1	18	0.259	0.227	547161	14.06	0.72
547162	39.31	1.53	8.40	0.146	36.12	2.12	0.02	< 0.01	0.020	< 0.01	11.66	99.35	< 2	< 2	< 1	12	< 2	< 1	53	0.242	0.193	547162	15.67	1.05
547163	35.94	0.37	6.63	0.083	43.09	0.04	< 0.01	< 0.01	0.002	< 0.01	12.48	98.65	< 2	< 2	< 1	4	< 2	< 1	19	0.264	0.220	547163	5.74	1.50
547164	37.95	0.97	8.64	0.154	39.04	1.12	0.01	< 0.01	0.011	< 0.01	11.88	99.78	< 2	< 2	1	9	< 2	< 1	37	0.261	0.201	547164	14.90	0.69
547165	38.21	0.98	8.31	0.096	38.36	0.44	0.02	< 0.01	0.006	< 0.01	12.18	98.60	< 2	< 2	< 1	9	< 2	< 1	32	0.236	0.188	547165	14.40	0.60
547166	38.84	1.47	8.40	0.097	38.89	0.68	< 0.01	< 0.01	0.020	< 0.01	12.52	100.9	< 2	< 2	< 1	11	< 2	< 1	42	0.243	0.179	547166	15.27	0.75
547167	39.20	1.79	8.48	0.111	37.78	0.68	0.07	0.03	0.018	0.01	12.74	100.9	< 2	< 2	< 1	12	< 2	< 1	54	0.243	0.186	547167	17.42	0.86
547168	39.10	1.87	9.08	0.085	37.27	0.87	0.01	< 0.01	0.021	< 0.01	12.47	100.8	< 2	< 2	2	13	< 2	< 1	60	0.234	0.181	547168	12.32	0.59
547169	39.14	1.92	8.44	0.081	37.42	0.54	0.01	< 0.01	0.019	0.02	12.24	99.84	< 2	< 2	< 1	11	< 2	< 1	55	0.259	0.191	547169	19.25	0.79
547170	39.27	1.66	8.38	0.126	36.52	1.22	0.02	< 0.01	0.025	< 0.01	12.05	99.26	< 2	< 2	1	13	< 2	< 1	56	0.245	0.188	547170	13.17	0.50
547171	40.12	2.08	7.83	0.137	36.08	2.16	0.02	< 0.01	0.020	< 0.01	10.87	99.33	< 2	< 2	< 1	12	< 2	< 1	53	0.246	0.186	547171	16.44	1.02
547172	38.24	1.80	8.28	0.113	36.48	1.61	0.01	< 0.01	0.020	< 0.01	12.85	99.40	< 2	< 2	< 1	10	2	< 1	50	0.234	0.174	547172	17.41	1.11
547173	38.24	1.05	7.72	0.119	37.64	0.39	< 0.01	< 0.01	0.021	0.02	13.50	98.70	< 2	< 2	1	8	< 2	< 1	37	0.217	0.203	547173	18.73	0.60
547174	37.65	1.13	7.03	0.122	39.34	0.67	0.02	< 0.01	0.015	< 0.01	12.66	98.62	< 2	< 2	< 1	9	3	< 1	34	0.258	0.215	547174	13.55	0.61
547175	39.54	1.45	7.56	0.092	38.80	0.52	0.02	< 0.01	0.021	< 0.01	12.68	100.7	< 2	< 2	< 1	9	< 2	< 1	42	0.240	0.188	547175	19.36	0.69
547176	38.77	1.21	8.93	0.123	37.72	1.13	0.02	< 0.01	0.019	0.02	11.89	99.83	< 2	< 2	2	11	< 2	< 1	55	0.191	0.195	547176	19.20	0.62
547177	37.04	0.68	7.74	0.131	40.29	0.41	< 0.01	< 0.01	0.005	< 0.01	11.50	97.79	< 2	< 2	< 1	7	4	< 1	26	0.236	0.220	547177	18.42	1.02
547178	40.09	1.43	8.00	0.124	38.24	0.95	0.01	< 0.01	0.012	< 0.01	12.01	100.9	< 2	< 2	< 1	12	< 2	< 1	50	0.248	0.196	547178	18.33	0.99
547179	38.42	1.29	8.50	0.134	37.80	0.43	0.03	0.02	0.017	< 0.01	13.11	99.76	< 2	< 2	< 1	12	< 2	< 1	51	0.250	0.205	547179	17.46	0.80
547180.1	48.94	15.78	11.54	0.162	4.85	7.71	2.27	2.77	1.167	0.45	0.96	96.59	703	509	21	25	109	2	336	1.002	0.236	547180	49.47	16.13
547180.2																						547180	36.35	2.41
547180.3																						547180	18.37	0.47
547181	38.43	1.31	8.52	0.152	37.32	1.17	0.02	< 0.01	0.017	< 0.01	11.64	98.58	< 2	< 2	< 1	11	< 2	< 1	48	0.237	0.183	547181	18.73	1.14
547182	40.97	1.67	8.04	0.126	39.17	1.97	0.02	< 0.01	0.020	0.01	7.09	99.11	< 2	< 2	< 1	12	< 2	< 1	59	0.244	0.183	547182	21.53	1.75
547183	39.94	1.63	8.45	0.130	38.52	0.93	0.02	< 0.01	0.020	< 0.01	11.29	100.9	< 2	< 2	1	10	< 2	< 1	50	0.225	0.196	547183	20.04	1.23
547184	39.72	1.53	8.04	0.125	37.59	1.39	0.02	< 0.01	0.018	< 0.01	11.05	99.48	< 2	< 2	< 1	12	< 2	< 1	51	0.253	0.210	547184	19.71	1.58
547185	39.81	1.56	8.26	0.137	36.92	1.80	0.02	< 0.01	0.020	< 0.01	11.19	99.72	< 2	< 2	1	11	< 2	< 1	50	0.240	0.176	547185	20.04	1.41
547186	37.99	1.97	7.66	0.081	36.77	0.41	< 0.01	< 0.01	0.020	0.01	12.78	97.70	< 2	< 2	1	12	< 2	< 1	59	0.237	0.179	547186	16.44	0.94
547187	38.54	2.03	7.65	0.088	37.18	0.45	0.01	< 0.01	0.020	0.02	12.46	98.45	< 2	< 2	< 1	13	< 2	< 1	64	0.244	0.167	547187	21.94	1.28
547188	39.36	1.33	8.52	0.132	37.40	1.33	0.02	< 0.01	0.018	< 0.01	10.72	98.82	< 2	< 2	< 1	12	< 2	< 1	47	0.261	0.181	547188	15.66	0.98
547189	39.70	2.18	8.86	0.090	37.27	1.22	0.02	< 0.01	0.022	< 0.01	10.92	100.3	< 2	< 2	< 1	13	< 2	< 1	70	0.257	0.200	547189	16.71	1.13
547190	38.88	1.47	8.13	0.120	36.12	1.22	0.02	< 0.01	0.019	< 0.01	12.45	98.44	< 2	< 2	1	11	< 2	< 1	48	0.233	0.179	547190	16.49	1.15
547191	39.54	1.82	7.47	0.098	36.85	0.69	< 0.01	< 0.01	0.021	< 0.01	12.44	98.95	< 2	< 2	< 1	12	< 2	< 1	57	0.241	0.188	547191	17.62	0.96
547192	38.90	1.61	7.71	0.101	36.56	0.59	< 0.01	< 0.01	0.018	0.01	12.12	97.62	< 2	< 2	< 1	11	< 2	< 1	45	0.233	0.183	547192	18.26	0.91
547193	40.08	1.62	8.31	0.100	37.13	0.71	< 0.01	< 0.01	0.017	< 0.01	11.07	99.04	< 2	< 2	< 1	15	< 2	< 1	56	0.239	0.195	547193	20.29	0.93
547194	39.77	1.61	7.93	0.128	36.79	0.92	0.01	< 0.01	0.018	0.01	11.97	99.16	< 2	< 2	2	11	< 2	< 1	49	0.244	0.189	547194	15.15	0.78
547195	38.99	1.58	7.89	0.129	36.18	0.94	0.01	< 0.01	0.018	< 0.01	12.01	97.75	< 2	< 2	< 1	11	< 2	< 1	49	0.231	0.178	547195	14.26	0.69
547196	39.02	1.81	8.82	0.099	36.20	0.56	0.01	< 0.01	0.021	0.02	12.20	98.76	< 2	< 2	< 1	13	< 2	< 1	57	0.267	0.220	547196	10.50	0.64
547197	38.96	1.62	8.17	0.124	36.21	1.51	0.01	< 0.01	0.021	< 0.01	12.07	98.72	< 2	< 2	< 1	12	< 2	< 1	53	0.251	0.187	547197	15.56	0.77
547198	38.73	1.60	9.14	0.100	37.14	0.39	< 0.01	< 0.01	0.020	< 0.01	12.14	99.28	< 2	< 2	1	12	< 2	< 1	55	0.233	0.200	547198	19.19	0.72
547199	39.43	1.34	8.65	0.126	38.16	0.42	< 0.01	< 0.01	0.014	< 0.01	11.94	100.1	< 2	< 2	< 1	12	< 2	< 1	43	0.248	0.189	547199	14.49	0.58
547200	99.53	0.31	0.62	0.005	0.05	0.02	0.01	0.05	0.029	< 0.01	0.06	100.7	27	4	2	< 1	47	< 1	6	< 0.010	< 0.010	547200	98.51	0.32
547201	40.69	1.28	8.83	0.086	36.69	0.10	< 0.01	< 0.01	0.013	0.02	11.98	99.69	< 2	< 2	< 1	10	< 2	< 1	43	0.266	0.190	547201	16.14	0.91
547202	42.34	11.34	16.88	0.277	9.71	12.31	2.33	0.28	2.261	0.18	2.70	100.6	10	70	46	58	128	< 1	503	0.024	0.016	547202		
547203	37.47	1.54	8.33	0.146	36.72	2.02	0.03	< 0.01	0.024	0.09	11.53	97.91	< 2	4	< 1	11	5	< 1	56	0.221	0.178	547203	18.17	1.24
547204	38.97	1.55	8.46	0.129	37.85	1.21	0.02	< 0.01	0.019	< 0.01	11.76	100.1	< 2	< 2	< 1	11	< 2	< 1	48	0.242	0.236	547204	19.00	0.98

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Cr	Ni	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
547205	38.01	1.68	8.04	0.121	37.15	0.98	0.03	< 0.01	0.028	0.02	12.37	98.43	< 2	< 2	< 1	12	4	< 1	56	0.226	0.171	547205	20.76	0.90
547206	38.29	1.27	9.38	0.125	36.57	1.23	< 0.01	< 0.01	0.019	< 0.01	10.78	97.70	< 2	< 2	< 1	12	< 2	< 1	45	0.240	0.220	547206	16.09	0.44
547207	37.60	1.27	8.87	0.148	36.43	1.00	0.01	< 0.01	0.019	0.01	12.19	97.55	< 2	< 2	< 1	14	2	< 1	50	0.218	0.178	547207	14.55	0.70
547208	38.40	1.69	8.15	0.103	37.05	0.59	< 0.01	< 0.01	0.019	< 0.01	11.90	97.91	< 2	< 2	< 1	11	< 2	< 1	52	0.228	0.163	547208	19.72	0.74
547209	38.53	1.35	8.19	0.126	37.85	0.49	< 0.01	< 0.01	0.014	< 0.01	11.22	97.78	< 2	< 2	< 1	9	4	< 1	44	0.236	0.253	547209	19.01	0.80
547210	38.75	1.29	8.24	0.118	37.99	0.86	< 0.01	< 0.01	0.016	< 0.01	11.16	98.53	< 2	< 2	< 1	10	2	< 1	43	0.241	0.235	547210	19.62	0.66
547211	37.17	0.88	8.80	0.116	39.93	0.10	0.01	< 0.01	0.014	< 0.01	12.10	99.22	< 2	< 2	< 1	8	< 2	< 1	26	0.261	0.277	547211	17.46	0.48
547212	39.67	1.31	7.79	0.159	36.57	2.59	0.02	< 0.01	0.016	< 0.01	9.61	97.75	< 2	< 2	< 1	12	5	< 1	45	0.235	0.157	547212	16.58	1.30
547213	38.32	1.53	8.06	0.086	37.44	0.39	< 0.01	< 0.01	0.020	< 0.01	11.97	97.82	< 2	< 2	< 1	12	3	< 1	50	0.238	0.166	547213	23.19	0.84
547214	38.89	1.39	8.85	0.136	37.47	1.50	0.01	< 0.01	0.018	< 0.01	11.16	99.46	< 2	< 2	< 1	12	< 2	< 1	46	0.240	0.239	547214	18.27	0.94
547215	39.02	1.42	8.76	0.138	37.87	1.43	< 0.01	< 0.01	0.018	< 0.01	11.15	100.6	< 2	< 2	< 1	13	3	< 1	47	0.248	0.209	547215	17.92	0.81
547216	38.50	1.44	9.62	0.128	37.41	1.10	< 0.01	< 0.01	0.019	< 0.01	11.44	100.9	< 2	< 2	< 1	11	2	< 1	43	0.244	0.271	547216	11.21	0.40
547217	38.42	1.23	8.25	0.142	36.47	1.71	0.01	< 0.01	0.018	< 0.01	11.65	97.92	< 2	< 2	< 1	12	3	< 1	50	0.227	0.172	547217	21.87	0.88
547218	38.58	1.61	8.68	0.124	37.50	1.02	< 0.01	< 0.01	0.018	< 0.01	11.95	100.7	< 2	< 2	< 1	12	< 2	< 1	51	0.256	0.222	547218	15.70	0.68
547219	38.23	0.93	7.76	0.133	38.23	0.53	< 0.01	< 0.01	0.010	< 0.01	11.81	97.65	< 2	< 2	< 1	9	3	< 1	30	0.227	0.163	547219	19.07	0.83
547220.1	49.08	15.92	11.81	0.166	4.91	7.87	2.23	2.75	1.171	0.44	0.80	97.13	706	512	21	25	114	2	344	1.016	0.240	547220	49.43	16.11
547220.2																						547220	36.61	2.43
547220.3																						547220	18.67	0.57
547221	38.50	1.06	8.51	0.130	38.43	1.12	0.01	< 0.01	0.015	< 0.01	11.52	100.8	< 2	< 2	< 1	10	< 2	< 1	36	0.256	0.248	547221	18.82	0.78
547222	37.54	1.08	8.09	0.145	38.02	1.30	0.01	< 0.01	0.012	< 0.01	11.23	97.43	< 2	< 2	< 1	9	4	< 1	39	0.238	0.195	547222	15.83	0.59
547223	37.32	0.96	8.39	0.164	37.89	1.66	0.01	< 0.01	0.013	< 0.01	11.24	97.66	< 2	< 2	< 1	10	3	< 1	44	0.236	0.193	547223	18.52	0.59
547224	37.53	1.18	8.13	0.123	37.99	0.23	0.03	< 0.01	0.012	0.02	12.33	97.58	< 2	2	< 1	9	< 2	< 1	35	0.231	0.190	547224	18.29	0.62
547225	37.99	1.58	8.21	0.093	37.44	0.42	< 0.01	< 0.01	0.015	< 0.01	11.72	97.48	< 2	< 2	< 1	10	3	< 1	50	0.227	0.188	547225	19.88	0.72
547226	40.27	1.35	8.53	0.151	38.01	1.76	0.03	< 0.01	0.018	< 0.01	9.26	100.4	< 2	< 2	1	11	6	< 1	49	0.258	0.245	547226	19.45	0.84
547227	49.12	13.80	11.79	0.189	6.68	11.21	4.55	0.28	1.003	0.04	1.12	100.2	10	219	20	43	58	< 1	326	< 0.010	< 0.010	547227		
547228	38.63	1.46	7.49	0.104	37.84	0.51	0.02	< 0.01	0.019	< 0.01	11.56	97.65	< 2	< 2	< 1	13	2	< 1	50	0.255	0.197	547228	15.24	0.55
547229	39.64	1.77	6.59	0.069	37.60	0.19	0.02	< 0.01	0.018	0.02	12.27	98.19	< 2	2	< 1	8	2	< 1	37	0.230	0.174	547229	14.38	0.52
547230	43.89	12.18	9.64	0.164	12.55	12.91	3.06	0.29	0.727	0.12	4.04	99.57	50	199	15	33	44	< 1	237	0.038	0.038	547230		
547231	43.50	14.94	10.53	0.186	6.30	17.40	2.96	0.63	0.957	0.09	1.70	99.19	41	159	19	41	56	< 1	316	< 0.010	0.011	547231		
547232	38.98	1.29	7.61	0.074	38.06	0.30	0.02	< 0.01	0.020	< 0.01	11.65	98.00	< 2	< 2	< 1	9	3	< 1	43	0.240	0.191	547232	7.38	0.68
547233	38.31	1.12	7.42	0.108	38.02	0.30	< 0.01	< 0.01	0.015	< 0.01	12.19	97.49	< 2	< 2	< 1	9	3	< 1	39	0.230	0.176	547233	22.55	0.57
547234	37.61	1.24	8.51	0.104	37.19	1.28	0.01	< 0.01	0.017	< 0.01	11.62	97.61	< 2	< 2	< 1	12	7	< 1	53	0.232	0.177	547234	16.59	0.38
547235	35.75	0.86	7.88	0.115	39.23	0.23	< 0.01	< 0.01	0.012	< 0.01	13.43	97.53	< 2	< 2	< 1	10	3	< 1	35	0.234	0.181	547235	20.31	0.60
547236	38.31	1.38	8.31	0.096	37.03	1.05	0.01	< 0.01	0.018	0.02	11.88	98.10	< 2	< 2	< 1	10	< 2	< 1	52	0.223	0.183	547236	14.36	0.35
547237	35.65	0.25	7.28	0.087	42.42	0.09	< 0.01	< 0.01	0.003	< 0.01	12.85	98.64	< 2	< 2	< 1	3	3	< 1	12	0.245	0.213	547237	2.45	0.43
547238	35.81	0.81	8.53	0.078	38.81	0.15	< 0.01	< 0.01	0.007	< 0.01	13.58	97.80	< 2	< 2	< 1	5	< 2	< 1	24	0.227	0.190	547238	17.29	0.52
547239	38.05	2.40	5.92	0.065	38.21	0.20	< 0.01	< 0.01	0.031	< 0.01	12.59	97.46	< 2	< 2	< 1	4	5	< 1	22	0.246	0.203	547239	17.84	1.79
547240	100.1	0.30	0.39	0.004	0.03	0.02	0.02	0.04	0.029	< 0.01	0.10	100.4	30	3	1	< 1	51	< 1	< 5	< 0.010	< 0.010	547240	99.08	0.26

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
523300.1	12.16	0.164	4.94	7.90	2.47	2.72	1.11	0.44	1.09	0.063	0.240	0.88	99.40							
523300.2	13.21	0.129	32.48	2.10	0.09	0.11	0.13	0.02	0.20	0.009	1.46	10.94	99.80							
523300.3	54.93	0.234	16.99	0.17	< 0.01	0.03	0.04	0.01	1.53	0.022	2.00	3.74	98.83	30.6	2.203	27.677	7.2	29.880	2.31	0.11
546773	47.82	0.168	20.35	0.11	< 0.01	0.02	0.05	< 0.01	1.79	0.023	2.58	4.08	98.40	30.3	1.638	27.990	5.4	29.627	2.25	0.16
546774	57.19	0.188	15.58	0.15	< 0.01	0.05	0.04	0.01	1.83	0.027	2.88	2.34	97.37	30.8	1.295	28.106	4.2	29.401	4.55	0.12
546775	47.81	0.175	20.23	0.24	< 0.01	0.04	0.04	< 0.01	1.53	0.023	2.44	4.02	98.20	30.4	1.630	28.303	5.4	29.933	1.63	0.04
546776														30.9	0.055	30.158	0.2	30.212	2.18	1.13
546777														30.9	0.010	29.765	0.0	29.776	3.65	
546778	70.99	0.265	8.87	0.83	0.05	0.06	0.30	0.01	2.63	0.040	1.92	-0.77	97.12	30.4	0.680	29.262	2.2	29.942	1.39	
546779	37.58	0.252	25.33	0.05	< 0.01	0.04	0.04	0.01	1.68	0.024	1.76	5.87	98.21	30.5	2.440	26.604	8.0	29.044	4.85	0.15
54780.1	12.22	0.167	4.97	7.87	2.50	2.85	1.10	0.44	1.08	0.062	0.239	1.01	99.09							
54780.2	13.31	0.128	32.56	2.11	0.10	0.13	0.12	0.02	0.20	0.008	1.45	10.77	99.80							
54780.3	54.56	0.243	16.71	0.14	< 0.01	0.04	0.04	0.01	1.71	0.027	1.98	2.37	97.04	30.0	1.901	26.818	6.3	28.719	4.17	0.10
546781	56.86	0.237	16.37	0.32	0.01	0.04	0.36	0.03	1.40	0.072	1.63	2.78	97.89	30.2	2.326	27.517	7.7	29.843	1.20	0.24
546782	55.37	0.246	16.94	0.10	< 0.01	0.03	0.07	0.01	1.93	0.034	1.67	2.79	97.74	30.2	2.015	27.743	6.7	29.759	1.47	0.13
546783	67.67	0.209	11.52	0.38	< 0.01	0.03	0.12	0.01	2.00	0.042	1.83	0.44	97.45	31.3	1.694	28.850	5.4	30.544	2.52	0.16
546784	49.11	0.335	17.73	0.23	< 0.01	0.04	0.05	< 0.01	3.15	0.038	4.72	1.99	96.16	30.2	1.111	28.663	3.7	29.773	1.30	0.17
546785	41.91	0.276	23.07	0.92	< 0.01	0.03	0.06	0.01	2.38	0.024	4.49	2.52	96.87	30.3	1.049	28.766	3.5	29.815	1.66	0.18
546786	46.04	0.176	21.91	0.37	< 0.01	0.02	0.04	0.01	1.62	0.022	2.69	4.08	97.65	31.4	1.733	29.555	5.5	31.287	0.49	0.08
546787	45.71	0.178	21.87	0.50	< 0.01	0.03	0.04	< 0.01	1.87	0.026	2.24	4.28	97.85	30.2	1.689	28.638	5.6	30.327	-0.32	0.06
546788	70.95	0.138	10.64	0.14	< 0.01	0.04	0.05	0.01	1.83	0.036	2.81	0.01	97.15	30.0	1.425	28.983	4.7	30.408	-1.28	0.05
546789	46.70	0.189	22.05	0.26	< 0.01	0.03	0.05	0.01	1.92	0.022	2.15	4.37	98.38	31.0	1.649	28.613	5.3	30.262	2.34	0.04
546790	48.50	0.210	21.06	0.27	< 0.01	0.03	0.06	< 0.01	2.21	0.025	2.49	3.76	97.97	30.6	1.303	28.810	4.3	30.113	1.48	0.04
546791	44.74	0.173	23.80	0.42	< 0.01	0.03	0.05	< 0.01	1.65	0.024	2.34	4.98	98.76	30.1	1.418	27.925	4.7	29.343	2.60	0.04
546792	45.32	0.235	21.42	0.26	< 0.01	0.03	0.03	< 0.01	3.98	0.038	4.66	2.13	96.45	30.3	0.809	28.630	2.7	29.439	2.74	0.08
546793	46.78	0.144	23.36	0.09	< 0.01	0.04	0.04	0.01	1.72	0.024	2.29	4.86	98.71	30.9	1.769	28.528	5.7	30.296	1.87	0.05
546794	58.49	0.221	14.59	0.56	0.01	0.04	0.06	< 0.01	2.82	0.036	3.55	1.61	96.89	30.2	0.689	28.133	2.3	28.822	4.49	0.04
546795	43.83	0.198	21.63	1.00	< 0.01	0.04	0.05	0.01	2.04	0.029	2.54	4.53	97.62	30.7	1.019	29.079	3.3	30.098	1.81	0.05
546796	50.99	0.245	18.33	0.34	< 0.01	0.07	0.06	< 0.01	2.56	0.027	4.24	3.16	96.67	30.7	0.876	29.359	2.9	30.235	1.50	0.07
547136	68.74	0.737	10.53	0.34	< 0.01	0.02	0.02	0.01	2.11	0.031	0.376	0.95	98.00	30.3	1.873	27.836	6.2	29.709	1.93	0.03
547137	50.57	0.362	19.65	0.75	< 0.01	0.02	0.02	0.01	1.44	0.022	0.418	5.49	98.41	31.1	3.402	27.180	10.9	30.583	1.60	0.03
547138														30.6	0.019	29.415	0.1	29.434	3.79	
547139	47.55	0.186	16.31	0.90	< 0.01	< 0.01	0.03	< 0.01	2.20	0.037	0.356	4.86	97.22	30.5	1.081	28.788	3.6	29.869	1.91	0.02
547140.1	12.11	0.166	4.92	7.82	2.43	2.77	1.11	0.43	1.07	0.063	0.239	0.80	99.00							
547140.2	13.25	0.130	32.75	2.09	0.09	0.13	0.12	0.02	0.20	0.006	1.46	11.07	100.4							
547140.3	54.03	0.233	16.86	0.17	< 0.01	0.04	0.04	0.01	1.60	0.023	1.97	3.11	97.42	30.1	2.157	27.612	7.2	29.769	1.05	0.10
547141	53.45	0.281	15.68	0.14	< 0.01	0.04	0.06	0.02	5.04	0.041	0.220	4.24	95.94	30.5	0.627	29.347	2.1	29.974	1.68	0.03
547142														30.8	0.226	29.352	0.7	29.578	4.11	
547143	52.77	0.348	14.60	2.24	< 0.01	< 0.01	0.02	0.01	1.49	0.035	0.235	6.07	98.57	30.3	1.686	28.078	5.6	29.764	1.61	0.03
547144	50.70	0.404	16.74	0.41	< 0.01	< 0.01	0.02	0.01	2.10	0.027	0.526	4.73	98.01	30.1	1.986	27.417	6.6	29.404	2.42	< 0.01
547145	56.15	0.416	16.23	0.48	< 0.01	< 0.01	0.03	< 0.01	2.72	0.037	0.630	2.10	96.62	30.9	1.069	29.404	3.5	30.474	1.50	< 0.01
547146	31.30	0.316	27.45	1.26	< 0.01	< 0.01	0.02	0.01	1.86	0.032	0.371	3.86	99.12	30.1	1.701	28.725	5.6	30.425	-0.98	< 0.01
547147	56.81	0.417	14.72	0.14	< 0.01	< 0.01	0.02	0.01	1.87	0.030	0.424	2.27	97.37	31.5	1.856	29.413	5.9	31.268	0.70	< 0.01
547148	51.60	0.372	19.78	0.05	< 0.01	< 0.01	0.02	0.01	1.57	0.034	0.332	4.14	98.20	30.2	2.298	27.566	7.6	29.865	1.11	0.01
547149	56.79	0.456	17.04	0.14	< 0.01	< 0.01	0.03	0.02	2.17	0.032	0.389	2.87	98.47	30.0	1.893	27.584	6.3	29.477	1.88	0.02
547150	27.06	0.259	30.83	0.08	< 0.01	< 0.01	0.01	< 0.01	0.98	0.019	0.299	7.89	99.15	30.4	4.016	26.386	13.2	30.402	0.04	0.04
547151	37.50	0.224	26.15	0.07	< 0.01	< 0.01	0.01	< 0.01	1.10	0.017	0.251	7.04	98.70	32.0	3.358	28.353	10.5	31.711	0.76	0.06
547152	42.50	0.392	22.15	0.28	< 0.01	< 0.01	0.03	0.01	1.96	0.034	0.352	4.33	98.63	31.5	2.210	28.040	7.0	30.250	4.06	0.07
547153	41.15	0.306	25.63	0.23	< 0.01	0.03	0.04	< 0.01	2.01	0.036	0.901	3.77	98.33	30.4	1.817	27.854	6.0	29.671	2.39	0.07
547154	24.61	0.250	33.14	0.25	< 0.01	0.02	0.02	0.01	1.15	0.021	0.857	6.82	98.36	31.1	4.200	26.350	13.5	30.550	1.79	< 0.01
547155	53.07	0.322	19.39	0.11	< 0.01	0.03	0.03	0.01	2.19	0.041	1.62	2.35	98.20	30.8	1.460	29.067	4.7	30.528	0.93	< 0.01

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
547156	36.31	0.383	26.77	0.14	< 0.01	0.03	0.02	< 0.01	2.10	0.030	1.15	6.16	99.00	30.6	2.243	28.521	7.3	30.764	-0.68	< 0.01
547157	29.75	0.272	27.74	0.12	< 0.01	< 0.01	0.04	0.01	2.67	0.035	0.825	7.47	97.83	30.3	0.458	29.107	1.5	29.564	2.29	0.03
547158	12.18	0.153	17.51	0.41	< 0.01	< 0.01	0.07	0.01	1.32	0.013	0.293	8.73	97.27	30.5	1.513	28.820	5.0	30.333	0.40	
547159	49.42	0.265	18.81	0.32	< 0.01	0.03	0.06	< 0.01	2.56	0.032	2.20	3.89	97.79	30.2	1.397	28.315	4.6	29.775	1.48	0.06
547160	0.54	0.008	0.03	0.02	< 0.01	0.07	0.04	0.01	< 0.01	< 0.003	< 0.003	0.07	99.80	30.3	0.065	29.185	0.2	29.251	3.47	
547161	58.52	0.105	15.79	0.03	< 0.01	0.04	0.03	< 0.01	2.70	0.028	3.37	1.45	96.81	30.2	1.457	28.018	4.8	29.475	2.28	0.07
547162	59.13	0.176	15.19	0.45	< 0.01	0.03	0.06	0.01	1.48	0.029	1.57	2.47	97.31	30.4	1.763	28.243	5.8	30.007	1.40	0.03
547163	75.53	0.114	7.90	0.02	< 0.01	0.03	0.04	< 0.01	4.14	0.046	3.26	-2.56	95.71	30.1	1.073	28.218	3.6	29.291	2.53	0.04
547164	56.79	0.257	16.56	0.26	< 0.01	0.05	0.06	< 0.01	2.79	0.035	2.55	1.83	96.71	30.4	1.392	28.478	4.6	29.870	1.66	0.08
547165	61.07	0.170	15.44	0.14	< 0.01	0.02	0.04	0.01	1.96	0.029	1.82	1.87	97.54	30.8	1.840	28.341	6.0	30.182	2.02	0.04
547166	59.00	0.154	16.82	0.16	< 0.01	0.02	0.07	< 0.01	1.50	0.027	1.78	2.83	98.35	30.1	2.100	27.474	7.0	29.574	1.61	0.03
547167	55.69	0.152	17.33	0.15	< 0.01	0.04	0.05	0.01	1.44	0.024	1.75	3.25	98.13	30.4	2.041	27.507	6.7	29.548	2.73	0.03
547168	68.75	0.132	12.02	0.11	0.02	0.04	0.07	0.01	1.27	0.034	1.77	1.13	98.27	30.2	2.309	27.394	7.6	29.703	1.65	0.05
547169	53.28	0.137	18.68	0.15	< 0.01	0.02	0.06	0.01	1.20	0.031	1.50	3.69	98.77	30.1	2.665	26.940	8.9	29.606	1.61	0.04
547170	66.08	0.197	12.96	0.17	< 0.01	0.03	0.07	0.01	1.53	0.030	2.01	1.43	98.18	30.2	1.871	27.672	6.2	29.543	2.16	0.04
547171	57.79	0.248	15.58	0.48	< 0.01	0.04	0.08	0.01	2.17	0.038	2.09	2.20	98.12	30.4	1.468	28.282	4.8	29.750	2.14	0.05
547172	55.01	0.142	17.09	0.21	< 0.01	0.03	0.06	0.01	1.25	0.022	1.66	3.34	97.34	30.4	2.011	27.830	6.6	29.840	1.72	0.03
547173	50.99	0.179	19.77	0.16	< 0.01	0.05	0.07	0.01	1.27	0.016	2.10	4.61	98.56	30.3	1.790	28.058	5.9	29.848	1.43	0.10
547174	62.31	0.194	14.46	0.16	< 0.01	0.02	0.08	0.01	2.01	0.027	2.38	1.92	97.70	30.6	1.424	29.198	4.7	30.623	-0.06	0.04
547175	49.71	0.165	20.48	0.20	< 0.01	0.02	0.08	0.01	1.60	0.022	1.69	4.37	98.35	30.1	1.945	27.778	6.5	29.723	1.26	0.04
547176	51.45	0.149	19.62	0.53	< 0.01	0.03	0.06	0.01	1.16	0.029	1.62	4.26	98.68	30.1	1.977	28.113	6.6	30.090	0.01	0.07
547177	53.16	0.199	17.93	0.64	< 0.01	0.03	0.06	0.01	2.11	0.029	1.98	3.15	98.73	30.1	1.761	27.833	5.8	29.594	1.76	0.03
547178	53.79	0.219	17.11	0.86	< 0.01	0.04	0.05	0.01	2.11	0.027	2.13	2.67	98.31	30.3	1.444	28.209	4.8	29.652	2.21	0.04
547179	54.56	0.201	18.39	0.30	< 0.01	0.03	0.05	0.01	1.54	0.026	2.07	3.69	99.11	30.3	1.783	28.044	5.9	29.827	1.49	0.13
547180.1	12.19	0.165	4.98	7.89	2.44	2.83	1.11	0.44	1.07	0.065	0.238	0.90	99.93							0.09
547180.2	13.29	0.130	32.65	2.10	0.09	0.13	0.12	0.02	0.20	0.004	1.45	11.06	100.0							
547180.3	54.74	0.237	16.74	0.14	< 0.01	0.03	0.04	0.01	1.72	0.026	1.98	2.57	97.06	30.1	1.949	26.999	6.5	28.948	3.76	
547181	50.95	0.220	19.19	0.42	< 0.01	0.02	0.06	0.01	1.81	0.031	2.11	3.87	98.50	30.5	1.584	28.186	5.2	29.771	2.26	0.06
547182	38.37	0.239	20.32	2.06	< 0.01	< 0.01	0.10	0.01	2.05	0.044	1.20	0.95	98.05	30.3	0.927	28.552	3.1	29.479	2.68	< 0.01
547183	49.00	0.169	19.51	0.52	< 0.01	0.03	0.07	0.01	1.53	0.027	2.16	3.77	98.01	30.4	1.542	28.532	5.1	30.074	1.09	0.04
547184	48.32	0.220	18.68	1.00	< 0.01	0.04	0.06	0.01	2.13	0.033	2.36	3.26	97.37	30.1	1.350	28.205	4.5	29.556	1.83	0.03
547185	47.80	0.196	19.13	0.96	< 0.01	0.03	0.07	0.01	1.97	0.029	2.34	3.84	97.77	30.1	1.290	28.135	4.3	29.425	2.21	0.03
547186	56.27	0.131	16.14	0.11	< 0.01	0.03	0.07	< 0.01	1.35	0.034	2.42	2.98	96.90	30.1	1.678	27.614	5.6	29.292	2.81	0.11
547187	45.28	0.127	21.53	0.18	< 0.01	0.06	0.06	0.01	1.18	0.026	1.73	5.03	98.41	30.2	2.000	26.990	6.6	28.990	3.87	0.07
547188	57.84	0.213	14.77	0.59	< 0.01	0.04	0.07	0.01	2.35	0.029	2.56	2.11	97.17	30.4	1.280	28.393	4.2	29.673	2.42	0.05
547189	58.17	0.117	15.92	0.18	0.01	0.03	0.08	0.01	1.25	0.036	1.83	2.85	98.33	30.2	1.891	27.676	6.3	29.567	2.23	0.06
547190	55.95	0.213	15.92	0.60	< 0.01	0.05	0.07	0.01	1.89	0.031	2.77	2.79	97.92	30.1	1.229	28.264	4.1	29.493	2.10	0.08
547191	55.30	0.163	16.77	0.15	< 0.01	0.05	0.07	0.01	1.44	0.030	2.24	3.32	98.11	30.4	1.555	28.185	5.1	29.740	2.08	0.04
547192	53.35	0.160	17.97	0.11	< 0.01	0.04	0.07	0.01	1.68	0.035	2.32	3.43	98.33	30.0	1.550	27.989	5.2	29.539	1.56	0.04
547193	50.35	0.150	19.78	0.22	< 0.01	0.03	0.07	0.01	1.35	0.039	1.83	3.56	98.60	30.1	2.087	27.526	6.9	29.613	1.49	0.04
547194	59.19	0.220	14.82	0.20	< 0.01	0.03	0.06	0.01	1.72	0.030	2.53	2.11	96.80	30.3	1.757	27.684	5.8	29.441	2.97	0.12
547195	61.72	0.225	14.07	0.21	0.01	0.17	0.06	0.01	1.69	0.028	2.38	1.87	97.39	30.5	1.670	28.166	5.5	29.836	2.09	0.10
547196	71.12	0.207	10.10	0.07	< 0.01	0.02	0.08	< 0.01	1.78	0.036	2.17	0.47	97.16	30.0	2.148	27.641	7.1	29.789	0.86	0.07
547197	59.85	0.162	15.13	0.29	< 0.01	0.05	0.07	0.01	1.40	0.027	1.98	2.36	97.66	30.2	1.724	28.155	5.7	29.878	0.95	0.05
547198	51.30	0.191	19.46	0.14	< 0.01	0.01	0.05	< 0.01	1.70	0.026	1.85	3.90	98.50	30.5	1.790	28.077	5.9	29.867	2.07	0.10
547199	63.60	0.134	14.87	0.09	< 0.01	0.02	0.07	< 0.01	1.20	0.029	1.92	2.01	98.98	30.1	2.069	27.899	6.9	29.968	0.33	0.04
547200	0.61	0.005	0.02	0.02	0.01	0.07	0.04	< 0.01	< 0.01	< 0.003	< 0.003	0.13	99.73	30.1	0.085	29.437	0.3	29.522	1.92	
547201	56.89	0.175	17.17	0.04	< 0.01	< 0.01	0.06	0.01	1.76	0.031	1.82	2.92	97.82	30.6	2.482	27.504	8.1	29.987	1.92	0.09
547202														30.3	0.016	29.802	0.1	29.818	1.66	
547203	50.80	0.213	17.93	0.76	< 0.01	< 0.01	0.06	0.02	2.01	0.034	3.56	3.53	98.23	30.5	1.155	28.882	3.8	30.037	1.54	0.07
547204	50.19	0.181	19.63	0.43	< 0.01	< 0.01	0.06	0.02	1.61	0.027	2.52	3.71	98.30	30.4	1.495	28.302	4.9	29.797	1.93	0.04

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
547205	47.32	0.172	21.06	0.37	< 0.01	< 0.01	0.05	0.01	1.29	0.025	2.02	4.37	98.28	30.3	1.743	28.539	5.7	30.282	0.15	0.07
547206	60.32	0.160	16.37	0.30	< 0.01	0.02	0.06	0.01	1.42	0.031	1.85	2.31	99.36	30.2	1.954	27.605	6.5	29.559	2.18	0.07
547207	60.37	0.186	14.74	0.22	< 0.01	< 0.01	0.07	0.01	1.66	0.034	2.68	2.13	97.25	30.4	1.401	28.325	4.6	29.725	2.20	0.10
547208	51.96	0.167	19.63	0.20	< 0.01	0.04	0.06	< 0.01	1.33	0.031	1.78	3.79	99.43	30.2	2.275	27.506	7.5	29.781	1.48	0.03
547209	51.21	0.234	19.92	0.14	< 0.01	< 0.01	0.05	0.02	1.75	0.030	1.92	3.27	98.25	30.3	2.017	28.042	6.7	30.059	0.71	0.03
547210	49.95	0.186	20.45	0.30	< 0.01	0.02	0.05	0.01	1.70	0.028	2.26	3.41	98.62	30.2	1.877	27.798	6.2	29.675	1.87	0.04
547211	48.94	0.203	21.77	0.07	< 0.01	< 0.01	0.07	0.02	2.03	0.027	2.81	3.92	97.73	30.1	1.846	28.060	6.1	29.907	0.50	0.10
547212	51.38	0.299	15.28	1.34	< 0.01	0.07	0.07	0.01	3.56	0.040	4.26	1.69	95.87	30.0	0.722	29.291	2.4	30.013	0.06	0.02
547213	44.01	0.122	21.46	0.14	< 0.01	< 0.01	0.06	0.02	1.05	0.026	1.57	5.45	97.87	30.6	2.840	27.479	9.3	30.319	1.02	0.04
547214	51.10	0.193	18.87	0.31	< 0.01	0.01	0.06	0.01	1.72	0.028	2.14	3.99	97.61	30.1	1.814	27.849	6.0	29.663	1.61	0.03
547215	51.84	0.211	18.73	0.33	< 0.01	< 0.01	0.06	0.01	1.87	0.032	2.10	4.27	98.11	30.6	1.782	28.568	5.8	30.350	0.69	0.02
547216	70.52	0.165	10.77	0.18	< 0.01	0.01	0.06	< 0.01	1.68	0.028	2.28	0.45	97.74	30.3	1.809	28.268	6.0	30.077	0.85	0.03
547217	43.92	0.184	22.35	1.07	< 0.01	< 0.01	0.05	0.01	1.24	0.023	1.99	4.95	98.46	30.1	1.956	27.685	6.5	29.642	1.62	0.05
547218	59.33	0.172	16.33	0.23	< 0.01	0.02	0.05	0.01	1.48	0.029	2.59	2.46	99.05	30.2	1.698	27.542	5.6	29.240	3.17	0.05
547219	48.54	0.243	21.12	0.20	< 0.01	< 0.01	0.05	0.02	2.08	0.025	2.02	4.05	98.18	30.4	2.017	27.696	6.6	29.713	2.21	0.06
547220.1	12.17	0.170	4.94	7.87	2.43	2.80	1.11	0.44	1.08	0.064	0.240	0.81	99.66							
547220.2	13.25	0.128	32.48	2.10	0.11	0.11	0.13	0.02	0.20	0.006	1.46	11.03	100.1							
547220.3	54.42	0.244	16.58	0.14	< 0.01	0.01	0.04	0.01	1.69	0.024	1.99	2.83	97.19	30.2	1.962	27.400	6.5	29.362	2.68	0.10
547221	48.08	0.242	21.31	0.44	< 0.01	< 0.01	0.05	0.01	1.97	0.022	2.82	3.41	97.84	30.1	1.609	28.231	5.4	29.840	0.75	0.06
547222	54.25	0.286	18.04	0.39	< 0.01	0.01	0.04	0.01	2.69	0.028	3.39	1.71	97.24	30.1	1.285	27.520	4.3	28.805	4.25	0.08
547223	47.01	0.299	21.32	0.62	< 0.01	< 0.01	0.05	0.01	2.33	0.030	3.26	2.77	96.73	30.6	1.362	28.388	4.4	29.750	2.94	0.13
547224	54.28	0.197	18.02	0.09	< 0.01	0.02	0.05	0.01	1.82	0.026	2.48	3.23	99.12	30.5	2.059	27.994	6.7	30.053	1.56	0.08
547225	52.11	0.202	18.52	0.30	< 0.01	0.04	0.05	0.01	1.44	0.029	2.11	3.36	98.77	30.7	2.456	27.650	8.0	30.106	2.06	0.04
547226	49.54	0.285	18.60	1.34	< 0.01	0.02	0.04	< 0.01	2.47	0.032	3.52	1.36	97.48	30.0	1.336	27.675	4.4	29.011	3.44	0.07
547227														30.5	0.016	29.691	0.1	29.707	2.45	
547228	57.13	0.302	15.34	0.14	< 0.01	0.05	0.06	0.01	2.91	0.040	3.83	1.22	96.82	30.5	1.314	27.953	4.3	29.267	3.93	0.16
547229	62.18	0.344	12.97	0.16	< 0.01	0.01	0.07	0.02	2.84	0.031	2.70	0.95	97.17	30.2	1.194	27.869	4.0	29.063	3.74	0.12
547230														30.6	0.101	30.006	0.3	30.107	1.55	0.04
547231														30.6	0.016	29.420	0.1	29.435	3.69	
547232	77.47	0.296	7.40	0.09	< 0.01	< 0.01	0.13	0.03	2.56	0.042	2.62	-1.22	97.38	30.1	1.318	28.257	4.4	29.575	1.81	0.11
547233	45.60	0.252	21.13	0.15	< 0.01	0.01	0.04	0.01	1.66	0.022	2.02	4.55	98.56	30.3	2.584	26.571	8.5	29.155	3.82	0.06
547234	55.40	0.191	17.86	0.12	< 0.01	0.02	0.04	0.01	1.85	0.027	2.49	3.78	98.75	30.1	1.984	27.488	6.6	29.472	2.04	0.26
547235	48.86	0.164	21.85	0.40	< 0.01	< 0.01	0.04	0.01	1.10	0.027	1.82	4.58	99.69	30.4	2.812	27.048	9.2	29.860	1.90	0.05
547236	61.30	0.158	15.44	0.25	< 0.01	0.02	0.04	0.01	1.35	0.028	3.13	1.71	98.11	30.3	2.029	27.782	6.7	29.811	1.54	0.04
547237	87.19	0.063	4.02	0.02	< 0.01	< 0.01	0.02	0.01	2.61	0.023	3.01	-3.22	96.51	30.6	1.208	29.330	4.0	30.538	0.11	0.04
547238	48.64	0.117	22.50	0.10	< 0.01	< 0.01	0.03	0.02	1.18	0.022	1.90	5.34	97.55	30.3	2.647	26.840	8.7	29.487	2.57	0.16
547239	49.47	0.102	18.78	0.07	< 0.01	0.05	0.08	0.01	3.16	0.031	3.82	1.95	97.14	30.5	1.311	29.081	4.3	30.392	0.36	0.11
547240	0.59	0.006	0.01	0.02	0.01	0.06	0.05	0.01	< 0.01	< 0.003	< 0.003	0.18	100.3	30.3	0.040	29.726	0.1	29.765	1.82	

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Cr	Ni	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
NIST 694 Meas	11.50	1.93	0.75	0.013	0.35	43.43	0.90	0.56	0.118	30.20									1672					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
DNC-1 Meas	47.07	18.49	9.43	0.146	10.04	11.32	1.93	0.22	0.480	0.07			105	143	15	31	35		154	0.028	0.031			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148.0	0.027	0.025			
GBW 07113 Meas	71.83	13.04	3.20	0.139	0.14	0.57	2.51	5.39	0.285	0.05			499	41	44	5	384	4	6					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
MICA-FE Meas																						34.30	19.37	25.81
MICA-FE Cert																						34.4	19.5	25.6
IF-G Meas																						41.22	0.15	55.83
IF-G Cert																						41.2	0.150	55.8
LKSD-4 Meas																								
LKSD-4 Cert																								
BaSO4 Meas																								
BaSO4 Cert																								
W-2a Meas	52.44	15.38	10.27	0.168	6.27	11.00	2.22	0.62	1.071	0.13			173	196	18	35	89	< 1	279	0.010	0.012			
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262	0.00920	0.00700			
OREAS 13P Meas																					0.211			
OREAS 13P Cert																					0.226			
OREAS 14P Meas																								
OREAS 14P Cert																								
SY-4 Meas	49.62	20.44	6.17	0.108	0.51	8.10	6.86	1.63	0.287	0.13			341	1204	114	2	542	3	8	< 0.010	< 0.010			
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0	0.001	0.000			
Oreas 73a (Fusion) Meas																						36.02	2.10	
Oreas 73a (Fusion) Cert																						36.4	2.38	
Oreas 74a (Fusion) Meas																						32.44	2.20	
Oreas 74a (Fusion) Cert																						32.4	2.21	
Oreas 75a (Fusion) Meas																						27.20	1.88	
Oreas 75a (Fusion) Cert																						27.3	1.99	
BIR-1a Meas	47.44	15.70	10.64	0.170	9.53	13.26	1.82	0.02	0.959	0.02			7	107	14	43	15	< 1	332	0.039	0.020			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310	0	0			
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
523300.1 Dup	48.78	15.58	11.43	0.162	4.74	7.71	2.22	2.75	1.137	0.43	1.03	95.97	693	504	20	25	102	2	335	1.008	0.244			
546779 Orig																								
546779 Dup																								
54780.1 Orig	49.01	15.76	11.79	0.164	4.86	7.78	2.25	2.77	1.174	0.44	0.90	96.91	698	513	21	25	114	2	341	1.019	0.242			
54780.1 Dup	49.04	15.91	11.53	0.164	4.90	7.85	2.25	2.77	1.172	0.42	0.90	96.91	702	513	21	25	106	2	338	1.021	0.229			
546786 Orig	37.85	1.33	7.53	0.101	38.87	0.91	0.01	< 0.01	0.016	< 0.01	12.31	98.93	< 2	< 2	< 1	9	< 2	< 1	45	0.231	0.156			
546786 Dup	37.93	1.33	7.52	0.102	38.56	0.90	< 0.01	< 0.01	0.016	< 0.01	12.31	98.67	< 2	< 2	< 1	9	< 2	< 1	41	0.226	0.193			
546787 Orig																								
546787 Dup																								
547136 Orig	37.63	0.68	8.01	0.177	35.86	1.55	0.01	< 0.01	0.004	< 0.01	13.63	97.56	< 2	11	< 1	9	< 2	< 1	41	0.240	0.212	10.44	0.46	71.80
547136 Split	37.08	0.65	7.88	0.180	36.46	1.56	< 0.01	< 0.01	0.004	< 0.01	13.72	97.55	< 2	11	< 1	9	2	< 1	37	0.234	0.194	10.53	0.40	70.84
547136 Orig																								
547136 Dup																								
547140.1 Orig	49.01	15.69	11.73	0.164	4.84	7.81	2.28	2.72	1.160	0.44	0.62	96.47	701	502	21	25	109	2	339	1.020	0.241			
547142 Orig	33.89	0.60	6.97	0.098	35.64	0.91	< 0.01	0.02	0.003	< 0.01	22.65	100.8	< 2	2	< 1	9	< 2	< 1	29	0.204	0.204			
547142 Dup	34.23	0.60	6.83	0.099	35.26	0.91	< 0.01	0.01	0.003	< 0.01	22.65	100.6	< 2	2	< 1	9	< 2	< 1	30	0.216	0.201			
547144 Orig																								
547144 Dup																								

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Cr	Ni	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
547154 Orig	38.24	0.65	7.63	0.108	39.23	0.57	< 0.01	< 0.01	0.003	< 0.01	11.42	97.86	< 2	< 2	< 1	9	< 2	< 1	39	0.243	0.213	30.37	0.90	24.61
547154 Split	38.00	0.68	7.82	0.115	39.97	0.65	0.04	0.01	0.004	< 0.01	11.52	98.82	< 2	< 2	< 1	9	< 2	< 1	38	0.245	0.211	28.75	1.07	29.84
547154 Orig																								
547154 Dup																								
547156 Dup	36.35	0.65	8.08	0.135	39.21	0.89	< 0.01	< 0.01	0.003	< 0.01	12.93	98.28	< 2	< 2	< 1	9	2	< 1	40	0.267	0.224			
547164 Orig	37.95	0.97	8.64	0.154	39.04	1.12	0.01	< 0.01	0.011	< 0.01	11.88	99.78	< 2	< 2	1	9	< 2	< 1	37	0.261	0.201	14.90	0.69	56.79
547164 Split	37.26	0.92	8.57	0.160	39.23	1.20	< 0.01	< 0.01	0.012	< 0.01	11.80	99.17	< 2	< 2	< 1	9	< 2	< 1	36	0.251	0.197	15.95	0.45	55.53
547164 Orig																								
547164 Dup																								
547171 Orig	39.72	2.08	7.79	0.135	35.95	2.13	0.02	< 0.01	0.019	< 0.01	10.87	98.72	< 2	< 2	< 1	13	< 2	< 1	53	0.243	0.180			
547171 Dup	40.52	2.08	7.87	0.139	36.21	2.19	0.02	< 0.01	0.020	0.02	10.87	99.93	< 2	< 2	1	12	< 2	< 1	53	0.250	0.192			
547174 Orig																								
547180.1 Orig	48.94	15.78	11.54	0.162	4.85	7.71	2.27	2.77	1.167	0.45	0.96	96.59	703	509	21	25	109	2	336	1.002	0.236			
547180.1 Dup	49.20	15.85	11.74	0.166	4.91	7.90	2.25	2.75	1.164	0.43	0.96	97.31	705	512	20	25	103	2	339	1.020	0.249			
547182 Orig																								
547188 Orig	39.38	1.34	8.60	0.132	37.56	1.34	0.02	< 0.01	0.018	< 0.01	10.72	99.09	< 2	< 2	< 1	12	< 2	< 1	47	0.261	0.185			
547188 Dup	39.33	1.32	8.43	0.131	37.25	1.32	0.02	< 0.01	0.018	0.01	10.72	98.56	< 2	< 2	< 1	12	< 2	< 1	47	0.260	0.178			
547192 Orig																						18.26	0.91	53.35
547192 Split																						18.85	0.84	53.86
547192 Orig																								
547192 Dup																								
547202 Orig	42.34	11.34	16.88	0.277	9.71	12.31	2.33	0.28	2.261	0.18	2.70	100.6	10	70	46	58	128	< 1	503	0.024	0.016			
547202 Split	40.45	10.82	16.20	0.287	9.86	13.31	1.92	0.22	2.316	0.19	2.64	98.23	9	72	44	59	129	< 1	512	0.023	0.015			
547202 Dup	42.34	11.34	16.88	0.277	9.71	12.31	2.33	0.28	2.261	0.18	2.70	100.6	10	70	46	58	128	< 1	503	0.024	0.016			
547212 Orig																								
547217 Dup	38.42	1.23	8.25	0.142	36.47	1.71	0.01	< 0.01	0.018	< 0.01	11.65	97.92	< 2	< 2	< 1	12	3	< 1	50	0.227	0.172			
547220.1 Dup	49.08	15.92	11.81	0.166	4.91	7.87	2.23	2.75	1.171	0.44	0.80	97.13	706	512	21	25	114	2	344	1.016	0.240			
547220.3 Orig																								
547220.3 Dup																								
547221 Orig	38.50	1.06	8.54	0.130	38.43	1.17	0.01	< 0.01	0.015	< 0.01	11.52	99.38	< 2	< 2	< 1	10	3	< 1	36	0.256	0.248	18.82	0.78	48.08
547221 Split	37.42	1.04	8.23	0.135	38.57	1.22	0.01	< 0.01	0.020	< 0.01	11.50	98.15	< 2	< 2	< 1	10	3	< 1	42	0.246	0.190	19.15	0.41	49.02
547230 Orig																								
547234 Orig	37.75	1.23	8.54	0.105	36.95	1.31	0.02	< 0.01	0.018	0.01	11.62	97.55	< 2	< 2	< 1	12	3	< 1	54	0.235	0.173			
547234 Dup	37.47	1.26	8.49	0.103	37.44	1.25	0.01	< 0.01	0.017	< 0.01	11.62	97.66	< 2	< 2	< 1	12	11	< 1	52	0.228	0.182			
547240 Split																								
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	% Loss Mass	Calculated Start Mass	Magnetic Fraction	Non-Mag Fraction	Start Mass	Weight % Magnetics	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	g	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
NIST 694 Meas																			
NIST 694 Cert																			
DNC-1 Meas																			
DNC-1 Cert																			
GBW 07113 Meas																			
GBW 07113 Cert																			
MICA-FE Meas	0.354	4.54	0.51	0.51	8.78	2.52	0.42	0.02	0.026	0.004									
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350									
IF-G Meas	0.041	1.89	1.53	0.05	0.02	0.03	0.06	0.01		< 0.003									
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225									
LKSD-4 Meas																			0.96
LKSD-4 Cert																			0.990
BaSO4 Meas																			13.8
BaSO4 Cert																			14.0
W-2a Meas																			
W-2a Cert																			
OREAS 13P Meas										0.226									
OREAS 13P Cert										0.226									
OREAS 14P Meas										2.08									
OREAS 14P Cert										2.10									
SY-4 Meas																			
SY-4 Cert																			
Oreas 73a (Fusion) Meas		32.29						0.21		1.44									
Oreas 73a (Fusion) Cert		32.5						0.20		1.44									
Oreas 74a (Fusion) Meas		28.06						0.18		3.24									
Oreas 74a (Fusion) Cert		27.9						0.18		3.24									
Oreas 75a (Fusion) Meas		22.33						0.16		5.25									
Oreas 75a (Fusion) Cert		22.3						0.16		5.25									
BIR-1a Meas																			
BIR-1a Cert																			
OREAS 13b (4-Acid) Meas																			1.17
OREAS 13b (4-Acid) Cert																			1.20
OREAS 13b (4-Acid) Meas																			1.13
OREAS 13b (4-Acid) Cert																			1.20
523300.1 Dup																			
546779 Orig																			0.16
546779 Dup																			0.15
54780.1 Orig																			
54780.1 Dup																			
546786 Orig																			
546786 Dup																			
546787 Orig																			0.06
546787 Dup																			0.05
547136 Orig	0.764	10.53	0.34	< 0.01	0.02	0.02	0.01	2.27	0.036	0.376	0.96	98.00							
547136 Split	0.763	11.00	0.31	< 0.01	0.02	0.01	0.01	2.16	0.029	0.405	0.95	97.41	1.66	29.940	1.989	27.950	30.4	6.5	0.05
547136 Orig																			0.03
547136 Dup																			0.03
547140.1 Orig																			
547142 Orig																			
547142 Dup																			
547144 Orig																			0.01

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	% Loss Mass	Calculated Start Mass	Magnetic Fraction	Non-Mag Fraction	Start Mass	Weight % Magnetics	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	g	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
547144 Dup																			< 0.01
547154 Orig	0.250	33.14	0.25	< 0.01	0.02	0.02	0.01	1.15	0.021	0.857	6.82	98.36							
547154 Split	0.329	31.16	0.19	< 0.01	0.02	0.02	0.01	1.65	0.026	0.885	5.00	98.94	0.68	30.200	2.307	27.893	30.4	7.6	0.02
547154 Orig																			< 0.01
547154 Dup																			< 0.01
547156 Dup																			
547164 Orig	0.257	16.56	0.26	< 0.01	0.05	0.06	< 0.01	2.79	0.035	2.55	1.83	96.71							
547164 Split	0.273	18.18	0.30	0.01	0.05	0.05	0.01	2.71	0.030	2.56	1.51	97.61	3.14	29.435	1.158	28.277	30.4	3.8	0.09
547164 Orig																			0.08
547164 Dup																			0.08
547171 Orig																			
547171 Dup																			
547174 Orig																			0.04
547180.1 Orig																			
547180.1 Dup																			
547182 Orig																			< 0.01
547188 Orig																			
547188 Dup																			
547192 Orig	0.160	17.97	0.11	< 0.01	0.04	0.07	0.01	1.68	0.035	2.32	3.43	98.33							
547192 Split	0.173	17.61	0.10	< 0.01	0.01	0.07	0.01	1.70	0.033	2.56	2.90	98.69	1.83	29.705	1.560	28.145	30.3	5.2	0.06
547192 Orig																			0.04
547192 Dup																			0.04
547202 Orig																			
547202 Split													2.21	29.786	0.017	29.769	30.5	0.1	
547202 Dup																			
547212 Orig																			0.02
547217 Dup																			
547220.1 Dup																			
547220.3 Orig																			0.10
547220.3 Dup																			0.09
547221 Orig	0.242	21.31	0.44	< 0.01	< 0.01	0.05	0.01	1.97	0.022	2.82	3.41	97.84							
547221 Split	0.249	20.93	0.43	< 0.01	0.01	0.05	0.01	2.13	0.023	3.26	2.71	98.35	1.10	29.806	1.538	28.267	30.1	5.1	0.08
547230 Orig																			0.04
547234 Orig																			
547234 Dup																			
547240 Split													1.72	29.993	0.047	29.946	30.5	0.2	
Method Blank																			< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01							

Quality Analysis ... *Innovative Technologies*

Date Submitted: 04-Nov-11
Invoice No.: A11-13075
Invoice Date: 04-Dec-11
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road
Suite 2
Sudbury Ontario P3C 4Y9
Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

18 Pulp samples and 261 Rock samples were submitted for analysis.

The following analytical packages were requested:

Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID

REPORT **A11-13075**

Notes:
Total includes all elements in % oxide to the left of total.

Samples with missing data were insufficient for analysis

CERTIFIED BY :

Eric Hoffman Ph.D.
President/General Manager

SCC Accredited LAB 265
LAB 266 Accrédité CCN

ACTIVATION LABORATORIES LTD.

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID(Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
546282	38.10	0.64	8.55	0.157	39.54	0.53	< 0.01	< 0.01	0.007	< 0.01	12.72	100.2	2	3	< 1	10	< 2	< 1	36	0.200	0.231	546282	14.36	0.22
546283	38.16	0.66	8.25	0.123	40.12	0.48	< 0.01	< 0.01	0.005	< 0.01	12.68	100.5	< 2	< 2	< 1	10	3	< 1	38	0.177	0.262	546283	15.90	0.47
546284	38.50	0.63	8.35	0.180	40.30	0.94	< 0.01	< 0.01	0.005	< 0.01	11.66	100.6	2	< 2	< 1	11	< 2	< 1	37	0.171	0.312	546284	15.90	0.43
546285	37.16	0.72	8.20	0.113	38.90	0.72	< 0.01	< 0.01	0.005	< 0.01	13.39	99.23	< 2	< 2	< 1	11	2	< 1	41	0.191	0.273	546285	12.51	0.43
546286	38.40	0.70	7.50	0.124	39.92	0.41	< 0.01	< 0.01	0.004	< 0.01	13.51	100.6	< 2	< 2	< 1	11	< 2	< 1	38	0.194	0.257	546286	15.88	0.27
546287	37.14	0.66	7.70	0.113	39.37	0.22	< 0.01	< 0.01	0.004	< 0.01	13.48	98.70	< 2	< 2	< 1	11	3	< 1	36	0.174	0.254	546287	14.94	0.69
546288	36.67	0.69	7.53	0.093	37.73	0.73	< 0.01	< 0.01	0.006	< 0.01	14.22	97.69	< 2	< 2	< 1	9	< 2	< 1	38	0.199	0.245	546288	7.79	0.32
546289	37.21	0.65	7.41	0.127	38.49	1.09	< 0.01	< 0.01	0.004	< 0.01	13.42	98.41	< 2	< 2	< 1	9	< 2	< 1	35	0.204	0.253	546289	14.68	0.35
546290	38.24	0.62	7.90	0.147	39.96	0.70	< 0.01	< 0.01	0.004	< 0.01	9.90	97.48	< 2	< 2	< 1	9	< 2	< 1	34	0.214	0.270	546290	15.79	0.29
546291	37.03	0.70	7.25	0.102	38.52	0.82	0.02	< 0.01	0.004	< 0.01	14.11	98.56	< 2	< 2	< 1	9	2	< 1	37	0.181	0.268	546291	10.32	0.50
546292	37.54	0.80	7.96	0.085	38.90	0.67	< 0.01	< 0.01	0.004	< 0.01	13.54	99.51	2	< 2	< 1	8	< 2	< 1	40	0.184	0.249	546292	15.55	0.37
546293	37.00	0.61	7.63	0.124	38.58	0.58	< 0.01	< 0.01	0.003	0.01	14.18	98.73	< 2	< 2	< 1	10	< 2	< 1	34	0.189	0.235	546293	14.44	0.49
546294	37.50	0.47	7.52	0.146	38.84	1.01	0.01	< 0.01	0.003	< 0.01	14.37	99.89	< 2	< 2	< 1	8	< 2	< 1	31	0.191	0.250	546294	12.32	0.81
546295	37.10	0.49	7.41	0.128	38.88	0.89	< 0.01	< 0.01	0.004	< 0.01	14.04	98.95	< 2	< 2	< 1	9	< 2	< 1	32	0.164	0.251	546295	15.60	0.68
546296	37.44	0.58	6.99	0.115	39.25	0.58	< 0.01	< 0.01	0.003	< 0.01	13.92	98.90	< 2	< 2	< 1	9	< 2	< 1	35	0.195	0.266	546296	16.14	0.71
546297	37.06	0.77	7.57	0.086	38.46	0.64	< 0.01	< 0.01	0.004	< 0.01	14.10	98.69	< 2	< 2	< 1	9	< 2	< 1	38	0.194	0.252	546297	16.59	0.51
546298	37.36	0.53	7.48	0.120	39.33	0.36	< 0.01	< 0.01	0.003	< 0.01	13.22	98.41	< 2	< 2	< 1	9	< 2	< 1	34	0.171	0.250	546298	17.70	0.67
546299	37.36	0.53	7.76	0.114	39.12	0.60	< 0.01	< 0.01	0.003	< 0.01	13.73	99.22	< 2	< 2	< 1	9	< 2	< 1	38	0.230	0.272	546299	15.11	0.57
546300.1	49.54	15.73	11.41	0.165	5.57	7.71	2.24	2.72	1.161	0.42	0.96	97.62	695	507	21	25	98	2	328	0.239	1.005	546300	49.49	16.04
546300.2																						546300	36.69	2.28
546300.3																						546300	18.67	0.60
546301	38.52	0.64	8.03	0.091	39.32	0.50	< 0.01	0.01	0.004	< 0.01	13.43	100.5	< 2	< 2	< 1	9	< 2	< 1	34	0.236	0.233	546301	13.41	0.58
546302	37.92	0.71	7.52	0.101	39.52	0.58	0.01	< 0.01	0.004	< 0.01	13.78	100.2	< 2	< 2	< 1	10	< 2	< 1	39	0.180	0.261	546302	14.23	0.48
546303	38.75	0.76	7.77	0.089	39.94	0.37	< 0.01	< 0.01	0.005	< 0.01	13.01	100.7	< 2	< 2	< 1	10	< 2	< 1	41	0.216	0.263	546303	17.71	0.54
546304	37.89	0.57	7.24	0.100	40.34	0.44	< 0.01	< 0.01	0.004	< 0.01	12.75	99.36	< 2	< 2	< 1	10	< 2	< 1	37	0.175	0.252	546304	19.56	0.22
546305	37.43	0.48	7.61	0.107	40.15	0.31	< 0.01	< 0.01	0.003	< 0.01	13.25	99.36	< 2	< 2	< 1	9	< 2	< 1	31	0.189	0.281	546305	12.37	0.52
546306	37.00	0.74	8.32	0.104	39.13	0.17	0.01	< 0.01	0.003	< 0.01	12.76	98.24	< 2	< 2	< 1	10	< 2	< 1	42	0.187	0.279	546306	13.05	0.57
546307	37.72	0.65	8.00	0.127	39.53	0.80	< 0.01	< 0.01	0.003	< 0.01	12.95	99.80	< 2	< 2	< 1	10	< 2	< 1	41	0.174	0.273	546307	16.88	0.35
546308	37.38	0.66	7.55	0.101	39.01	0.45	< 0.01	< 0.01	0.004	< 0.01	13.46	98.63	< 2	< 2	< 1	10	< 2	< 1	40	0.183	0.265	546308	13.89	0.82
546309	37.15	0.71	7.72	0.126	39.50	0.76	< 0.01	< 0.01	0.005	< 0.01	13.19	99.18	< 2	< 2	< 1	10	< 2	< 1	39	0.209	0.315	546309	19.54	0.47
546310	37.40	0.62	8.19	0.129	40.33	0.21	< 0.01	< 0.01	0.004	< 0.01	13.37	100.3	< 2	< 2	< 1	10	< 2	< 1	37	0.165	0.288	546310	11.47	0.41
546311	37.54	0.68	7.30	0.101	38.60	0.87	< 0.01	< 0.01	0.004	< 0.01	14.27	99.38	< 2	< 2	< 1	8	< 2	< 1	36	0.194	0.237	546311	16.95	0.50
546312	38.74	0.68	7.87	0.124	40.48	0.48	0.01	< 0.01	0.004	< 0.01	12.51	100.9	< 2	< 2	< 1	10	3	< 1	40	0.191	0.253	546312	16.31	0.35
546313	37.93	0.69	7.61	0.104	39.04	0.42	< 0.01	< 0.01	0.004	< 0.01	12.78	98.60	< 2	< 2	< 1	9	< 2	< 1	41	0.227	0.258	546313	13.40	0.30
546314	37.17	0.66	7.74	0.131	39.63	0.29	0.02	< 0.01	0.004	< 0.01	12.64	98.30	< 2	< 2	< 1	11	< 2	< 1	37	0.193	0.258	546314	18.41	0.62
546315	37.13	0.68	8.41	0.138	39.27	0.39	< 0.01	< 0.01	0.004	< 0.01	12.61	98.64	< 2	< 2	< 1	10	< 2	< 1	38	0.204	0.279	546315	16.13	0.47
546316	38.29	0.70	7.53	0.097	39.38	0.59	< 0.01	< 0.01	0.004	< 0.01	13.01	99.61	< 2	< 2	< 1	10	< 2	< 1	40	0.189	0.260	546316	17.48	0.46
546317	37.84	0.73	7.76	0.093	38.50	0.89	< 0.01	< 0.01	0.004	< 0.01	13.08	98.92	< 2	< 2	< 1	10	< 2	< 1	40	0.182	0.260	546317	14.33	0.60
546318	38.21	0.67	7.88	0.110	39.34	0.84	< 0.01	< 0.01	0.003	< 0.01	13.15	100.2	< 2	< 2	< 1	9	< 2	< 1	39	0.209	0.258	546318	17.24	0.54
546319	37.34	0.65	8.05	0.133	39.07	0.51	< 0.01	< 0.01	0.003	< 0.01	12.12	97.89	< 2	< 2	< 1	10	< 2	< 1	39	0.188	0.262	546319	17.51	0.54
546320	98.38	0.31	0.71	0.008	0.35	0.08	0.02	0.05	0.031	< 0.01	0.27	100.2	23	5	< 1	< 1	49	< 1	8	< 0.010	< 0.010	546320	98.18	0.32
546321	38.14	0.60	7.79	0.148	39.63	0.30	0.01	< 0.01	0.003	< 0.01	11.21	97.85	< 2	< 2	< 1	10	< 2	< 1	36	0.224	0.232	546321	19.83	0.59
546322	38.85	0.79	8.88	0.122	39.27	0.16	< 0.01	< 0.01	0.004	< 0.01	12.06	100.2	< 2	< 2	< 1	10	< 2	< 1	46	0.194	0.262	546322	21.55	0.93
546323	40.50	1.36	7.39	0.067	37.93	0.35	0.01	< 0.01	0.005	< 0.01	11.46	99.08	< 2	< 2	< 1	9	< 2	< 1	38	0.194	0.273	546323	12.37	0.82
546324	41.40	1.39	7.68	0.106	36.27	0.18	0.01	< 0.01	0.014	< 0.01	11.54	98.61	< 2	< 2	< 1	6	< 2	< 1	26	0.193	0.211	546324		
546325	48.67	14.16	11.47	0.190	6.51	11.04	4.27	0.15	1.482	0.12	1.44	99.51	11	118	30	40	80	< 1	344	0.012	0.015	546325		
546326	39.81	4.25	8.79	0.132	29.58	4.75	0.54	0.04	0.473	0.03	9.27	97.67	2	11	9	17	26	< 1	126	0.184	0.162	546326	10.34	0.75
546327	37.46	0.60	8.74	0.147	40.83	0.10	< 0.01	< 0.01	0.004	< 0.01	12.89	100.7	< 2	< 2	4	9	2	< 1	30	0.241	0.251	546327	19.32	0.69
546328	38.25	0.61	8.17	0.116	39.96	0.18	0.01	< 0.01	0.003	< 0.01	12.35	99.65	< 2	< 2	< 1	9	3	< 1	36	0.165	0.236	546328	18.70	0.59
546329	36.98	0.60	8.38	0.126	39.01	0.07	< 0.01	< 0.01	0.004	< 0.01	13.00	98.18	< 2	< 2	< 1	10	< 2	< 1	33	0.155	0.242	546329	15.86	0.43
546330	38.53	0.59	7.84	0.133	39.69	0.06	< 0.01	< 0.01	0.004	< 0.01	12.96	99.83	< 2	< 2	< 1	8	2	< 1	32	0.152	0.219	546330	14.90	0.39

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID(Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
546331	39.47	1.07	7.93	0.125	39.51	0.14	0.02	< 0.01	0.003	< 0.01	12.51	100.8	< 2	< 2	< 1	9	< 2	< 1	34	0.148	0.222	546331	17.11	0.63
546332	39.60	1.07	7.87	0.141	38.29	0.38	0.01	< 0.01	0.003	< 0.01	11.29	98.66	< 2	< 2	< 1	9	4	< 1	35	0.192	0.228	546332	13.11	0.60
546333	38.01	0.65	8.76	0.122	40.04	0.12	0.01	< 0.01	0.004	< 0.01	12.67	100.4	< 2	< 2	< 1	10	7	< 1	36	0.174	0.290	546333	17.93	0.50
546334	38.31	0.62	7.97	0.136	40.49	0.29	< 0.01	< 0.01	0.004	< 0.01	12.67	100.5	< 2	< 2	< 1	9	< 2	< 1	32	0.214	0.239	546334	21.64	0.46
546335	38.09	0.66	8.55	0.141	39.99	0.30	0.02	< 0.01	0.005	< 0.01	12.29	100.0	< 2	< 2	< 1	9	< 2	< 1	35	0.184	0.286	546335	17.88	0.55
546336	38.76	0.69	8.09	0.133	40.45	0.87	< 0.01	< 0.01	0.006	< 0.01	11.72	100.7	< 2	< 2	< 1	9	< 2	< 1	32	0.199	0.260	546336	18.85	0.53
546337	38.84	0.87	8.04	0.107	39.28	0.75	< 0.01	< 0.01	0.014	< 0.01	11.83	99.74	< 2	< 2	< 1	9	4	< 1	39	0.187	0.242	546337	19.63	0.54
546338	38.92	0.66	7.95	0.119	40.99	0.79	0.01	< 0.01	0.004	< 0.01	11.09	100.5	< 2	< 2	< 1	9	< 2	< 1	34	0.190	0.248	546338	15.18	0.42
546339	39.26	0.76	7.97	0.112	40.11	1.12	< 0.01	< 0.01	0.004	< 0.01	11.30	100.6	< 2	< 2	< 1	10	< 2	< 1	41	0.206	0.245	546339	17.39	0.45
546340.1	48.56	15.80	11.14	0.162	4.80	7.67	2.23	2.75	1.149	0.40	1.19	95.85	700	501	22	25	100	2	331	0.234	1.006	546340	49.55	16.18
546340.2																						546340	36.59	2.40
546340.3																						546340	18.52	0.55
546341	37.86	0.69	8.25	0.092	38.37	1.19	0.01	< 0.01	0.004	< 0.01	11.86	98.33	< 2	< 2	< 1	12	< 2	< 1	41	0.179	0.271	546341	14.60	0.48
546342	38.39	0.67	8.29	0.102	39.36	0.90	< 0.01	< 0.01	0.004	< 0.01	11.80	99.53	< 2	< 2	< 1	9	2	< 1	38	0.196	0.252	546342	18.18	0.58
546343	39.13	0.67	7.80	0.111	41.06	0.69	0.01	< 0.01	0.004	< 0.01	11.16	100.6	< 2	< 2	< 1	9	< 2	< 1	36	0.249	0.268	546343	13.92	0.52
546344	39.83	0.79	8.31	0.111	39.32	1.64	0.02	0.01	0.004	< 0.01	10.69	100.7	< 2	< 2	< 1	12	< 2	< 1	47	0.192	0.265	546344	16.98	0.57
546345	39.74	0.69	7.88	0.112	40.00	0.70	< 0.01	< 0.01	0.003	< 0.01	10.58	99.71	< 2	< 2	< 1	11	< 2	< 1	40	0.169	0.253	546345	26.60	0.72
546346	38.42	0.59	8.37	0.098	39.48	0.84	< 0.01	< 0.01	0.004	< 0.01	12.22	100.0	< 2	< 2	< 1	9	< 2	< 1	37	0.170	0.261	546346	22.64	0.24
546347	37.78	0.58	7.60	0.128	39.65	0.86	0.01	< 0.01	0.004	< 0.01	11.33	97.97	< 2	7	1	9	< 2	< 1	34	0.185	0.232	546347	18.61	0.36
546348	38.13	0.72	7.73	0.130	39.01	1.62	0.01	< 0.01	0.004	< 0.01	11.97	99.34	< 2	< 2	< 1	11	2	< 1	44	0.196	0.246	546348	24.51	0.45
546349	36.92	0.72	8.06	0.097	38.68	0.55	0.03	0.01	0.004	< 0.01	12.47	97.56	< 2	< 2	< 1	9	< 2	< 1	35	0.208	0.222	546349	22.94	0.35
546350	38.95	0.64	8.05	0.125	40.78	0.60	< 0.01	< 0.01	0.003	< 0.01	11.49	100.6	< 2	< 2	< 1	10	< 2	< 1	35	0.200	0.254	546350	25.70	0.49
546351	38.22	0.68	7.88	0.098	40.35	0.49	0.01	< 0.01	0.003	< 0.01	12.20	99.95	< 2	< 2	< 1	9	< 2	< 1	33	0.213	0.246	546351	21.25	0.47
546352	38.23	0.68	8.26	0.128	40.66	0.70	0.01	< 0.01	0.004	< 0.01	11.88	100.6	< 2	< 2	< 1	8	< 2	< 1	33	0.214	0.247	546352	23.94	0.39
546353	37.49	0.69	6.35	0.096	39.73	0.41	0.01	< 0.01	0.005	< 0.01	12.76	97.54	< 2	< 2	< 1	8	< 2	< 1	29	0.190	0.233	546353	22.51	0.60
546354	38.29	0.75	8.22	0.108	38.84	0.70	0.01	< 0.01	0.004	< 0.01	12.89	99.83	< 2	< 2	< 1	7	< 2	< 1	37	0.150	0.189	546354	20.61	0.51
546355	37.77	0.75	7.79	0.109	38.22	0.68	0.03	< 0.01	0.005	< 0.01	13.00	98.38	< 2	< 2	< 1	7	2	< 1	37	0.141	0.203	546355	16.45	0.51
546356	38.72	0.75	8.06	0.103	40.19	0.81	0.01	< 0.01	0.005	< 0.01	12.11	100.8	< 2	< 2	< 1	9	< 2	< 1	38	0.197	0.248	546356	20.78	0.52
546357	37.93	0.66	8.50	0.126	39.78	0.91	0.01	< 0.01	0.006	< 0.01	12.59	100.5	< 2	< 2	< 1	10	< 2	< 1	34	0.186	0.238	546357	19.18	0.36
546358	38.37	0.65	7.97	0.117	40.33	0.41	0.03	0.01	0.004	< 0.01	12.65	100.5	< 2	< 2	< 1	9	< 2	< 1	32	0.223	0.242	546358	20.48	0.46
546359	39.86	0.68	7.91	0.136	39.22	1.57	0.02	< 0.01	0.004	0.01	10.44	99.86	< 2	< 2	< 1	11	< 2	< 1	40	0.143	0.242	546359	19.37	0.62
546360	96.59	0.35	0.54	0.006	0.12	0.02	0.04	0.06	0.031	0.02	0.27	98.03	28	4	< 1	< 1	58	< 1	< 5	< 0.010	< 0.010	546360	98.27	0.36
546361	40.49	0.71	7.55	0.132	40.39	0.64	0.01	< 0.01	0.004	< 0.01	10.77	100.7	< 2	< 2	< 1	9	2	< 1	34	0.162	0.215	546361	24.12	0.76
546362	39.12	0.81	7.80	0.147	39.65	0.99	0.03	< 0.01	0.005	< 0.01	11.91	100.5	< 2	< 2	< 1	10	2	< 1	36	0.165	0.216	546362	24.22	0.43
546363	38.67	0.86	7.60	0.129	38.42	0.74	0.02	< 0.01	0.006	< 0.01	12.14	98.58	< 2	< 2	< 1	10	3	< 1	36	0.148	0.234	546363	22.41	0.52
546364	38.43	0.85	7.65	0.120	38.50	1.03	0.03	0.01	0.006	< 0.01	12.87	99.51	< 2	< 2	< 1	9	< 2	< 1	36	0.139	0.214	546364	21.92	0.46
546365	38.11	1.20	8.50	0.125	39.84	0.08	0.02	< 0.01	0.007	< 0.01	12.60	100.5	< 2	< 2	< 1	10	< 2	< 1	40	0.196	0.252	546365	20.98	0.67
546366	37.37	0.99	7.28	0.083	36.63	3.14	0.02	< 0.01	0.005	< 0.01	14.20	99.72	< 2	3	< 1	8	2	< 1	37	0.133	0.184	546366	21.45	0.71
546367	38.42	0.90	8.35	0.129	38.18	1.04	0.01	< 0.01	0.006	< 0.01	12.81	99.86	< 2	< 2	< 1	10	2	< 1	39	0.144	0.245	546367	22.22	0.63
546368	37.60	0.87	7.41	0.112	37.50	1.28	0.02	< 0.01	0.006	< 0.01	13.42	98.22	< 2	< 2	< 1	10	2	< 1	41	0.133	0.224	546368	22.27	0.62
546369	38.09	0.83	7.82	0.121	39.17	0.37	0.01	< 0.01	0.006	< 0.01	13.34	99.78	< 2	< 2	< 1	10	2	< 1	34	0.145	0.238	546369	21.62	0.54
546370	38.71	0.79	7.23	0.126	39.45	0.42	0.01	< 0.01	0.006	< 0.01	13.07	99.82	< 2	< 2	< 1	9	4	< 1	33	0.157	0.247	546370	22.78	0.60
546371	35.33	0.82	6.84	0.100	35.34	0.22	0.03	< 0.01	0.007	< 0.01	20.27	98.95	< 2	< 2	< 1	7	4	< 1	27	0.141	0.162	546371	16.37	0.32
546372	37.56	0.81	6.75	0.108	39.60	0.66	0.01	< 0.01	0.007	< 0.01	13.84	99.36	< 2	< 2	< 1	9	< 2	< 1	34	0.145	0.203	546372	23.37	0.37
546373	37.43	1.07	8.51	0.100	38.76	0.53	0.02	< 0.01	0.011	< 0.01	13.68	100.1	< 2	< 2	< 1	7	< 2	< 1	34	0.158	0.245	546373	21.14	0.52
546374	37.69	0.96	5.63	0.079	36.06	2.99	0.03	0.02	0.006	0.02	16.59	100.1	< 2	12	< 1	8	< 2	< 1	39	0.168	0.172	546374	18.24	0.32
546375	36.41	0.95	5.65	0.086	35.48	3.69	0.02	0.01	0.006	< 0.01	16.94	99.24	< 2	12	< 1	8	< 2	< 1	41	0.168	0.163	546375	19.88	0.23
546376	38.62	5.28	7.52	0.121	26.68	6.46	0.17	0.12	0.283	0.03	15.23	100.5	3	7	5	15	17	< 1	100	0.132	0.183	546376		
546377	48.68	14.56	10.98	0.185	6.93	11.21	4.06	0.12	1.315	0.12	1.06	99.22	24	120	27	41	75	< 1	310	0.015	0.021	546377		
546378	29.37	0.77	5.80	0.066	29.48	0.69	0.04	0.03	0.007	< 0.01	33.23	99.51	< 2	4	< 1	6	< 2	< 1	29	0.140	0.170	546378		
546379	38.51	0.60	8.02	0.115	39.21	0.51	0.03	0.01	0.005	< 0.01	11.39	98.41	2	2	< 1	8	< 2	< 1	36	0.199	0.253	546379	14.68	0.27

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID(Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
546380.1	49.20	15.58	11.64	0.164	4.83	7.84	2.22	2.77	1.159	0.44	0.55	96.39	696	510	22	25	119	2	342	0.242	1.020	546380	49.46	16.02
546380.2																						546380	36.72	2.26
546380.3																						546380	18.54	0.51
546381	39.68	0.71	7.79	0.117	38.89	1.26	0.01	< 0.01	0.006	< 0.01	10.84	99.31	< 2	< 2	< 1	11	< 2	< 1	45	0.199	0.241	546381	19.37	0.46
546382	38.23	0.79	8.20	0.129	39.54	0.28	0.02	< 0.01	0.011	0.01	13.44	100.7	< 2	< 2	< 1	9	2	< 1	33	0.189	0.279	546382	20.52	0.37
546383	47.68	14.43	11.45	0.181	6.66	10.20	4.21	0.16	1.432	0.12	3.23	99.74	14	142	29	40	84	< 1	329	0.016	0.021	546383		
546384	47.19	14.22	12.64	0.198	5.77	13.67	3.66	0.18	1.636	0.15	1.36	100.7	10	72	31	39	95	< 1	375	0.012	0.010	546384		
546385	33.88	0.81	6.49	0.105	33.85	0.35	0.07	0.02	0.012	0.01	23.69	99.29	< 2	3	< 1	8	< 2	< 1	32	0.174	0.219	546385		
546386	35.96	0.66	7.40	0.127	36.82	0.41	0.03	< 0.01	0.008	< 0.01	16.10	97.53	< 2	< 2	< 1	8	< 2	< 1	33	0.186	0.264	546386	14.93	0.18
546387	34.13	0.74	6.83	0.095	35.88	0.78	0.03	< 0.01	0.004	0.01	21.11	99.61	< 2	< 2	< 1	8	< 2	< 1	33	0.174	0.210	546387	18.27	0.69
546388	38.06	0.93	7.67	0.111	38.27	0.84	0.02	< 0.01	0.007	0.02	12.85	98.77	< 2	< 2	< 1	9	< 2	< 1	42	0.194	0.278	546388	20.55	0.44
546389	37.97	0.72	7.58	0.126	38.24	1.59	0.01	< 0.01	0.005	0.01	11.67	97.94	< 2	< 2	< 1	10	3	< 1	39	0.195	0.255	546389	17.06	0.48
546390	39.24	0.68	7.65	0.112	39.86	0.19	0.02	< 0.01	0.005	< 0.01	11.62	99.39	< 2	< 2	< 1	8	< 2	< 1	32	0.191	0.224	546390	20.25	0.50
546391	37.74	0.84	7.51	0.112	39.69	0.42	< 0.01	< 0.01	0.009	< 0.01	13.10	99.42	< 2	< 2	< 1	9	< 2	< 1	37	0.202	0.251	546391	17.93	0.57
546392	39.56	0.85	7.72	0.106	41.31	0.27	0.01	< 0.01	0.014	< 0.01	10.43	100.3	< 2	< 2	< 1	7	< 2	< 1	29	0.201	0.205	546392	20.26	0.73
546393	40.29	0.61	8.29	0.118	42.14	0.64	0.01	< 0.01	0.012	0.02	6.72	98.86	< 2	< 2	< 1	7	< 2	< 1	26	0.207	0.214	546393	16.76	0.38
546394	40.34	0.68	7.39	0.117	41.56	0.86	0.02	< 0.01	0.006	< 0.01	7.57	98.56	< 2	< 2	< 1	9	< 2	< 1	35	0.190	0.252	546394	17.96	0.43
546395	40.32	0.65	7.97	0.118	41.59	1.02	0.01	< 0.01	0.005	0.01	7.33	99.03	< 2	< 2	< 1	9	< 2	< 1	38	0.198	0.270	546395	16.86	0.50
546396	39.40	0.87	7.60	0.109	40.64	0.27	0.01	< 0.01	0.009	< 0.01	9.40	98.30	2	< 2	< 1	6	2	< 1	26	0.135	0.184	546396	18.95	0.50
546397	38.34	1.08	7.48	0.101	39.25	0.13	0.02	< 0.01	0.009	< 0.01	12.26	98.68	< 2	< 2	< 1	6	< 2	< 1	26	0.204	0.187	546397	16.38	0.47
546398	40.35	0.95	7.35	0.110	40.52	0.93	0.01	0.01	0.008	< 0.01	9.77	100.00	< 2	< 2	< 1	11	< 2	< 1	42	0.240	0.248	546398	16.43	0.95
546399	40.45	0.95	7.68	0.113	40.37	0.97	0.02	< 0.01	0.007	0.01	7.89	98.47	< 2	< 2	< 1	10	3	< 1	42	0.197	0.243	546399	19.51	0.50
546400	97.58	0.35	0.52	0.005	0.08	0.02	0.04	0.06	0.030	< 0.01	0.02	98.70	27	4	2	< 1	51	< 1	< 5	< 0.010	< 0.010	546400	98.23	0.35
546401	39.95	0.79	8.02	0.135	40.78	0.25	0.02	< 0.01	0.016	< 0.01	10.03	99.99	< 2	< 2	3	9	< 2	< 1	29	0.245	0.230	546401	15.11	0.59
546402	38.57	1.45	7.85	0.101	37.25	0.89	0.03	0.01	0.044	0.03	12.30	98.52	< 2	< 2	4	8	5	< 1	41	0.226	0.242	546402	16.46	0.66
546403	39.96	0.77	8.14	0.117	42.17	0.96	0.02	< 0.01	0.005	< 0.01	7.14	99.31	< 2	< 2	< 1	9	< 2	< 1	40	0.221	0.260	546403	15.89	0.63
546404	39.56	0.62	7.81	0.118	42.57	0.69	0.04	0.02	0.004	< 0.01	6.18	97.62	< 2	< 2	< 1	10	< 2	< 1	36	0.199	0.231	546404	28.42	0.89
546405	40.59	0.73	7.69	0.113	41.28	1.20	0.01	< 0.01	0.004	< 0.01	7.73	99.36	< 2	< 2	< 1	10	< 2	< 1	40	0.166	0.231	546405	15.52	0.48
546406	40.03	0.52	8.29	0.123	41.87	1.35	0.03	0.01	0.004	< 0.01	6.05	98.27	< 2	< 2	< 1	9	< 2	< 1	38	0.207	0.286	546406	21.56	0.80
546407	38.87	0.57	7.96	0.110	40.88	0.22	0.01	< 0.01	0.004	0.02	10.60	99.25	< 2	< 2	< 1	8	< 2	< 1	29	0.185	0.277	546407	15.40	0.90
546408	39.41	0.73	7.73	0.118	42.50	0.54	0.01	< 0.01	0.004	< 0.01	8.18	99.23	< 2	< 2	< 1	10	< 2	< 1	37	0.207	0.252	546408	16.54	0.56
546409	38.62	0.70	7.94	0.119	41.78	0.82	0.02	< 0.01	0.004	< 0.01	10.11	100.1	< 2	< 2	1	10	2	< 1	33	0.239	0.241	546409	14.62	0.36
546410	40.51	0.57	8.32	0.120	42.04	0.45	0.02	< 0.01	0.004	0.01	6.77	98.81	< 2	< 2	< 1	9	< 2	< 1	38	0.217	0.257	546410	18.69	1.14
546411	38.68	0.99	8.41	0.108	41.01	0.34	< 0.01	< 0.01	0.005	< 0.01	10.69	100.2	< 2	< 2	< 1	9	2	< 1	37	0.240	0.229	546411	13.40	0.50
546412	39.88	0.84	7.54	0.115	39.71	0.32	0.01	< 0.01	0.004	< 0.01	9.09	97.52	< 2	< 2	< 1	10	< 2	< 1	40	0.197	0.255	546412	16.77	0.53
546413	38.35	0.67	7.90	0.109	40.25	0.65	0.01	< 0.01	0.005	< 0.01	10.13	98.09	< 2	< 2	< 1	8	< 2	< 1	34	0.208	0.244	546413	12.46	0.75
546414	39.48	0.73	7.91	0.112	40.85	0.80	< 0.01	< 0.01	0.005	< 0.01	9.63	99.54	< 2	< 2	< 1	9	8	< 1	35	0.214	0.243	546414	15.87	0.61
546415	39.07	0.78	7.81	0.107	40.66	0.68	0.02	< 0.01	0.005	< 0.01	9.79	98.94	< 2	< 2	< 1	9	< 2	< 1	35	0.209	0.246	546415	14.61	0.66
546416	40.25	0.75	7.18	0.116	41.65	1.08	0.01	< 0.01	0.005	0.01	7.42	98.49	< 2	< 2	< 1	9	< 2	< 1	38	0.182	0.267	546416	17.61	0.93
546417	40.58	0.59	8.19	0.122	41.90	0.98	0.01	< 0.01	0.005	0.02	6.68	99.09	< 2	< 2	< 1	9	< 2	< 1	35	0.206	0.247	546417	13.39	0.47
546418	37.92	0.67	7.01	0.107	40.14	0.64	< 0.01	< 0.01	0.005	< 0.01	11.43	97.93	< 2	< 2	< 1	9	< 2	< 1	36	0.181	0.244	546418	17.43	0.73
546419	39.72	0.55	8.17	0.121	40.43	1.23	< 0.01	< 0.01	0.004	< 0.01	8.20	98.44	< 2	< 2	< 1	10	< 2	< 1	38	0.198	0.264	546419	10.07	0.39
546420.1	49.79	15.85	11.81	0.166	4.85	7.96	2.27	2.77	1.178	0.45	0.74	97.85	706	519	22	25	109	2	349	0.253	1.043	546420	49.22	16.15
546420.2																						546420	36.49	2.33
546420.3																						546420	18.29	0.59
546421	36.74	0.14	7.91	0.112	45.77	0.03	< 0.01	< 0.01	0.002	< 0.01	8.99	99.71	< 2	< 2	< 1	4	4	< 1	13	0.319	0.276	546421	10.25	0.73
546422	38.31	0.73	7.95	0.113	41.05	0.79	0.01	< 0.01	0.005	< 0.01	11.34	100.3	< 2	< 2	< 1	9	< 2	< 1	37	0.224	0.234	546422	23.92	0.87
546423	38.63	0.77	7.93	0.113	40.75	0.91	0.01	< 0.01	0.005	< 0.01	10.50	99.61	< 2	< 2	< 1	9	< 2	< 1	39	0.219	0.242	546423	17.48	1.05
546424	39.42	0.72	7.97	0.116	41.48	1.00	0.01	< 0.01	0.005	< 0.01	9.38	100.1	< 2	< 2	< 1	9	< 2	< 1	38	0.215	0.266	546424	19.84	1.41
546425	37.69	0.56	7.74	0.111	39.60	0.96	0.01	< 0.01	0.004	< 0.01	13.53	100.2	< 2	< 2	< 1	9	< 2	< 1	37	0.216	0.256	546425	25.30	1.13
546426	38.60	0.66	5.17	0.108	39.75	0.48	0.02	< 0.01	0.005	< 0.01	12.70	97.49	< 2	< 2	< 1	9	15	< 1	35	0.130	0.261	546426	25.06	1.18

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID(Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
546427	38.46	0.81	7.90	0.113	40.42	0.75	0.01	< 0.01	0.005	< 0.01	11.86	100.3	< 2	< 2	< 1	9	< 2	< 1	37	0.220	0.243	546427	16.58	0.59
546428	39.18	0.79	7.59	0.114	41.29	0.67	0.01	< 0.01	0.005	< 0.01	9.17	98.81	< 2	< 2	< 1	9	< 2	< 1	35	0.208	0.245	546428	19.05	0.87
546429	40.24	0.58	8.38	0.120	42.64	0.81	0.01	< 0.01	0.004	0.01	7.25	100.1	< 2	< 2	< 1	9	< 2	< 1	37	0.232	0.262	546429	22.55	0.95
546430	39.90	0.82	6.69	0.114	41.74	0.99	0.01	< 0.01	0.005	< 0.01	8.49	98.76	< 2	< 2	< 1	9	< 2	< 1	35	0.177	0.267	546430	26.70	1.29
546431	40.17	0.82	8.18	0.117	42.36	0.93	0.01	< 0.01	0.005	< 0.01	8.09	100.7	< 2	< 2	< 1	9	< 2	< 1	38	0.227	0.257	546431	25.03	0.90
546432	40.17	0.71	8.10	0.113	41.65	0.76	0.02	< 0.01	0.005	< 0.01	7.35	98.88	< 2	< 2	< 1	9	< 2	< 1	36	0.233	0.283	546432	20.43	1.49
546433	40.73	0.86	7.23	0.117	41.93	1.18	0.02	< 0.01	0.006	< 0.01	6.33	98.42	< 2	< 2	< 1	10	< 2	< 1	38	0.198	0.270	546433	28.07	1.67
546434	40.38	0.80	7.92	0.120	42.29	1.08	0.04	< 0.01	0.005	< 0.01	6.27	98.90	< 2	< 2	< 1	10	< 2	< 1	39	0.217	0.258	546434	22.88	1.80
546435	40.10	0.83	7.13	0.116	41.53	1.00	0.03	< 0.01	0.005	< 0.01	6.97	97.71	< 2	< 2	< 1	10	< 2	< 1	39	0.193	0.266	546435	22.73	1.36
546436	41.30	0.86	8.39	0.122	43.32	1.00	0.12	< 0.01	0.005	< 0.01	5.52	100.6	< 2	< 2	< 1	10	< 2	< 1	42	0.230	0.286	546436	31.37	1.77
546437	40.87	0.80	7.85	0.125	43.39	1.01	0.13	< 0.01	0.005	< 0.01	4.86	99.05	< 2	< 2	< 1	10	< 2	< 1	41	0.209	0.264	546437		
546438	40.94	0.82	7.95	0.120	42.24	1.01	0.15	< 0.01	0.005	< 0.01	5.99	99.23	< 2	< 2	< 1	10	< 2	< 1	39	0.221	0.267	546438	17.86	2.44
546439	41.78	0.91	8.24	0.120	42.59	1.14	0.17	< 0.01	0.005	< 0.01	5.29	100.3	< 2	< 2	< 1	10	< 2	< 1	42	0.233	0.295	546439		
546440	96.37	0.32	0.64	0.008	0.36	0.14	0.03	0.05	0.031	< 0.01	0.29	98.23	28	6	2	< 1	51	< 1	< 5	< 0.010	< 0.010	546440	98.28	0.30
546441	40.47	0.83	8.33	0.120	41.84	1.19	0.13	< 0.01	0.005	< 0.01	6.40	99.31	< 2	< 2	< 1	10	< 2	< 1	45	0.230	0.283	546441	25.53	1.48
546442	41.18	0.84	7.52	0.118	41.95	1.02	0.14	< 0.01	0.005	< 0.01	4.85	97.63	< 2	< 2	< 1	10	< 2	< 1	41	0.198	0.267	546442		
546443	41.40	0.85	8.25	0.120	42.16	1.11	0.19	< 0.01	0.005	< 0.01	4.22	98.32	< 2	< 2	< 1	10	< 2	< 1	41	0.233	0.286	546443		
547081	40.12	0.66	8.45	0.133	38.20	0.69	< 0.01	< 0.01	0.005	< 0.01	12.40	100.7	6	< 2	< 1	10	2	< 1	36	0.224	0.296	547081	11.29	0.43
547082	38.18	0.62	6.74	0.119	38.91	0.60	< 0.01	< 0.01	0.004	< 0.01	12.27	97.44	< 2	3	< 1	8	5	< 1	34	0.193	0.226	547082	17.00	0.31
547083	38.53	0.68	7.95	0.114	39.87	0.42	< 0.01	< 0.01	0.004	< 0.01	13.13	100.7	< 2	< 2	< 1	10	< 2	< 1	37	0.218	0.246	547083	15.96	0.30
547084	38.12	0.67	7.68	0.103	38.79	0.67	< 0.01	< 0.01	0.004	< 0.01	12.30	98.36	< 2	< 2	< 1	10	< 2	< 1	36	0.225	0.245	547084	16.86	0.38
547085	38.27	0.68	8.17	0.109	40.67	0.52	0.02	< 0.01	0.004	0.02	11.96	100.4	< 2	< 2	< 1	9	< 2	< 1	35	0.210	0.245	547085	18.41	0.56
547086	38.83	0.60	7.61	0.117	38.83	0.70	0.01	< 0.01	0.004	< 0.01	12.23	98.92	< 2	< 2	< 1	9	< 2	< 1	31	0.200	0.238	547086	15.52	0.55
547087	38.62	0.68	7.63	0.092	38.83	0.61	0.01	< 0.01	0.005	0.03	12.88	99.40	< 2	< 2	< 1	10	2	< 1	34	0.179	0.254	547087	14.41	0.53
547088	37.80	0.62	8.50	0.114	39.13	0.39	0.01	< 0.01	0.003	< 0.01	12.63	99.20	< 2	< 2	< 1	10	3	< 1	34	0.227	0.253	547088	17.30	0.52
547089	38.92	0.64	7.85	0.112	39.44	0.62	< 0.01	< 0.01	0.004	< 0.01	12.92	100.5	< 2	< 2	< 1	9	2	< 1	33	0.200	0.241	547089	22.92	0.55
547090	37.65	0.60	7.86	0.110	38.78	0.37	0.01	< 0.01	0.004	0.03	12.93	98.36	< 2	< 2	< 1	9	< 2	< 1	30	0.197	0.225	547090	14.37	0.31
547091	38.71	0.73	7.47	0.132	38.95	0.72	0.01	< 0.01	0.004	< 0.01	12.32	99.05	< 2	< 2	< 1	10	< 2	< 1	35	0.207	0.247	547091	24.61	0.46
547092	38.41	0.80	7.70	0.110	39.74	0.15	< 0.01	< 0.01	0.004	< 0.01	12.95	99.86	< 2	< 2	< 1	9	< 2	< 1	34	0.197	0.243	547092	25.55	0.34
547093	38.23	0.73	7.68	0.108	39.59	0.41	< 0.01	< 0.01	0.005	< 0.01	12.83	99.61	< 2	< 2	< 1	9	< 2	< 1	32	0.203	0.255	547093	17.90	0.46
547094	38.26	0.66	7.87	0.121	38.96	0.84	< 0.01	< 0.01	0.004	< 0.01	12.22	98.95	< 2	< 2	< 1	8	< 2	< 1	32	0.217	0.242	547094	15.73	0.45
547095	38.42	0.68	8.16	0.120	39.17	0.76	< 0.01	< 0.01	0.004	< 0.01	12.15	99.48	< 2	< 2	< 1	9	< 2	< 1	36	0.197	0.266	547095	16.04	0.50
547096	38.28	0.66	7.65	0.114	39.32	0.62	< 0.01	< 0.01	0.005	< 0.01	12.34	98.99	3	< 2	1	9	< 2	< 1	32	0.199	0.251	547096	20.32	0.50
547097	38.19	0.60	8.41	0.124	40.14	0.26	< 0.01	< 0.01	0.005	< 0.01	13.00	100.7	< 2	< 2	1	9	2	< 1	30	0.219	0.239	547097	15.03	0.46
547098	38.08	0.63	6.96	0.132	40.23	0.47	< 0.01	< 0.01	0.004	< 0.01	12.28	98.80	< 2	< 2	< 1	9	< 2	< 1	32	0.173	0.286	547098	21.86	0.65
547099	38.90	0.79	7.05	0.084	40.44	0.27	< 0.01	< 0.01	0.004	< 0.01	12.76	100.3	< 2	< 2	< 1	8	< 2	< 1	33	0.201	0.237	547099	13.93	0.46
547100.1	48.91	15.82	11.67	0.164	4.86	7.84	2.19	2.74	1.167	0.43	0.75	96.56	694	509	21	25	107	2	341	0.247	1.030	547100	49.16	16.19
547100.2																						547100	36.35	2.30
547100.3																						547100	18.64	0.55
547101	37.26	0.69	7.43	0.135	38.91	1.35	0.05	0.02	0.005	< 0.01	13.60	99.45	< 2	< 2	< 1	9	< 2	< 1	32	0.183	0.253	547101	18.89	0.42
547102	37.60	0.59	7.48	0.122	40.34	0.39	< 0.01	< 0.01	0.004	< 0.01	12.41	98.95	< 2	< 2	< 1	10	< 2	< 1	29	0.185	0.257	547102	17.73	0.48
547103	38.44	0.61	8.08	0.140	40.95	0.63	0.01	< 0.01	0.004	0.03	11.94	100.8	< 2	< 2	< 1	9	< 2	< 1	31	0.200	0.242	547103	11.74	0.25
547104	36.98	0.74	7.45	0.075	40.22	0.42	< 0.01	< 0.01	0.004	0.03	13.22	99.14	< 2	< 2	< 1	9	< 2	< 1	33	0.195	0.264	547104	18.28	0.48
547105	38.03	0.82	7.32	0.068	39.94	0.39	0.01	< 0.01	0.005	< 0.01	14.07	100.7	< 2	< 2	< 1	8	2	< 1	33	0.214	0.258	547105	20.72	0.56
547106	37.78	0.59	7.80	0.121	40.97	0.43	< 0.01	< 0.01	0.006	0.04	13.04	100.8	< 2	< 2	< 1	8	< 2	< 1	29	0.209	0.243	547106	15.48	0.69
547107	37.33	0.65	7.58	0.103	40.87	0.29	< 0.01	< 0.01	0.005	0.02	13.10	99.96	< 2	< 2	< 1	8	< 2	< 1	30	0.203	0.247	547107	17.65	0.32
547108	37.94	0.64	7.87	0.119	40.95	0.41	< 0.01	< 0.01	0.005	0.02	12.73	100.7	< 2	< 2	< 1	9	< 2	< 1	33	0.208	0.255	547108	24.10	0.39
547109	38.30	0.60	7.65	0.117	40.83	0.62	< 0.01	< 0.01	0.004	0.03	12.68	100.8	< 2	< 2	< 1	9	< 2	< 1	34	0.192	0.244	547109	17.36	0.35
547110	37.26	0.63	7.74	0.109	40.11	0.39	< 0.01	< 0.01	0.004	0.02	13.12	99.40	< 2	< 2	< 1	8	< 2	< 1	32	0.208	0.238	547110	21.41	0.27
547111	37.52	0.68	7.86	0.091	39.76	0.54	< 0.01	< 0.01	0.004	0.03	12.93	99.42	< 2	< 2	< 1	8	< 2	< 1	32	0.209	0.241	547111	21.94	0.40
547112	38.47	0.60	6.49	0.096	41.41	0.20	< 0.01	< 0.01	0.004	0.02	12.26	99.56	< 2	< 2	< 1	8	< 2	< 1	28	0.195	0.233	547112	19.23	0.34

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID(Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
547113	37.28	0.58	7.77	0.103	39.73	0.61	< 0.01	< 0.01	0.004	0.01	13.15	99.24	< 2	< 2	< 1	8	< 2	< 1	31	0.185	0.243	547113	22.11	0.43
547114	36.69	0.49	7.54	0.138	38.74	0.56	< 0.01	< 0.01	0.004	< 0.01	13.40	97.57	< 2	< 2	< 1	8	2	< 1	30	0.234	0.185	547114	18.11	0.28
547115	37.72	0.73	7.93	0.098	39.29	1.23	< 0.01	< 0.01	0.006	0.03	13.61	100.6	< 2	< 2	< 1	8	< 2	< 1	35	0.207	0.239	547115	18.95	0.32
547116	37.86	0.73	7.38	0.092	39.00	1.76	< 0.01	< 0.01	0.006	0.02	13.89	100.7	< 2	< 2	< 1	7	< 2	< 1	34	0.219	0.209	547116	18.47	0.49
547117	37.04	0.47	7.50	0.100	41.05	0.17	< 0.01	< 0.01	0.003	0.02	13.01	99.38	< 2	< 2	< 1	6	< 2	< 1	26	0.215	0.214	547117	21.77	0.55
547118	37.18	0.59	7.41	0.112	40.48	0.31	< 0.01	< 0.01	0.007	0.01	12.80	98.89	< 2	< 2	< 1	7	< 2	< 1	29	0.220	0.245	547118	17.05	0.32
547119	38.16	0.76	8.04	0.079	40.26	0.27	< 0.01	< 0.01	0.008	0.03	13.17	100.8	< 2	< 2	< 1	8	< 2	< 1	33	0.231	0.268	547119	17.61	0.46
547120	98.68	0.32	0.41	0.005	0.07	0.02	0.02	0.05	0.032	0.02	0.12	99.76	24	4	< 1	< 1	57	< 1	7	< 0.010	< 0.010	547120		
547121	37.66	0.51	7.88	0.125	41.04	0.37	< 0.01	< 0.01	0.005	0.03	13.19	100.8	< 2	< 2	< 1	9	< 2	< 1	31	0.217	0.287	547121	19.37	0.38
547122	37.93	0.63	7.58	0.116	40.29	0.60	< 0.01	< 0.01	0.004	< 0.01	13.29	100.5	< 2	< 2	< 1	9	< 2	< 1	34	0.187	0.243	547122	21.73	0.27
547123	37.15	0.67	7.80	0.111	38.59	0.55	< 0.01	< 0.01	0.005	0.02	13.45	98.37	< 2	< 2	< 1	10	< 2	< 1	40	0.215	0.287	547123	17.86	0.32
547124	37.27	0.65	7.46	0.113	40.06	0.27	< 0.01	< 0.01	0.004	0.02	13.05	98.91	< 2	< 2	< 1	9	< 2	< 1	35	0.189	0.249	547124	19.33	0.33
547125	36.83	0.71	7.55	0.093	38.59	0.84	< 0.01	< 0.01	0.004	0.01	13.14	97.77	< 2	< 2	< 1	8	< 2	< 1	38	0.190	0.242	547125	18.00	0.36
547126	36.89	0.59	7.86	0.121	38.19	0.62	< 0.01	< 0.01	0.004	< 0.01	13.64	97.92	< 2	< 2	< 1	9	3	< 1	34	0.233	0.226	547126	18.48	0.53
547127	39.04	0.63	7.60	0.118	38.22	0.72	0.01	< 0.01	0.005	0.02	13.67	100.0	42	20	< 1	9	< 2	< 1	33	0.213	0.241	547127	18.81	0.25
547128	36.59	0.61	6.82	0.111	38.68	0.97	< 0.01	< 0.01	0.004	0.03	13.83	97.65	< 2	< 2	< 1	9	< 2	< 1	35	0.169	0.233	547128	15.73	0.39
547129	36.82	0.65	6.09	0.095	39.76	0.70	< 0.01	< 0.01	0.004	0.03	13.44	97.59	< 2	< 2	< 1	9	< 2	< 1	36	0.181	0.241	547129	20.17	0.48
547130	38.54	0.73	7.63	0.094	38.41	0.62	< 0.01	< 0.01	0.007	0.04	12.96	99.05	< 2	< 2	< 1	7	< 2	< 1	36	0.232	0.240	547130	10.95	0.41
547131	38.33	0.59	5.73	0.099	35.36	3.61	< 0.01	< 0.01	0.004	0.01	13.87	97.61	< 2	37	< 1	8	< 2	< 1	33	0.168	0.248	547131	15.81	1.01
547132	38.88	0.64	7.49	0.096	38.91	0.28	< 0.01	< 0.01	0.003	0.03	12.62	98.95	< 2	< 2	< 1	10	5	< 1	37	0.229	0.275	547132	20.28	0.72
547133	37.40	0.57	7.21	0.114	37.64	1.48	< 0.01	< 0.01	0.003	0.03	13.41	97.86	< 2	7	< 1	9	< 2	< 1	34	0.193	0.253	547133	21.41	0.57
547134	40.41	2.83	6.97	0.108	34.16	1.73	0.07	0.01	0.119	0.03	12.54	98.98	< 2	7	3	10	8	< 1	55	0.164	0.187	547134		
547135	38.78	7.80	9.51	0.110	28.84	2.03	0.31	0.05	0.858	0.06	11.65	99.99	3	18	15	26	49	< 1	206	0.088	0.097	547135		
549008	40.68	1.60	8.12	0.125	38.31	2.30	0.04	< 0.01	0.022	< 0.01	9.02	100.2	< 2	< 2	1	13	< 2	< 1	59	0.203	0.238	549008	16.18	1.18
549009	38.01	1.28	7.69	0.138	37.52	0.20	< 0.01	< 0.01	0.017	0.02	12.99	97.89	< 2	< 2	< 1	11	< 2	< 1	47	0.178	0.236	549009	19.02	0.98
549010	38.99	1.33	8.09	0.126	39.68	0.35	0.01	< 0.01	0.016	0.04	12.26	100.9	< 2	< 2	< 1	9	< 2	< 1	43	0.218	0.245	549010	14.03	0.66
549011	38.63	1.22	8.37	0.148	39.77	0.92	0.01	< 0.01	0.019	0.03	10.78	99.89	< 2	< 2	< 1	10	< 2	< 1	45	0.217	0.232	549011	21.99	0.63
549012	38.91	1.25	8.55	0.167	37.77	1.09	0.02	< 0.01	0.020	< 0.01	12.41	100.2	< 2	< 2	< 1	11	3	< 1	45	0.202	0.250	549012	12.37	0.47
549013	38.32	1.13	8.23	0.161	37.51	1.39	0.02	< 0.01	0.013	0.03	12.24	99.03	< 2	< 2	< 1	10	< 2	< 1	42	0.192	0.235	549013	15.26	0.58
549014	38.73	1.57	7.50	0.104	38.65	0.32	< 0.01	< 0.01	0.019	0.03	12.85	99.78	< 2	< 2	< 1	13	3	< 1	51	0.190	0.255	549014	13.76	0.57
549015	38.64	1.79	7.96	0.088	38.24	0.22	< 0.01	< 0.01	0.021	0.01	12.86	99.84	< 2	< 2	< 1	12	< 2	< 1	56	0.224	0.248	549015	14.63	0.58
549016	38.09	1.39	8.46	0.122	37.11	0.52	< 0.01	< 0.01	0.019	< 0.01	12.29	98.02	< 2	< 2	< 1	10	4	< 1	49	0.209	0.227	549016	17.35	0.57
549017	38.70	1.25	9.10	0.158	37.76	0.67	< 0.01	< 0.01	0.018	< 0.01	11.72	99.38	2	< 2	1	13	2	< 1	49	0.213	0.243	549017	17.05	0.41
549018	38.99	1.67	8.04	0.094	37.66	0.58	< 0.01	< 0.01	0.020	< 0.01	12.43	99.50	< 2	< 2	1	11	3	< 1	52	0.190	0.234	549018	15.57	0.61
549019	39.23	1.43	9.68	0.129	38.31	0.79	0.04	< 0.01	0.021	0.02	8.66	98.31	< 2	< 2	< 1	13	< 2	< 1	54	0.218	0.246	549019	11.86	0.46
549020.1	49.37	15.79	11.86	0.166	4.89	7.98	2.19	2.75	1.181	0.44	0.84	97.47	696	512	21	25	110	2	349	0.255	1.049	549020	49.35	16.00
549020.2																						549020	36.71	2.38
549020.3																						549020	18.71	0.56
549021	38.78	1.33	9.46	0.173	36.74	2.36	0.02	< 0.01	0.021	< 0.01	11.16	100.0	< 2	< 2	< 1	13	4	< 1	55	0.174	0.248	549021	14.83	0.33
549022	38.22	1.38	8.59	0.130	37.22	1.40	0.01	< 0.01	0.020	< 0.01	12.04	99.03	< 2	< 2	< 1	15	< 2	< 1	51	0.189	0.258	549022	14.69	0.44
549023	38.29	1.48	8.43	0.113	38.15	0.68	0.01	< 0.01	0.019	< 0.01	12.32	99.51	< 2	< 2	1	12	< 2	< 1	50	0.195	0.250	549023	14.92	0.43
549024	38.57	1.69	9.14	0.111	37.80	0.99	0.01	< 0.01	0.020	< 0.01	12.10	100.4	< 2	< 2	< 1	13	< 2	< 1	57	0.179	0.261	549024	15.61	0.60
549025	39.03	1.46	7.95	0.139	37.81	1.62	0.02	< 0.01	0.019	< 0.01	11.87	99.92	< 2	< 2	< 1	11	< 2	< 1	49	0.168	0.231	549025	15.95	0.57
549026	39.54	1.47	8.59	0.137	37.95	1.29	0.01	< 0.01	0.019	< 0.01	11.70	100.7	< 2	< 2	< 1	10	< 2	< 1	51	0.206	0.224	549026	16.65	0.63
549027	38.80	1.70	8.36	0.100	38.30	0.68	< 0.01	< 0.01	0.020	< 0.01	12.09	100.1	< 2	< 2	< 1	12	< 2	< 1	47	0.185	0.267	549027	18.09	0.73
549028	39.31	1.55	8.90	0.135	37.23	1.86	0.01	< 0.01	0.020	< 0.01	11.09	100.1	< 2	< 2	< 1	12	< 2	< 1	54	0.182	0.229	549028	20.15	0.77
549029	39.32	1.30	10.14	0.193	37.28	2.38	0.02	< 0.01	0.020	< 0.01	9.77	100.4	< 2	< 2	< 1	14	< 2	< 1	51	0.190	0.236	549029	12.68	0.37
549030	39.36	1.44	6.97	0.156	37.57	1.69	0.01	< 0.01	0.019	< 0.01	10.77	97.98	< 2	< 2	< 1	12	< 2	< 1	46	0.159	0.248	549030	13.33	0.54
549031	39.57	1.53	8.40	0.128	37.41	1.63	0.01	< 0.01	0.019	< 0.01	11.54	100.2	< 2	< 2	2	12	< 2	< 1	49	0.184	0.231	549031	15.08	0.44
549032	39.41	1.93	7.58	0.125	37.85	1.47	0.01	< 0.01	0.018	< 0.01	11.51	99.91	< 2	< 2	< 1	11	< 2	< 1	51	0.149	0.240	549032	14.70	0.75
549033	38.97	1.44	7.70	0.096	38.61	0.12	< 0.01	< 0.01	0.015	< 0.01	12.54	99.50	< 2	< 2	< 1	10	< 2	< 1	50	0.200	0.243	549033	14.63	0.63

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID(Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
549034	40.33	1.31	7.48	0.103	39.47	0.07	< 0.01	< 0.01	0.015	< 0.01	11.79	100.6	< 2	< 2	< 1	9	< 2	< 1	41	0.195	0.253	549034	15.96	0.57
549035	39.66	1.38	7.16	0.096	39.27	0.06	< 0.01	< 0.01	0.015	< 0.01	11.81	99.47	< 2	< 2	< 1	8	< 2	< 1	38	0.193	0.233	549035	17.79	0.64
549036	39.37	1.64	6.98	0.099	38.63	0.39	0.01	< 0.01	0.017	< 0.01	12.41	99.55	< 2	< 2	1	10	< 2	< 1	43	0.212	0.237	549036	15.51	0.94
549037	39.13	1.32	7.19	0.104	39.01	0.07	< 0.01	< 0.01	0.017	< 0.01	12.40	99.23	< 2	< 2	< 1	9	< 2	< 1	42	0.194	0.252	549037	17.03	0.61
549038	41.10	6.27	8.95	0.130	26.98	6.97	0.88	0.10	0.385	0.05	8.27	100.1	74	368	8	21	25	< 1	132	0.124	0.150	549038	13.94	0.81
549039	44.45	15.99	10.88	0.179	6.06	15.77	3.21	0.27	0.957	0.09	2.36	100.2	25	164	18	39	57	< 1	305	< 0.010	< 0.010	549039		
549040	98.27	0.34	0.85	0.009	0.20	0.02	0.03	0.05	0.028	< 0.01	0.20	100.0	27	4	2	< 1	56	< 1	5	< 0.010	< 0.010	549040	98.12	0.30
549041	39.07	1.38	7.41	0.117	37.99	0.31	0.01	< 0.01	0.027	< 0.01	11.57	97.89	< 2	< 2	< 1	9	< 2	< 1	38	0.194	0.207	549041	15.46	0.96
549042	39.20	1.25	8.16	0.134	39.16	0.70	0.02	< 0.01	0.019	< 0.01	11.97	100.6	< 2	< 2	1	10	2	< 1	43	0.199	0.243	549042	21.54	0.63
549043	38.48	1.66	9.03	0.095	37.86	0.37	0.01	< 0.01	0.025	< 0.01	12.25	99.79	< 2	< 2	< 1	8	2	< 1	53	0.229	0.289	549043	15.32	0.61
549044	40.65	1.72	6.41	0.080	39.06	0.13	< 0.01	< 0.01	0.015	< 0.01	12.29	100.4	< 2	< 2	< 1	10	< 2	< 1	46	0.226	0.239	549044	20.42	1.06
549045	40.18	1.26	7.96	0.171	38.47	1.77	0.02	< 0.01	0.017	< 0.01	10.03	99.90	< 2	< 2	1	11	< 2	< 1	51	0.184	0.240	549045	15.84	0.74
549046	41.35	1.49	7.65	0.085	37.88	0.89	0.02	< 0.01	0.009	< 0.01	11.35	100.7	< 2	< 2	< 1	9	5	< 1	35	0.190	0.248	549046	14.99	0.85
549047	39.19	1.46	8.14	0.139	38.30	1.13	< 0.01	< 0.01	0.019	< 0.01	11.66	100.0	< 2	< 2	1	12	< 2	< 1	53	0.181	0.261	549047	14.80	0.81
549048	39.33	1.53	8.52	0.127	37.00	1.72	0.01	< 0.01	0.022	< 0.01	11.42	99.68	< 2	< 2	< 1	13	< 2	< 1	58	0.171	0.246	549048	14.09	0.51
549049	40.03	1.53	8.07	0.109	37.37	1.48	0.01	< 0.01	0.018	< 0.01	12.09	100.7	< 2	< 2	< 1	12	2	< 1	52	0.204	0.230	549049	18.13	0.65
549050	38.65	1.53	7.81	0.103	38.70	0.73	< 0.01	< 0.01	0.018	< 0.01	12.42	99.97	< 2	< 2	1	10	< 2	< 1	48	0.183	0.252	549050	10.42	0.39
549051	38.28	1.45	7.70	0.096	38.45	0.89	0.01	< 0.01	0.015	< 0.01	12.22	99.10	< 2	< 2	1	10	< 2	< 1	45	0.216	0.232	549051	12.62	0.46
549052	37.65	1.43	7.55	0.094	37.67	0.87	0.01	< 0.01	0.015	< 0.01	12.75	98.05	< 2	< 2	< 1	10	< 2	< 1	45	0.214	0.228	549052	15.20	0.45
549053	37.95	1.29	8.26	0.144	37.14	2.21	0.01	< 0.01	0.015	< 0.01	12.13	99.16	< 2	< 2	1	11	< 2	< 1	47	0.196	0.232	549053	12.32	0.40
549054	37.73	0.92	7.90	0.112	38.26	1.11	0.01	< 0.01	0.010	< 0.01	11.86	97.92	< 2	< 2	< 1	10	< 2	< 1	43	0.179	0.239	549054	16.05	0.51
549055	38.77	1.45	7.10	0.099	38.54	1.32	0.01	< 0.01	0.016	< 0.01	12.23	99.55	< 2	< 2	1	10	< 2	< 1	52	0.188	0.235	549055	16.96	0.57
549056	38.52	1.40	7.80	0.108	38.02	1.29	0.01	< 0.01	0.016	< 0.01	11.94	99.10	< 2	< 2	< 1	11	< 2	< 1	51	0.178	0.241	549056	18.92	0.63
549057	39.30	1.16	7.95	0.114	38.19	1.74	0.02	< 0.01	0.013	< 0.01	11.15	99.65	< 2	< 2	< 1	11	< 2	< 1	50	0.170	0.230	549057	9.90	0.32

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01						
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT
546282	62.83	0.214	14.80	0.12	< 0.01	0.01	0.02	< 0.01	1.81	0.025	1.96	2.18	98.54	31.2	1.845	28.879	5.9	30.724	1.51
546283	57.68	0.186	17.82	0.06	< 0.01	< 0.01	0.02	0.01	1.73	0.028	1.51	3.04	98.37	30.5	2.157	28.386	7.1	30.544	0.01
546284	57.62	0.305	17.54	0.19	< 0.01	0.01	0.02	0.01	3.07	0.035	1.65	1.56	98.33	30.5	1.703	28.759	5.6	30.462	0.12
546285	67.70	0.166	12.94	0.07	< 0.01	0.02	0.02	0.01	1.66	0.025	1.56	1.65	98.73	30.3	2.209	28.042	7.3	30.251	0.21
546286	56.31	0.224	18.28	0.07	< 0.01	< 0.01	0.04	0.02	1.72	0.021	1.38	3.55	97.70	30.8	2.246	28.015	7.3	30.261	1.79
546287	57.88	0.159	18.04	0.05	< 0.01	< 0.01	0.02	0.02	1.63	0.030	1.29	4.07	98.74	30.2	2.217	28.037	7.3	30.254	-0.25
546288	76.56	0.198	8.69	0.05	< 0.01	0.02	0.02	0.01	1.78	0.032	1.93	-0.39	96.99	30.1	1.762	28.372	5.9	30.135	-0.22
546289	59.93	0.259	16.51	0.12	< 0.01	0.02	0.02	0.01	2.35	0.029	2.14	2.62	99.01	30.0	1.653	28.372	5.5	30.025	0.01
546290	55.66	0.267	18.32	0.14	< 0.01	< 0.01	0.03	0.01	2.56	0.032	1.78	3.32	98.14	30.1	1.675	28.530	5.6	30.205	-0.38
546291	69.78	0.312	10.42	0.45	< 0.01	0.02	0.02	0.01	2.30	0.026	2.08	0.71	96.94	30.1	1.397	28.366	4.6	29.763	1.26
546292	62.28	0.170	16.26	0.04	< 0.01	0.02	0.02	0.01	1.29	0.019	1.33	2.56	99.89	30.2	2.595	27.354	8.6	29.948	0.69
546293	62.18	0.214	16.08	0.05	< 0.01	0.01	0.02	< 0.01	1.88	0.023	1.50	2.30	99.17	30.1	2.067	27.752	6.9	29.819	0.85
546294	63.40	0.234	13.91	0.08	< 0.01	0.06	0.02	0.01	2.65	0.030	2.40	0.96	96.86	30.2	1.448	28.485	4.8	29.933	0.84
546295	59.02	0.239	15.88	0.07	< 0.01	0.03	0.01	0.01	2.39	0.029	1.92	2.33	98.20	30.2	1.689	28.443	5.6	30.132	0.35
546296	57.73	0.210	17.65	0.05	< 0.01	0.03	0.01	0.01	2.32	0.033	1.74	2.67	99.28	30.1	1.901	28.201	6.3	30.101	0.15
546297	59.11	0.154	16.68	0.05	< 0.01	0.01	0.01	0.01	1.45	0.026	1.55	3.04	99.15	30.1	2.429	27.203	8.1	29.632	1.53
546298	53.51	0.196	18.28	0.07	< 0.01	0.04	0.01	0.01	2.43	0.030	2.04	3.21	98.17	30.2	1.571	28.579	5.2	30.151	0.23
546299	59.16	0.203	17.27	0.06	< 0.01	0.03	0.02	< 0.01	2.17	0.027	2.13	2.45	99.17	30.1	1.895	28.029	6.3	29.924	0.52
546300.1	12.19	0.168	4.92	7.92	2.42	2.80	1.12	0.44	1.06	0.069	0.235	0.91	99.79						
546300.2	13.39	0.128	32.41	2.10	0.12	0.12	0.13	0.02	0.21	0.009	1.46	11.13	100.2						
546300.3	54.26	0.241	16.84	0.20	< 0.01	0.02	0.04	0.01	1.52	0.024	2.02	3.32	97.75	30.4	2.276	27.723	7.5	29.999	1.44
546301	64.16	0.189	14.13	0.04	< 0.01	0.02	0.02	0.01	2.02	0.028	2.18	1.06	97.84	30.3	1.924	28.008	6.3	29.933	1.37
546302	62.81	0.231	15.23	0.06	< 0.01	0.01	0.01	< 0.01	2.15	0.027	1.88	1.56	98.66	30.1	1.784	27.992	5.9	29.775	1.18
546303	55.28	0.200	18.34	0.09	< 0.01	0.03	0.02	0.01	2.16	0.030	1.88	2.70	98.97	30.0	1.812	28.018	6.0	29.831	0.64
546304	50.10	0.121	21.58	0.06	< 0.01	< 0.01	0.02	0.01	1.46	0.027	1.71	4.53	99.31	30.0	2.305	27.016	7.7	29.320	2.38
546305	65.45	0.184	14.17	0.04	< 0.01	0.01	0.01	0.01	2.09	0.028	1.85	0.91	97.62	30.0	2.079	27.566	6.9	29.645	1.24
546306	62.76	0.225	15.31	0.07	< 0.01	0.06	0.02	0.01	2.39	0.029	1.97	1.53	97.96	30.1	1.718	28.186	5.7	29.904	0.62
546307	55.05	0.189	17.99	0.06	< 0.01	< 0.01	0.03	0.02	1.78	0.026	1.69	3.13	97.13	30.1	2.211	27.307	7.4	29.518	1.80
546308	60.05	0.243	15.78	0.08	< 0.01	0.01	0.02	0.01	3.00	0.031	1.97	1.41	97.30	30.1	1.723	27.436	5.7	29.159	3.00
546309	46.72	0.209	23.19	0.06	< 0.01	< 0.01	0.01	0.02	1.69	0.024	1.39	5.03	98.28	30.2	2.605	27.774	8.6	30.379	-0.71
546310	67.14	0.262	12.08	0.07	< 0.01	0.05	0.01	< 0.01	2.27	0.028	2.73	0.08	96.60	30.0	1.459	27.980	4.9	29.438	1.90
546311	52.72	0.194	20.78	0.13	< 0.01	0.02	0.02	0.01	2.02	0.025	2.28	2.90	98.55	30.2	1.998	28.265	6.6	30.264	-0.33
546312	56.74	0.205	18.28	0.07	< 0.01	0.06	0.02	0.01	1.92	0.025	2.43	2.47	98.88	30.1	2.240	28.053	7.5	30.293	-0.74
546313	65.36	0.178	14.36	0.05	< 0.01	0.02	0.02	0.01	2.02	0.027	1.84	1.20	98.77	30.0	1.891	27.828	6.3	29.720	1.02
546314	51.74	0.202	20.69	0.09	< 0.01	< 0.01	0.03	0.02	1.81	0.033	1.98	3.44	98.99	30.0	2.282	27.873	7.6	30.155	-0.42
546315	55.97	0.216	19.02	0.09	< 0.01	0.04	0.01	0.01	2.07	0.028	2.15	2.78	98.97	30.1	2.289	27.725	7.6	30.015	0.13
546316	51.49	0.173	21.68	0.09	< 0.01	0.03	0.01	0.01	1.68	0.023	2.06	3.69	98.86	31.7	2.551	28.184	8.1	30.735	2.93
546317	62.78	0.176	15.05	0.07	< 0.01	0.02	0.01	< 0.01	1.70	0.023	1.84	1.43	97.99	30.2	2.258	27.816	7.5	30.075	0.43
546318	54.88	0.191	19.32	0.09	< 0.01	0.02	0.02	< 0.01	1.78	0.023	1.83	3.11	99.01	30.1	2.429	27.597	8.1	30.026	0.27
546319	53.36	0.223	19.87	0.13	< 0.01	0.04	0.01	< 0.01	2.06	0.026	2.22	2.62	98.59	30.1	2.121	27.975	7.0	30.096	0.08
546320	0.61	0.010	0.34	0.08	0.01	0.08	0.05	0.01	0.01	< 0.003	< 0.003	0.42	100.1	30.3	0.075	29.410	0.2	29.484	2.76
546321	48.66	0.258	22.09	0.14	< 0.01	0.01	0.02	0.01	1.93	0.030	2.26	2.95	98.77	30.1	2.147	27.869	7.1	30.016	0.39
546322	46.13	0.189	21.57	0.05	< 0.01	< 0.01	0.03	0.01	1.45	0.034	1.41	4.46	97.72	30.0	3.178	26.728	10.6	29.906	0.42
546323	68.35	0.257	11.57	0.08	< 0.01	0.02	0.04	< 0.01	2.89	0.044	0.821	-0.07	97.17	30.3	1.544	28.595	5.1	30.139	0.58
546324														30.5	0.024	30.196	0.1	30.220	0.80
546325														30.2	0.025	29.816	0.1	29.841	1.21
546326	70.17	0.302	10.26	0.30	< 0.01	< 0.01	0.10	0.01	2.56	0.037	1.07	-1.08	96.89	30.1	1.177	28.712	3.9	29.890	0.74
546327	50.52	0.247	19.62	0.05	< 0.01	0.02	0.02	0.01	1.92	0.027	1.74	3.28	97.44	30.0	2.377	27.415	7.9	29.792	0.73
546328	50.00	0.194	20.50	0.06	< 0.01	0.06	0.01	0.01	1.72	0.023	1.67	3.78	97.30	30.7	2.525	27.955	8.2	30.480	0.59
546329	57.07	0.231	17.79	0.03	< 0.01	0.01	0.01	0.01	1.53	0.020	1.44	3.39	97.80	30.5	3.004	27.365	9.9	30.368	0.33
546330	59.07	0.272	16.14	0.08	0.04	0.20	0.02	< 0.01	1.92	0.022	1.71	2.54	97.29	30.0	2.365	27.441	7.9	29.806	0.79

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01						
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT
546331	55.65	0.242	18.06	0.06	< 0.01	0.01	0.01	0.01	1.86	0.023	1.57	2.91	98.14	30.1	2.343	27.658	7.8	30.000	0.25
546332	65.12	0.323	13.43	0.12	< 0.01	0.02	0.01	0.01	2.53	0.036	1.45	0.55	97.29	30.1	1.430	28.366	4.8	29.796	0.90
546333	52.17	0.215	19.78	0.06	< 0.01	0.02	0.01	0.01	1.87	0.022	1.66	3.73	97.95	30.1	2.854	26.966	9.5	29.820	0.81
546334	38.85	0.195	23.39	0.12	< 0.01	< 0.01	0.01	0.01	1.80	0.023	2.43	4.33	97.17	30.6	1.811	28.721	5.9	30.532	0.18
546335	47.96	0.205	19.33	0.12	< 0.01	< 0.01	0.02	0.01	2.11	0.024	2.18	3.71	97.07	30.0	2.104	27.809	7.0	29.913	0.38
546336	47.26	0.201	20.57	0.13	< 0.01	< 0.01	0.02	0.01	1.97	0.026	2.17	2.92	97.03	30.1	1.915	27.690	6.4	29.605	1.73
546337	48.92	0.184	20.94	0.28	< 0.01	0.05	0.04	0.01	1.71	0.022	2.10	3.29	97.70	30.1	2.293	27.641	7.6	29.935	0.64
546338	56.81	0.220	15.80	0.25	< 0.01	< 0.01	0.02	0.01	2.28	0.027	2.44	0.95	96.84	30.1	1.628	28.032	5.4	29.660	1.54
546339	50.79	0.191	19.13	0.35	< 0.01	< 0.01	0.01	0.01	1.79	0.029	2.01	2.87	97.28	30.1	2.098	27.727	7.0	29.825	0.95
546340.1	12.20	0.167	4.99	7.91	2.50	2.80	1.11	0.44	1.09	0.066	0.240	1.02	100.3						
546340.2	13.20	0.126	32.53	2.09	0.10	0.11	0.13	0.02	0.20	0.007	1.46	11.10	100.1						
546340.3	54.33	0.243	16.76	0.16	< 0.01	< 0.01	0.04	0.01	1.59	0.024	2.00	1.94	96.15	30.1	1.850	27.611	6.1	29.461	2.11
546341	60.16	0.183	15.86	0.31	< 0.01	0.06	0.02	< 0.01	1.87	0.029	2.03	1.46	97.05	30.0	2.082	27.532	6.9	29.614	1.41
546342	51.26	0.162	19.96	0.28	< 0.01	0.02	0.01	0.01	1.64	0.023	2.11	3.17	97.39	30.1	2.358	27.757	7.8	30.114	-0.09
546343	54.87	0.215	15.35	0.24	< 0.01	< 0.01	0.02	0.01	2.56	0.029	2.65	1.28	96.76	30.1	1.619	28.469	5.4	30.087	-0.12
546344	55.18	0.161	17.69	0.40	< 0.01	0.02	0.01	0.01	1.99	0.032	2.24	1.87	97.14	30.1	1.765	28.177	5.9	29.942	0.37
546345	34.70	0.163	27.61	0.57	< 0.01	0.01	0.01	0.01	1.53	0.028	1.39	4.84	98.17	30.0	2.613	27.090	8.7	29.703	1.10
546346	41.67	0.163	25.68	0.36	< 0.01	0.06	0.01	< 0.01	1.25	0.018	1.46	5.31	98.87	30.1	3.348	26.009	11.1	29.358	2.42
546347	50.24	0.225	20.58	0.34	< 0.01	0.03	0.02	0.01	2.19	0.029	2.33	2.64	97.58	30.1	1.794	27.795	6.0	29.588	1.72
546348	38.52	0.170	25.85	0.96	< 0.01	0.01	0.01	0.01	1.19	0.023	1.38	5.89	98.95	30.1	3.276	26.070	10.9	29.347	2.38
546349	41.62	0.138	25.28	0.24	< 0.01	0.02	0.01	0.01	1.06	0.016	1.58	5.71	98.96	30.1	3.232	26.711	10.8	29.944	0.42
546350	33.14	0.163	28.73	0.36	< 0.01	< 0.01	0.01	0.01	1.17	0.017	1.31	6.68	98.13	30.1	3.291	26.675	10.9	29.967	0.32
546351	42.47	0.151	23.62	0.18	< 0.01	< 0.01	0.01	0.01	1.40	0.020	1.68	4.78	98.33	30.5	2.749	27.822	9.0	30.570	-0.19
546352	35.67	0.163	27.44	0.30	< 0.01	< 0.01	0.01	0.01	1.14	0.015	1.43	6.67	98.92	30.2	3.440	26.453	11.4	29.892	0.88
546353	39.34	0.158	25.42	0.17	< 0.01	< 0.01	0.02	0.01	1.25	0.019	1.37	6.07	98.74	30.1	2.817	26.480	9.4	29.297	2.59
546354	45.23	0.154	22.89	0.44	< 0.01	< 0.01	0.02	0.01	1.05	0.019	1.34		92.19	30.2	2.734	27.274	9.1	30.008	0.48
546355	52.14	0.184	18.34	0.31	< 0.01	< 0.01	0.02	0.01	1.47	0.026	1.76		94.75	30.0	2.203	27.397	7.3	29.599	1.50
546356	43.89	0.166	22.70	0.26	< 0.01	< 0.01	0.02	0.01	1.46	0.025	1.67		93.04	30.4	2.936	27.109	9.7	30.045	1.12
546357	49.49	0.204	20.81	0.20	< 0.01	0.03	0.02	0.01	1.53	0.022	1.87	3.83	98.12	30.1	2.535	27.441	8.4	29.977	0.53
546358	46.79	0.212	22.50	0.13	0.03	0.01	0.02	0.01	1.74	0.025	1.67	4.25	98.33	30.2	2.321	27.619	7.7	29.940	0.79
546359	49.35	0.229	20.21	0.45	0.01	0.02	0.02	0.01	1.92	0.034	2.17	2.87	97.28	30.1	1.733	28.280	5.8	30.013	0.35
546360	0.56	0.007	0.12	0.03	0.02	0.09	0.04	0.01	< 0.01	< 0.003	< 0.003	0.28	99.79	30.0	0.037	29.452	0.1	29.489	1.76
546361	38.23	0.210	25.79	0.30	0.01	0.08	0.02	0.01	1.75	0.029	1.72	4.64	97.68	30.1	1.840	28.137	6.1	29.977	0.56
546362	38.23	0.204	25.50	0.66	< 0.01	0.04	0.02	< 0.01	1.46	0.016	1.42	6.15	98.35	30.2	2.632	27.352	8.7	29.985	0.70
546363	42.09	0.207	23.72	0.60	< 0.01	0.01	0.02	0.01	1.70	0.022	1.30	5.46	98.08	30.3	2.277	27.501	7.5	29.778	1.69
546364	42.83	0.180	23.46	0.65	0.01	0.03	0.02	< 0.01	1.35	0.016	1.27	5.72	97.93	30.0	2.527	27.620	8.4	30.148	-0.47
546365	44.54	0.185	21.95	0.02	< 0.01	< 0.01	0.02	0.01	1.18	0.022	1.38	5.02	98.30	30.0	2.986	27.428	9.9	30.414	-1.30
546366	46.23	0.155	21.57	0.19	< 0.01	0.02	0.01	0.01	1.22	0.023	0.969	5.02	97.57	30.1	2.531	26.914	8.4	29.445	2.01
546367	42.00	0.223	23.14	0.31	< 0.01	0.01	0.02	0.01	1.53	0.019	1.16	6.03	97.31	30.1	2.692	27.250	8.9	29.942	0.46
546368	42.81	0.204	23.16	0.33	< 0.01	0.01	0.02	0.01	1.44	0.019	1.26	5.39	97.54	30.3	2.458	26.849	8.1	29.308	3.17
546369	42.97	0.209	23.02	0.06	< 0.01	0.05	0.02	0.01	1.61	0.016	1.37	5.86	97.34	30.1	2.508	27.081	8.3	29.590	1.58
546370	39.66	0.255	24.12	0.11	0.01	0.05	0.02	< 0.01	2.14	0.018	1.55	5.95	97.27	30.0	2.118	27.600	7.0	29.718	1.08
546371	50.35	0.229	19.39	0.18	< 0.01	0.04	0.09	0.04	4.95	0.048	0.282	3.76	96.00	30.0	0.320	28.481	1.1	28.801	4.01
546372	38.94	0.228	25.71	0.10	0.01	0.01	0.02	0.01	1.41	0.015	1.48	6.55	98.22	30.1	2.372	27.620	7.9	29.992	0.49
546373	40.02	0.145	23.29	0.04	< 0.01	0.01	0.03	0.01	1.11	0.015	1.12	12.30	99.75	30.1	3.738	26.622	12.4	30.360	-0.82
546374	44.77	0.454	17.86	1.61	< 0.01	< 0.01	0.03	0.01	1.92	0.026	0.347	7.04	98.53	30.1	0.532	29.163	1.8	29.695	1.48
546375	48.10	0.415	19.71	1.66	< 0.01	< 0.01	0.05	0.01	2.06	0.032	0.338	3.92	97.44	30.1	0.407	29.075	1.4	29.482	1.92
546376														30.1	0.120	29.569	0.4	29.689	1.30
546377														30.0	0.063	29.485	0.2	29.547	1.66
546378														30.3	0.047	28.928	0.2	28.976	4.28
546379	56.04	0.285	16.25	0.29	0.02	0.03	0.03	0.01	2.97	0.037	2.73	3.51	97.15	30.2	1.303	28.867	4.3	30.170	-0.02

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01						
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT
546380.1	12.17	0.168	4.98	7.87	2.43	2.77	1.11	0.44	1.07	0.065	0.236	0.92	99.72						
546380.2	13.31	0.129	32.37	2.11	0.14	0.13	0.12	0.02	0.21	0.007	1.46	11.20	100.2						
546380.3	54.31	0.240	16.85	0.18	0.02	0.02	0.04	0.01	1.59	0.025	2.01	2.92	97.26	30.1	2.048	27.586	6.8	29.634	1.41
546381	46.72	0.300	20.05	1.40	0.03	0.07	0.03	0.01	2.31	0.031	2.13	3.87	96.78	30.1	1.273	28.782	4.2	30.055	0.26
546382	45.17	0.278	22.49	0.05	< 0.01	0.01	0.03	0.01	1.88	0.015	1.36	5.87	98.05	30.2	2.669	27.511	8.8	30.180	0.12
546383														30.1	0.029	29.185	0.1	29.214	2.83
546384														30.2	0.051	29.374	0.2	29.425	2.45
546385														30.1	0.069	29.371	0.2	29.441	2.33
546386	53.88	0.383	16.50	0.29	< 0.01	< 0.01	0.05	0.01	6.06	0.047	1.30	1.24	95.59	30.0	0.496	29.138	1.7	29.634	1.25
546387	37.93	0.286	20.90	0.37	< 0.01	0.03	0.06	0.03	6.69	0.062	0.233	10.21	95.61	30.2	0.217	29.078	0.7	29.295	2.93
546388	41.99	0.228	22.75	1.21	0.04	0.03	0.02	0.01	1.81	0.022	1.00	7.65	97.76	30.2	2.613	27.513	8.7	30.126	0.16
546389	54.10	0.274	16.83	0.62	< 0.01	0.01	0.03	0.01	2.82	0.029	1.67	3.17	97.08	30.0	1.475	27.964	4.9	29.439	1.95
546390	42.50	0.206	23.55	0.76	< 0.01	0.03	0.03	0.01	1.55	0.019	1.17	6.86	97.40	30.1	2.053	27.643	6.8	29.697	1.43
546391	46.91	0.199	21.94	0.30	< 0.01	0.07	0.08	0.02	1.96	0.026	1.76	5.53	97.18	30.1	2.402	27.482	8.0	29.885	0.67
546392	45.28	0.171	22.59	0.09	< 0.01	0.04	0.02	0.01	1.68	0.024	1.39	5.60	97.86	30.1	1.457	28.729	4.8	30.187	-0.17
546393	41.45	0.261	19.65	0.35	< 0.01	< 0.01	0.11	0.01	3.17	0.034	1.24	0.81	97.05	30.1	0.706	29.173	2.3	29.878	0.61
546394	51.19	0.320	19.06	0.61	< 0.01	0.02	0.05	0.01	4.33	0.046	1.73	0.10	95.86	30.2	0.985	29.142	3.3	30.126	0.27
546395	51.85	0.357	17.95	0.70	0.01	0.03	0.05	< 0.01	5.15	0.054	1.68	0.21	95.40	30.2	0.790	29.282	2.6	30.072	0.50
546396	49.91	0.233	20.61	0.15	0.02	0.02	0.05	< 0.01	2.46	0.019	1.87	2.85	97.63	30.2	1.225	28.696	4.1	29.921	0.90
546397	56.98	0.205	17.55	0.05	0.02	0.02	0.04	0.01	1.58	0.014	1.66	3.21	98.18	30.1	1.848	28.081	6.1	29.929	0.72
546398	54.31	0.307	18.16	0.16	< 0.01	< 0.01	0.06	0.02	3.26	0.043	1.13	2.36	97.10	30.1	1.180	27.864	3.9	29.045	3.36
546399	47.54	0.325	21.27	0.70	< 0.01	0.04	0.05	0.01	3.99	0.046	1.84	0.31	96.12	30.1	0.759	28.661	2.5	29.419	2.12
546400	0.55	0.010	0.07	0.06	0.03	0.08	0.04	0.01	< 0.01	< 0.003	< 0.003	0.29	99.72	30.1	0.040	28.926	0.1	28.966	3.80
546401	59.60	0.346	15.89	0.07	0.14	0.09	0.12	0.01	3.02	0.031	0.980	1.67	97.67	30.1	1.396	27.693	4.6	29.089	3.52
546402	56.48	0.229	16.59	0.07	0.06	0.03	0.07	0.01	2.23	0.024	0.787	3.28	96.98	30.1	2.000	27.877	6.6	29.877	0.67
546403	52.44	0.314	17.59	0.35	0.04	0.06	0.05	0.01	4.72	0.052	2.07	1.52	95.73	30.0	0.740	29.041	2.5	29.781	0.89
546404	31.23	0.249	30.54	1.18	< 0.01	< 0.01	0.04	0.02	3.08	0.044	1.32	0.00	96.96	30.1	0.646	29.052	2.1	29.698	1.25
546405	55.00	0.286	16.59	0.65	0.02	0.01	0.03	0.01	3.90	0.048	1.77	1.60	95.92	30.1	0.879	29.009	2.9	29.888	0.76
546406	44.55	0.303	20.69	2.00	0.02	0.09	0.03	< 0.01	4.56	0.061	1.47	0.52	96.65	30.1	1.062	28.789	3.5	29.851	0.91
546407	56.12	0.145	17.69	0.12	0.04	0.02	0.02	0.01	2.39	0.026	1.71	2.62	97.21	30.1	1.379	28.415	4.6	29.794	1.05
546408	52.59	0.277	18.26	0.34	0.02	0.01	0.03	< 0.01	4.19	0.046	2.28	1.31	96.45	30.1	1.031	28.503	3.4	29.535	1.87
546409	59.01	0.271	15.34	0.23	0.05	0.02	0.03	0.01	3.21	0.032	1.60	2.43	97.21	30.1	1.424	28.277	4.7	29.701	1.30
546410	40.19	0.263	22.67	0.47	< 0.01	< 0.01	0.03	0.01	3.96	0.049	1.53	1.62	97.83	30.0	0.722	28.672	2.4	29.394	2.18
546411	63.15	0.214	13.97	0.09	0.01	< 0.01	0.03	0.01	2.53	0.032	1.34	1.71	96.99	30.0	1.769	28.148	5.9	29.917	0.41
546412	52.01	0.313	17.24	0.22	0.08	0.11	0.04	< 0.01	4.44	0.047	2.69	1.30	95.79	30.2	1.064	28.935	3.5	29.999	0.58
546413	63.51	0.256	13.14	0.12	< 0.01	0.05	0.04	0.01	3.13	0.036	1.49	1.36	96.34	30.0	1.234	28.039	4.1	29.272	2.48
546414	53.37	0.286	17.79	0.27	0.03	0.03	0.04	0.01	3.43	0.035	1.65	3.62	97.04	30.3	1.040	28.216	3.4	29.256	3.29
546415	55.91	0.284	16.30	0.24	< 0.01	0.01	0.04	0.01	3.65	0.043	1.66	3.06	96.47	30.2	0.861	28.397	2.9	29.258	2.99
546416	47.53	0.346	20.39	0.36	< 0.01	0.01	0.05	0.01	4.85	0.053	1.58	2.63	96.35	30.1	0.766	28.811	2.5	29.577	1.72
546417	54.56	0.397	16.47	0.42	< 0.01	< 0.01	0.06	0.01	5.58	0.063	2.27	0.50	94.90	30.2	0.574	29.389	1.9	29.963	0.66
546418	46.69	0.320	20.33	0.24	0.02	0.10	0.05	0.01	4.00	0.047	1.22	5.45	96.64	30.2	0.977	28.573	3.2	29.550	2.18
546419	63.86	0.366	13.08	0.69	< 0.01	< 0.01	0.04	0.02	4.78	0.061	2.59	1.25	97.15	30.0	0.884	28.345	2.9	29.229	2.59
546420.1	12.22	0.169	4.96	7.83	2.46	2.86	1.12	0.44	1.11	0.063	0.236	0.98	99.82						
546420.2	13.21	0.132	32.26	2.10	0.11	0.11	0.12	0.02	0.19	0.008	1.45	11.11	99.64						
546420.3	41.23	0.219	18.40	0.18	< 0.01	< 0.01	0.03	0.01	1.19	0.020	1.52	3.73	97.43	30.1	2.226	27.075	7.4	29.300	2.75
546421	63.71	0.171	14.42	0.06	0.07	0.13	0.02	0.01	3.51	0.029	2.35	1.34	96.80	30.1	0.749	28.206	2.5	28.955	3.85
546422	35.68	0.268	27.26	0.26	< 0.01	0.02	0.03	0.01	2.65	0.037	1.08	5.99	98.07	30.1	1.092	28.877	3.6	29.968	0.40
546423	48.03	0.353	20.69	0.23	< 0.01	< 0.01	0.05	0.01	4.04	0.048	2.14	3.85	97.90	30.1	0.669	28.616	2.2	29.285	2.82
546424	42.03	0.323	24.41	0.29	0.03	0.04	0.04	0.01	4.21	0.053	2.07	3.66	98.41	30.1	0.661	29.002	2.2	29.663	1.60
546425	30.14	0.332	26.13	0.91	0.20	0.16	0.04	0.03	3.95	0.062	1.32	8.23	97.94	30.2	0.368	29.005	1.2	29.373	2.74
546426	26.57	0.303	30.01	0.60	0.23	0.15	0.04	0.02	3.63	0.047	0.967	7.45	96.26	30.1	0.723	28.564	2.4	29.286	2.84

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01						
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT
546427	48.76	0.352	20.33	0.15	< 0.01	0.04	0.05	0.03	3.50	0.042	2.19	5.54	98.15	30.2	0.713	28.303	2.4	29.016	3.97
546428	44.60	0.356	21.75	0.69	0.18	0.14	0.08	0.07	4.38	0.058	2.76	2.59	97.57	30.0	0.655	28.770	2.2	29.425	2.06
546429	40.21	0.320	22.85	0.52	0.20	0.20	0.05	0.05	4.00	0.058	2.35	2.85	97.16	30.2	0.264	28.836	0.9	29.101	3.54
546430	34.29	0.293	25.28	0.36	1.41	0.23	0.05	0.03	3.52	0.045	2.08	3.16	98.73	30.2	0.775	28.870	2.6	29.645	1.76
546431	39.98	0.290	21.68	0.49	0.56	0.17	0.05	0.04	3.45	0.050	2.01	3.42	98.13	30.1	0.500	29.412	1.7	29.912	0.66
546432	38.16	0.238	24.20	0.24	< 0.01	< 0.01	0.04	0.01	3.15	0.039	3.76	4.63	96.31	30.1	0.331	28.934	1.1	29.266	2.74
546433	26.97	0.261	30.92	0.15	< 0.01	< 0.01	0.05	0.02	3.45	0.046	2.84		94.41	30.1	0.147	29.549	0.5	29.697	1.21
546434	36.05	0.278	24.75	0.29	< 0.01	< 0.01	0.04	0.02	4.19	0.056	3.73		94.03	30.2	0.270	28.965	0.9	29.235	3.17
546435	37.82	0.289	24.57	0.31	< 0.01	< 0.01	0.06	0.01	3.84	0.049	3.48		94.45	30.1	0.356	28.946	1.2	29.302	2.69
546436	21.82	0.218	34.63	0.29	< 0.01	< 0.01	0.04	0.01	2.97	0.044	2.00		95.13	30.2	0.062	29.543	0.2	29.604	1.94
546437														30.0	0.095	29.360	0.3	29.455	1.96
546438	47.50	0.341	14.96	0.54	< 0.01	0.01	0.06	0.02	5.10	0.077	3.08		91.92	30.2	0.121	29.503	0.4	29.624	1.78
546439														30.0	0.122	29.519	0.4	29.640	1.36
546440	0.66	0.009	0.37	0.05	0.04	0.10	0.04	0.01	< 0.01	< 0.003	< 0.003	0.50	100.4	30.3	0.003	28.844	0.0	28.847	4.72
546441	34.20	0.207	27.24	0.64	< 0.01	0.01	0.04	0.03	2.88	0.047	0.985		93.20	30.0	0.184	28.407	0.6	28.590	4.82
546442														30.4	0.026	29.066	0.1	29.092	4.18
546443														31.0	0.003	30.384	0.0	30.387	1.85
547081	67.97	0.298	11.42	0.21	0.02	0.02	0.02	< 0.01	2.77	0.029	1.68	1.66	97.82	30.8	1.571	28.875	5.1	30.446	1.22
547082	57.12	0.253	16.06	0.16	0.12	0.04	0.02	< 0.01	2.21	0.025	1.79	3.69	98.80	30.3	1.449	27.475	4.8	28.924	4.59
547083	60.93	0.198	15.12	0.10	0.03	0.05	0.02	< 0.01	1.72	0.023	1.46	3.76	99.66	30.2	1.814	27.231	6.0	29.045	3.96
547084	58.66	0.201	15.93	0.11	0.14	0.05	0.03	0.01	1.96	0.026	1.63	3.61	99.58	31.2	1.887	28.035	6.0	29.922	4.18
547085	53.74	0.175	17.79	0.12	< 0.01	0.04	0.02	0.01	1.74	0.022	1.66	4.51	98.79	30.2	1.949	28.378	6.4	30.328	-0.30
547086	59.24	0.222	16.14	0.17	< 0.01	0.03	0.02	0.01	2.22	0.024	1.82	2.98	98.95	30.4	1.667	27.346	5.5	29.013	4.51
547087	62.75	0.160	15.45	0.06	< 0.01	0.01	0.02	0.01	1.67	0.023	1.67	2.30	99.07	30.7	2.231	28.150	7.3	30.381	1.11
547088	56.74	0.181	17.62	0.07	< 0.01	0.02	0.01	0.01	1.68	0.022	1.19	3.93	99.30	30.5	2.431	27.765	8.0	30.197	1.03
547089	45.37	0.166	21.71	0.19	0.01	0.02	0.01	0.01	1.41	0.021	1.31	5.64	99.34	30.5	2.594	27.189	8.5	29.783	2.39
547090	62.17	0.196	16.12	0.08	0.11	0.02	0.02	< 0.01	1.89	0.024	1.89	2.24	99.44	30.3	1.746	27.711	5.8	29.456	2.82
547091	34.48	0.183	27.96	0.18	0.15	0.03	0.01	0.01	1.27	0.019	1.03	7.65	98.05	30.3	3.105	26.703	10.3	29.808	1.53
547092	40.58	0.171	22.89	0.11	< 0.01	0.05	0.02	0.01	1.14	0.018	1.12	7.73	99.74	30.2	3.111	27.288	10.3	30.399	-0.67
547093	54.07	0.191	18.80	0.08	0.19	0.03	0.02	0.01	1.84	0.022	1.62	4.24	99.47	30.4	1.776	28.573	5.8	30.349	0.24
547094	55.62	0.225	16.84	0.14	0.01	0.01	0.02	< 0.01	2.20	0.021	1.96	5.88	99.11	30.4	1.474	27.890	4.8	29.364	3.49
547095	55.42	0.211	18.50	0.20	0.06	0.01	0.02	< 0.01	2.29	0.026	2.02	2.84	98.13	30.1	1.635	27.878	5.4	29.512	1.90
547096	48.20	0.195	21.02	0.11	< 0.01	0.02	0.02	0.01	2.05	0.023	1.90	4.41	98.75	30.1	1.780	27.175	5.9	28.955	3.76
547097	57.80	0.178	17.41	0.05	0.05	0.11	0.02	0.01	1.66	0.020	1.83	2.81	97.45	30.1	1.978	27.794	6.6	29.772	0.96
547098	43.48	0.235	24.23	0.12	< 0.01	0.02	0.01	0.01	2.24	0.024	1.43	4.98	99.29	30.1	2.236	27.270	7.4	29.506	2.03
547099	62.90	0.170	15.24	0.05	0.04	0.02	0.02	0.01	2.02	0.029	1.99	1.20	98.09	30.0	1.457	28.212	4.9	29.669	1.21
547100.1	12.14	0.167	5.02	7.89	2.43	2.81	1.10	0.44	1.05	0.061	0.234	0.93	99.63						
547100.2	13.28	0.131	32.32	2.11	0.09	0.15	0.12	0.02	0.20	0.006	1.46	11.11	99.65						
547100.3	54.27	0.245	16.90	0.20	0.01	0.05	0.04	0.01	1.56	0.024	2.02	3.71	98.23	30.3	2.211	27.589	7.3	29.800	1.56
547101	51.97	0.233	18.77	0.25	0.12	0.02	0.02	0.01	2.44	0.026	1.59	4.29	99.06	30.1	1.727	27.974	5.7	29.701	1.19
547102	54.08	0.197	19.23	0.07	0.02	0.03	0.02	< 0.01	2.11	0.025	1.46	3.78	99.23	30.2	2.003	27.340	6.6	29.343	2.93
547103	66.97	0.212	13.20	0.08	0.03	0.03	0.02	0.01	2.63	0.031	2.30	0.62	98.13	30.2	1.265	28.620	4.2	29.885	0.91
547104	52.63	0.109	20.51	0.06	< 0.01	0.01	0.02	0.01	1.27	0.020	0.963	5.38	99.73	30.1	2.755	26.383	9.2	29.138	3.17
547105	46.60	0.127	23.06	0.07	0.06	0.02	0.02	0.01	1.42	0.021	1.12	5.24	99.05	30.1	2.819	26.894	9.4	29.713	1.15
547106	58.43	0.191	16.88	0.05	0.04	0.03	0.02	0.01	2.52	0.032	1.46	3.15	98.99	30.2	1.468	27.824	4.9	29.292	3.04
547107	51.38	0.239	20.92	0.08	0.01	0.02	0.02	0.01	2.16	0.021	2.05	4.53	99.42	30.6	1.627	28.904	5.3	30.531	0.35
547108	42.22	0.244	21.89	0.08	0.10	0.02	0.02	0.01	1.71	0.017	1.33	6.83	98.96	30.0	2.442	27.087	8.1	29.528	1.59
547109	55.75	0.218	17.72	0.26	< 0.01	0.02	0.01	< 0.01	2.21	0.024	1.62	3.78	99.30	30.0	1.734	27.371	5.8	29.105	3.12
547110	47.99	0.200	20.39	0.13	< 0.01	0.06	0.02	0.01	1.61	0.017	1.45	5.82	99.37	30.2	2.420	27.521	8.0	29.942	1.02
547111	48.12	0.139	21.10	0.09	< 0.01	0.01	0.01	0.01	1.30	0.017	1.06	5.56	99.73	30.4	2.984	26.622	9.8	29.606	2.66
547112	51.96	0.204	19.41	0.04	< 0.01	0.03	0.02	< 0.01	2.24	0.025	1.62	3.97	99.08	30.6	1.799	27.660	5.9	29.459	3.64

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01						
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT
547113	48.43	0.139	20.43	0.08	0.06	0.03	0.01	0.01	1.33	0.017	1.41	5.15	99.64	30.0	2.537	26.729	8.5	29.266	2.51
547114	51.82	0.203	21.05	0.09	0.09	0.03	0.01	0.01	1.53	0.018	1.76	4.71	99.71	30.0	1.908	27.681	6.3	29.588	1.51
547115	55.30	0.170	18.04	0.09	0.11	0.03	0.02	0.01	1.41	0.016	1.36	4.09	99.91	30.0	2.542	27.580	8.5	30.123	-0.32
547116	55.62	0.161	18.16	0.09	0.03	0.01	0.02	0.01	1.31	0.017	1.50	3.55	99.44	30.2	2.275	27.731	7.5	30.006	0.76
547117	46.73	0.146	20.84	0.03	0.04	0.02	0.01	0.01	1.50	0.020	1.60	5.69	98.96	30.3	2.424	27.563	8.0	29.987	1.05
547118	55.06	0.157	18.53	0.06	< 0.01	0.04	0.04	0.01	1.79	0.024	1.63	3.56	98.22	30.2	2.255	27.144	7.5	29.399	2.61
547119	56.53	0.139	17.59	0.03	0.31	0.05	0.02	0.01	1.55	0.017	1.35	3.87	99.54	31.5	2.530	28.666	8.0	31.196	0.96
547120														30.9	0.046	29.853	0.1	29.899	3.30
547121	50.76	0.235	19.56	0.04	0.04	0.02	0.02	0.01	2.33	0.022	1.38	4.91	99.08	31.9	2.490	28.666	7.8	31.156	2.44
547122	47.03	0.229	20.06	0.06	0.11	0.05	0.01	0.01	2.09	0.021	1.33	5.83	98.83	30.9	2.653	27.691	8.6	30.344	1.73
547123	54.79	0.207	17.15	0.07	0.04	0.02	0.02	0.01	1.95	0.022	1.88	4.28	98.62	30.0	2.016	27.059	6.7	29.075	3.16
547124	48.53	0.199	21.53	0.05	0.13	0.03	0.02	0.01	1.97	0.022	1.74	4.95	98.85	30.4	2.279	27.549	7.5	29.827	1.99
547125	53.94	0.173	19.86	0.06	< 0.01	0.02	0.02	0.01	1.81	0.023	1.39	3.44	99.10	30.4	2.245	27.858	7.4	30.103	0.83
547126	51.48	0.204	20.50	0.12	< 0.01	0.02	0.03	0.01	1.70	0.023	1.70	4.52	99.28	30.1	2.409	27.345	8.0	29.754	1.29
547127	50.07	0.212	22.37	0.08	0.01	0.01	0.01	0.01	1.51	0.019	1.29	5.24	99.89	30.0	2.462	27.153	8.2	29.615	1.37
547128	58.85	0.252	17.49	0.06	0.04	0.01	0.01	0.01	1.74	0.020	1.64	3.12	99.36	30.4	2.213	28.195	7.3	30.408	0.09
547129	51.54	0.206	18.80	0.05	0.04	0.01	0.02	0.01	1.53	0.020	1.44	4.93	99.25	30.1	2.674	27.033	8.9	29.706	1.38
547130	70.68	0.268	11.32	0.07	0.01	0.02	0.03	0.01	1.89	0.023	1.05	0.86	97.59	30.1	2.020	27.011	6.7	29.031	3.56
547131	57.46	0.237	15.35	0.88	< 0.01	0.05	0.03	0.01	3.13	0.043	0.415	3.79	98.22	30.3	1.040	28.232	3.4	29.271	3.34
547132	47.78	0.233	19.49	0.13	< 0.01	< 0.01	0.01	0.01	1.76	0.022	0.383	5.79	98.98	30.1	2.737	26.215	9.1	28.951	3.83
547133	46.72	0.238	19.98	0.13	< 0.01	< 0.01	0.02	0.01	1.63	0.022	0.376	5.54	98.40	30.1	2.439	27.506	8.1	29.946	0.44
547134														30.2	0.015	28.905	0.0	28.920	4.17
547135														30.2	0.007	29.173	0.0	29.180	3.48
549008	57.30	0.191	15.98	0.64	0.06	0.02	0.07	0.01	1.83	0.035	2.50	1.51	97.51	30.1	1.077	28.004	3.6	29.081	3.42
549009	54.61	0.196	17.08	0.16	0.12	0.03	0.05	0.01	1.30	0.017	1.72	4.13	99.42	30.0	2.171	27.340	7.2	29.510	1.69
549010	60.73	0.217	15.00	0.12	0.03	0.02	0.06	0.01	2.37	0.026	3.55	1.70	98.53	30.4	1.109	28.384	3.6	29.493	3.13
549011	44.10	0.245	21.35	0.39	< 0.01	0.04	0.05	0.01	2.30	0.025	3.59	3.25	97.96	30.0	1.010	28.912	3.4	29.922	0.29
549012	64.52	0.264	12.97	0.27	< 0.01	0.05	0.07	0.01	2.70	0.031	3.39	1.42	98.53	30.0	0.996	28.352	3.3	29.348	2.30
549013	52.36	0.281	17.93	1.22	0.02	0.05	0.05	0.01	2.69	0.026	4.05	3.22	97.75	30.7	1.007	28.570	3.3	29.577	3.56
549014	62.06	0.183	15.07	0.08	0.11	0.02	0.06	0.01	1.83	0.028	2.39	2.37	98.54	30.7	1.737	27.759	5.7	29.496	3.81
549015	62.57	0.130	14.77	0.05	0.05	0.03	0.06	0.01	1.27	0.025	2.44	2.82	99.44	30.3	1.842	27.958	6.1	29.800	1.80
549016	55.30	0.191	18.01	0.17	0.13	0.03	0.05	0.01	1.50	0.024	2.18	3.39	98.91	30.0	2.091	27.083	7.0	29.174	2.89
549017	58.23	0.233	17.48	0.27	0.24	0.02	0.05	0.01	1.61	0.033	1.66	2.34	99.63	30.6	2.345	27.962	7.7	30.307	0.86
549018	61.60	0.154	15.88	0.16	0.03	0.01	0.06	0.01	1.20	0.031	1.78	2.17	99.27	30.4	2.275	27.523	7.5	29.798	2.03
549019	68.22	0.169	12.25	0.16	0.04	0.04	0.06	0.01	1.25	0.032	1.90	1.00	97.46	30.3	2.335	27.375	7.7	29.710	1.92
549020.1	12.24	0.172	4.95	7.89	2.43	2.80	1.10	0.44	1.08	0.065	0.237	0.94	99.70						
549020.2	13.28	0.131	32.30	2.11	0.12	0.12	0.12	0.03	0.20	0.006	1.46	11.16	100.1						
549020.3	54.25	0.245	16.64	0.18	0.02	0.02	0.03	< 0.01	1.60	0.023	2.03	3.58	97.88	30.1	2.215	28.152	7.4	30.367	-0.81
549021	61.16	0.199	15.42	0.42	0.02	< 0.01	0.05	0.01	1.26	0.028	2.01	2.53	98.76	30.4	2.005	28.666	6.6	30.672	-0.73
549022	60.75	0.198	15.14	0.22	< 0.01	< 0.01	0.06	0.01	1.53	0.032	1.76	2.29	97.59	30.7	1.980	27.654	6.4	29.633	3.47
549023	59.90	0.156	15.67	0.18	< 0.01	< 0.01	0.05	0.01	1.24	0.026	2.34	2.54	98.16	30.1	1.971	27.399	6.5	29.370	2.47
549024	59.62	0.154	16.30	0.16	< 0.01	< 0.01	0.04	0.01	1.18	0.024	1.91	2.77	99.08	30.2	2.316	27.019	7.7	29.335	2.94
549025	56.86	0.181	16.69	0.30	< 0.01	< 0.01	0.04	0.01	1.42	0.029	2.98	2.72	98.73	30.3	1.386	28.959	4.6	30.346	-0.02
549026	51.18	0.186	17.41	0.28	< 0.01	< 0.01	0.05	0.01	1.27	0.025	2.71	3.66	98.76	30.2	1.763	28.413	5.8	30.176	-0.04
549027	45.86	0.176	18.73	0.29	< 0.01	< 0.01	< 0.01	< 0.01	1.24	0.023	2.31	3.08	97.79	30.1	1.945	27.491	6.5	29.436	2.27
549028	45.84	0.177	22.37	0.69	< 0.01	< 0.01	0.04	0.01	0.84	0.019	1.72	4.94	99.26	30.7	2.813	28.122	9.2	30.935	-0.77
549029	65.43	0.179	12.69	0.58	< 0.01	< 0.01	0.07	0.01	1.31	0.032	2.06	0.69	97.85	30.8	1.660	28.001	5.4	29.661	3.62
549030	61.80	0.232	13.52	0.35	< 0.01	< 0.01	0.06	0.01	2.03	0.036	2.98	1.32	98.07	30.7	1.533	28.394	5.0	29.927	2.52
549031	60.52	0.178	14.79	0.48	< 0.01	< 0.01	0.05	0.01	1.25	0.024	2.24	2.54	98.95	30.5	1.873	27.748	6.1	29.621	3.01
549032	57.10	0.182	14.74	0.40	< 0.01	< 0.01	0.05	0.01	1.61	0.029	3.26	2.74	98.84	30.1	1.371	28.200	4.6	29.572	1.73
549033	57.14	0.206	15.71	0.05	< 0.01	< 0.01	0.05	0.01	1.72	0.031	3.13	2.82	98.03	30.4	1.799	27.369	5.9	29.168	3.96

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01						
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT
549034	53.92	0.290	16.24	0.05	< 0.01	< 0.01	0.07	< 0.01	2.24	0.031	2.92	3.10	98.59	30.5	1.740	28.304	5.7	30.044	1.53
549035	50.21	0.213	18.88	0.05	< 0.01	< 0.01	0.06	0.01	1.55	0.026	2.80	3.19	98.67	30.5	1.752	27.635	5.7	29.387	3.72
549036	53.95	0.243	15.57	0.14	< 0.01	< 0.01	0.05	0.02	1.87	0.026	2.95		95.30	30.0	1.548	27.565	5.2	29.113	3.02
549037	54.96	0.267	17.39	0.07	< 0.01	< 0.01	0.07	0.01	2.15	0.026	2.90		95.42	30.7	1.529	28.323	5.0	29.852	2.75
549038	63.01	0.316	13.16	0.48	< 0.01	< 0.01	0.11	0.03	2.33	0.043	2.88		97.10	30.2	0.920	29.125	3.1	30.045	0.44
549039														30.5	0.017	29.987	0.1	30.004	1.52
549040	0.90	0.013	0.26	0.03	0.02	0.06	0.05	0.01	< 0.01	< 0.003	< 0.003	0.22	99.99	30.6	0.086	29.568	0.3	29.654	3.17
549041	25.49	0.258	15.26	0.14	< 0.01	0.05	0.11	0.02	0.01	0.022	< 0.003	1.76	98.49	30.5	1.628	28.480	5.3	30.107	1.38
549042	45.25	0.216	21.52	0.22	0.01	0.02	0.04	0.01	1.55	0.021	2.20	4.64	97.86	30.3	2.185	27.032	7.2	29.217	3.48
549043	59.73	0.183	15.33	0.12	< 0.01	0.05	0.07	0.01	1.73	0.026	2.39	2.49	98.03	30.8	2.325	27.193	7.5	29.518	4.18
549044	46.91	0.177	19.37	0.09	< 0.01	0.05	0.05	0.01	1.66	0.028	3.62	3.98	97.42	30.1	1.429	28.549	4.7	29.979	0.39
549045	55.06	0.317	15.01	0.97	< 0.01	< 0.01	0.06	< 0.01	2.61	0.034	4.37	1.06	96.19	30.4	1.099	28.031	3.6	29.130	4.31
549046	62.62	0.219	14.31	0.43	0.02	0.02	0.04	0.01	2.00	0.028	1.99	1.51	99.03	30.4	1.887	27.311	6.2	29.198	3.91
549047	57.60	0.243	14.49	0.26	< 0.01	< 0.01	0.06	0.01	2.08	0.038	3.16	2.51	97.14	30.3	1.327	27.981	4.4	29.309	3.27
549048	57.37	0.167	14.43	0.21	< 0.01	< 0.01	0.04	0.01	1.26	0.029	2.48	3.01	98.11	30.2	1.949	27.566	6.4	29.515	2.32
549049	54.51	0.166	17.89	0.34	0.02	0.02	0.06	0.01	1.28	0.027	2.52	3.50	99.12	30.3	1.978	27.972	6.5	29.950	1.19
549050	69.80	0.217	10.05	0.19	< 0.01	< 0.01	0.07	< 0.01	2.05	0.036	3.51	0.08	97.06	30.2	1.479	28.354	4.9	29.834	1.35
549051	64.36	0.170	12.99	0.29	< 0.01	0.02	0.06	< 0.01	1.90	0.032	3.67	1.32	97.84	30.2	1.419	27.893	4.7	29.312	2.93
549052	57.33	0.153	16.29	0.27	< 0.01	0.05	0.05	0.01	1.56	0.033	3.24	3.00	97.63	30.8	1.746	28.228	5.7	29.974	2.66
549053	62.43	0.219	13.03	0.59	0.01	0.04	0.05	< 0.01	2.19	0.032	3.98	1.61	96.91	30.1	1.099	28.008	3.7	29.107	3.28
549054	55.45	0.208	16.74	0.31	< 0.01	0.01	0.04	< 0.01	2.39	0.032	3.00	2.59	97.33	30.8	1.577	28.796	5.1	30.373	1.52
549055	53.62	0.146	17.82	0.50	< 0.01	0.02	0.05	0.01	1.37	0.028	2.79	3.37	97.23	30.4	1.825	27.825	6.0	29.650	2.35
549056	49.14	0.166	20.11	0.66	< 0.01	0.02	0.05	< 0.01	1.31	0.028	2.27	4.14	97.43	30.2	1.886	27.005	6.3	28.891	4.24
549057	69.12	0.207	10.83	0.30	< 0.01	0.04	0.05	0.01	2.44	0.041	3.93	-0.20	96.95	30.2	1.126	28.845	3.7	29.972	0.85

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
NIST 694 Meas	11.29	1.88	0.74	0.012	0.35	44.21	0.88	0.54	0.117	30.26									1672					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
DNC-1 Meas	47.12	18.61	10.01	0.149	10.15	11.22	1.95	0.23	0.487	0.06			106	144	14	32	35		157	0.031	0.029			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148.0	0.025	0.027			
GBW 07113 Meas	72.30	12.79	3.16	0.139	0.14	0.56	2.52	5.44	0.280	0.04			497	41	43	5	392	4	6					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
MICA-FE Meas																						34.30	19.37	25.81
MICA-FE Cert																						34.4	19.5	25.6
IF-G Meas																						41.22	0.15	55.83
IF-G Cert																						41.2	0.150	55.8
W-2a Meas	51.79	15.25	10.71	0.165	6.15	10.62	2.20	0.61	1.058	0.12			168	191	18	35	86	< 1	272	0.011	< 0.010			
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262	0.00700	0.00920			
OREAS 13P Meas																				0.234				
OREAS 13P Cert																				0.226				
OREAS 14P Meas																								
OREAS 14P Cert																								
SY-4 Meas	49.35	20.41	6.13	0.107	0.51	7.97	6.90	1.64	0.284	0.12			340	1201	108	1	536	3	6	< 0.010	< 0.010			
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0	0.000	0.001			
Oreas 73a (Fusion) Meas																						36.46	2.36	
Oreas 73a (Fusion) Cert																						36.4	2.38	
Oreas 74a (Fusion) Meas																						32.60	2.11	
Oreas 74a (Fusion) Cert																						32.4	2.21	
Oreas 75a (Fusion) Meas																						27.30	2.00	
Oreas 75a (Fusion) Cert																						27.3	1.99	
BIR-1a Meas	48.18	15.74	11.31	0.172	9.60	13.04	1.86	0.02	0.971	0.02			8	108	13	44	16	< 1	336	0.023	0.039			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310	0	0			
546296 Orig	37.39	0.58	6.95	0.115	39.16	0.58	< 0.01	< 0.01	0.003	< 0.01	13.92	98.72	< 2	< 2	< 1	9	< 2	< 1	36	0.213	0.265			
546296 Dup	37.49	0.58	7.03	0.114	39.34	0.58	< 0.01	< 0.01	0.003	0.01	13.92	99.08	< 2	< 2	< 1	9	< 2	< 1	34	0.178	0.268			
546309 Orig	37.15	0.71	7.72	0.126	39.50	0.76	< 0.01	< 0.01	0.005	< 0.01	13.19	99.18	< 2	< 2	< 1	10	< 2	< 1	39	0.209	0.315	19.54	0.47	46.72
546309 Split	36.97	0.70	6.97	0.123	38.89	0.76	< 0.01	< 0.01	0.005	< 0.01	13.02	97.45	< 2	< 2	< 1	10	< 2	< 1	36	0.160	0.307	13.02	0.72	60.45
546309 Split																								
546313 Orig	37.94	0.69	7.50	0.103	38.77	0.42	< 0.01	< 0.01	0.004	< 0.01	12.78	98.21	< 2	< 2	< 1	9	3	< 1	40	0.210	0.256			
546313 Dup	37.93	0.68	7.71	0.105	39.32	0.43	< 0.01	< 0.01	0.004	< 0.01	12.78	98.98	< 2	< 2	< 1	9	< 2	< 1	41	0.244	0.259			
546327 Dup	37.46	0.60	8.74	0.147	40.83	0.10	< 0.01	< 0.01	0.004	< 0.01	12.89	100.7	< 2	< 2	4	9	2	< 1	30	0.241	0.251			
546329 Orig	36.98	0.60	8.38	0.126	39.01	0.07	< 0.01	< 0.01	0.004	< 0.01	13.00	98.18	< 2	< 2	< 1	10	< 2	< 1	33	0.155	0.242	15.86	0.43	57.07
546329 Split	37.12	0.58	8.79	0.133	39.93	0.07	< 0.01	< 0.01	0.004	< 0.01	12.96	99.61	< 2	< 2	< 1	10	2	< 1	34	0.210	0.243	16.30	0.43	56.31
546329 Split																								
546339 Orig	39.13	0.74	7.36	0.112	38.48	1.09	0.01	< 0.01	0.004	< 0.01	11.30	98.24	< 2	< 2	< 1	10	2	< 1	41	0.137	0.223	18.70	0.45	50.79
546339 Split	39.63	0.75	7.85	0.113	39.43	1.14	0.01	< 0.01	0.004	0.01	10.94	99.89	< 2	< 2	< 1	10	< 2	< 1	42	0.213	0.245	16.38	0.62	54.14
546339 Split																								
546342 Orig	38.09	0.67	8.24	0.102	39.20	0.89	< 0.01	< 0.01	0.004	< 0.01	11.80	99.01	< 2	< 2	< 1	9	2	< 1	37	0.174	0.249			
546342 Dup	38.68	0.67	8.34	0.103	39.52	0.90	< 0.01	< 0.01	0.004	< 0.01	11.80	100.0	< 2	< 2	< 1	9	3	< 1	39	0.218	0.254			
546359 Dup	39.86	0.68	7.91	0.136	39.22	1.57	0.02	< 0.01	0.004	0.01	10.44	99.86	< 2	< 2	< 1	11	< 2	< 1	40	0.143	0.242			
546367 Orig	38.42	0.90	8.35	0.129	38.18	1.04	0.01	< 0.01	0.006	< 0.01	12.81	99.86	< 2	< 2	< 1	10	2	< 1	39	0.144	0.245	22.22	0.63	42.00
546367 Split	38.31	0.92	8.47	0.129	38.24	1.04	0.02	< 0.01	0.006	< 0.01	12.63	99.77	< 2	< 2	< 1	10	3	< 1	42	0.200	0.252	25.65	0.66	36.18
546367 Split																								
546373 Orig	37.14	1.05	8.38	0.100	38.35	0.52	0.02	< 0.01	0.011	< 0.01	13.68	99.26	< 2	< 2	< 1	7	< 2	< 1	34	0.151	0.240			
546373 Dup	37.71	1.08	8.65	0.101	39.17	0.53	0.02	< 0.01	0.012	< 0.01	13.68	101.0	< 2	< 2	< 1	8	2	< 1	35	0.165	0.249			
546377 Orig	48.68	14.56	10.98	0.185	6.93	11.21	4.06	0.12	1.315	0.12	1.06	99.22	24	120	27	41	75	< 1	310	0.015	0.021			
546377 Split	48.73	14.42	10.68	0.176	6.90	10.97	4.08	0.13	1.284	0.10	1.09	98.55	24	121	25	41	74	< 1	305	0.011	0.021			
546377 Split																								
546388 Dup	38.06	0.93	7.67	0.111	38.27	0.84	0.02	< 0.01	0.007	0.02	12.85	98.77	< 2	< 2	< 1	9	< 2	< 1	42	0.194	0.278			
546395 Orig	40.32	0.65	7.97	0.118	41.59	1.02	0.01	< 0.01	0.005	0.01	7.33	99.03	< 2	< 2	< 1	9	< 2	< 1	38	0.198	0.270	16.86	0.50	51.85
546395 Split	40.27	0.66	7.37	0.116	41.75	1.05	0.02	< 0.01	0.006	< 0.01	7.35	98.62	< 2	< 2	< 1	9	< 2	< 1	38	0.199	0.272	17.95	0.59	48.03
546395 Split																								

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
546405 Orig	40.88	0.73	8.09	0.113	41.54	1.19	0.01	< 0.01	0.004	0.01	7.73	100.3	< 2	< 2	< 1	10	< 2	< 1	41	0.208	0.244			
546405 Dup	40.29	0.72	7.30	0.113	41.01	1.22	0.01	< 0.01	0.004	< 0.01	7.73	98.42	< 2	< 2	< 1	10	< 2	< 1	40	0.124	0.219			
546419 Orig	40.18	0.55	8.16	0.121	40.36	1.22	< 0.01	< 0.01	0.004	< 0.01	8.20	98.82	< 2	< 2	< 1	10	< 2	< 1	38	0.195	0.262			
546419 Dup	39.26	0.54	8.18	0.122	40.49	1.23	0.01	< 0.01	0.004	< 0.01	8.20	98.05	< 2	< 2	< 1	10	< 2	< 1	39	0.201	0.266			
546423 Orig	38.63	0.77	7.93	0.113	40.75	0.91	0.01	< 0.01	0.005	< 0.01	10.50	99.61	< 2	< 2	< 1	9	< 2	< 1	39	0.219	0.242	17.48	1.05	48.03
546423 Split	37.88	0.76	7.38	0.108	39.22	0.92	0.02	< 0.01	0.005	< 0.01	12.08	98.38	< 2	< 2	< 1	9	< 2	< 1	39	0.193	0.241	17.75	1.09	46.12
546423 Split																								
546424 Orig	39.42	0.72	7.97	0.116	41.48	1.00	0.01	< 0.01	0.005	< 0.01	9.38	100.1	< 2	< 2	< 1	9	< 2	< 1	38	0.215	0.266	19.84	1.41	42.03
546424 Split	39.93	0.72	7.17	0.117	41.28	1.03	0.02	< 0.01	0.005	< 0.01	9.32	99.60	< 2	< 2	< 1	10	3	< 1	39	0.179	0.262	18.74	1.71	42.56
546424 Split																								
546434 Orig	40.39	0.80	7.54	0.122	42.08	1.09	0.04	0.01	0.005	< 0.01	6.27	98.35	< 2	< 2	< 1	10	< 2	< 1	40	0.205	0.257			
546434 Dup	40.36	0.80	8.30	0.119	42.49	1.07	0.03	< 0.01	0.005	< 0.01	6.27	99.46	< 2	< 2	< 1	10	< 2	< 1	37	0.228	0.259			
546437 Orig	41.27	0.99	7.27	0.122	42.24	0.97	0.12	0.04	0.014	< 0.01	4.86	97.89	< 2	< 2	1	10	6	< 1	41	0.172	0.252			
546437 Dup	41.85	0.84	7.94	0.124	42.34	0.97	0.13	0.04	0.005	< 0.01	4.86	99.09	< 2	< 2	< 1	10	3	< 1	41	0.194	0.252			
547088 Orig	37.80	0.62	8.50	0.114	39.13	0.39	0.01	< 0.01	0.003	< 0.01	12.63	99.20	< 2	< 2	< 1	10	3	< 1	34	0.227	0.253			
547090 Orig	37.65	0.60	7.86	0.110	38.78	0.37	0.01	< 0.01	0.004	0.03	12.93	98.36	< 2	< 2	< 1	9	< 2	< 1	30	0.197	0.225	14.37	0.31	62.17
547090 Split	37.91	0.62	8.05	0.111	40.36	0.37	0.01	< 0.01	0.004	< 0.01	12.78	100.2	< 2	< 2	< 1	9	< 2	< 1	32	0.187	0.225	12.80	0.40	64.54
547090 Split	37.91	0.62	8.05	0.111	40.36	0.37	0.01	< 0.01	0.004	< 0.01	12.78	100.2	< 2	< 2	< 1	9	< 2	< 1	32	0.187	0.225			
547102 Orig	37.70	0.59	8.07	0.121	40.74	0.39	< 0.01	< 0.01	0.004	< 0.01	12.41	100.0	< 2	< 2	< 1	10	< 2	< 1	29	0.207	0.256			
547102 Dup	37.50	0.59	6.89	0.123	39.95	0.39	< 0.01	< 0.01	0.004	< 0.01	12.41	97.86	< 2	< 2	< 1	10	< 2	< 1	29	0.163	0.259			
547108 Orig	37.94	0.64	7.87	0.119	40.95	0.41	< 0.01	< 0.01	0.005	0.02	12.73	100.7	< 2	< 2	< 1	9	< 2	< 1	33	0.208	0.255	24.10	0.39	42.22
547108 Split	37.58	0.65	7.75	0.117	39.08	0.42	< 0.01	< 0.01	0.005	0.01	12.64	98.26	< 2	< 2	< 1	8	2	< 1	35	0.187	0.260	17.13	0.31	52.37
547108 Split																								
547117 Orig	37.07	0.48	7.44	0.100	41.08	0.17	< 0.01	< 0.01	0.003	0.03	13.01	99.39	< 2	< 2	< 1	6	< 2	< 1	26	0.223	0.210			
547117 Dup	37.00	0.47	7.56	0.100	41.02	0.17	< 0.01	< 0.01	0.003	0.01	13.01	99.37	< 2	< 2	< 1	6	< 2	< 1	26	0.207	0.218			
547118 Orig	37.18	0.59	7.41	0.112	40.48	0.31	< 0.01	< 0.01	0.007	0.01	12.80	98.89	< 2	< 2	< 1	7	< 2	< 1	29	0.220	0.245	17.05	0.32	55.06
547118 Split	37.07	0.58	8.29	0.113	39.38	0.31	< 0.01	< 0.01	0.007	< 0.01	12.78	98.54	< 2	< 2	< 1	7	6	< 1	30	0.176	0.254	15.52	0.35	59.08
547118 Split																								
547134 Orig	40.41	2.83	6.97	0.108	34.16	1.73	0.07	0.01	0.119	0.03	12.54	98.98	< 2	7	3	10	8	< 1	55	0.164	0.187			
549020.1 Orig	49.21	15.76	11.85	0.165	4.84	7.94	2.18	2.73	1.160	0.44	0.84	97.12	693	508	21	25	109	2	348	0.252	1.042			
549020.1 Dup	49.54	15.83	11.88	0.166	4.93	8.02	2.20	2.77	1.202	0.45	0.84	97.83	700	515	21	25	111	2	351	0.258	1.057			
549021 Orig	39.53	1.36	9.37	0.173	36.30	2.29	0.02	< 0.01	0.022	< 0.01	11.16	100.2	< 2	< 2	1	13	3	< 1	57	0.127	0.227	14.83	0.37	62.57
549021 Split	39.23	1.32	9.44	0.173	35.55	2.29	0.02	< 0.01	0.021	< 0.01	11.02	99.07	< 2	< 2	< 1	13	3	< 1	55	0.174	0.251	15.12	0.44	61.30
549021 Dup	38.78	1.33	9.46	0.173	36.74	2.36	0.02	< 0.01	0.021	< 0.01	11.16	100.0	< 2	< 2	< 1	13	4	< 1	55	0.174	0.248			
549021 Split																								
549021 Dup	38.78	1.33	9.46	0.173	36.74	2.36	0.02	< 0.01	0.021	< 0.01	11.16	100.0	< 2	< 2	< 1	13	4	< 1	55					
549028 Orig	39.04	1.52	9.18	0.137	36.93	1.85	0.01	< 0.01	0.020	< 0.01	11.09	99.79	< 2	< 2	1	13	2	< 1	58	0.167	0.227	20.15	0.77	45.84
549028 Split	39.05	1.52	8.86	0.135	36.24	1.79	0.01	< 0.01	0.019	< 0.01	10.97	98.60	< 2	< 2	< 1	12	3	< 1	53	0.194	0.235	22.95	0.77	44.44
549028 Split																								
549035 Orig	39.32	1.30	7.19	0.096	38.08	0.06	< 0.01	< 0.01	0.015	< 0.01	11.81	97.87	< 2	< 2	< 1	8	< 2	< 1	39	0.139	0.216			
549035 Dup	39.49	1.33	7.15	0.095	37.65	0.06	< 0.01	< 0.01	0.015	< 0.01	11.81	97.62	< 2	< 2	< 1	8	2	< 1	38	0.140	0.210			
549038 Orig	41.23	6.25	8.98	0.131	27.04	7.04	0.88	0.10	0.386	0.04	8.27	100.4	74	366	8	21	29	< 1	132	0.119	0.151			
549038 Dup	40.97	6.29	8.91	0.129	26.91	6.91	0.88	0.10	0.384	0.05	8.27	99.81	73	370	8	21	20	< 1	133	0.129	0.150			
549038 Orig	41.23	6.25	8.98	0.131	27.04	7.04	0.88	0.10	0.386	0.04	8.27	100.4	74	366	8	21	29	< 1	132					
549038 Dup	40.97	6.29	8.91	0.129	26.91	6.91	0.88	0.10	0.384	0.05	8.27	99.81	73	370	8	21	20	< 1	133					
549048 Orig	39.51	1.55	8.79	0.126	37.00	1.69	0.02	< 0.01	0.022	< 0.01	11.42	100.1	< 2	< 2	1	13	3	< 1	61	0.170	0.246	16.42	0.51	57.37
549048 Split	39.17	1.52	8.65	0.127	35.97	1.66	0.01	< 0.01	0.022	< 0.01	11.19	98.34	< 2	< 2	< 1	12	2	< 1	56	0.166	0.251	15.50	0.52	59.33
549048 Split																								
549057 Orig	39.30	1.16	7.95	0.114	38.19	1.74	0.02	< 0.01	0.013	< 0.01	11.15	99.65	< 2	< 2	< 1	11	< 2	< 1	50	0.170	0.230	9.90	0.32	69.12
549057 Split	38.55	1.14	7.91	0.115	37.37	1.70	0.02	< 0.01	0.012	< 0.01	10.99	97.82	< 2	< 2	< 1	11	< 2	< 1	48	0.183	0.253	10.11	0.37	70.36
549057 Split	38.55	1.14	7.91	0.115	37.37	1.70	0.02	< 0.01	0.012	< 0.01	10.99	97.82	< 2	< 2	< 1	11	< 2	< 1	48	0.183	0.253			
Method Blank																						< 0.01	< 0.01	< 0.01

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	% Loss Mass	Calculated Start Mass	Magnetic Fraction	Non-Mag Fraction	Start Mass	Weight % Magnetics
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	g	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01						
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT
NIST 694 Meas																		
NIST 694 Cert																		
DNC-1 Meas																		
DNC-1 Cert																		
GBW 07113 Meas																		
GBW 07113 Cert																		
MICA-FE Meas	0.354	4.54	0.51	0.51	8.78	2.52	0.42	0.02	0.026	0.004								
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350								
IF-G Meas	0.041	1.89	1.53	0.05	0.02	0.03	0.06	0.01		< 0.003								
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225								
W-2a Meas																		
W-2a Cert																		
OREAS 13P Meas										0.228								
OREAS 13P Cert										0.226								
OREAS 14P Meas										2.10								
OREAS 14P Cert										2.10								
SY-4 Meas																		
SY-4 Cert																		
Oreas 73a (Fusion) Meas		32.52						0.20		1.44								
Oreas 73a (Fusion) Cert		32.5						0.20		1.44								
Oreas 74a (Fusion) Meas		27.99						0.18		3.24								
Oreas 74a (Fusion) Cert		27.9						0.18		3.24								
Oreas 75a (Fusion) Meas		22.51						0.15		5.25								
Oreas 75a (Fusion) Cert		22.3						0.16		5.25								
BIR-1a Meas																		
BIR-1a Cert																		
546296 Orig																		
546296 Dup																		
546309 Orig	0.209	23.19	0.06	< 0.01	< 0.01	0.01	0.02	1.69	0.024	1.39	5.03	98.28						
546309 Split	0.246	14.71	0.07	< 0.01	0.01	0.02	< 0.01	3.04	0.030	2.27	2.19	96.75	0.74	30.140	1.689	28.451	30.4	5.6
546309 Split													0.74	30.140	1.689	28.451	30.4	5.6
546313 Orig																		
546313 Dup																		
546327 Dup																		
546329 Orig	0.231	17.79	0.03	< 0.01	0.01	0.01	0.01	1.53	0.020	1.44	3.39	97.80						
546329 Split	0.231	18.10	0.05	< 0.01	0.02	0.02	0.01	1.53	0.024	1.53	4.16	98.70	2.69	29.385	2.435	26.950	30.2	8.1
546329 Split													2.69	29.385	2.435	26.950	30.2	8.1
546339 Orig	0.191	20.06	0.38	< 0.01	0.02	0.01	0.01	1.79	0.029	2.01	2.87	97.28						
546339 Split	0.193	17.71	0.32	0.01	0.03	0.02	0.01	1.96	0.030	2.09	3.07	96.58	3.30	30.883	1.930	28.953	31.9	6.0
546339 Split													3.30	30.883	1.930	28.953	31.9	6.0
546342 Orig																		
546342 Dup																		
546359 Dup																		
546367 Orig	0.223	23.14	0.31	< 0.01	0.01	0.02	0.01	1.53	0.019	1.16	6.03	97.31						
546367 Split	0.196	26.09	0.37	< 0.01	0.02	0.02	0.01	1.24	0.020	1.01	7.75	99.18	3.17	29.704	3.435	26.270	30.7	11.2
546367 Split													3.17	29.704	3.435	26.270	30.7	11.2
546373 Orig																		
546373 Dup																		
546377 Orig																		
546377 Split													3.66	29.103	0.042	29.061	30.2	0.1
546377 Split													3.66	29.103	0.042	29.061	30.2	0.1
546388 Dup																		
546395 Orig	0.357	17.95	0.70	0.01	0.03	0.05	< 0.01	5.15	0.054	1.68	0.21	95.40						
546395 Split	0.336	19.98	0.82	< 0.01	0.04	0.05	0.01	4.69	0.049	1.48	1.98	95.98	2.94	29.409	0.877	28.532	30.3	2.9

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	% Loss Mass	Calculated Start Mass	Magnetic Fraction	Non-Mag Fraction	Start Mass	Weight % Magnetics
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	g	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01						
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT
546395 Split													2.94	29.409	0.877	28.532	30.3	2.9
546405 Orig																		
546405 Dup																		
546419 Orig																		
546419 Dup																		
546423 Orig	0.353	20.69	0.23	< 0.01	< 0.01	0.05	0.01	4.04	0.048	2.14	3.85	97.90						
546423 Split	0.356	20.62	0.40	< 0.01	0.07	0.06	0.01	4.07	0.056	1.63	6.28	98.47	3.92	29.604	0.554	29.049	30.8	1.8
546423 Split													3.92	29.604	0.554	29.049	30.8	1.8
546424 Orig	0.323	24.41	0.29	0.03	0.04	0.04	0.01	4.21	0.053	2.07	3.66	98.41						
546424 Split	0.327	23.34	0.25	< 0.01	0.05	0.04	0.02	4.30	0.062	1.89	4.84	98.13	3.08	30.551	0.538	30.013	31.5	1.7
546424 Split													3.08	30.551	0.538	30.013	31.5	1.7
546434 Orig																		
546434 Dup																		
546437 Orig																		
546437 Dup																		
547088 Orig																		
547090 Orig	0.196	16.12	0.08	0.11	0.02	0.02	< 0.01	1.89	0.024	1.89	2.24	99.44						
547090 Split	0.190	13.88	0.06	< 0.01	0.03	0.02	0.01	1.97	0.028	2.19	1.97	98.06	1.42	20.156	1.102	19.054	20.4	5.4
547090 Split													1.42	20.156	1.102	19.054	20.4	5.4
547102 Orig																		
547102 Dup																		
547108 Orig	0.244	21.89	0.08	0.10	0.02	0.02	0.01	1.71	0.017	1.33	6.83	98.96						
547108 Split	0.232	19.12	0.13	< 0.01	0.02	0.02	0.01	2.13	0.027	1.41	4.68	97.60	0.79	31.773	2.020	29.753	32.0	6.3
547108 Split													0.79	31.773	2.020	29.753	32.0	6.3
547117 Orig																		
547117 Dup																		
547118 Orig	0.157	18.53	0.06	< 0.01	0.04	0.04	0.01	1.79	0.024	1.63	3.56	98.22						
547118 Split	0.164	17.16	0.05	0.02	0.03	0.03	0.01	1.91	0.024	1.92	3.15	99.42	1.56	30.077	2.163	27.914	30.6	7.1
547118 Split													1.56	30.077	2.163	27.914	30.6	7.1
547134 Orig																		
549020.1 Orig																		
549020.1 Dup																		
549021 Orig	0.199	15.42	0.42	0.02	0.01	0.05	0.01	1.28	0.028	2.01	2.53	99.75						
549021 Split	0.198	15.58	0.44	0.09	0.01	0.05	0.01	1.27	0.027	2.07	2.65	99.24	3.07	29.239	1.909	27.330	30.2	6.3
549021 Dup																		
549021 Split													3.07	29.239	1.909	27.330	30.2	6.3
549021 Dup																		
549028 Orig	0.181	23.75	0.74	0.03	0.02	0.04	0.01	0.86	0.019	1.91	4.94	99.26						
549028 Split	0.170	22.19	0.68	0.08	0.06	0.05	0.01	0.88	0.021	1.90	4.81	99.01	4.44	29.153	2.357	26.796	30.5	7.7
549028 Split													4.44	29.153	2.357	26.796	30.5	7.7
549035 Orig																		
549035 Dup																		
549038 Orig																		
549038 Dup																		
549038 Orig																		
549038 Dup																		
549048 Orig	0.167	16.48	0.31	< 0.01	0.02	0.04	0.01	1.26	0.029	2.48	3.01	98.11						
549048 Split	0.169	15.58	0.25	< 0.01	0.02	0.04	0.01	1.32	0.028	2.59	2.37	97.70	2.06	29.883	1.757	28.127	30.5	5.8
549048 Split													2.06	29.883	1.757	28.127	30.5	5.8
549057 Orig	0.207	10.83	0.30	< 0.01	0.04	0.05	0.01	2.44	0.041	3.93	-0.20	96.95						
549057 Split	0.202	10.88	0.33	< 0.01	0.03	0.05	0.01	2.50	0.040	3.91	-0.24	98.51	3.02	29.918	1.165	28.753	30.8	3.8
549057 Split													3.02	29.918	1.165	28.753	30.8	3.8
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01						

Quality Analysis ... *Innovative Technologies*

Date Submitted: 31-Oct-11
Invoice No.: A11-12769
Invoice Date: 14-Dec-11
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road
Suite 2
Sudbury Ontario P3C 4Y9
Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

9 Pulp samples and 129 Rock samples were submitted for analysis.

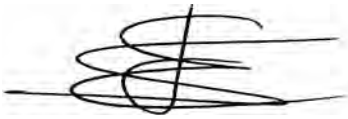
The following analytical packages were requested:

Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID

REPORT **A11-12769**

Notes:
Total includes all elements in % oxide to the left of total.

CERTIFIED BY :



Emmanuel Eseme , Ph.D.
Quality Control

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Cr	Ni	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
521978	38.05	1.36	8.61	0.182	35.80	1.94	0.03	< 0.01	0.020	0.01	12.09	98.10	3	6	2	12	7	< 1	48	0.243	0.190	19.75	0.88	48.48
521979	39.00	1.84	8.45	0.105	37.05	1.28	0.02	< 0.01	0.023	< 0.01	12.12	99.91	4	5	3	13	3	< 1	59	0.236	0.186	26.98	1.13	34.48
521980.1	50.37	15.99	12.01	0.167	4.92	7.75	2.33	2.89	1.183	0.43	0.90	98.95	732	532	21	25	102	2	339	1.033	0.222	48.51	15.83	12.01
521980.2																						35.83	2.38	13.00
521980.3																						17.68	0.43	54.69
521981	39.76	2.26	8.32	0.101	35.85	2.31	0.02	< 0.01	0.021	< 0.01	11.53	100.2	2	4	2	17	3	< 1	87	0.247	0.189	25.02	0.60	38.54
521982	38.20	1.29	8.25	0.158	37.35	0.81	0.01	< 0.01	0.019	< 0.01	11.95	98.05	3	5	1	10	4	< 1	41	0.259	0.177	21.29	1.04	45.43
521983	38.71	1.45	7.85	0.131	37.49	2.01	0.02	< 0.01	0.018	< 0.01	11.02	98.70	< 2	2	< 1	12	2	< 1	53	0.241	0.199	23.81	0.60	38.57
521984	38.46	1.05	8.01	0.125	39.22	0.22	< 0.01	< 0.01	0.005	0.01	12.12	99.24	< 2	2	< 1	9	2	< 1	34	0.247	0.209	23.83	1.13	40.84
521985	39.27	1.52	6.60	0.108	38.27	0.49	0.01	< 0.01	0.011	< 0.01	12.39	98.68	< 2	< 2	1	11	2	< 1	51	0.235	0.176	23.13	1.06	42.84
521986	38.10	0.82	7.48	0.139	39.45	0.18	< 0.01	< 0.01	0.003	< 0.01	11.30	97.49	< 2	< 2	< 1	8	2	< 1	32	0.242	0.267	24.09	0.86	37.41
521987	39.42	1.84	8.03	0.077	38.63	0.12	0.01	< 0.01	0.019	< 0.01	12.43	100.6	< 2	< 2	< 1	12	2	< 1	54	0.279	0.195	25.84	0.83	32.21
521988	38.27	1.65	7.98	0.095	37.82	0.69	0.01	< 0.01	0.021	0.02	12.45	98.99	< 2	< 2	1	13	2	< 1	54	0.241	0.193	23.79	0.64	37.11
521989	37.17	1.19	8.39	0.156	36.50	1.48	0.02	< 0.01	0.019	< 0.01	12.57	97.51	< 2	< 2	1	10	2	< 1	46	0.245	0.193	27.28	1.27	29.45
521990	38.21	1.12	8.01	0.133	37.46	1.39	0.02	< 0.01	0.019	< 0.01	12.80	99.16	< 2	< 2	< 1	8	2	< 1	40	0.236	0.191	24.39	0.95	35.89
521991	38.58	1.22	7.92	0.123	38.48	1.03	0.01	< 0.01	0.018	< 0.01	12.69	100.1	< 2	< 2	1	9	2	< 1	41	0.225	0.205	19.48	1.24	37.47
521992	38.58	1.08	8.49	0.168	37.54	2.14	0.03	< 0.01	0.020	< 0.01	11.63	99.68	2	< 2	< 1	10	< 2	< 1	39	0.256	0.194	21.76	1.47	41.85
521993	37.97	1.31	7.98	0.135	37.56	1.06	0.01	< 0.01	0.018	< 0.01	12.94	98.99	< 2	< 2	< 1	10	2	< 1	41	0.233	0.192	22.80	1.33	40.23
521994	39.95	1.27	8.01	0.153	37.68	1.88	0.02	< 0.01	0.017	< 0.01	10.45	99.44	< 2	< 2	< 1	10	3	< 1	46	0.242	0.176	22.71	1.55	41.80
521995	40.11	1.31	7.84	0.144	36.96	1.94	0.02	< 0.01	0.017	< 0.01	10.27	98.62	< 2	< 2	< 1	11	6	< 1	48	0.247	0.198	20.38	1.26	47.10
521996	39.71	1.41	8.49	0.141	37.51	2.18	0.02	< 0.01	0.016	< 0.01	10.99	100.5	2	< 2	2	13	2	< 1	55	0.246	0.192	24.89	1.87	37.00
521997	39.76	1.28	7.83	0.133	37.79	2.01	0.02	< 0.01	0.015	< 0.01	9.89	98.72	2	< 2	< 1	12	< 2	< 1	51	0.251	0.205	20.16	1.74	45.86
521998	39.34	1.68	6.69	0.122	36.86	1.14	0.02	< 0.01	0.019	< 0.01	11.82	97.70	7	2	2	13	14	< 1	49	0.239	0.176	21.88	0.65	44.55
521999	39.86	1.54	8.02	0.135	37.91	1.87	0.02	< 0.01	0.017	< 0.01	9.36	98.74	4	2	< 1	12	3	< 1	53	0.234	0.165	22.97	0.64	41.49
522000	96.85	0.29	1.08	0.008	0.06	0.04	0.02	0.05	0.030	< 0.01	-0.01	98.43	23	5	2	< 1	55	< 1	7	0.011	< 0.010	97.61	0.33	0.62
522691	36.52	1.02	9.11	0.143	38.75	0.39	0.03	< 0.01	0.015	< 0.01	13.30	99.28	< 2	< 2	< 1	12	< 2	< 1	45	0.248	0.215	22.20	0.62	41.67
522692	37.18	1.17	8.52	0.145	37.52	1.07	0.02	< 0.01	0.018	< 0.01	12.23	97.88	< 2	< 2	< 1	12	3	< 1	45	0.244	0.224	21.09	0.94	37.31
522693	37.66	1.45	8.36	0.126	36.23	1.56	0.01	< 0.01	0.019	< 0.01	12.25	97.67	< 2	< 2	2	13	2	< 1	51	0.231	0.180	3.69	0.55	77.54
522694	37.36	0.42	8.19	0.112	41.36	0.07	< 0.01	< 0.01	0.003	< 0.01	10.86	98.39	2	< 2	1	4	2	< 1	23	0.278	0.221	16.55	1.24	46.46
522695	37.34	0.39	8.35	0.117	41.56	0.07	< 0.01	< 0.01	0.003	< 0.01	10.54	98.38	< 2	< 2	< 1	4	< 2	< 1	20	0.271	0.236	5.82	0.72	71.10
522696	36.03	0.17	6.95	0.058	41.46	0.03	< 0.01	< 0.01	0.002	< 0.01	13.51	98.21	< 2	< 2	< 1	3	2	< 1	16	0.260	0.246	4.70	0.55	81.48
522697	34.89	0.07	6.91	0.120	43.05	0.02	< 0.01	< 0.01	< 0.001	0.01	14.38	99.45	< 2	< 2	< 1	3	< 2	< 1	11	0.252	0.197	26.97	0.55	39.03
522698	34.38	0.10	7.38	0.133	43.83	0.04	0.02	< 0.01	0.001	< 0.01	14.21	100.1	< 2	< 2	< 1	3	3	< 1	16	0.265	0.290	27.50	0.72	36.54
522699	35.44	0.09	7.33	0.116	42.83	0.03	< 0.01	< 0.01	< 0.001	< 0.01	12.74	98.58	< 2	< 2	< 1	4	< 2	< 1	12	0.250	0.196	6.36	0.53	79.85
522700.1	48.68	16.41	11.23	0.161	4.82	7.49	2.26	2.80	1.157	0.42	1.15	96.58	714	519	20	25	103	2	328	0.997	0.220	48.25	15.86	11.96
522700.2																						35.72	2.38	12.99
522700.3																						17.49	0.44	54.96
522701	37.28	0.38	7.40	0.086	41.21	0.03	< 0.01	< 0.01	0.003	< 0.01	12.64	99.03	< 2	< 2	< 1	7	< 2	< 1	29	0.231	0.189	25.28	0.33	32.15
522702	37.79	0.96	8.49	0.136	38.31	1.37	0.01	0.01	0.015	0.01	11.88	98.98	< 2	< 2	< 1	10	5	< 1	49	0.242	0.242	22.01	0.79	39.98
522703	36.84	0.20	7.52	0.086	43.56	0.03	0.02	< 0.01	0.002	< 0.01	12.57	100.8	< 2	< 2	< 1	4	2	< 1	16	0.258	0.268	5.60	0.57	79.28
522704	35.26	0.27	7.34	0.098	43.48	0.03	0.02	< 0.01	0.001	< 0.01	13.89	100.4	< 2	< 2	< 1	3	5	< 1	10	0.305	0.282	3.47	0.34	84.44
522705	34.84	0.08	7.85	0.104	44.19	0.05	0.03	0.01	0.002	0.01	13.57	100.7	< 2	< 2	< 1	2	3	< 1	5	0.281	0.287	22.48	0.61	46.07
522706	37.66	1.18	8.40	0.122	38.27	0.43	< 0.01	< 0.01	0.013	< 0.01	11.79	97.88	4	< 2	< 1	12	2	< 1	51	0.231	0.154	2.54	0.32	80.58
522707	38.95	1.13	8.90	0.156	38.85	1.56	0.01	< 0.01	0.014	< 0.01	11.20	100.8	2	< 2	< 1	12	3	< 1	46	0.257	0.191	16.29	0.53	54.12
522708	37.94	1.10	8.87	0.148	38.82	0.76	0.01	< 0.01	0.016	0.01	11.93	99.61	< 2	< 2	< 1	11	2	< 1	45	0.244	0.198	8.26	0.56	68.80
522709	36.56	0.33	7.54	0.071	41.58	0.38	< 0.01	< 0.01	0.001	< 0.01	13.57	100.0	< 2	< 2	< 1	3	< 2	< 1	14	0.277	0.236	24.82	0.66	42.64
522710	39.44	11.28	10.60	0.197	16.89	14.60	0.69	0.20	1.177	0.09	5.78	100.9	6	23	25	34	71	< 1	273	0.076	0.059	18.71	2.04	48.18
522711	40.52	12.80	13.29	0.228	10.17	16.21	1.62	0.55	1.738	0.15	2.85	100.1	14	20	36	49	100	< 1	389	0.024	0.013			
522712	36.29	0.53	8.14	0.131	40.52	0.10	0.01	< 0.01	0.013	< 0.01	13.72	99.48	< 2	< 2	< 1	8	3	< 1	31	0.269	0.232	20.16	0.62	42.01
522713	35.56	0.09	7.00	0.097	42.62	0.03	< 0.01	< 0.01	0.003	< 0.01	13.91	99.32	< 2	< 2	< 1	3	3	< 1	15	0.251	0.214	2.54	0.24	89.08
522714	36.47	0.13	7.46	0.131	41.86	0.03	< 0.01	< 0.01	0.002	< 0.01	12.51	98.60	< 2	< 2	< 1	4	3	< 1	16	0.272	0.232	15.82	0.26	57.20
522715	35.89	0.13	7.51	0.125	41.15	0.03	< 0.01	< 0.01	0.002	< 0.01	12.57	97.42	3	< 2	< 1	4	2	< 1	15	0.273	0.226	8.82	0.66	73.05

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Cr	Ni	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
522716	37.39	0.91	7.88	0.123	38.37	0.11	< 0.01	< 0.01	0.014	0.01	12.79	97.61	< 2	< 2	< 1	9	< 2	< 1	38	0.283	0.209	22.83	0.51	39.56
522717	39.24	1.01	7.51	0.152	39.50	0.19	< 0.01	< 0.01	0.011	< 0.01	11.90	99.52	< 2	< 2	< 1	8	< 2	< 1	32	0.254	0.233	21.28	1.00	40.80
522718	44.72	4.22	6.72	0.101	28.54	7.28	0.18	0.03	0.055	< 0.01	8.26	100.1	4	6	1	9	3	< 1	53	0.239	0.176			
522719	41.14	8.97	10.79	0.185	17.98	11.88	1.07	0.17	1.183	0.08	5.77	99.21	8	18	23	32	60	< 1	282	0.082	0.076			
522720	97.16	0.36	0.82	0.008	0.61	0.03	0.07	0.05	0.028	< 0.01	0.23	99.38	24	4	2	< 1	49	< 1	< 5	0.013	< 0.010	97.14	0.39	0.69
522721	36.84	10.95	12.53	0.216	8.34	19.35	2.34	0.20	1.760	0.14	7.49	100.2	6	61	36	48	97	< 1	390	0.021	0.011			
522722	47.01	13.80	12.18	0.208	7.20	12.00	4.02	0.23	1.674	0.14	1.82	100.3	24	125	34	44	95	< 1	377	0.018	0.012			
522723	39.28	0.51	7.57	0.098	41.90	0.06	0.02	< 0.01	0.005	< 0.01	10.60	100.1	2	< 2	< 1	4	3	< 1	15	0.238	0.234	11.86	1.31	62.47
522724	38.98	1.91	8.21	0.148	37.59	1.09	0.01	< 0.01	0.158	0.02	11.48	99.60	< 2	< 2	3	11	9	< 1	68	0.268	0.203	21.77	1.63	42.90
522725	36.22	0.28	7.23	0.139	40.73	0.05	< 0.01	< 0.01	0.004	< 0.01	13.16	97.83	< 2	< 2	< 1	6	< 2	< 1	22	0.262	0.192	15.48	1.17	53.34
522726	37.91	0.92	8.17	0.137	38.90	1.29	0.01	< 0.01	0.017	0.01	12.96	100.3	2	< 2	< 1	11	5	< 1	48	0.269	0.212	18.48	0.76	46.08
522727	35.60	0.42	7.92	0.119	40.16	0.12	< 0.01	< 0.01	0.003	< 0.01	13.25	97.62	4	< 2	< 1	6	3	< 1	20	0.256	0.210	20.02	0.80	39.51
522728	36.76	0.66	7.83	0.101	40.24	0.14	0.01	< 0.01	0.005	< 0.01	12.57	98.31	< 2	< 2	< 1	6	< 2	< 1	28	0.259	0.236	13.17	0.83	58.88
522729	37.08	0.99	7.77	0.121	37.72	1.40	0.01	< 0.01	0.014	< 0.01	12.85	97.95	< 2	< 2	< 1	10	< 2	< 1	45	0.257	0.192	21.52	0.54	42.39
522730	37.09	0.86	8.21	0.151	39.44	0.57	0.01	< 0.01	0.010	< 0.01	12.50	98.86	8	5	< 1	9	< 2	< 1	32	0.271	0.224	19.67	1.06	43.56
522731	37.54	1.05	8.28	0.146	37.53	1.46	0.01	< 0.01	0.010	< 0.01	12.09	98.12	< 2	< 2	< 1	11	< 2	< 1	46	0.257	0.197	17.21	0.35	52.53
522732	37.96	0.84	7.93	0.207	37.87	2.18	< 0.01	< 0.01	0.010	< 0.01	10.58	97.58	< 2	< 2	< 1	11	< 2	< 1	39	0.228	0.185	18.07	0.37	52.29
522733	37.59	0.95	7.81	0.144	38.36	1.07	0.01	< 0.01	0.009	< 0.01	11.77	97.72	< 2	< 2	< 1	10	2	< 1	35	0.243	0.204	25.84	0.57	34.17
522734	37.80	1.08	8.00	0.163	39.49	1.52	0.05	< 0.01	0.011	< 0.01	12.03	100.2	2	< 2	< 1	12	6	< 1	39	0.252	0.209	13.36	0.40	63.47
522735	38.38	1.28	8.04	0.124	38.69	1.00	< 0.01	< 0.01	0.010	< 0.01	12.36	99.90	< 2	< 2	< 1	10	< 2	< 1	47	0.276	0.216	19.34	0.52	47.50
522736	37.11	1.04	8.03	0.126	38.33	0.85	0.03	< 0.01	0.011	< 0.01	12.49	98.03	< 2	< 2	< 1	8	< 2	< 1	36	0.245	0.191	20.02	0.42	47.09
522737	37.90	1.21	8.42	0.127	38.00	1.09	< 0.01	< 0.01	0.013	< 0.01	12.18	98.95	< 2	< 2	< 1	12	2	< 1	44	0.244	0.203	20.12	0.56	47.61
522738	38.50	1.27	7.28	0.123	37.13	1.94	0.07	0.03	0.011	< 0.01	11.88	98.24	2	< 2	< 1	10	3	< 1	43	0.240	0.200	22.16	0.84	40.47
522739	38.73	1.17	7.58	0.118	38.18	1.61	0.02	< 0.01	0.011	< 0.01	11.93	99.36	< 2	< 2	< 1	10	< 2	< 1	44	0.244	0.188	27.47	0.88	31.46
522740.1	50.48	16.32	11.63	0.168	5.02	7.76	2.39	2.96	1.204	0.43	0.71	99.08	743	542	20	26	105	2	339	1.032	0.223	48.19	15.78	11.93
522740.2																						35.85	2.35	13.13
522740.3																						17.60	0.45	54.52
522741	39.32	1.49	6.92	0.088	37.30	1.02	0.02	< 0.01	0.011	< 0.01	12.28	98.44	< 2	< 2	< 1	11	< 2	< 1	51	0.247	0.202	19.50	0.83	47.08
522742	38.60	1.37	7.48	0.089	38.60	1.01	< 0.01	< 0.01	0.011	< 0.01	12.23	99.40	< 2	< 2	< 1	12	< 2	< 1	51	0.245	0.204	24.66	0.81	36.83
522743	38.75	1.15	6.94	0.116	38.68	1.44	0.02	< 0.01	0.010	< 0.01	11.33	98.44	< 2	< 2	< 1	10	< 2	< 1	47	0.253	0.166	25.58	1.29	35.63
522744	37.65	1.15	7.90	0.133	38.76	0.99	< 0.01	< 0.01	0.010	< 0.01	12.15	98.75	< 2	< 2	1	10	2	< 1	45	0.254	0.216	21.60	0.74	42.27
522745	38.18	1.05	7.87	0.138	38.26	1.98	0.03	< 0.01	0.013	< 0.01	11.88	99.43	15	10	1	10	2	< 1	43	0.260	0.195	19.80	0.86	47.15
522746	37.37	1.18	7.97	0.138	38.85	1.22	0.01	< 0.01	0.011	< 0.01	12.72	99.47	< 2	< 2	< 1	11	< 2	< 1	45	0.274	0.191	18.55	0.74	47.22
522747	37.00	1.00	7.60	0.119	38.32	1.39	0.01	< 0.01	0.011	< 0.01	12.27	97.72	< 2	< 2	< 1	10	5	< 1	43	0.238	0.199	26.25	0.85	34.67
522748	38.69	1.05	7.59	0.116	39.59	1.59	0.02	< 0.01	0.012	< 0.01	11.63	100.3	2	< 2	< 1	10	< 2	< 1	46	0.264	0.222	25.08	0.95	34.62
522749	38.00	1.04	8.14	0.127	39.60	1.43	0.01	< 0.01	0.011	< 0.01	11.11	99.47	< 2	< 2	< 1	10	< 2	< 1	44	0.241	0.224	24.27	0.74	37.21
522750	37.92	0.98	7.85	0.141	38.87	1.51	0.01	< 0.01	0.011	< 0.01	12.47	99.78	2	< 2	< 1	11	< 2	< 1	44	0.250	0.213	23.18	0.55	37.94
546751	38.20	1.16	7.73	0.100	39.75	1.05	< 0.01	< 0.01	0.010	< 0.01	11.89	99.90	< 2	< 2	< 1	11	2	< 1	47	0.260	0.219	18.82	0.63	51.46
546752	38.66	1.21	7.62	0.115	39.03	1.35	0.01	< 0.01	0.010	< 0.01	11.08	99.10	< 2	< 2	< 1	11	3	< 1	48	0.252	0.183	20.76	0.65	44.37
546753	38.22	1.11	7.47	0.125	39.68	1.61	0.03	< 0.01	0.010	< 0.01	11.44	99.71	3	< 2	< 1	11	5	< 1	46	0.244	0.211	23.85	0.68	37.63
546754	39.23	1.12	7.87	0.128	39.35	1.29	0.02	< 0.01	0.009	< 0.01	11.21	100.2	< 2	< 2	< 1	10	2	< 1	42	0.229	0.196	19.68	0.81	44.88
546755	38.68	1.17	7.23	0.119	38.81	1.26	0.01	< 0.01	0.009	< 0.01	11.41	98.71	< 2	< 2	< 1	10	3	< 1	43	0.236	0.171	20.44	0.56	43.78
546756	39.09	1.17	7.43	0.109	38.84	1.03	0.01	< 0.01	0.010	< 0.01	11.47	99.17	< 2	< 2	< 1	10	< 2	< 1	41	0.240	0.193	26.29	0.77	33.75
546757	38.86	1.14	7.84	0.121	39.24	1.41	0.01	< 0.01	0.010	< 0.01	12.09	100.7	< 2	< 2	< 1	10	< 2	< 1	44	0.255	0.210	21.82	0.79	41.35
546758	39.26	1.34	7.53	0.094	38.36	1.15	< 0.01	< 0.01	0.011	< 0.01	12.61	100.4	< 2	< 2	< 1	10	< 2	< 1	47	0.245	0.204	21.62	0.97	44.17
546759	38.70	0.91	8.11	0.157	38.49	1.68	0.01	< 0.01	0.010	< 0.01	11.38	99.45	< 2	< 2	< 1	11	2	< 1	43	0.240	0.197	18.61	0.89	46.68
546760	99.75	0.32	0.70	0.003	0.04	0.05	0.01	0.05	0.030	0.03	0.00	101.0	32	6	3	< 1	48	< 1	6	< 0.010	< 0.010	97.90	0.37	0.52
546761	38.11	1.00	7.72	0.058	39.78	0.22	0.01	< 0.01	0.005	0.01	13.11	100.0	2	< 2	< 1	7	2	< 1	32	0.246	0.214	14.52	0.43	61.19
546762	38.49	1.16	7.50	0.108	39.02	0.81	< 0.01	< 0.01	0.008	0.01	12.88	99.99	< 2	< 2	< 1	10	< 2	< 1	44	0.240	0.188	22.99	0.51	43.94
546763	38.33	1.17	7.64	0.113	37.50	1.47	0.01	< 0.01	0.010	< 0.01	12.58	98.83	2	< 2	< 1	11	2	< 1	46	0.234	0.178	22.07	0.59	46.46
546764	37.47	1.19	7.60	0.119	37.49	1.47	0.01	< 0.01	0.010	< 0.01	12.50	97.86	< 2	< 2	< 1	11	2	< 1	48	0.240	0.186	22.95	0.75	42.52
546765	37.79	1.11	7.89	0.134	37.36	1.48	< 0.01	< 0.01	0.010	< 0.01	11.78	97.56	2	< 2	< 1	11	< 2	< 1	47	0.249	0.174	23.73	0.72	41.84

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Cr	Ni	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
546766	38.06	0.98	8.40	0.167	37.56	1.82	0.02	< 0.01	0.009	< 0.01	10.97	97.98	< 2	< 2	< 1	11	5	< 1	48	0.259	0.204	13.69	0.60	59.12
546767	38.07	1.10	7.58	0.120	37.94	1.21	< 0.01	< 0.01	0.010	< 0.01	11.75	97.80	< 2	< 2	< 1	10	< 2	< 1	43	0.224	0.178	23.15	0.56	42.85
546768	37.68	1.17	7.50	0.116	37.51	1.55	0.01	< 0.01	0.013	< 0.01	12.15	97.71	< 2	< 2	< 1	10	< 2	< 1	48	0.235	0.183	21.70	0.52	44.13
546769	38.73	1.12	7.67	0.110	38.10	1.11	< 0.01	< 0.01	0.010	0.01	11.48	98.35	2	< 2	1	11	2	< 1	44	0.245	0.192	17.98	0.63	54.65
546770	38.03	1.10	7.38	0.117	37.62	1.39	< 0.01	< 0.01	0.011	< 0.01	12.81	98.47	< 2	< 2	< 1	11	< 2	< 1	48	0.240	0.191	17.63	0.75	51.34
546771	37.38	0.98	7.79	0.122	38.10	0.62	< 0.01	< 0.01	0.008	< 0.01	12.42	97.45	< 2	< 2	< 1	9	< 2	< 1	37	0.239	0.205	14.28	0.49	60.17
546772	37.89	1.08	7.34	0.110	37.94	1.02	< 0.01	< 0.01	0.009	< 0.01	12.42	97.83	< 2	< 2	< 1	10	< 2	< 1	41	0.240	0.211	20.28	0.67	47.50
547061	36.48	0.81	9.10	0.126	41.66	0.07	0.02	< 0.01	0.009	0.01	9.88	98.17	< 2	< 2	< 1	5	2	< 1	27	0.390	0.209	9.46	0.91	62.47
547062	38.20	1.23	7.10	0.073	38.97	0.21	< 0.01	< 0.01	0.007	< 0.01	12.13	97.94	< 2	< 2	< 1	11	< 2	< 1	41	0.256	0.199	20.08	0.89	49.84
547063	37.59	0.78	8.03	0.123	39.35	0.32	< 0.01	< 0.01	0.008	< 0.01	11.63	97.84	< 2	< 2	< 1	7	3	< 1	28	0.216	0.216	23.29	0.42	43.32
547064	37.62	0.86	7.75	0.123	39.00	0.96	< 0.01	< 0.01	0.007	< 0.01	11.14	97.48	< 2	< 2	< 1	9	8	< 1	36	0.237	0.199	18.45	0.34	50.20
547065	39.34	0.73	7.58	0.113	39.86	0.65	0.01	< 0.01	0.007	< 0.01	10.50	98.79	2	< 2	< 1	8	< 2	< 1	32	0.223	0.166	22.54	0.34	39.84
547066	37.68	0.89	7.65	0.112	38.94	1.05	< 0.01	< 0.01	0.007	0.02	11.80	98.16	< 2	< 2	< 1	9	3	< 1	38	0.257	0.215	16.89	0.40	54.57
547067	37.55	0.83	7.86	0.122	38.84	0.86	< 0.01	< 0.01	0.007	< 0.01	11.47	97.54	< 2	< 2	< 1	9	2	< 1	36	0.246	0.209	23.76	0.39	41.64
547068	37.96	0.89	7.55	0.102	38.30	0.64	< 0.01	< 0.01	0.007	< 0.01	12.44	97.89	< 2	< 2	< 1	9	2	< 1	35	0.242	0.211	20.11	0.41	48.10
547069	36.82	0.77	7.70	0.106	38.91	0.33	< 0.01	< 0.01	0.006	0.01	13.06	97.73	< 2	< 2	< 1	8	< 2	< 1	34	0.262	0.189	15.86	0.42	56.02
547070	37.29	0.83	7.50	0.098	38.00	0.68	< 0.01	< 0.01	0.006	< 0.01	13.19	97.61	< 2	< 2	< 1	10	< 2	< 1	36	0.246	0.220	20.31	0.55	48.98
547071	37.07	0.94	7.49	0.102	38.30	0.60	0.01	< 0.01	0.009	< 0.01	12.97	97.51	< 2	< 2	< 1	8	< 2	< 1	35	0.234	0.190	22.61	0.55	44.11
547072	38.76	0.90	6.06	0.098	39.08	0.55	0.01	< 0.01	0.006	< 0.01	11.99	97.44	3	< 2	< 1	9	< 2	< 1	38	0.255	0.175	15.80	0.44	54.94
547073	37.61	0.72	7.37	0.108	38.57	0.90	0.01	< 0.01	0.006	0.02	12.19	97.51	< 2	< 2	< 1	8	< 2	< 1	33	0.230	0.192	25.33	0.72	31.70
547074	37.38	0.86	7.30	0.109	38.58	1.00	0.01	< 0.01	0.007	< 0.01	12.37	97.62	< 2	< 2	< 1	9	< 2	< 1	36	0.248	0.179	21.24	0.75	42.55
547075	37.54	0.78	7.38	0.110	39.17	1.04	< 0.01	< 0.01	0.006	0.01	11.91	97.96	< 2	< 2	< 1	9	< 2	< 1	33	0.235	0.193	23.52	0.73	38.91
547076	38.36	0.81	7.39	0.106	39.52	0.74	0.01	< 0.01	0.006	0.01	10.75	97.69	< 2	< 2	< 1	8	< 2	< 1	36	0.247	0.211	20.48	0.99	42.03
547077	38.14	0.73	7.46	0.112	39.14	1.12	< 0.01	< 0.01	0.006	< 0.01	10.85	97.56	< 2	< 2	< 1	9	< 2	< 1	35	0.245	0.207	23.41	0.80	38.16
547078	37.61	0.74	7.69	0.113	39.88	0.50	< 0.01	< 0.01	0.006	< 0.01	11.38	97.92	< 2	< 2	< 1	7	3	< 1	29	0.228	0.216	20.30	0.83	42.09
547079	36.95	1.01	7.60	0.111	38.10	0.31	< 0.01	< 0.01	0.008	< 0.01	13.47	97.58	< 2	< 2	< 1	8	3	< 1	35	0.253	0.190	15.77	0.52	54.28
547080	97.00	0.30	0.40	0.003	0.09	0.02	0.01	0.04	0.032	< 0.01	0.13	98.04	24	3	2	< 1	52	< 1	< 5	< 0.010	< 0.010	97.88	0.41	0.69
549001	39.59	1.25	7.20	0.119	38.41	1.32	0.01	< 0.01	0.014	< 0.01	9.93	97.85	4	< 2	< 1	11	2	< 1	47	0.243	0.196	17.94	0.87	53.48
549002	39.88	1.54	8.06	0.124	37.40	2.04	0.02	< 0.01	0.018	< 0.01	8.68	97.76	< 2	< 2	< 1	12	2	< 1	52	0.253	0.189	20.43	1.75	48.86
549003	40.42	1.55	6.40	0.116	38.08	1.42	0.02	< 0.01	0.018	< 0.01	9.60	97.64	< 2	< 2	1	12	2	< 1	52	0.234	0.162	15.73	1.53	57.33
549004	39.09	1.70	8.08	0.118	36.90	1.16	0.02	< 0.01	0.020	< 0.01	11.56	98.65	< 2	< 2	< 1	13	< 2	< 1	55	0.243	0.192	20.73	1.25	47.00
549005	38.53	1.70	7.04	0.112	37.77	0.72	0.01	< 0.01	0.019	< 0.01	11.70	97.60	< 2	< 2	< 1	12	< 2	< 1	50	0.239	0.191	21.40	1.43	46.36
549006	39.94	1.52	8.16	0.139	37.46	2.10	0.03	< 0.01	0.018	< 0.01	9.51	98.88	4	< 2	< 1	12	5	< 1	48	0.249	0.191	19.43	1.29	49.12
549007	39.40	1.55	7.53	0.123	37.11	1.48	0.02	< 0.01	0.018	< 0.01	10.86	98.09	< 2	< 2	< 1	11	< 2	< 1	49	0.242	0.198	20.89	1.40	44.99

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Client ID (Davis Tube)	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	-	g	g	g	%	g	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01								0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	Client ID	DT	DT	DT	DT	DT	DT	IR
521978	0.222	20.00	0.59	0.01	0.03	0.05	0.01	1.55	0.024	1.95	4.64	98.19	521978	30.3	1.942	28.048	6.4	29.990	0.96	0.08
521979	0.127	27.48	0.44	< 0.01	0.02	0.05	0.01	0.75	0.022	0.926	7.55	99.95	521979	30.1	3.771	26.414	12.5	30.185	-0.35	0.03
521980.1	0.167	4.98	7.74	2.28	2.76	1.19	0.44	1.05	0.062	0.233	0.95	98.21	521980							
521980.2	0.127	32.16	2.06	0.09	0.13	0.13	0.02	0.20	0.008	1.42	11.12	98.67	521980							
521980.3	0.242	17.58	0.16	< 0.01	0.01	0.04	0.01	1.57	0.024	2.03	3.26	97.71	521980							0.11
521981	0.207	26.13	0.15	< 0.01	0.02	0.03	0.01	1.50	0.019	1.26	5.95	99.43	521981	30.1	3.187	26.562	10.6	29.749	1.05	0.04
521982	0.191	21.09	0.36	< 0.01	0.02	0.04	0.01	1.63	0.027	1.86	5.95	98.89	521982	30.1	2.064	28.072	6.9	30.136	-0.26	0.03
521983	0.294	25.67	0.26	< 0.01	0.03	0.04	0.01	2.07	0.026	1.88	5.86	99.07	521983	30.3	1.528	28.671	5.0	30.199	0.45	0.03
521984	0.135	23.28	0.07	< 0.01	0.03	0.06	< 0.01	1.24	0.026	1.51	6.29	98.42	521984	30.3	2.450	27.867	8.1	30.316	0.04	0.03
521985	0.131	23.50	0.20	< 0.01	0.02	0.05	< 0.01	1.05	0.022	1.26	4.66	97.90	521985	30.2	1.742	28.368	5.8	30.110	0.17	0.03
521986	0.211	26.37	0.63	< 0.01	0.01	0.05	0.01	1.43	0.018	2.28	3.94	97.26	521986	30.4	1.999	28.354	6.6	30.354	0.02	0.03
521987	0.195	27.31	1.29	< 0.01	0.02	0.06	< 0.01	1.32	0.016	2.32	5.85	97.22	521987	30.5	3.205	27.139	10.5	30.343	0.46	0.04
521988	0.189	26.50	0.60	< 0.01	0.02	0.05	0.01	1.33	0.016	1.78	6.16	98.15	521988	30.2	2.582	27.526	8.5	30.107	0.32	0.03
521989	0.237	27.14	1.98	< 0.01	0.01	0.06	< 0.01	2.03	0.020	2.04	7.02	98.48	521989	30.3	1.678	28.106	5.5	29.784	1.59	0.09
521990	0.183	25.76	0.68	< 0.01	0.01	0.06	< 0.01	1.46	0.016	2.13	7.60	99.07	521990	30.3	1.728	28.489	5.7	30.217	0.35	0.11
521991	0.196	28.65	1.16	< 0.01	0.02	0.05	< 0.01	1.83	0.022	1.96	7.00	99.04	521991	30.1	1.661	28.426	5.5	30.087	-0.03	0.04
521992	0.225	21.16	0.98	< 0.01	0.04	0.06	0.01	2.15	0.026	2.21	6.96	98.86	521992	30.1	1.415	28.623	4.7	30.039	0.10	0.04
521993	0.184	22.82	0.97	< 0.01	0.03	0.05	< 0.01	1.58	0.024	1.86	6.87	98.71	521993	30.4	1.589	28.569	5.2	30.158	0.66	0.09
521994	0.221	22.48	1.40	< 0.01	< 0.01	0.05	0.02	1.89	0.031	2.18	4.10	98.38	521994	30.0	1.299	28.485	4.3	29.784	0.81	0.03
521995	0.218	20.29	0.43	< 0.01	0.01	0.07	0.01	2.09	0.026	2.11	4.32	98.27	521995	30.3	1.266	28.606	4.2	29.872	1.35	0.03
521996	0.212	23.94	0.92	< 0.01	0.05	0.07	< 0.01	1.92	0.029	1.33	5.38	97.57	521996	30.3	1.539	28.285	5.1	29.824	1.61	0.03
521997	0.272	20.45	1.24	< 0.01	< 0.01	0.07	0.02	2.76	0.036	2.34	3.36	98.25	521997	30.3	1.065	27.927	3.5	28.992	4.36	0.02
521998	0.225	23.67	0.21	< 0.01	0.01	0.04	0.01	1.40	0.026	1.19	4.49	98.30	521998	30.6	1.422	28.168	4.7	29.590	3.26	0.04
521999	0.215	24.15	0.29	< 0.01	0.04	0.06	0.01	1.57	0.028	1.11	5.17	97.68	521999	30.5	1.745	27.516	5.7	29.261	3.92	0.02
522000	0.010	0.26	0.04	0.02	0.08	0.05	0.01	< 0.01	< 0.003	< 0.003	0.66	99.70	522000	30.7	0.196	29.801	0.6	29.997	2.22	
522691	0.244	24.53	0.23	< 0.01	< 0.01	0.05	0.02	1.47	0.028	1.28	6.65	98.93	522691	30.3	2.453	27.540	8.1	29.993	0.93	0.04
522692	0.153	25.95	0.06	< 0.01	0.03	0.02	< 0.01	3.45	0.034	2.40	6.14	97.55	522692	30.2	2.114	27.489	7.0	29.603	2.07	0.04
522693	0.054	4.70	0.02	< 0.01	0.01	0.03	0.01	2.59	0.026	1.41	6.26	96.86	522693	30.6	2.410	27.326	7.9	29.736	2.81	0.03
522694	0.166	21.05	0.05	< 0.01	0.01	0.03	0.02	4.12	0.044	3.67	3.31	96.66	522694	30.3	1.111	29.009	3.7	30.120	0.43	0.11
522695	0.112	8.15	0.02	< 0.01	0.02	0.03	0.01	4.22	0.035	1.67	4.47	96.38	522695	30.8	1.382	28.604	4.5	29.986	2.59	0.09
522696	0.098	6.19	0.04	< 0.01	0.01	0.03	< 0.01	3.45	0.030	1.86	-1.79	96.64	522696	30.7	1.279	28.941	4.2	30.220	1.44	< 0.01
522697	0.141	29.96	0.04	< 0.01	0.02	0.03	0.01	2.00	0.031	0.944	-0.53	99.15	522697	30.6	1.253	28.261	4.1	29.514	3.47	0.06
522698	0.205	29.54	0.43	< 0.01	0.01	0.04	0.01	1.66	0.024	1.82	-0.20	98.25	522698	30.3	0.986	28.137	3.3	29.123	3.94	0.06
522699	0.098	6.25	0.03	< 0.01	< 0.01	0.02	0.01	3.41	0.027	1.78	-1.77	96.50	522699	30.5	1.278	28.509	4.2	29.787	2.26	0.02
522700.1	0.166	4.98	7.73	2.20	2.79	1.19	0.43	1.05	0.061	0.237	0.99	97.90	522700							
522700.2	0.128	32.03	2.08	0.12	0.27	0.12	0.02	0.19	0.008	1.42	11.06	98.54	522700							
522700.3	0.243	17.47	0.15	< 0.01	0.01	0.03	0.01	1.57	0.022	2.02	3.27	97.67	522700	30.1	2.027	27.679	6.7	29.706	1.16	0.11
522701	0.140	31.60	0.03	< 0.01	0.01	0.04	0.02	1.83	0.028	0.962	6.82	99.14	522701	30.6	3.152	27.175	10.3	30.327	0.89	0.02
522702	0.215	23.64	0.35	< 0.01	0.01	0.04	0.01	1.77	0.022	1.89	6.69	97.38	522702	30.2	1.985	27.623	6.6	29.608	1.86	0.10
522703	0.099	6.58	0.03	< 0.01	0.01	0.02	< 0.01	2.89	0.023	1.92	-0.26	96.74	522703	30.2	1.406	28.266	4.7	29.671	1.61	0.04
522704	0.133	5.15	0.03	< 0.01	< 0.01	0.03	0.01	3.04	0.013	1.87	-1.83	96.60	522704	30.2	1.475	28.482	4.9	29.957	0.88	0.03
522705	0.230	26.76	0.04	< 0.01	0.02	0.03	0.01	2.35	0.029	1.96	-2.43	98.10	522705	30.8	1.338	28.812	4.3	30.150	2.13	0.08
522706	0.146	3.73	0.02	0.02	0.01	0.02	< 0.01	2.58	0.022	1.70	5.05	96.74	522706	30.4	2.220	28.010	7.3	30.230	0.61	0.12
522707	0.164	19.24	0.03	< 0.01	0.02	0.02	< 0.01	2.66	0.027	1.35	2.75	97.18	522707	30.4	1.356	28.603	4.5	29.959	1.57	0.11
522708	0.125	9.98	0.02	0.02	0.01	0.02	0.01	2.63	0.025	1.87	5.42	97.75	522708	30.3	2.228	27.745	7.4	29.973	1.01	0.10
522709	0.250	26.64	0.08	< 0.01	0.02	0.05	< 0.01	2.07	0.022	2.34	-1.63	97.93	522709	30.6	1.544	28.796	5.0	30.340	0.96	0.05
522710	0.279	18.01	1.39	< 0.01	0.04	1.24	0.08	2.65	0.081	2.42	3.10	97.79	522710	30.9	0.195	29.494	0.6	29.689	3.93	
522711													522711	30.2	0.052	29.823	0.2	29.875	1.20	
522712	0.214	24.29	0.03	< 0.01	0.01	0.02	0.01	2.07	0.022	1.83	6.16	97.42	522712	30.4	2.589	27.158	8.5	29.748	2.08	0.23
522713	0.170	4.23	0.01	< 0.01	< 0.01	0.02	0.02	2.89	0.024	1.71	-2.59	98.27	522713	30.6	1.473	28.732	4.8	30.205	1.26	0.06
522714	0.179	19.22	0.03	< 0.01	< 0.01	0.02	0.01	2.69	0.029	1.42	2.00	98.77	522714	30.3	2.041	27.769	6.7	29.809	1.61	0.05

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Client ID (Davis Tube)	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	-	g	g	g	%	g	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01								0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	Client ID	DT	DT	DT	DT	DT	DT	IR
522715	0.127	10.70	0.03	0.01	0.02	0.03	0.01	2.78	0.028	1.98	-0.84	97.41	522715	30.5	1.535	27.780	5.0	29.315	4.04	0.06
522716	0.226	25.06	0.07	< 0.01	< 0.01	0.04	0.01	1.76	0.024	1.95	6.08	98.04	522716	30.5	2.572	27.421	8.4	29.993	1.53	0.19
522717	0.281	22.24	0.13	< 0.01	0.02	0.04	0.01	2.59	0.024	4.06	4.02	96.46	522717	30.4	1.486	28.168	4.9	29.654	2.51	0.19
522718													522718	30.5	0.051	30.047	0.2	30.098	1.17	
522719													522719	30.2	0.003	30.026	0.0	30.029	0.46	
522720	0.007	0.06	0.03	0.02	0.08	0.05	0.01	< 0.01	< 0.003	< 0.003	0.34	98.81	522720	30.1	0.030	29.683	0.1	29.713	1.23	
522721													522721	30.1	0.006	29.973	0.0	29.979	0.50	
522722													522722	30.2	0.006	30.167	0.0	30.173	0.03	
522723	0.136	14.50	0.02	< 0.01	< 0.01	0.03	0.02	3.05	0.024	3.45	-0.80	95.99	522723	30.4	1.311	29.193	4.3	30.504	-0.47	0.31
522724	0.224	22.09	0.51	< 0.01	0.05	0.23	0.01	1.98	0.068	2.02	4.41	97.80	522724	30.1	1.885	28.034	6.3	29.919	0.52	0.13
522725	0.182	19.55	0.03	< 0.01	< 0.01	0.02	0.01	3.34	0.041	1.88	3.15	98.16	522725	30.1	1.680	28.384	5.6	30.064	0.07	0.14
522726	0.255	21.33	0.44	< 0.01	0.01	0.05	< 0.01	2.37	0.034	3.07	4.38	97.22	522726	30.1	1.537	28.340	5.1	29.877	0.87	0.13
522727	0.193	25.35	0.07	< 0.01	0.01	0.02	0.01	2.46	0.027	2.61	5.56	96.63	522727	30.1	1.824	28.139	6.1	29.962	0.40	0.10
522728	0.178	16.43	0.07	< 0.01	0.02	0.03	0.01	2.61	0.034	3.08	1.90	97.16	522728	30.1	1.505	28.424	5.0	29.930	0.52	0.06
522729	0.200	23.76	0.37	< 0.01	0.01	0.04	0.01	1.40	0.022	1.46	6.28	97.98	522729	30.2	2.419	27.470	8.0	29.889	0.95	0.05
522730	0.223	24.24	0.24	< 0.01	0.02	0.03	0.01	1.74	0.029	1.78	5.89	98.42	522730	30.1	2.555	27.526	8.5	30.080	0.12	0.07
522731	0.224	20.14	0.46	< 0.01	0.01	0.03	0.01	1.42	0.024	1.59	4.18	98.17	522731	30.1	2.419	27.865	8.0	30.284	-0.75	0.17
522732	0.294	20.43	0.71	< 0.01	0.01	0.04	< 0.01	1.90	0.030	1.88	2.74	98.71	522732	30.0	1.938	28.290	6.5	30.228	-0.67	0.14
522733	0.221	28.28	0.73	< 0.01	< 0.01	0.02	0.01	1.13	0.018	1.28	6.12	98.38	522733	30.0	2.995	26.883	10.0	29.878	0.50	0.04
522734	0.244	14.35	0.45	0.11	0.03	0.05	0.01	2.20	0.039	2.49	1.12	98.32	522734	30.3	1.559	27.695	5.2	29.255	3.37	0.12
522735	0.207	21.86	0.37	< 0.01	< 0.01	0.03	0.01	1.53	0.026	1.63	4.88	97.88	522735	30.8	2.533	27.814	8.2	30.347	1.34	0.09
522736	0.197	23.36	0.31	< 0.01	0.01	0.05	0.01	1.48	0.023	1.65	5.09	99.65	522736	30.2	2.440	27.511	8.1	29.951	0.73	0.11
522737	0.159	21.72	0.67	< 0.01	0.01	0.04	0.01	1.37	0.026	1.79	4.31	98.39	522737	30.0	1.949	28.116	6.5	30.066	-0.07	0.07
522738	0.224	21.14	2.01	< 0.01	0.02	0.05	< 0.01	2.85	0.032	4.41	2.77	96.93	522738	30.1	0.713	28.854	2.4	29.566	1.79	0.12
522739	0.187	26.33	2.95	< 0.01	< 0.01	0.04	0.02	1.76	0.027	2.25	4.99	98.33	522739	30.1	1.352	28.665	4.5	30.017	0.31	0.06
522740.1	0.168	4.96	7.73	2.25	2.73	1.19	0.43	1.04	0.064	0.233	0.88	97.57	522740							
522740.2	0.127	32.19	2.08	0.09	0.11	0.12	0.02	0.20	0.007	1.43	10.91	98.61	522740							
522740.3	0.245	17.66	0.14	< 0.01	0.01	0.03	0.01	1.68	0.025	2.03	2.91	97.29	522740	30.3	1.990	27.497	6.6	29.488	2.84	0.11
522741	0.150	20.39	0.65	< 0.01	0.03	0.04	0.01	2.02	0.031	3.71	3.04	97.47	522741	30.5	1.084	29.209	3.6	30.294	0.74	0.20
522742	0.154	26.23	0.52	< 0.01	0.02	0.03	0.01	1.52	0.022	1.95	6.11	98.86	522742	30.0	1.906	28.070	6.4	29.976	0.12	0.13
522743	0.203	25.28	1.67	< 0.01	0.03	0.05	< 0.01	2.22	0.026	2.50	3.81	98.24	522743	30.1	1.222	28.739	4.1	29.960	0.53	0.04
522744	0.198	23.39	0.59	< 0.01	< 0.01	0.03	0.01	1.97	0.026	2.52	4.50	97.77	522744	30.2	1.493	28.817	5.0	30.310	-0.51	0.15
522745	0.241	17.90	2.31	< 0.01	0.03	0.06	0.01	3.15	0.032	3.70	0.88	96.07	522745	30.5	0.908	29.266	3.0	30.174	0.95	0.07
522746	0.181	20.07	0.96	< 0.01	0.02	0.03	0.01	2.11	0.023	2.45	4.17	96.52	522746	30.0	1.264	28.720	4.2	29.984	0.21	0.06
522747	0.164	26.82	1.46	< 0.01	0.10	0.04	0.01	1.45	0.022	1.92	5.69	99.43	522747	30.1	1.655	28.566	5.5	30.221	-0.40	0.08
522748	0.208	25.97	1.58	< 0.01	< 0.01	0.05	0.02	1.99	0.025	2.79	3.66	96.87	522748	30.1	1.305	29.069	4.3	30.374	-0.78	0.05
522749	0.206	24.56	1.42	< 0.01	0.04	0.05	0.01	2.41	0.027	4.42	2.50	97.82	522749	30.2	0.893	29.300	3.0	30.194	-0.14	0.08
522750	0.194	24.96	1.31	< 0.01	0.01	0.03	0.01	1.65	0.017	2.22	5.84	97.91	522750	30.5	1.601	28.588	5.3	30.190	0.99	0.16
546751	0.162	19.93	0.47	< 0.01	0.03	0.04	0.01	1.96	0.029	2.10	3.28	98.85	546751	30.4	1.750	28.731	5.8	30.481	-0.27	0.15
546752	0.221	21.45	0.81	< 0.01	0.03	0.03	< 0.01	2.40	0.026	2.87	2.99	96.60	546752	30.2	1.464	28.993	4.8	30.457	-0.73	0.07
546753	0.218	25.36	1.38	< 0.01	0.03	0.04	< 0.01	2.24	0.031	3.07	3.62	98.10	546753	30.4	1.212	29.021	4.0	30.233	0.43	0.14
546754	0.220	21.72	1.06	< 0.01	< 0.01	0.04	0.01	2.40	0.026	3.38		94.16	546754	30.2	1.009	28.669	3.3	29.678	1.68	0.10
546755	0.217	22.72	0.96	< 0.01	< 0.01	0.04	0.01	2.35	0.026	3.00		94.02	546755	30.8	1.228	29.453	4.0	30.681	0.35	0.10
546756	0.186	27.30	0.92	< 0.01	< 0.01	0.05	0.02	1.77	0.031	1.86	5.44	98.31	546756	30.8	1.667	29.171	5.4	30.838	-0.07	0.05
546757	0.207	23.35	1.33	< 0.01	< 0.01	0.04	0.02	1.94	0.025	2.19	4.43	97.43	546757	31.8	1.572	30.288	4.9	31.860	-0.10	0.12
546758	0.181	23.41	0.39	< 0.01	< 0.01	0.04	0.02	1.66	0.028	1.61	4.85	98.87	546758	30.3	1.196	28.332	4.0	29.529	2.43	0.16
546759	0.280	20.19	0.74	< 0.01	< 0.01	0.06	0.04	2.77	0.037	3.34	2.86	96.28	546759	30.2	0.909	29.327	3.0	30.236	-0.02	0.29
546760	0.009	0.09	0.03	0.02	0.07	0.05	0.01	< 0.01	< 0.003	< 0.003	0.26	99.34	546760	30.3	0.095	29.559	0.3	29.653	2.03	
546761	0.097	16.68	0.08	< 0.01	0.02	0.02	0.01	1.65	0.029	2.31	2.32	99.34	546761	30.9	1.638	29.308	5.3	30.946	-0.07	0.08
546762	0.209	21.05	0.43	< 0.01	0.01	0.03	0.01	1.90	0.024	2.52	5.20	98.80	546762	31.0	1.630	29.133	5.3	30.762	0.74	0.09
546763	0.208	19.56	1.31	< 0.01	0.01	0.03	0.01	1.99	0.026	2.39	4.11	98.77	546763	31.6	1.546	30.263	4.9	31.809	-0.59	0.10

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Client ID (Davis Tube)	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	-	g	g	g	%	g	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01								0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	Client ID	DT	DT	DT	DT	DT	DT	IR
546764	0.223	21.35	0.65	< 0.01	< 0.01	0.03	0.01	2.19	0.023	2.97	5.11	98.76	546764	31.0	1.411	29.210	4.6	30.621	1.25	0.08
546765	0.230	22.36	0.66	< 0.01	0.02	0.03	0.01	2.06	0.026	2.28	5.05	99.01	546765	30.6	1.727	28.875	5.6	30.603	0.09	0.12
546766	0.254	14.47	0.53	< 0.01	0.03	0.04	0.01	2.91	0.033	3.78	0.56	96.03	546766	30.5	1.003	29.577	3.3	30.579	-0.41	0.08
546767	0.217	22.89	0.65	< 0.01	0.03	0.03	0.01	1.64	0.020	2.42	4.81	99.26	546767	30.7	1.672	29.269	5.4	30.941	-0.63	0.08
546768	0.213	21.15	0.78	< 0.01	0.01	0.03	0.01	1.92	0.024	3.38	4.39	98.23	546768	30.8	1.347	28.457	4.4	29.804	3.16	0.15
546769	0.225	17.90	0.83	< 0.01	0.01	0.05	0.01	2.46	0.034	2.28	1.85	98.88	546769	30.1	1.619	28.456	5.4	30.074	0.20	0.08
546770	0.252	17.35	0.71	< 0.01	0.01	0.05	0.01	2.76	0.035	3.98	2.80	97.66	546770	30.8	0.993	29.934	3.2	30.927	-0.39	0.13
546771	0.215	16.05	0.18	< 0.01	0.01	0.03	0.01	2.28	0.027	2.72	1.82	98.26	546771	31.2	1.590	29.680	5.1	31.270	-0.11	0.12
546772	0.212	21.99	0.36	< 0.01	< 0.01	0.03	0.01	1.92	0.025	2.16	4.16	99.28	546772	30.9	1.850	28.895	6.0	30.745	0.49	0.12
547061	0.342	11.43	0.04	< 0.01	< 0.01	0.10	0.02	7.62	0.058	3.13	-0.86	94.64	547061	30.4	1.135	29.282	3.7	30.417	0.02	0.05
547062	0.134	19.58	0.11	< 0.01	0.01	0.03	0.01	2.05	0.033	1.87	4.03	98.65	547062	31.0	1.914	28.946	6.2	30.859	0.50	0.04
547063	0.210	23.00	0.25	< 0.01	0.01	0.03	< 0.01	1.94	0.020	1.90	4.55	98.93	547063	30.5	1.877	28.504	6.2	30.382	0.33	0.03
547064	0.229	19.90	0.62	< 0.01	0.01	0.03	0.01	2.84	0.028	3.43	2.15	98.24	547064	30.6	0.985	29.757	3.2	30.741	-0.34	0.05
547065	0.268	23.94	1.18	< 0.01	0.01	0.05	0.01	3.24	0.037	4.65	0.43	96.53	547065	30.9	0.631	29.115	2.0	29.746	3.88	< 0.01
547066	0.206	18.10	0.28	< 0.01	0.01	0.03	0.01	2.43	0.025	2.81	2.53	98.26	547066	30.3	1.408	28.916	4.6	30.323	0.04	0.04
547067	0.222	22.86	0.72	< 0.01	0.01	0.03	0.01	1.94	0.019	2.17	4.84	98.60	547067	30.7	1.661	29.107	5.4	30.769	-0.36	0.04
547068	0.173	21.51	0.31	< 0.01	0.01	0.03	0.01	1.79	0.020	1.88	5.03	99.37	547068	30.2	1.855	28.401	6.1	30.256	-0.17	0.07
547069	0.208	17.99	0.15	< 0.01	0.01	0.03	0.01	2.34	0.023	2.16	3.82	99.04	547069	30.5	1.609	28.775	5.3	30.385	0.24	0.13
547070	0.180	19.39	0.17	< 0.01	0.01	0.03	0.01	1.87	0.022	1.70	5.74	98.94	547070	30.5	1.966	28.564	6.5	30.530	-0.23	0.09
547071	0.185	21.58	0.27	< 0.01	0.03	0.03	0.01	1.83	0.020	1.95	5.90	99.06	547071	30.8	1.765	29.008	5.7	30.772	0.20	0.10
547072	0.300	16.58	0.46	< 0.01	0.02	0.04	0.01	3.83	0.042	3.57	0.08	96.08	547072	30.1	0.775	29.180	2.6	29.955	0.40	0.04
547073	0.268	27.61	1.26	< 0.01	0.03	0.04	0.01	3.13	0.033	1.90	6.16	98.18	547073	30.9	0.934	29.857	3.0	30.791	0.19	0.01
547074	0.277	21.82	0.94	< 0.01	0.01	0.04	0.01	3.46	0.034	2.93	4.17	98.21	547074	31.3	0.897	30.401	2.9	31.298	0.13	0.04
547075	0.277	22.75	1.34	< 0.01	0.02	0.04	0.01	3.38	0.032	2.85	4.43	98.28	547075	31.1	0.790	30.091	2.5	30.881	0.55	0.04
547076	0.335	22.56	0.68	< 0.01	0.02	0.07	0.02	4.78	0.047	2.65	2.60	97.19	547076	30.6	0.601	29.943	2.0	30.544	0.12	0.01
547077	0.307	25.09	0.89	< 0.01	< 0.01	0.06	0.01	3.73	0.041	1.07	4.67	98.17	547077	30.5	1.121	28.779	3.7	29.900	1.90	0.03
547078	0.345	22.62	0.54	< 0.01	0.01	0.06	0.01	4.95	0.042	2.13	3.54	97.44	547078	30.0	0.781	28.942	2.6	29.723	0.97	0.02
547079	0.298	17.87	0.06	< 0.01	0.01	0.04	0.01	2.72	0.027	2.68	3.80	98.05	547079	30.1	1.363	28.753	4.5	30.116	0.08	0.12
547080	0.012	0.07	0.04	0.01	0.06	0.05	0.01	< 0.01	< 0.003	< 0.003	0.29	99.52	547080	30.4	0.013	30.029	0.0	30.042	1.27	
549001	0.241	18.83	0.61	< 0.01	0.01	0.06	0.01	2.20	0.033	2.35	2.14	98.75	549001	31.0	1.324	29.918	4.3	31.242	-0.68	0.06
549002	0.246	18.37	0.83	< 0.01	0.01	0.08	< 0.01	2.41	0.035	1.68	3.01	97.70	549002	30.6	1.339	29.231	4.4	30.570	0.12	0.02
549003	0.280	15.45	0.70	< 0.01	0.03	0.09	0.01	2.63	0.037	1.62	1.84	97.27	549003	30.3	1.042	29.221	3.4	30.263	0.09	0.02
549004	0.169	20.84	0.30	< 0.01	0.02	0.05	0.01	1.48	0.026	2.26	4.18	98.32	549004	30.1	1.979	27.896	6.6	29.876	0.58	0.10
549005	0.201	20.48	0.51	< 0.01	0.01	0.06	0.01	1.79	0.027	2.14	4.30	98.71	549005	30.2	1.725	28.153	5.7	29.878	0.91	0.05
549006	0.262	19.80	0.76	< 0.01	0.02	0.06	0.01	2.33	0.029	2.48	2.70	98.29	549006	30.2	1.064	29.051	3.5	30.115	0.33	0.03
549007	0.238	21.99	0.70	< 0.01	0.02	0.06	0.01	2.05	0.026	2.34	3.91	98.60	549007	30.1	1.394	28.659	4.6	30.054	0.24	0.03

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Cr	Ni	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
NIST 694 Meas	11.32	1.97	0.74	0.013	0.35	43.18	0.90	0.57	0.120	30.25									1687					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
GBW 07113 Meas	73.12	12.56	3.19	0.142	0.14	0.59	2.36	5.39	0.281	0.05			502	40	44	5	362	4	6					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
MICA-FE Meas																						34.29	19.52	25.71
MICA-FE Cert																						34.4	19.5	25.6
CHR-BKG Meas																						15.30	12.84	13.75
CHR-BKG Cert																						15.27	12.91	13.87
IF-G Meas																						41.28	0.17	55.92
IF-G Cert																						41.2	0.150	55.8
LKSD-4 Meas																								
LKSD-4 Cert																								
LKSD-4 Meas																								
LKSD-4 Cert																								
BaSO4 Meas																								
BaSO4 Cert																								
BaSO4 Meas																								
BaSO4 Cert																								
W-2a Meas	52.96	15.61	10.78	0.166	6.24	10.90	2.21	0.63	1.077	0.13			174	192	19	36	83	< 1	278	0.010	0.012			
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262	0.00920	0.00700			
OREAS 13P Meas																					0.23			
OREAS 13P Cert																					0.226			
OREAS 14P Meas																								
OREAS 14P Cert																								
Oreas 73a (Fusion) Meas																						36.39	2.35	
Oreas 73a (Fusion) Cert																						36.4	2.38	
Oreas 74a (Fusion) Meas																						32.48	2.25	
Oreas 74a (Fusion) Cert																						32.4	2.21	
Oreas 75a (Fusion) Meas																						27.30	2.00	
Oreas 75a (Fusion) Cert																						27.3	1.99	
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
521985 Orig																								
521985 Dup																								
521992 Orig	38.25	1.06	8.59	0.167	37.47	2.13	0.03	< 0.01	0.020	< 0.01	11.63	99.35	2	< 2	< 1	10	< 2	< 1	39	0.253	0.186			
521992 Dup	38.91	1.11	8.39	0.168	37.61	2.15	0.03	< 0.01	0.020	< 0.01	11.63	100.0	2	< 2	1	10	3	< 1	40	0.260	0.201			
521995 Orig																								
522695 Orig																								
522699 Orig	35.49	0.09	7.32	0.117	42.78	0.03	< 0.01	< 0.01	< 0.001	< 0.01	12.74	98.57	< 2	< 2	< 1	4	2	< 1	13	0.250	0.192			
522699 Dup	35.38	0.09	7.34	0.116	42.89	0.03	< 0.01	< 0.01	< 0.001	< 0.01	12.74	98.59	< 2	< 2	< 1	4	< 2	< 1	12	0.249	0.201			
522703 Orig																								
522703 Dup																								
522713 Orig	34.86	0.09	6.64	0.097	42.51	0.03	< 0.01	< 0.01	0.003	< 0.01	13.91	98.15	< 2	< 2	< 1	3	2	< 1	15	0.252	0.195			
522713 Dup	36.25	0.09	7.37	0.098	42.73	0.03	< 0.01	< 0.01	0.003	< 0.01	13.91	100.5	< 2	< 2	< 1	3	3	< 1	14	0.250	0.234			
522723 Orig																								
522723 Dup																								
522728 Orig	36.61	0.64	8.00	0.101	40.14	0.14	0.01	< 0.01	0.005	< 0.01	12.57	98.21	< 2	< 2	< 1	6	< 2	< 1	28	0.259	0.238			
522728 Dup	36.91	0.67	7.65	0.100	40.35	0.13	0.01	< 0.01	0.005	< 0.01	12.57	98.40	< 2	< 2	< 1	6	38	< 1	29	0.259	0.235			
522733 Orig																								
522733 Dup																								

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Cr	Ni	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
522745 Orig	38.56	1.08	7.96	0.139	38.37	1.97	0.03	0.01	0.013	0.01	11.88	100.0	15	10	1	10	2	< 1	44	0.260	0.195			
522745 Dup	37.80	1.03	7.78	0.138	38.16	1.99	0.03	< 0.01	0.013	< 0.01	11.88	98.84	15	10	1	10	2	< 1	42	0.260	0.195			
546759 Orig	38.65	0.90	8.05	0.155	38.39	1.68	0.01	< 0.01	0.010	< 0.01	11.38	99.23	< 2	< 2	< 1	11	2	< 1	43	0.238	0.200			
546759 Dup	38.75	0.91	8.17	0.158	38.59	1.69	0.01	< 0.01	0.010	< 0.01	11.38	99.67	< 2	< 2	< 1	11	3	< 1	43	0.243	0.193			
547062 Orig	38.26	1.24	7.15	0.073	39.04	0.21	< 0.01	< 0.01	0.007	< 0.01	12.13	98.13	< 2	< 2	< 1	11	< 2	< 1	41	0.254	0.194			
547062 Dup	38.14	1.23	7.06	0.073	38.90	0.21	< 0.01	< 0.01	0.006	< 0.01	12.13	97.75	< 2	< 2	< 1	10	< 2	< 1	41	0.257	0.204			
547069 Orig																								
547079 Orig																								
547079 Dup	36.95	1.01	7.60	0.111	38.10	0.31	< 0.01	< 0.01	0.008	< 0.01	13.47	97.58	< 2	< 2	< 1	8	3	< 1	35	0.253	0.190			
549007 Orig	39.37	1.56	7.55	0.123	36.92	1.48	0.02	< 0.01	0.018	< 0.01	10.86	97.91	< 2	< 2	1	11	3	< 1	49	0.243	0.202			
549007 Dup	39.42	1.54	7.50	0.123	37.29	1.47	0.02	< 0.01	0.018	< 0.01	10.86	98.27	< 2	< 2	< 1	11	< 2	< 1	49	0.241	0.193			
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank	0.01	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01			< 2	< 2	< 1	< 1	4	< 1	< 5	< 0.01	< 0.01			

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
NIST 694 Meas													
NIST 694 Cert													
GBW 07113 Meas													
GBW 07113 Cert													
MICA-FE Meas	0.348	4.57	0.45	0.48	8.80	2.50	0.42	0.02	0.025	0.004			
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350			
CHR-BKG Meas	0.138	23.26	0.06			0.14		19.9		0.199			
CHR-BKG Cert	0.14	23.47	0.07			0.14		20		0.201			
IF-G Meas	0.041	1.90	1.58	0.05	0.02	0.02	0.06	0.01		< 0.003			
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225			
LKSD-4 Meas													0.85
LKSD-4 Cert													0.990
LKSD-4 Meas													0.93
LKSD-4 Cert													0.990
BaSO4 Meas													13.6
BaSO4 Cert													14.0
BaSO4 Meas													13.4
BaSO4 Cert													14.0
W-2a Meas													
W-2a Cert													
OREAS 13P Meas										0.228			
OREAS 13P Cert										0.226			
OREAS 14P Meas										2.10			
OREAS 14P Cert										2.10			
Oreas 73a (Fusion) Meas		32.48						0.20		1.44			
Oreas 73a (Fusion) Cert		32.5						0.20		1.44			
Oreas 74a (Fusion) Meas		28.95						0.18		3.24			
Oreas 74a (Fusion) Cert		27.9						0.18		3.24			
Oreas 75a (Fusion) Meas		22.45						0.15		5.25			
Oreas 75a (Fusion) Cert		22.3						0.16		5.25			
OREAS 13b (4-Acid) Meas													1.09
OREAS 13b (4-Acid) Cert													1.20
OREAS 13b (4-Acid) Meas													1.11
OREAS 13b (4-Acid) Cert													1.20
521985 Orig													0.03
521985 Dup													0.03
521992 Orig													
521992 Dup													
521995 Orig													0.03
522695 Orig													0.09
522699 Orig													
522699 Dup													
522703 Orig													0.04
522703 Dup													0.04
522713 Orig													0.06
522713 Dup													
522723 Orig													0.30
522723 Dup													0.32
522728 Orig													
522728 Dup													
522733 Orig													0.04
522733 Dup													0.04

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
522745 Orig													
522745 Dup													
546759 Orig													
546759 Dup													
547062 Orig													
547062 Dup													
547069 Orig													0.13
547079 Orig													0.12
547079 Dup													0.12
549007 Orig													
549007 Dup													
Method Blank													< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	
Method Blank													< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	
Method Blank													

Quality Analysis ... *Innovative Technologies*

Date Submitted: 31-Oct-11
Invoice No.: A11-12764
Invoice Date: 12-Dec-11
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road
Suite 2
Sudbury Ontario P3C 4Y9
Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

9 Pulp samples and 112 Rock samples were submitted for analysis.

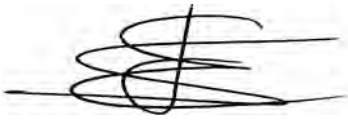
The following analytical packages were requested:

Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID

REPORT **A11-12764**

Notes:
Total includes all elements in % oxide to the left of total.

CERTIFIED BY :



Emmanuel Eseme , Ph.D.
Quality Control

SCC Accredited LAB 265
LAB 266 Accrédité CCN

ACTIVATION LABORATORIES LTD.

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521828	76.53	9.01	3.69	0.055	1.60	0.61	0.57	2.70	0.435	0.06	4.82	100.1	1803	32	16	10	75	1	98	< 0.010	< 0.010	521828		
521829	73.29	10.05	4.21	0.064	2.01	1.09	0.42	3.28	0.489	0.11	5.95	101.0	2137	49	18	11	114	2	117	< 0.010	< 0.010	521829		
521830	40.59	10.21	7.48	0.142	9.33	6.47	0.98	0.70	0.939	0.20	20.91	97.93	291	217	15	20	115	< 1	144	0.035	0.057	521830		
521831	49.28	6.94	8.33	0.181	15.53	7.72	0.52	0.30	0.830	0.20	8.48	98.30	103	58	15	19	82	< 1	125	0.104	0.117	521831		
521832	48.32	14.63	10.37	0.172	8.05	8.12	2.41	1.97	1.317	0.11	3.61	99.08	885	75	24	38	71	< 1	278	0.014	0.028	521832		
521833	50.37	16.00	12.01	0.287	4.57	5.16	5.01	1.00	1.590	0.16	2.94	99.09	317	122	30	44	92	< 1	305	0.018	0.029	521833		
521834	48.86	13.41	12.45	0.199	8.97	6.56	3.82	0.38	1.854	0.15	3.75	100.4	99	67	36	44	106	< 1	403	0.013	0.014	521834		
521835	50.54	13.33	12.39	0.195	9.09	5.94	3.89	0.42	1.806	0.15	3.07	100.8	105	60	35	43	102	< 1	395	0.011	0.018	521835		
521836	47.94	12.89	11.07	0.198	10.90	7.38	3.24	0.18	1.236	0.17	4.37	99.59	63	113	24	31	91	< 1	241	0.051	0.071	521836		
521837	51.85	14.52	7.47	0.124	9.65	6.98	4.04	0.70	0.709	0.16	3.16	99.36	335	425	13	24	79	< 1	166	0.029	0.048	521837		
521838	47.38	14.43	10.91	0.181	8.30	10.08	3.02	0.34	1.440	0.12	4.13	100.3	80	143	28	38	83	< 1	309	0.018	0.028	521838		
521839	46.73	14.49	11.43	0.179	4.47	12.52	3.33	0.43	2.762	0.70	2.81	99.85	105	1200	44	28	280	2	271	0.013	0.011	521839		
521840	97.12	0.35	0.90	0.007	0.02	0.02	0.02	0.05	0.036	< 0.01	-0.01	98.53	27	4	2	< 1	64	< 1	7	< 0.010	< 0.010	521840	98.65	0.28
521841	38.69	7.45	8.76	0.190	20.70	9.44	0.13	0.36	0.732	0.07	11.18	97.69	159	106	16	21	42	< 1	208	0.108	0.138	521841		
521842	33.44	0.54	6.28	0.102	34.28	1.60	0.02	0.03	0.009	0.02	23.41	99.73	8	41	< 1	5	4	< 1	23	0.165	0.192	521842		
521843	30.96	0.40	6.34	0.115	35.21	0.18	0.02	< 0.01	0.006	< 0.01	25.27	98.49	< 2	< 2	< 1	5	< 2	< 1	20	0.195	0.238	521843	6.38	0.88
521844	36.33	1.41	7.37	0.069	35.43	0.89	0.06	< 0.01	0.044	< 0.01	16.66	98.28	5	10	2	10	2	< 1	48	0.207	0.252	521844	15.02	1.24
521845	34.57	1.03	7.14	0.124	35.33	0.88	0.01	< 0.01	0.020	< 0.01	18.48	97.59	4	3	< 1	8	< 2	< 1	42	0.205	0.252	521845	15.35	1.09
521846	38.27	1.46	7.24	0.093	36.65	1.36	< 0.01	< 0.01	0.017	< 0.01	13.81	98.92	4	4	< 1	9	< 2	< 1	45	0.205	0.252	521846	21.38	0.94
521847	39.60	1.43	7.49	0.111	37.14	0.99	< 0.01	< 0.01	0.017	< 0.01	13.46	100.3	4	4	< 1	11	< 2	< 1	49	0.207	0.264	521847	20.99	0.92
521848	37.55	1.60	7.26	0.129	36.12	1.73	< 0.01	< 0.01	0.019	< 0.01	14.11	98.53	5	6	< 1	11	< 2	< 1	49	0.194	0.236	521848	23.37	1.07
521849	38.33	1.43	7.45	0.097	36.54	1.17	< 0.01	< 0.01	0.015	< 0.01	13.49	98.53	4	3	< 1	10	< 2	< 1	44	0.216	0.268	521849	17.14	0.63
521850	36.88	1.70	6.77	0.092	36.75	2.57	0.02	< 0.01	0.017	< 0.01	14.94	99.74	9	9	< 1	9	< 2	< 1	48	0.179	0.204	521850	15.56	0.99
521851	37.81	1.29	7.49	0.110	35.16	1.65	< 0.01	< 0.01	0.018	0.01	14.01	97.56	3	4	1	11	< 2	< 1	49	0.206	0.271	521851	16.66	0.84
521852	38.02	1.43	8.91	0.087	35.95	2.25	0.05	0.01	0.019	< 0.01	13.69	100.4	6	14	< 1	11	6	< 1	51	0.206	0.237	521852	21.60	0.80
521853	35.78	1.09	6.84	0.095	32.05	6.73	0.02	0.01	0.015	< 0.01	15.09	97.72	7	22	1	7	3	< 1	36	0.193	0.236	521853	7.59	0.56
521854	39.48	1.39	8.35	0.183	35.58	1.79	0.01	< 0.01	0.017	< 0.01	11.95	98.75	2	5	< 1	11	< 2	< 1	51	0.215	0.271	521854	24.25	0.84
521855	37.93	1.41	7.39	0.155	35.21	3.07	0.01	< 0.01	0.016	< 0.01	12.99	98.19	3	15	< 1	10	< 2	< 1	45	0.193	0.231	521855	17.76	0.63
521856	38.99	1.59	7.97	0.156	35.94	1.22	0.01	< 0.01	0.018	< 0.01	12.50	98.41	3	4	< 1	11	< 2	< 1	50	0.206	0.247	521856	20.96	0.88
521857	38.56	1.87	8.62	0.097	35.58	1.20	< 0.01	< 0.01	0.021	< 0.01	12.35	98.32	3	9	< 1	10	< 2	< 1	55	0.208	0.252	521857	16.08	0.92
521858	38.42	1.65	9.73	0.106	37.26	0.97	0.54	< 0.01	0.022	< 0.01	12.03	100.7	5	4	< 1	13	< 2	< 1	60	0.207	0.251	521858	21.77	0.94
521859	38.45	1.70	9.01	0.095	36.52	1.00	0.02	< 0.01	0.021	< 0.01	11.86	98.68	3	2	1	13	< 2	< 1	59	0.214	0.267	521859	17.15	0.72
521860.1	49.59	15.79	11.38	0.162	4.81	7.59	2.26	2.81	1.158	0.39	0.00	95.94	710	517	20	25	91	2	326	0.209	1.011	521860	49.18	16.09
521860.2																						521860	36.24	2.36
521860.3																						521860	17.26	0.68
521861	39.64	1.47	8.36	0.095	38.17	0.94	0.05	< 0.01	0.017	< 0.01	11.99	100.7	5	4	< 1	11	4	< 1	46	0.224	0.249	521861	22.09	0.77
521862	38.18	1.45	8.17	0.142	36.74	1.03	0.01	< 0.01	0.018	< 0.01	11.67	97.43	3	< 2	< 1	11	< 2	< 1	53	0.196	0.254	521862	19.62	0.70
521863	38.30	1.23	8.00	0.103	37.05	1.24	< 0.01	< 0.01	0.014	< 0.01	12.35	98.30	3	< 2	< 1	11	< 2	< 1	47	0.199	0.260	521863	18.15	0.52
521864	39.28	1.52	7.23	0.156	35.80	2.23	0.02	< 0.01	0.020	< 0.01	11.42	97.68	3	< 2	1	11	< 2	< 1	52	0.193	0.244	521864	20.36	0.96
521865	38.82	1.71	7.33	0.110	36.51	1.64	0.01	< 0.01	0.020	< 0.01	11.80	97.96	2	< 2	< 1	12	< 2	< 1	52	0.198	0.258	521865	16.80	0.77
521866	38.72	1.62	7.87	0.124	37.17	1.19	0.02	< 0.01	0.022	< 0.01	12.18	98.91	3	< 2	< 1	11	< 2	< 1	51	0.213	0.261	521866	16.84	0.62
521867	38.90	1.82	8.10	0.123	35.52	2.35	0.02	< 0.01	0.022	< 0.01	10.93	97.80	2	< 2	1	13	< 2	< 1	64	0.213	0.272	521867	19.47	1.04
521868	39.70	1.45	7.77	0.142	37.09	1.63	0.02	< 0.01	0.020	< 0.01	10.99	98.80	< 2	< 2	< 1	13	< 2	< 1	55	0.200	0.267	521868	16.67	0.68
521869	38.99	1.52	9.03	0.122	36.31	1.20	0.02	< 0.01	0.019	< 0.01	11.21	98.43	< 2	< 2	< 1	13	2	< 1	54	0.206	0.248	521869	20.19	0.85
521870	38.21	1.31	9.02	0.111	37.68	0.36	< 0.01	< 0.01	0.016	< 0.01	11.90	98.62	< 2	< 2	< 1	10	< 2	< 1	47	0.218	0.265	521870	21.53	0.81
521871	33.78	0.10	7.81	0.102	42.61	0.02	< 0.01	< 0.01	0.002	< 0.01	13.82	98.25	< 2	< 2	< 1	3	< 2	< 1	9	0.248	0.293	521871	6.58	0.30
521872	33.69	0.08	7.58	0.126	43.30	0.03	< 0.01	< 0.01	0.002	< 0.01	12.47	97.29	< 2	< 2	< 1	3	< 2	< 1	12	0.247	0.302	521872	14.25	0.34
521873	41.66	15.00	14.43	0.226	6.63	14.93	1.87	0.43	2.018	0.14	3.16	100.5	133	182	34	43	105	< 1	454	0.012	0.012	521873		
521874	39.45	1.70	8.10	0.067	37.16	0.10	0.01	< 0.01	0.029	0.01	11.73	98.36	2	< 2	1	11	3	< 1	53	0.226	0.243	521874	8.58	0.60
521875	39.57	1.69	8.19	0.069	37.71	0.06	< 0.01	< 0.01	0.023	< 0.01	11.58	98.90	< 2	< 2	1	10	< 2	< 1	51	0.230	0.250	521875	22.80	1.18
521876	34.92	0.08	7.97	0.096	41.62	0.03	< 0.01	< 0.01	0.004	< 0.01	13.44	98.17	< 2	< 2	< 1	3	< 2	< 1	10	0.263	0.256	521876	4.24	0.30

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521877	34.61	0.07	7.67	0.101	42.12	0.03	< 0.01	< 0.01	0.003	< 0.01	12.77	97.38	< 2	< 2	< 1	3	< 2	< 1	11	0.261	0.274	521877	2.90	0.33
521878	35.42	0.06	7.39	0.102	41.73	0.02	< 0.01	< 0.01	0.002	< 0.01	12.77	97.50	< 2	< 2	< 1	3	< 2	< 1	11	0.272	0.241	521878	4.47	0.19
521879	37.83	1.41	9.38	0.104	36.63	0.51	< 0.01	< 0.01	0.073	0.01	11.81	97.77	< 2	< 2	2	12	4	< 1	54	0.219	0.239	521879	19.93	0.66
521880	99.76	0.28	0.75	0.006	0.04	0.02	0.01	0.04	0.030	< 0.01	-0.02	100.9	22	3	2	< 1	51	< 1	6	< 0.010	< 0.010	521880	97.88	0.28
521881	38.32	2.44	9.32	0.124	32.72	3.79	0.03	0.01	0.376	0.03	10.58	97.74	3	13	7	14	18	< 1	105	0.200	0.221	521881	20.83	0.86
521882	35.91	0.11	8.07	0.105	41.04	0.03	< 0.01	< 0.01	0.003	< 0.01	12.66	97.94	< 2	< 2	< 1	4	< 2	< 1	15	0.266	0.267	521882	2.75	0.63
521883	36.21	0.10	6.77	0.107	41.46	0.02	< 0.01	< 0.01	0.002	< 0.01	12.84	97.52	< 2	< 2	< 1	4	< 2	< 1	17	0.218	0.263	521883	2.79	0.45
521884	34.57	0.08	8.47	0.144	43.67	0.03	< 0.01	< 0.01	0.002	< 0.01	12.50	99.48	< 2	< 2	< 1	4	< 2	< 1	16	0.277	0.297	521884	17.80	0.58
521885	37.14	1.15	9.35	0.109	38.33	0.43	< 0.01	< 0.01	0.020	< 0.01	12.67	99.22	< 2	< 2	1	12	< 2	< 1	60	0.225	0.269	521885	2.78	0.50
521886	37.73	1.54	9.36	0.112	37.47	0.67	< 0.01	< 0.01	0.023	< 0.01	11.82	98.74	< 2	< 2	1	12	< 2	< 1	54	0.226	0.248	521886	15.24	0.98
521887	39.72	1.50	7.69	0.132	37.28	2.82	0.03	< 0.01	0.020	0.01	9.17	98.37	< 2	< 2	1	12	5	< 1	55	0.207	0.252	521887	20.85	2.34
521888	37.71	1.62	8.10	0.112	37.05	0.77	0.02	< 0.01	0.022	< 0.01	12.08	97.49	< 2	< 2	1	13	< 2	< 1	53	0.213	0.243	521888	21.74	1.00
521889	38.49	1.34	7.81	0.142	37.09	1.50	0.02	< 0.01	0.020	< 0.01	11.05	97.47	< 2	< 2	1	10	< 2	< 1	44	0.199	0.237	521889	16.07	1.12
521890	38.36	1.87	7.99	0.095	36.55	0.81	0.01	< 0.01	0.020	< 0.01	11.70	97.41	< 2	< 2	1	12	< 2	< 1	57	0.221	0.259	521890	20.57	1.25
521891	38.22	1.21	8.33	0.133	37.48	0.39	< 0.01	< 0.01	0.019	< 0.01	11.63	97.42	< 2	< 2	1	10	< 2	< 1	40	0.216	0.258	521891	13.75	0.60
521892	38.16	1.98	8.00	0.077	36.79	0.38	< 0.01	< 0.01	0.020	< 0.01	12.26	97.68	< 2	< 2	1	11	< 2	< 1	60	0.192	0.244	521892	17.11	1.01
521893	38.07	1.75	7.81	0.108	37.61	0.54	< 0.01	< 0.01	0.016	< 0.01	11.69	97.61	< 2	< 2	1	11	< 2	< 1	48	0.218	0.266	521893	21.85	1.47
521894	37.61	1.50	8.12	0.125	37.34	1.13	0.01	< 0.01	0.019	< 0.01	11.58	97.44	< 2	< 2	1	11	< 2	< 1	51	0.212	0.250	521894	19.44	1.05
521895	38.19	1.68	8.28	0.106	37.05	0.75	0.01	< 0.01	0.018	< 0.01	11.87	97.96	< 2	< 2	1	10	< 2	< 1	49	0.197	0.233	521895	17.76	0.95
521896	39.03	1.51	7.94	0.121	37.82	1.24	0.02	< 0.01	0.019	< 0.01	11.23	98.94	< 2	< 2	1	10	2	< 1	49	0.237	0.245	521896	22.70	1.41
521897	37.86	1.85	7.70	0.082	37.25	0.76	< 0.01	< 0.01	0.023	< 0.01	12.45	98.00	< 2	< 2	1	12	< 2	< 1	59	0.224	0.253	521897	22.30	1.10
521898	37.73	1.64	8.07	0.091	37.24	0.33	0.01	< 0.01	0.021	< 0.01	12.40	97.54	< 2	< 2	< 1	8	< 2	< 1	45	0.246	0.286	521898	19.95	0.85
523397	37.68	0.86	7.90	0.114	37.73	0.63	< 0.01	< 0.01	0.005	< 0.01	12.77	97.70	< 2	< 2	< 1	10	< 2	< 1	41	0.226	0.255	523397	27.13	0.63
523398	37.21	0.76	7.67	0.114	37.87	0.60	< 0.01	< 0.01	0.006	< 0.01	13.39	97.63	< 2	< 2	< 1	9	< 2	< 1	37	0.222	0.256	523398	19.37	0.36
523399	37.27	0.85	7.93	0.118	37.59	0.80	< 0.01	< 0.01	0.006	< 0.01	13.43	98.00	< 2	< 2	< 1	10	< 2	< 1	41	0.219	0.264	523399	21.18	0.49
523400.1	51.00	16.11	12.13	0.168	4.95	7.87	2.32	2.90	1.194	0.45	0.00	99.09	730	534	21	26	102	2	339	0.222	1.047	523400	49.20	16.10
523400.2																						523400	36.11	2.46
523400.3																						523400	17.47	0.65
523401	38.01	0.66	8.39	0.130	39.50	0.51	< 0.01	< 0.01	0.004	< 0.01	12.36	99.58	< 2	< 2	< 1	11	< 2	< 1	36	0.234	0.254	523401	19.59	0.48
523402	38.25	0.72	7.00	0.103	38.97	0.67	< 0.01	< 0.01	0.005	< 0.01	12.39	98.13	< 2	< 2	< 1	10	< 2	< 1	40	0.266	0.206	523402	23.56	0.50
523413	39.79	0.90	7.93	0.097	37.45	0.04	< 0.01	< 0.01	0.008	< 0.01	12.73	98.96	< 2	< 2	< 1	9	< 2	< 1	37	0.231	0.260	523413	18.52	0.76
523414	35.52	0.85	6.68	0.099	34.06	2.31	0.03	0.01	0.007	< 0.01	19.19	98.76	< 2	9	< 1	9	< 2	< 1	37	0.216	0.242	523414	22.18	0.72
523415	34.49	0.79	7.76	0.081	35.29	0.91	0.02	0.02	0.008	< 0.01	18.81	98.18	< 2	7	1	8	< 2	< 1	32	0.214	0.240	523415	29.47	0.73
523416	41.13	0.93	7.71	0.092	36.37	0.14	0.01	< 0.01	0.005	< 0.01	11.83	98.22	< 2	< 2	< 1	10	2	< 1	40	0.224	0.272	523416	18.04	1.07
523417	37.92	0.78	8.23	0.151	37.29	2.00	< 0.01	< 0.01	0.006	< 0.01	12.17	98.56	< 2	< 2	1	12	< 2	< 1	45	0.213	0.295	523417	24.45	0.48
523418	38.09	0.82	7.45	0.094	38.58	0.16	< 0.01	< 0.01	0.005	< 0.01	12.80	98.00	< 2	< 2	< 1	9	< 2	< 1	38	0.243	0.279	523418	25.15	0.74
523419	37.16	0.66	7.18	0.114	38.50	0.18	< 0.01	< 0.01	0.006	< 0.01	13.55	97.35	4	< 2	< 1	10	10	< 1	34	0.209	0.268	523419	21.52	0.52
523420	99.01	0.31	0.56	0.006	0.08	0.03	0.03	0.05	0.031	< 0.01	0.15	100.2	26	4	2	< 1	56	< 1	< 5	< 0.010	< 0.010	523420	97.48	0.35
523421	39.27	4.90	8.50	0.140	27.09	7.59	0.27	0.05	0.538	0.04	10.47	98.84	2	12	12	18	29	< 1	140	0.145	0.150	523421	24.88	0.38
523422	44.28	14.30	11.13	0.191	5.98	12.35	3.65	0.30	1.506	0.20	6.15	100.0	20	117	30	37	79	< 1	342	0.010	0.012	523422		
546199	37.47	0.69	7.85	0.152	38.10	1.38	0.01	< 0.01	0.006	< 0.01	13.03	98.72	< 2	< 2	1	9	< 2	< 1	39	0.206	0.257	546199	25.85	0.67
546200.1	50.03	15.85	11.89	0.165	4.90	7.75	2.28	2.83	1.167	0.41	0.00	97.27	718	521	21	25	105	2	336	0.221	1.036	546200	49.18	16.21
546200.2																						546200	36.31	2.37
546200.3																						546200	17.47	0.67
546201	38.20	0.74	7.97	0.106	38.37	0.82	< 0.01	< 0.01	0.005	< 0.01	13.63	99.83	< 2	< 2	< 1	10	< 2	< 1	39	0.226	0.257	546201	26.11	0.57
546202	37.03	0.79	7.18	0.118	37.49	1.35	< 0.01	< 0.01	0.005	< 0.01	13.63	97.60	< 2	< 2	< 1	9	< 2	< 1	39	0.203	0.232	546202	28.70	0.61
546203	38.05	0.76	7.85	0.099	38.64	0.25	< 0.01	< 0.01	0.004	< 0.01	13.34	99.01	< 2	< 2	< 1	10	< 2	< 1	38	0.224	0.286	546203	25.89	0.50
546204	38.43	0.74	7.12	0.095	38.57	0.49	< 0.01	< 0.01	< 0.001	0.03	13.02	98.49	< 2	< 2	< 1	9	< 2	< 1	33	0.199	0.234	546204	26.34	0.78
546205	39.63	0.53	7.21	0.117	40.44	0.38	< 0.01	< 0.01	< 0.001	< 0.01	12.15	100.5	< 2	< 2	< 1	9	< 2	< 1	31	0.198	0.224	546205	28.57	0.47
546206	39.19	0.60	7.42	0.108	40.20	0.46	< 0.01	< 0.01	< 0.001	< 0.01	11.60	99.58	< 2	< 2	< 1	9	2	< 1	33	0.182	0.221	546206	24.28	0.36
546207	38.54	0.66	7.42	0.110	39.81	0.69	< 0.01	< 0.01	< 0.001	< 0.01	13.18	100.4	< 2	< 2	< 1	9	< 2	< 1	34	0.208	0.213	546207	26.53	0.43

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
546208	40.04	0.67	7.29	0.084	40.53	0.10	< 0.01	< 0.01	< 0.001	0.02	11.73	100.5	< 2	< 2	< 1	8	< 2	< 1	31	0.206	0.246	546208	25.94	0.77
546209	39.06	0.59	7.68	0.093	40.62	0.31	< 0.01	< 0.01	< 0.001	0.01	12.30	100.7	< 2	< 2	< 1	10	< 2	< 1	33	0.213	0.266	546209	29.63	0.57
546210	39.49	0.75	7.65	0.111	39.88	1.26	< 0.01	< 0.01	0.001	< 0.01	11.23	100.4	< 2	< 2	< 1	10	< 2	< 1	40	0.204	0.270	546210	24.06	0.54
546211	39.12	0.57	7.76	0.115	41.16	0.25	< 0.01	< 0.01	0.001	0.01	11.74	100.7	< 2	< 2	< 1	8	< 2	< 1	32	0.205	0.255	546211	30.35	0.70
546212	39.05	0.58	7.25	0.105	39.44	0.29	< 0.01	< 0.01	0.002	< 0.01	13.59	100.3	< 2	< 2	< 1	9	< 2	< 1	36	0.212	0.266	546212	23.54	0.88
546213	36.20	0.69	6.91	0.113	37.35	0.06	0.01	< 0.01	< 0.001	< 0.01	17.93	99.28	< 2	< 2	< 1	9	4	< 1	33	0.171	0.245	546213	14.02	0.76
546214	38.03	0.52	7.68	0.113	39.97	0.29	< 0.01	< 0.01	0.001	0.02	13.01	99.64	< 2	< 2	< 1	8	< 2	< 1	30	0.196	0.248	546214	29.02	0.83
546215	38.23	0.52	6.93	0.109	40.33	0.23	< 0.01	< 0.01	< 0.001	0.01	13.02	99.38	< 2	< 2	< 1	8	< 2	< 1	30	0.175	0.220	546215	30.60	0.75
523393	38.80	1.01	7.51	0.111	39.19	0.66	< 0.01	< 0.01	0.002	< 0.01	12.61	99.92	< 2	< 2	< 1	11	< 2	< 1	47	0.216	0.253	523393	21.28	0.72
523394	38.04	0.79	7.45	0.119	38.44	1.54	< 0.01	< 0.01	0.002	0.02	13.06	99.47	< 2	< 2	< 1	10	< 2	< 1	42	0.180	0.238	523394	29.11	0.59
523395	38.51	0.77	7.90	0.126	38.96	0.76	< 0.01	< 0.01	0.002	< 0.01	12.96	100.0	< 2	< 2	< 1	10	< 2	< 1	42	0.186	0.240	523395	23.70	0.47
523396	38.29	0.96	8.41	0.108	37.62	1.74	< 0.01	< 0.01	0.003	0.02	12.90	100.0	< 2	< 2	< 1	11	< 2	< 1	47	0.178	0.274	523396	27.33	0.68

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
521828														31.6	0.022	30.261	0.1	30.283	4.32	
521829														30.4	0.014	29.451	0.0	29.465	3.01	
521830														32.0	0.009	31.228	0.0	31.236	2.24	
521831														30.2	0.002	29.312	0.0	29.314	2.99	
521832														30.5	0.009	29.451	0.0	29.461	3.43	
521833														31.1	0.011	30.532	0.0	30.543	1.92	
521834														30.2	0.004	30.053	0.0	30.057	0.39	
521835														31.7	0.005	31.275	0.0	31.280	1.27	
521836														30.4	0.003	30.156	0.0	30.159	0.91	
521837														31.4	0.004	31.090	0.0	31.094	0.99	
521838														30.7	0.006	30.218	0.0	30.224	1.65	
521839														31.3	0.022	30.172	0.1	30.194	3.68	
521840	0.91	0.010	0.02	0.03	0.02	0.08	0.05	0.01	< 0.01	< 0.003	< 0.003	0.03	100.1	15.6	0.031	14.904	0.2	14.936	4.27	
521841														30.6	0.003	29.481	0.0	29.485	3.67	
521842														30.8	0.000	30.000	0.0	30.000	2.59	
521843	62.65	0.103	13.05	0.10	< 0.01	0.03	0.05	0.01	4.12	0.076	0.259	9.37	97.08	30.9	0.749	29.584	2.4	30.333	1.85	0.13
521844	54.39	0.125	16.91	0.38	0.07	0.04	0.14	0.02	3.45	0.083	0.251	6.92	99.04	30.3	0.642	28.921	2.1	29.563	2.37	0.05
521845	58.53	0.133	14.63	0.26	< 0.01	0.05	0.06	0.01	2.80	0.049	0.224	3.97	97.09	30.3	1.071	28.314	3.5	29.385	2.93	0.04
521846	47.61	0.128	20.02	0.43	< 0.01	0.04	0.05	0.01	1.98	0.024	0.290	5.49	98.33	30.5	1.195	28.862	3.9	30.057	1.34	0.06
521847	48.02	0.166	19.45	0.49	< 0.01	0.05	0.06	0.01	2.52	0.030	0.257	5.27	98.18	30.5	1.294	29.050	4.2	30.344	0.52	0.04
521848	42.00	0.139	22.08	0.77	< 0.01	0.04	0.05	0.01	1.48	0.024	0.274	6.86	98.15	30.1	1.643	28.240	5.5	29.884	0.85	0.06
521849	57.85	0.178	15.82	0.53	0.28	0.05	0.06	0.01	2.74	0.031	0.296	3.64	99.25	30.4	1.175	29.158	3.9	30.333	0.23	0.05
521850	53.95	0.184	15.85	2.43	0.13	0.04	0.06	0.02	2.32	0.028	0.351	6.12	98.04	30.8	0.926	29.790	3.0	30.716	0.20	0.08
521851	56.57	0.193	15.58	0.58	< 0.01	0.06	0.09	0.01	3.15	0.040	0.326	3.40	97.49	30.0	0.991	28.881	3.3	29.873	0.59	0.09
521852	50.14	0.084	19.59	0.50	< 0.01	0.04	0.05	0.01	0.98	0.027	0.257	5.14	99.22	30.0	1.917	27.997	6.4	29.914	0.44	0.03
521853	79.34	0.456	7.81	0.19	0.06	0.02	0.02	0.01	2.02	0.035	0.381	-0.42	98.07	30.1	1.643	28.352	5.5	29.995	0.29	0.01
521854	43.00	0.321	23.71	0.28	0.01	0.03	0.02	0.01	1.02	0.019	0.398	6.08	99.99	30.1	3.471	26.314	11.5	29.784	0.91	0.02
521855	56.54	0.398	17.67	0.31	< 0.01	0.02	0.03	0.01	1.37	0.023	0.451	3.95	99.13	30.1	2.205	27.736	7.3	29.941	0.60	0.01
521856	49.12	0.279	20.72	0.21	0.06	0.02	0.03	< 0.01	1.04	0.020	0.491	5.51	99.34	30.0	3.204	26.875	10.7	30.079	-0.10	0.03
521857	61.15	0.206	16.50	0.10	< 0.01	< 0.01	0.03	0.01	0.89	0.025	0.515	3.58	99.92	30.1	3.602	26.259	12.0	29.861	0.73	0.01
521858	47.96	0.186	21.41	0.15	0.05	0.03	0.03	< 0.01	0.73	0.019	0.384	5.61	99.27	30.0	3.872	25.830	12.9	29.702	1.14	0.01
521859	59.25	0.183	16.96	0.11	< 0.01	0.03	0.03	< 0.01	0.85	0.023	0.458	3.58	99.33	30.2	3.282	26.733	10.9	30.015	0.47	0.01
521860.1	12.02	0.168	4.98	7.86	2.44	2.81	1.08	0.44	1.05	0.065	0.233	0.79	99.21							
521860.2	13.09	0.129	32.13	2.06	0.07	0.11	0.12	0.02	0.19	0.007	1.44	12.30	100.3							
521860.3	56.32	0.238	16.23	0.15	< 0.01	0.04	0.03	0.01	1.66	0.021	2.11	3.18	97.90	30.2	2.050	27.935	6.8	29.985	0.70	0.11
521861	48.17	0.234	21.51	0.11	0.01	0.02	0.03	0.01	1.03	0.021	0.450	5.21	99.66	30.1	3.662	26.347	12.2	30.009	0.32	0.01
521862	53.00	0.238	19.44	0.12	< 0.01	0.01	0.04	0.01	0.97	0.021	0.719	4.28	99.13	30.0	3.143	26.638	10.5	29.781	0.87	0.02
521863	55.72	0.231	17.95	0.13	< 0.01	0.02	0.03	< 0.01	1.27	0.024	0.855	3.31	98.19	30.1	2.978	26.943	9.9	29.921	0.47	0.04
521864	50.83	0.273	18.69	0.37	< 0.01	0.04	0.03	0.01	1.18	0.023	1.13	4.07	97.97	30.1	2.507	27.456	8.3	29.963	0.57	0.06
521865	57.99	0.269	16.28	0.21	< 0.01	0.02	0.04	< 0.01	1.29	0.028	1.21	3.16	98.07	30.0	2.499	27.689	8.3	30.188	-0.54	0.03
521866	58.98	0.255	16.64	0.16	0.04	0.02	0.04	0.01	1.25	0.024	1.00	3.18	99.06	30.0	2.705	27.091	9.0	29.796	0.81	0.03
521867	51.96	0.226	18.72	0.34	< 0.01	0.02	0.04	0.01	1.04	0.028	1.10	4.27	98.27	30.0	3.117	26.649	10.4	29.766	0.85	0.02
521868	58.02	0.297	16.01	0.29	< 0.01	0.03	0.04	< 0.01	1.46	0.026	1.33	2.55	97.37	30.2	2.421	27.766	8.0	30.187	-0.01	0.02
521869	50.10	0.203	19.78	0.22	< 0.01	0.03	0.04	0.01	0.96	0.026	0.890	4.34	97.63	30.1	3.583	26.492	11.9	30.075	0.13	0.01
521870	47.03	0.207	21.40	0.07	< 0.01	0.02	0.03	0.01	1.14	0.022	0.846	5.04	98.13	30.1	3.980	25.808	13.2	29.787	1.02	0.02
521871	78.53	0.100	8.21	0.02	< 0.01	0.02	0.02	0.01	2.58	0.016	1.28	-0.83	96.82	30.1	1.887	27.948	6.3	29.836	0.96	0.07
521872	57.54	0.130	18.61	0.03	< 0.01	0.01	0.02	< 0.01	2.74	0.020	1.31	2.62	97.60	30.1	1.873	28.129	6.2	30.002	0.34	0.08
521873														30.1	0.028	29.919	0.1	29.948	0.64	
521874	76.87	0.234	8.20	0.07	< 0.01	0.02	0.10	0.01	2.11	0.048	1.02	-0.47	97.33	30.0	1.784	27.847	5.9	29.630	1.36	0.01
521875	45.14	0.166	21.90	0.05	< 0.01	0.02	0.07	0.01	1.33	0.029	0.612	5.03	98.33	30.2	3.109	26.867	10.3	29.976	0.66	< 0.01
521876	86.61	0.105	5.16	0.03	0.04	0.01	0.03	< 0.01	1.85	0.016	1.50	-2.18	97.71	30.0	1.843	28.893	6.1	30.736	-2.29	0.02

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
521877	87.67	0.090	4.25	0.02	< 0.01	0.02	0.02	< 0.01	2.67	0.023	2.02	-2.62	97.39	30.1	1.372	28.849	4.6	30.221	-0.31	
521878	84.00	0.084	6.03	0.02	< 0.01	0.01	0.01	0.01	2.53	0.019	2.14	-2.35	97.16	30.1	1.327	28.991	4.4	30.317	-0.57	0.03
521879	53.36	0.148	18.80	0.16	0.01	0.02	0.08	0.01	1.17	0.033	1.09	4.09	99.56	30.1	3.243	26.813	10.8	30.056	0.25	0.04
521880	0.55	0.009	0.03	0.03	0.02	0.05	0.04	0.01	< 0.01	< 0.003	< 0.003	-0.01	98.89	30.0	0.087	28.857	0.3	28.945	3.63	
521881	49.02	0.126	21.08	0.34	< 0.01	< 0.01	0.10	0.02	1.03	0.031	1.31	4.84	99.48	30.1	3.111	27.032	10.3	30.143	-0.21	0.04
521882	88.36	0.085	4.29	0.05	< 0.01	< 0.01	0.02	0.01	2.34	0.024	1.83	-2.74	97.57	30.2	1.575	28.042	5.2	29.617	1.82	0.05
521883	89.08	0.093	3.75	0.03	0.22	0.03	0.03	0.01	2.53	0.029	1.84	-2.92	97.96	30.0	1.525	27.892	5.1	29.417	1.97	0.01
521884	60.75	0.177	18.38	0.09	0.02	0.01	0.07	0.01	1.66	0.040	1.66	-3.00	98.25	30.1	1.415	28.512	4.7	29.927	0.65	0.03
521885	81.73	0.088	3.98	0.05	0.08	0.01	0.02	< 0.01	2.82	0.027	1.83	3.35	97.26	30.1	2.447	27.419	8.1	29.866	0.73	0.05
521886	60.26	0.118	15.10	0.16	< 0.01	0.02	0.06	< 0.01	1.22	0.028	1.95	2.27	97.40	30.1	2.151	27.671	7.2	29.822	0.76	0.03
521887	44.49	0.213	20.20	1.14	< 0.01	0.02	0.07	0.01	2.41	0.034	2.44	2.81	97.01	30.1	1.076	28.798	3.6	29.874	0.66	< 0.01
521888	45.95	0.135	21.71	0.36	< 0.01	0.02	0.05	0.01	1.18	0.025	1.85	4.46	98.44	30.0	2.207	27.642	7.4	29.849	0.52	0.05
521889	56.59	0.211	15.69	0.62	0.17	0.03	0.07	< 0.01	2.03	0.030	2.81	1.73	97.17	30.0	1.313	28.832	4.4	30.145	-0.38	0.03
521890	48.99	0.139	20.11	0.28	0.10	0.02	0.05	0.01	1.18	0.028	1.67	4.17	98.57	30.1	2.560	27.292	8.5	29.852	0.74	0.02
521891	63.94	0.215	13.77	0.11	< 0.01	0.02	0.08	0.01	1.88	0.033	2.31	0.77	97.46	30.2	1.992	28.018	6.6	30.010	0.49	0.04
521892	55.39	0.139	17.12	0.09	0.01	0.03	0.06	0.01	1.33	0.030	2.12	3.11	97.56	30.0	2.308	27.635	7.7	29.943	0.25	0.02
521893	44.30	0.178	21.84	0.36	< 0.01	0.03	0.05	< 0.01	1.68	0.024	1.84	4.42	97.99	30.1	2.280	27.608	7.6	29.888	0.56	0.03
521894	50.29	0.170	19.28	0.55	< 0.01	0.03	0.05	0.01	1.61	0.027	1.94	3.69	98.11	30.0	2.091	27.868	7.0	29.959	0.26	0.03
521895	55.44	0.158	17.80	0.33	0.09	0.04	0.06	0.01	1.49	0.025	1.73	2.83	98.71	30.1	1.959	27.856	6.5	29.815	0.94	0.04
521896	42.66	0.194	22.77	0.79	< 0.01	0.01	0.06	< 0.01	1.85	0.025	2.13	4.32	98.92	30.1	1.847	28.174	6.1	30.021	0.38	0.03
521897	44.11	0.122	22.60	0.29	0.04	0.02	0.06	0.01	1.09	0.026	1.50	5.51	98.78	30.0	3.016	26.820	10.0	29.836	0.64	0.04
521898	49.59	0.173	20.27	0.16	< 0.01	0.02	0.06	0.01	1.64	0.024	1.57	4.17	98.48	30.1	2.713	27.104	9.0	29.817	1.00	0.04
523397	33.74	0.156	28.51	0.17	< 0.01	0.01	0.02	< 0.01	0.99	0.018	0.963	7.84	100.2	30.1	3.995	26.120	13.3	30.115	-0.08	0.02
523398	48.47	0.199	21.14	0.11	< 0.01	0.01	0.03	0.01	1.66	0.022	1.49	5.34	98.14	30.1	2.578	27.631	8.6	30.209	-0.28	0.03
523399	43.97	0.177	24.03	0.14	< 0.01	0.02	0.02	0.01	1.33	0.022	1.36	6.45	99.18	30.1	2.911	26.819	9.7	29.730	1.11	0.03
523400.1	12.09	0.168	4.94	7.82	2.43	2.76	1.09	0.44	1.07	0.061	0.235	0.87	99.27							
523400.2	13.04	0.130	32.06	2.07	0.10	0.14	0.12	0.02	0.19	0.008	1.44	10.99	98.88							
523400.3	56.61	0.242	16.38	0.14	0.01	0.04	0.04	0.01	1.61	0.024	2.11	3.21	98.55	30.1	1.908	27.759	6.3	29.666	1.58	0.11
523401	47.19	0.196	22.04	0.15	0.04	0.01	0.03	0.01	1.76	0.029	1.46	5.33	98.32	30.2	2.544	27.351	8.4	29.895	0.95	
523402	38.63	0.161	25.69	0.23	0.08	0.03	0.03	0.01	1.24	0.021	2.04	6.41	98.64	30.2	2.651	27.365	8.8	30.016	0.75	0.06
523413	49.31	0.278	18.03	0.03	< 0.01	< 0.01	0.04	0.01	2.07	0.032	0.217	4.62	97.90	30.0	1.780	27.989	5.9	29.769	0.82	0.02
523414	15.68	0.228	22.04	0.44	< 0.01	< 0.01	0.04	0.01	1.89	0.019	0.184	16.62	98.40	30.1	0.260	28.460	0.9	28.720	4.45	
523415	28.89	0.163	28.89	0.33	0.01	0.03	0.03	0.01	1.16	0.017	0.445	9.17	99.35	30.2	3.237	25.846	10.7	29.083	3.56	0.05
523416	54.44	0.409	15.76	0.02	< 0.01	< 0.01	0.04	0.01	3.11	0.046	0.258	3.92	97.29	30.1	1.461	28.594	4.9	30.056	0.12	0.02
523417	39.67	0.215	24.24	1.03	< 0.01	0.03	0.02	0.01	1.42	0.021	1.05	6.35	98.93	30.1	3.102	27.023	10.3	30.125	-0.18	0.05
523418	36.30	0.153	26.61	0.08	< 0.01	0.04	0.03	< 0.01	1.46	0.025	1.15	7.25	98.99	30.1	3.477	26.526	11.6	30.003	0.28	0.04
523419	44.36	0.204	22.60	0.13	< 0.01	0.03	0.03	0.01	1.52	0.022	1.09	6.53	98.55	30.1	3.220	26.730	10.7	29.950	0.56	0.16
523420	0.53	0.008	0.02	0.02	0.03	0.12	0.04	0.01	< 0.01	< 0.003	< 0.003	0.11	98.72	30.1	0.047	29.693	0.2	29.740	1.06	
523421	40.36	0.172	24.88	0.08	< 0.01	0.03	0.03	0.01	1.29	0.021	0.884		93.00	30.3	0.153	30.089	0.5	30.241	0.03	
523422														30.2	0.010	29.948	0.0	29.958	0.84	
546199	34.42	0.151	27.13	0.79	0.04	0.02	0.02	0.01	0.98	0.015	0.769	8.31	99.17	30.1	3.775	26.516	12.5	30.291	-0.49	0.02
546200.1	12.10	0.170	4.99	7.85	2.42	2.81	1.10	0.44	1.07	0.063	0.238	0.80	99.45							
546200.2	13.12	0.130	32.32	2.10	0.10	0.15	0.13	0.02	0.20	0.006	1.43	11.01	99.39							
546200.3	56.45	0.238	16.39	0.14	< 0.01	0.06	0.04	0.01	1.67	0.024	2.11	2.97	98.24	30.6	1.934	28.207	6.3	30.141	1.54	0.11
546201	35.02	0.154	26.67	0.39	0.06	0.03	0.02	0.01	1.12	0.021	0.625	8.56	99.36	30.1	4.026	25.757	13.4	29.783	1.13	0.02
546202	28.82	0.153	29.84	0.13	< 0.01	0.03	0.02	< 0.01	1.16	0.017	0.754	9.08	99.29	30.5	4.389	26.057	14.4	30.446	0.01	0.01
546203	35.01	0.131	27.30	0.38	< 0.01	0.01	0.03	0.01	0.95	0.015	0.761	8.35	99.32	30.2	4.211	25.795	14.0	30.006	0.59	0.01
546204	34.25	0.134	27.41	0.15	0.10	0.03	0.02	0.01	1.29	0.025	0.795	8.02	99.35	30.2	3.259	25.525	10.8	28.784	4.57	< 0.01
546205	29.85	0.170	29.78	0.44	0.04	0.01	0.02	< 0.01	0.96	0.015	0.890	8.59	99.81	30.0	3.640	26.149	12.1	29.789	0.81	< 0.01
546206	33.90	0.206	27.62	0.64	< 0.01	0.03	0.02	0.01	1.57	0.022	1.41	8.45	98.47	30.2	2.336	27.752	7.7	30.088	0.53	0.02
546207	30.65	0.189	28.77	1.16	< 0.01	0.01	0.03	0.01	0.87	0.012	0.753	10.76	100.2	30.3	4.037	26.216	13.3	30.254	0.10	0.03

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
546208	35.32	0.164	27.09	0.13	< 0.01	0.02	0.02	< 0.01	1.66	0.024	0.958	6.75	98.79	30.2	2.910	27.155	9.6	30.065	0.52	0.01
546209	26.56	0.166	30.94	0.49	< 0.01	0.02	0.02	0.01	0.99	0.013	0.598	9.43	99.42	30.2	5.087	24.958	16.8	30.045	0.56	< 0.01
546210	38.96	0.212	22.74	1.68	0.03	0.02	0.03	0.01	2.00	0.027	1.34	5.36	97.01	30.0	1.999	27.809	6.7	29.809	0.69	0.04
546211	22.23	0.186	33.99	0.46	< 0.01	0.01	0.02	0.01	1.14	0.017	0.531	9.82	99.40	30.1	4.048	25.665	13.4	29.713	1.45	0.02
546212	30.61	0.279	25.60	0.35	< 0.01	< 0.01	0.03	0.01	2.69	0.036	0.782	6.67	96.91	30.5	1.011	29.164	3.3	30.175	1.03	0.01
546213	39.58	0.308	19.51	0.05	< 0.01	< 0.01	0.04	< 0.01	3.74	0.040	0.164	13.64	97.36	30.1	0.843	28.257	2.8	29.101	3.41	0.02
546214	25.71	0.203	32.61	0.68	< 0.01	< 0.01	0.02	< 0.01	1.41	0.024	0.353	6.63	98.76	30.0	2.323	27.274	7.7	29.597	1.42	< 0.01
546215	22.33	0.183	34.80	0.59	< 0.01	< 0.01	0.03	< 0.01	1.11	0.016	0.299	7.74	100.0	30.3	3.642	25.890	12.0	29.532	2.66	< 0.01
523393	45.47	0.179	21.89	0.14	< 0.01	0.02	0.03	< 0.01	1.50	0.028	1.62	5.38	98.21	30.2	2.431	27.535	8.0	29.966	0.91	0.01
523394	27.92	0.152	30.28	0.20	< 0.01	0.02	0.03	< 0.01	0.71	0.013	0.875	9.25	99.14	30.1	4.983	24.927	16.6	29.910	0.48	0.02
523395	40.22	0.174	24.83	0.14	< 0.01	0.02	0.02	0.01	1.07	0.018	1.23	6.95	98.82	30.1	3.236	26.672	10.8	29.908	0.56	0.03
523396	33.97	0.148	28.09	0.31	< 0.01	< 0.01	0.02	0.02	0.84	0.019	0.891	7.58	99.88	30.1	4.447	25.469	14.8	29.915	0.77	0.03

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
NIST 694 Meas	11.16	1.89	0.75	0.013	0.35	44.41	0.88	0.57	0.116	30.18									1698					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
NIST 694 Meas	11.32	1.91	0.76	0.012	0.36	44.01	0.88	0.55	0.122	30.21									1690					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
GBW 07113 Meas	70.14	12.67	3.13	0.139	0.14	0.55	2.39	5.32	0.273	0.07			492	41	41	6	395	4	< 5					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
GBW 07113 Meas	73.01	12.70	3.19	0.140	0.14	0.56	2.50	5.41	0.280	0.04			499	40	45	5	391	4	6					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
MICA-FE Meas																						34.29	19.52	25.71
MICA-FE Cert																						34.4	19.5	25.6
CHR-BKG Meas																						15.30	12.84	13.75
CHR-BKG Cert																						15.27	12.91	13.87
IF-G Meas																						41.28	0.17	55.92
IF-G Cert																						41.2	0.150	55.8
LKSD-4 Meas																								
LKSD-4 Cert																								
LKSD-4 Meas																								
LKSD-4 Cert																								
LKSD-4 Meas																								
LKSD-4 Cert																								
BaSO4 Meas																								
BaSO4 Cert																								
BaSO4 Meas																								
BaSO4 Cert																								
BaSO4 Meas																								
BaSO4 Cert																								
W-2a Meas	52.49	15.24	10.59	0.167	6.22	10.82	2.19	0.62	1.087	0.13			170	191	19	35	85	< 1	274	0.012	< 0.010			
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262	0.00700	0.00920			
OREAS 13P Meas																				0.223				
OREAS 13P Cert																				0.226				
OREAS 14P Meas																								
OREAS 14P Cert																								
SY-4 Meas	49.53	20.93	6.23	0.108	0.51	7.98	6.98	1.66	0.292	0.13			343	1204	115	< 1	539	3	5	< 0.010	< 0.010			
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0	0.000	0.001			
Oreas 73a (Fusion) Meas																						36.39	2.35	
Oreas 73a (Fusion) Cert																						36.4	2.38	
Oreas 74a (Fusion) Meas																						32.48	2.25	
Oreas 74a (Fusion) Cert																						32.4	2.21	
Oreas 75a (Fusion) Meas																						27.30	2.00	
Oreas 75a (Fusion) Cert																						27.3	1.99	
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
OREAS 13b (4-Acid) Meas																								
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OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
521842 Orig	33.23	0.53	6.32	0.102	34.18	1.58	0.02	0.03	0.009	0.02	23.41	99.44	8	41	< 1	5	5	< 1	23					

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
521842 Dup	33.65	0.54	6.25	0.103	34.38	1.61	0.02	0.03	0.008	0.03	23.41	100.0	8	42	< 1	5	3	< 1	23					
521842 Orig	33.23	0.53	6.32	0.102	34.18	1.58	0.02	0.03	0.009	0.02	23.41	99.44	8	41	< 1	5	5	< 1	23					
521842 Dup	33.65	0.54	6.25	0.103	34.38	1.61	0.02	0.03	0.008	0.03	23.41	100.0	8	42	< 1	5	3	< 1	23					
521842 Orig	33.27	0.52	5.82	0.098	33.06	1.57	0.02	< 0.01	0.009	< 0.01	23.41	97.78	8	38	1	5	< 2	< 1	23					
521842 Dup	33.29	0.51	6.05	0.099	33.06	1.60	0.02	< 0.01	0.009	< 0.01	23.41	98.05	8	37	< 1	5	< 2	< 1	22					
521847 Orig																								
521847 Dup																								
521857 Orig																								
521857 Dup																								
521865 Orig																								
521865 Dup																								
521873 Orig	41.88	15.07	14.53	0.228	6.65	14.97	1.88	0.43	2.019	0.15	3.16	101.0	133	183	34	43	105	< 1	452	0.012	0.012			
521873 Dup	41.44	14.94	14.33	0.225	6.62	14.89	1.86	0.42	2.018	0.14	3.16	100.0	132	181	34	43	105	< 1	456	0.012	0.012			
521875 Orig																								
521875 Dup																								
521888 Orig	37.80	1.64	7.93	0.112	37.06	0.77	0.02	< 0.01	0.022	< 0.01	12.08	97.43	< 2	< 2	1	13	3	< 1	53	0.224	0.244			
521888 Dup	37.62	1.60	8.27	0.112	37.04	0.77	0.01	< 0.01	0.022	< 0.01	12.08	97.54	< 2	< 2	1	12	< 2	< 1	54	0.201	0.242			
521895 Orig																								
521895 Dup																								
523413 Orig	39.95	0.87	7.87	0.097	37.34	0.04	< 0.01	< 0.01	0.008	< 0.01	12.73	98.91	< 2	< 2	< 1	9	< 2	< 1	37	0.231	0.257			
523413 Dup	39.62	0.92	8.00	0.098	37.56	0.04	< 0.01	< 0.01	0.008	< 0.01	12.73	99.00	< 2	< 2	< 1	9	2	< 1	37	0.231	0.263			
523420 Orig	98.31	0.31	0.56	0.006	0.09	0.03	0.03	0.05	0.032	< 0.01	0.15	99.55	26	3	2	< 1	53	< 1	6	< 0.010	< 0.010			
523420 Dup	99.71	0.31	0.55	0.006	0.07	0.03	0.03	0.05	0.031	< 0.01	0.15	100.9	27	4	2	< 1	59	< 1	< 5	< 0.010	< 0.010			
546203 Orig	38.33	0.76	7.90	0.099	38.88	0.25	< 0.01	< 0.01	0.004	< 0.01	13.34	99.58	< 2	< 2	1	10	< 2	< 1	37	0.227	0.285			
546203 Dup	37.77	0.76	7.79	0.099	38.40	0.25	< 0.01	< 0.01	0.004	0.02	13.34	98.45	< 2	< 2	< 1	10	2	< 1	39	0.220	0.286			
546205 Orig																								
546205 Dup																								
546214 Orig																								
546214 Dup																								
546215 Orig																								
546215 Dup																								
523395 Orig	38.67	0.77	7.96	0.127	39.19	0.77	< 0.01	< 0.01	0.002	< 0.01	12.96	100.5	< 2	< 2	< 1	10	< 2	< 1	42	0.190	0.241			
523395 Dup	38.34	0.77	7.85	0.125	38.73	0.76	< 0.01	< 0.01	0.002	< 0.01	12.96	99.55	< 2	< 2	< 1	10	< 2	< 1	41	0.182	0.239			
Method Blank																								
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
NIST 694 Meas													
NIST 694 Cert													
NIST 694 Meas													
NIST 694 Cert													
GBW 07113 Meas													
GBW 07113 Cert													
GBW 07113 Meas													
GBW 07113 Cert													
MICA-FE Meas	0.348	4.57	0.45	0.48	8.80	2.50	0.42	0.02	0.025	0.004			
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350			
CHR-BKG Meas	0.138	23.26	0.06			0.14		19.9		0.199			
CHR-BKG Cert	0.14	23.47	0.07			0.14		20		0.201			
IF-G Meas	0.041	1.90	1.58	0.05	0.02	0.02	0.06	0.01		< 0.003			
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225			
LKSD-4 Meas													0.85
LKSD-4 Cert													0.990
LKSD-4 Meas													1.01
LKSD-4 Cert													0.990
LKSD-4 Meas													0.81
LKSD-4 Cert													0.990
BaSO4 Meas													13.6
BaSO4 Cert													14.0
BaSO4 Meas													13.2
BaSO4 Cert													14.0
BaSO4 Meas													12.8
BaSO4 Cert													14.0
W-2a Meas													
W-2a Cert													
OREAS 13P Meas										0.228			
OREAS 13P Cert										0.226			
OREAS 14P Meas										2.10			
OREAS 14P Cert										2.10			
SY-4 Meas													
SY-4 Cert													
Oreas 73a (Fusion) Meas		32.48						0.20		1.44			
Oreas 73a (Fusion) Cert		32.5						0.20		1.44			
Oreas 74a (Fusion) Meas		28.95						0.18		3.24			
Oreas 74a (Fusion) Cert		27.9						0.18		3.24			
Oreas 75a (Fusion) Meas		22.45						0.15		5.25			
Oreas 75a (Fusion) Cert		22.3						0.16		5.25			
OREAS 13b (4-Acid) Meas													0.95
OREAS 13b (4-Acid) Cert													1.20
OREAS 13b (4-Acid) Meas													1.10
OREAS 13b (4-Acid) Cert													1.20
OREAS 13b (4-Acid) Meas													1.13
OREAS 13b (4-Acid) Cert													1.20
OREAS 13b (4-Acid) Meas													1.12
OREAS 13b (4-Acid) Cert													1.20
521842 Orig													

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
521842 Dup													
521842 Orig													
521842 Dup													
521842 Orig													
521842 Dup													
521847 Orig													0.04
521847 Dup													0.04
521857 Orig													0.01
521857 Dup													0.01
521865 Orig													0.03
521865 Dup													0.03
521873 Orig													
521873 Dup													
521875 Orig													< 0.01
521875 Dup													< 0.01
521888 Orig													
521888 Dup													
521895 Orig													0.04
521895 Dup													0.04
523413 Orig													
523413 Dup													
523420 Orig													
523420 Dup													
546203 Orig													
546203 Dup													
546205 Orig													< 0.01
546205 Dup													< 0.01
546214 Orig													< 0.01
546214 Dup													< 0.01
546215 Orig													< 0.01
546215 Dup													< 0.01
523395 Orig													
523395 Dup													
Method Blank													< 0.01
Method Blank													< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	
Method Blank													< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 31-Oct-11
Invoice No.: A11-12754
Invoice Date: 14-Dec-11
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road
Suite 2
Sudbury Ontario P3C 4Y9
Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

18 Pulp samples and 199 Rock samples were submitted for analysis.

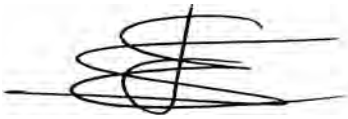
The following analytical packages were requested:

REPORT **A11-12754**

Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID

Notes:
Total includes all elements in % oxide to the left of total.

CERTIFIED BY :



Emmanuel Eseme , Ph.D.
Quality Control

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521899	63.88	10.50	6.46	0.175	3.71	2.98	1.23	1.99	0.688	0.15	6.11	97.88	1231	76	19	20	71	1	175	0.011	0.012	521899		
521900.1	48.80	15.29	11.66	0.165	4.80	7.81	2.23	2.69	1.160	0.42	0.92	95.95	707	517	21	25	98	2	331	0.211	1.017	521920	49.18	16.06
521900.2																						521920	36.12	2.46
521900.3																						521920	19.00	0.56
521901	68.10	10.52	5.22	0.125	2.71	1.53	0.68	2.86	0.686	0.22	5.20	97.86	1638	50	23	13	83	2	138	0.011	0.010	521901		
521902	77.38	9.52	3.93	0.081	1.91	0.66	1.48	1.94	0.459	0.14	2.81	100.3	1166	49	21	10	88	2	73	0.011	< 0.010	521902		
521903	67.27	10.40	4.71	0.108	2.85	1.95	0.55	2.91	0.590	0.17	6.24	97.76	1790	70	21	12	97	2	135	0.013	0.010	521903		
521904	53.68	12.50	7.88	0.105	4.24	5.56	0.64	3.19	1.853	0.49	8.91	99.06	2947	151	30	16	271	2	157	0.018	0.019	521904		
521905	71.91	8.80	4.86	0.142	2.74	2.99	1.10	1.75	0.921	0.18	4.54	99.93	1023	76	18	13	131	1	125	0.012	< 0.010	521905		
521906	49.32	14.27	12.50	0.154	6.27	5.59	3.08	0.38	2.169	0.36	6.04	100.1	251	194	19	24	126	1	241	0.027	0.033	521906		
521907	61.82	12.51	6.98	0.094	3.59	3.11	1.08	2.92	0.960	0.25	5.39	98.70	2154	114	26	22	116	2	171	0.014	< 0.010	521907		
521908	55.07	9.02	8.57	0.129	12.98	4.35	1.27	1.04	1.132	0.18	6.40	100.1	820	80	15	20	107	1	145	0.062	0.083	521908		
521909	43.92	14.35	11.36	0.172	9.88	5.27	1.00	2.44	2.941	0.49	7.17	99.00	1106	138	30	28	229	1	323	0.014	< 0.010	521909		
521910	76.00	8.24	3.39	0.072	1.52	0.75	0.05	2.79	0.401	0.08	4.79	98.07	1655	31	16	11	73	2	114	0.010	< 0.010	521910		
521911	72.96	9.25	4.00	0.068	1.87	0.82	0.21	3.01	0.475	0.20	5.04	97.88	1672	34	22	11	91	2	123	< 0.010	< 0.010	521911		
521912	79.78	6.48	3.51	0.075	1.75	0.81	0.41	1.87	0.324	0.06	2.87	97.93	952	38	11	8	69	1	52	< 0.010	< 0.010	521912		
521913	76.55	8.98	3.58	0.057	1.79	0.50	0.33	2.79	0.430	0.10	4.03	99.14	1556	34	16	11	81	2	110	< 0.010	< 0.010	521913		
521914	74.13	8.87	3.93	0.056	1.60	0.63	0.32	2.67	0.437	0.11	5.42	98.17	1949	32	18	11	77	2	121	< 0.010	< 0.010	521914		
521915	72.29	9.60	4.12	0.066	1.79	0.67	0.30	2.89	0.466	0.11	5.47	97.78	2044	35	19	11	77	2	118	< 0.010	< 0.010	521915		
521916	73.92	9.18	3.61	0.049	1.52	0.55	1.17	2.66	0.433	0.09	5.14	98.32	1506	41	17	11	75	2	119	< 0.010	< 0.010	521916		
521917	42.44	3.96	7.52	0.122	27.01	3.76	0.01	0.03	0.183	0.03	15.00	100.1	13	148	4	12	16	< 1	86	0.161	0.187	521917		
521918	46.18	13.99	7.90	0.129	9.42	5.55	3.24	0.45	0.819	0.19	12.25	100.1	512	366	14	23	68	< 1	181	0.031	0.055	521918		
521919	45.43	12.98	6.46	0.130	7.31	7.90	3.65	1.28	0.574	0.10	13.68	99.49	738	515	12	20	71	< 1	147	0.022	0.038	521919		
521920	99.63	0.28	0.40	0.003	0.02	0.02	< 0.01	0.04	0.034	0.01	0.12	100.6	25	5	1	< 1	55	< 1	6	< 0.010	< 0.010	521920	98.27	0.32
521921	41.54	6.49	7.84	0.154	20.02	7.34	0.03	0.03	0.662	0.11	15.61	99.82	15	186	12	17	56	< 1	121	0.102	0.105	521921		
521922	40.32	0.74	6.73	0.091	32.89	1.59	0.02	< 0.01	0.009	0.02	16.59	99.00	7	35	1	8	3	< 1	34	0.215	0.202	521922		
521923	39.82	0.77	7.73	0.083	36.83	0.37	< 0.01	< 0.01	0.012	< 0.01	14.15	99.77	6	15	< 1	7	2	< 1	33	0.213	0.228	521923		
521924	39.57	0.98	7.58	0.100	37.36	0.25	< 0.01	< 0.01	0.009	< 0.01	14.78	100.6	12	8	< 1	11	2	< 1	45	0.214	0.248	521924		
521925	39.88	1.04	7.25	0.117	33.52	3.63	< 0.01	< 0.01	0.010	0.02	14.49	99.98	11	200	1	8	3	< 1	37	0.203	0.242	521925	28.99	1.50
521926	45.79	8.19	7.59	0.125	24.70	3.60	1.70	1.11	0.337	0.11	7.56	100.8	293	263	6	14	42	< 1	96	0.138	0.172	521926	29.24	1.62
521927	37.98	1.80	7.79	0.141	35.58	2.25	< 0.01	< 0.01	0.042	0.01	14.50	100.1	12	78	3	11	4	< 1	57	0.215	0.242	521927	26.29	1.12
521928	38.79	0.76	7.70	0.126	36.27	2.16	< 0.01	< 0.01	0.009	< 0.01	14.05	99.89	7	48	< 1	9	2	< 1	34	0.224	0.259	521928	18.45	0.18
521929	40.15	1.06	7.59	0.117	36.49	0.96	< 0.01	< 0.01	0.019	< 0.01	12.56	98.95	12	29	< 1	8	3	< 1	37	0.216	0.228	521929	12.77	1.27
521930	37.07	0.27	7.04	0.112	37.69	1.14	< 0.01	< 0.01	0.003	< 0.01	15.91	99.24	13	20	< 1	4	2	< 1	21	0.227	0.250	521930	30.51	0.35
521931	36.35	0.49	7.12	0.098	37.47	0.35	< 0.01	< 0.01	0.009	< 0.01	15.66	97.56	5	8	< 1	7	2	< 1	28	0.212	0.243	521931	26.79	0.56
521932	37.91	0.66	7.54	0.132	37.70	1.22	< 0.01	< 0.01	0.008	< 0.01	15.15	100.3	10	18	< 1	7	3	< 1	31	0.223	0.235	521932	26.54	0.58
521933	39.30	1.23	7.41	0.084	37.42	0.92	< 0.01	0.01	0.014	< 0.01	13.21	99.60	7	15	< 1	9	< 2	< 1	43	0.218	0.259	521933	26.34	0.83
521934	38.18	0.77	7.53	0.127	36.17	1.83	< 0.01	0.02	0.006	< 0.01	13.20	97.85	12	26	< 1	8	< 2	< 1	33	0.209	0.248	521934	29.60	0.62
521935	39.21	0.86	7.18	0.108	37.55	1.21	0.02	0.02	0.008	0.01	13.06	99.24	10	20	< 1	9	2	< 1	35	0.202	0.234	521935	25.64	0.50
521936	38.98	1.21	8.12	0.099	37.82	0.96	< 0.01	< 0.01	0.012	< 0.01	13.11	100.3	6	18	< 1	7	< 2	< 1	43	0.221	0.239	521936	17.54	0.42
521937	36.61	0.80	7.59	0.157	39.13	0.22	< 0.01	< 0.01	0.010	< 0.01	15.42	99.93	2	3	< 1	7	2	< 1	30	0.228	0.255	521937	23.56	0.59
521938	36.57	0.45	7.57	0.114	38.48	0.46	< 0.01	< 0.01	0.006	< 0.01	15.70	99.36	3	8	< 1	5	< 2	< 1	21	0.236	0.211	521938	20.43	0.42
521939	35.21	1.37	6.63	0.108	33.79	6.76	< 0.01	< 0.01	0.014	< 0.01	16.06	99.95	7	26	1	9	< 2	< 1	41	0.185	0.210	521939	25.65	0.91
521940.1	48.77	15.36	11.76	0.163	4.77	7.75	2.22	2.75	1.154	0.44	0.80	95.93	703	512	21	25	99	2	331	0.217	1.012	521940	49.07	16.09
521940.2																						521940	36.06	2.43
521940.3																						521940	19.20	0.42
521941	39.12	1.80	7.85	0.110	36.09	1.45	< 0.01	< 0.01	0.022	< 0.01	12.99	99.44	5	5	< 1	12	2	< 1	57	0.204	0.229	521941	31.62	1.48
521942	38.45	1.48	8.33	0.110	36.00	2.57	< 0.01	< 0.01	0.015	< 0.01	13.37	100.3	5	7	< 1	10	2	< 1	48	0.205	0.229	521942	30.60	1.04
521943	39.43	1.64	8.65	0.124	37.15	0.83	< 0.01	< 0.01	0.028	< 0.01	12.56	100.4	5	4	< 1	12	2	< 1	56	0.208	0.243	521943	27.20	1.06
521944	39.07	1.77	7.60	0.106	36.78	1.52	< 0.01	< 0.01	0.021	< 0.01	13.18	100.1	4	5	< 1	11	< 2	< 1	58	0.203	0.232	521944	28.61	1.16
521945	38.67	1.53	8.14	0.099	38.18	0.10	< 0.01	< 0.01	0.017	< 0.01	12.82	99.56	4	3	< 1	11	3	< 1	47	0.213	0.250	521945	15.21	0.44

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521946	38.08	1.68	8.74	0.110	37.17	1.37	< 0.01	< 0.01	0.021	0.01	13.39	100.6	4	5	< 1	12	< 2	< 1	57	0.217	0.242	521946	18.21	0.79
521947	38.13	1.70	8.56	0.127	37.13	1.75	< 0.01	< 0.01	0.028	< 0.01	13.43	100.9	4	6	1	11	2	< 1	52	0.211	0.237	521947	29.79	1.27
521948	38.09	1.83	8.65	0.081	37.66	1.06	< 0.01	< 0.01	0.022	< 0.01	13.15	100.6	3	4	1	12	< 2	< 1	58	0.204	0.250	521948	24.01	1.07
521949	36.58	0.85	8.21	0.109	41.61	0.04	< 0.01	< 0.01	0.006	< 0.01	13.31	100.7	2	< 2	< 1	4	< 2	< 1	12	0.236	0.234	521949	23.97	0.70
521950	37.09	2.52	7.97	0.090	38.50	0.82	< 0.01	< 0.01	0.022	< 0.01	13.26	100.3	5	3	< 1	8	7	< 1	37	0.215	0.239	521950	16.49	0.95
521951	36.12	0.28	7.98	0.113	42.41	0.12	< 0.01	< 0.01	0.003	< 0.01	13.31	100.3	< 2	< 2	< 1	4	< 2	< 1	17	0.233	0.266	521951	21.33	0.51
521952	37.66	0.90	8.09	0.130	39.83	0.28	< 0.01	< 0.01	0.011	< 0.01	13.39	100.3	4	< 2	< 1	10	2	< 1	39	0.199	0.247	521952	26.30	0.60
521953	38.08	1.14	8.14	0.127	38.67	0.64	< 0.01	< 0.01	0.014	< 0.01	12.81	99.62	3	< 2	< 1	10	< 2	< 1	43	0.212	0.253	521953	29.63	0.86
521954	37.58	0.80	7.49	0.100	40.67	0.10	< 0.01	< 0.01	0.005	< 0.01	13.27	100.0	3	< 2	< 1	6	2	< 1	24	0.225	0.253	521954	26.34	0.78
521955	36.94	0.83	7.16	0.089	40.22	0.39	< 0.01	0.01	0.006	< 0.01	13.70	99.36	6	4	< 1	5	< 2	< 1	22	0.201	0.253	521955	25.01	0.70
521956	38.45	1.67	6.79	0.121	36.93	1.29	0.01	0.01	0.021	< 0.01	12.37	97.68	4	2	< 1	12	< 2	< 1	54	0.160	0.251	521956	27.90	1.44
521957	37.89	1.39	8.21	0.112	38.04	1.20	< 0.01	< 0.01	0.017	< 0.01	13.23	100.1	2	< 2	< 1	11	< 2	< 1	51	0.184	0.247	521957	26.97	1.03
521958	38.70	1.38	8.38	0.097	38.10	0.08	< 0.01	< 0.01	0.021	< 0.01	12.76	99.53	< 2	< 2	< 1	10	< 2	< 1	48	0.198	0.246	521958	28.21	1.02
521959	39.23	1.18	9.06	0.102	38.44	0.09	< 0.01	< 0.01	0.013	< 0.01	12.05	100.2	3	< 2	< 1	10	< 2	< 1	41	0.208	0.269	521959	32.28	1.03
521960	98.41	0.30	0.64	0.006	0.05	0.02	0.02	0.04	0.030	< 0.01	0.10	99.61	25	4	1	< 1	48	< 1	7	< 0.010	< 0.010	521960	98.20	0.35
521961	38.37	1.36	8.57	0.134	38.73	0.34	< 0.01	< 0.01	0.026	< 0.01	12.33	99.85	< 2	< 2	< 1	12	2	< 1	54	0.223	0.256	521961	29.67	0.95
521962	38.45	1.80	7.61	0.096	38.10	0.62	0.01	< 0.01	0.020	< 0.01	11.63	98.34	3	< 2	< 1	11	< 2	< 1	50	0.193	0.251	521962	32.78	1.39
521963	40.55	1.70	8.05	0.122	38.39	1.80	0.02	< 0.01	0.019	< 0.01	10.04	100.7	2	< 2	< 1	11	2	< 1	54	0.210	0.240	521963	28.47	1.70
521964	40.35	1.65	7.38	0.119	37.93	1.64	0.02	0.01	0.022	< 0.01	10.64	99.77	3	< 2	< 1	11	< 2	< 1	52	0.188	0.248	521964	29.78	1.53
521965	40.87	1.65	7.74	0.126	38.39	2.30	0.02	< 0.01	0.019	< 0.01	9.52	100.7	< 2	< 2	< 1	12	< 2	< 1	56	0.209	0.245	521965	32.46	1.81
521966	40.30	1.54	8.23	0.151	38.13	1.86	0.02	< 0.01	0.019	< 0.01	9.54	99.78	2	< 2	< 1	12	< 2	< 1	49	0.214	0.249	521966	31.60	1.70
521967	40.41	1.60	7.94	0.128	37.43	2.15	0.02	< 0.01	0.019	< 0.01	10.23	99.93	2	< 2	< 1	11	2	< 1	53	0.199	0.256	521967	34.38	1.80
521968	39.79	1.75	8.11	0.130	36.44	1.96	0.02	< 0.01	0.020	< 0.01	11.03	99.25	3	< 2	< 1	11	< 2	< 1	51	0.199	0.248	521968	30.74	1.48
521969	39.15	1.53	7.65	0.118	37.05	1.39	0.02	< 0.01	0.019	< 0.01	10.78	97.69	2	< 2	< 1	10	< 2	< 1	49	0.196	0.232	521969	31.56	1.52
521970	40.43	1.67	8.01	0.097	36.77	1.97	0.02	< 0.01	0.020	< 0.01	10.87	99.84	3	< 2	< 1	12	< 2	< 1	52	0.199	0.258	521970	34.04	1.53
521971	39.65	1.47	7.95	0.131	38.73	1.78	0.02	< 0.01	0.019	< 0.01	9.69	99.45	2	< 2	< 1	11	3	< 1	52	0.222	0.248	521971	33.28	1.66
521972	38.89	1.34	8.62	0.103	37.90	0.50	< 0.01	< 0.01	0.023	< 0.01	11.86	99.25	3	3	< 1	11	< 2	< 1	43	0.209	0.253	521972	27.51	1.01
521973	39.30	1.56	8.34	0.102	38.14	0.61	< 0.01	< 0.01	0.020	0.03	12.23	100.4	3	2	< 1	12	6	< 1	52	0.194	0.244	521973	32.30	1.33
521974	39.14	1.40	8.38	0.121	38.89	0.44	0.01	< 0.01	0.019	< 0.01	11.85	100.3	2	< 2	< 1	10	< 2	< 1	47	0.200	0.251	521974	30.71	1.25
521975	38.89	1.34	8.24	0.134	38.64	0.51	0.01	< 0.01	0.019	< 0.01	11.57	99.35	< 2	< 2	1	11	3	< 1	44	0.211	0.241	521975	32.67	1.09
521976	39.31	1.37	8.27	0.157	37.41	2.13	0.02	< 0.01	0.017	< 0.01	10.55	99.24	< 2	< 2	< 1	11	< 2	< 1	48	0.207	0.243	521976	31.63	1.44
521977	39.76	1.29	8.20	0.175	38.15	2.14	0.02	< 0.01	0.018	< 0.01	9.62	99.38	< 2	< 2	< 1	11	< 2	< 1	46	0.206	0.236	521977	33.53	1.25
546216	36.78	0.70	7.49	0.110	37.99	0.63	0.01	< 0.01	0.005	< 0.01	15.32	99.05	< 2	< 2	< 1	9	5	< 1	34	0.217	0.246	546216	30.56	0.65
546217	36.65	0.76	6.93	0.100	35.66	1.21	0.02	< 0.01	0.005	< 0.01	18.09	99.42	< 2	< 2	< 1	9	2	< 1	38	0.214	0.238	546217	26.67	0.79
546218	37.73	0.75	7.98	0.113	39.09	0.18	< 0.01	< 0.01	0.005	< 0.01	13.94	99.80	< 2	< 2	< 1	8	2	< 1	35	0.232	0.261	546218	27.23	0.47
546219	38.57	0.62	7.71	0.115	39.71	0.81	< 0.01	< 0.01	0.005	< 0.01	12.77	100.3	2	< 2	< 1	9	3	< 1	34	0.230	0.250	546219	31.24	0.31
546220.1	49.36	15.61	12.20	0.168	4.91	7.83	2.26	2.83	1.189	0.45	0.89	97.69	718	523	21	25	119	2	339	0.224	1.027	546220	49.32	16.13
546220.2																						546220	36.31	2.38
546220.3																						546220	19.27	0.48
546221	35.69	0.90	7.30	0.112	37.70	0.91	< 0.01	< 0.01	0.007	< 0.01	16.16	98.80	5	4	< 1	8	2	< 1	37	0.210	0.243	546221	26.97	0.58
546222	37.55	0.93	7.70	0.100	38.28	0.50	< 0.01	< 0.01	0.006	< 0.01	13.66	98.73	2	< 2	< 1	9	2	< 1	34	0.232	0.232	546222	27.94	0.60
546223	37.73	0.61	7.17	0.099	37.31	0.61	< 0.01	< 0.01	0.005	< 0.01	15.32	98.87	< 2	< 2	< 1	8	< 2	< 1	32	0.220	0.234	546223	29.86	0.26
546224	37.97	0.60	7.72	0.113	39.53	1.35	0.01	< 0.01	0.006	< 0.01	10.91	98.21	2	< 2	< 1	8	< 2	< 1	37	0.239	0.270	546224	30.48	0.54
546225	36.74	0.66	7.48	0.106	38.06	0.39	< 0.01	< 0.01	0.005	< 0.01	15.56	99.02	< 2	< 2	< 1	7	3	< 1	31	0.227	0.235	546225	22.95	0.12
546226	37.22	0.62	7.34	0.107	38.52	0.62	< 0.01	< 0.01	0.006	< 0.01	15.12	99.56	< 2	< 2	< 1	8	< 2	< 1	34	0.227	0.258	546226	26.59	0.46
546227	39.24	0.64	8.08	0.116	40.10	1.18	< 0.01	< 0.01	0.004	< 0.01	11.33	100.7	< 2	< 2	< 1	9	< 2	< 1	41	0.222	0.252	546227	26.00	0.46
546228	38.32	0.60	7.62	0.109	38.46	1.41	< 0.01	< 0.01	0.004	< 0.01	12.48	99.02	< 2	< 2	< 1	9	< 2	< 1	38	0.226	0.248	546228	28.63	0.65
546229	39.17	0.44	7.06	0.134	40.69	0.42	< 0.01	0.03	0.004	< 0.01	9.86	97.83	< 2	< 2	< 1	9	< 2	< 1	31	0.194	0.262	546229	21.92	0.87
546230	35.35	0.56	6.21	0.100	36.81	0.26	0.01	0.02	0.004	< 0.01	19.76	99.08	< 2	2	< 1	7	< 2	< 1	28	0.183	0.183	546230		
546231	38.60	0.49	7.42	0.118	40.43	1.42	< 0.01	0.01	0.006	< 0.01	9.76	98.26	< 2	< 2	< 1	8	< 2	< 1	33	0.192	0.241	546231	25.88	0.75
546232	38.19	0.63	7.35	0.128	39.04	0.86	< 0.01	< 0.01	0.005	< 0.01	13.98	100.2	2	< 2	< 1	8	2	< 1	32	0.220	0.244	546232	29.67	0.53

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
546233	34.35	0.95	7.06	0.112	39.89	0.79	< 0.01	< 0.01	0.004	< 0.01	17.58	100.7	9	4	< 1	5	< 2	< 1	30	0.228	0.243	546233	18.74	0.38
546234	38.25	0.79	7.82	0.055	39.03	0.12	< 0.01	0.02	0.005	< 0.01	13.34	99.44	2	< 2	< 1	9	2	< 1	30	0.204	0.249	546234	27.54	0.48
546235	37.85	0.83	7.53	0.036	38.07	0.03	< 0.01	< 0.01	0.004	< 0.01	13.17	97.55	< 2	< 2	< 1	10	< 2	< 1	30	0.194	0.247	546235	21.77	0.36
546236	37.96	0.73	6.45	0.107	39.15	0.67	< 0.01	< 0.01	0.005	< 0.01	13.94	99.02	< 2	< 2	< 1	10	2	< 1	31	0.157	0.245	546236	26.20	0.37
546237	38.79	0.51	7.54	0.127	41.00	1.07	< 0.01	< 0.01	0.005	< 0.01	8.65	97.71	< 2	< 2	< 1	9	< 2	< 1	33	0.192	0.272	546237	22.98	0.25
546238	40.60	0.69	8.01	0.115	42.20	0.52	< 0.01	< 0.01	0.005	< 0.01	7.50	99.67	< 2	< 2	< 1	9	< 2	< 1	35	0.216	0.259	546238	31.55	0.61
546239	39.80	0.59	7.34	0.117	40.73	1.02	< 0.01	< 0.01	0.005	< 0.01	8.92	98.55	< 2	< 2	< 1	9	2	< 1	36	0.157	0.266	546239	25.90	0.40
546240	98.96	0.29	0.61	0.005	0.05	0.02	< 0.01	0.05	0.035	< 0.01	0.11	100.1	25	4	2	< 1	55	< 1	7	< 0.010	< 0.010	546240	97.98	0.31
546241	40.15	0.54	7.92	0.117	40.91	1.47	< 0.01	< 0.01	0.005	< 0.01	7.24	98.37	2	< 2	< 1	9	3	< 1	36	0.195	0.253	546241	16.53	0.36
546242	39.65	0.71	7.68	0.104	41.75	0.57	< 0.01	< 0.01	0.005	< 0.01	10.04	100.5	< 2	< 2	< 1	8	3	< 1	32	0.210	0.251	546242	25.30	0.57
546243	37.71	0.62	7.75	0.105	40.54	0.26	< 0.01	< 0.01	0.005	< 0.01	13.02	100.0	< 2	< 2	< 1	7	< 2	< 1	29	0.226	0.243	546243	23.70	0.55
546244	39.27	0.73	7.35	0.104	40.10	0.52	< 0.01	< 0.01	0.005	< 0.01	12.41	100.5	3	< 2	< 1	10	< 2	< 1	34	0.232	0.258	546244	22.37	0.47
546245	39.68	0.70	7.05	0.110	41.10	0.46	< 0.01	< 0.01	0.004	< 0.01	11.40	100.5	< 2	< 2	< 1	7	2	< 1	30	0.229	0.201	546245	20.31	0.53
546246	37.55	0.80	7.79	0.113	38.88	0.50	< 0.01	< 0.01	0.005	< 0.01	13.62	99.25	< 2	< 2	< 1	8	15	< 1	35	0.214	0.280	546246	24.50	0.48
546247	38.30	0.65	7.33	0.103	39.60	0.87	< 0.01	< 0.01	0.005	< 0.01	12.24	99.11	< 2	< 2	< 1	8	< 2	< 1	31	0.228	0.247	546247	19.85	0.35
546248	36.90	0.66	7.74	0.107	38.82	0.77	< 0.01	< 0.01	0.005	< 0.01	14.16	99.15	< 2	< 2	< 1	8	< 2	< 1	31	0.217	0.260	546248	30.25	0.53
546249	38.57	0.59	8.12	0.123	39.58	0.95	< 0.01	< 0.01	0.004	< 0.01	11.30	99.25	< 2	< 2	< 1	9	< 2	< 1	36	0.195	0.253	546249	21.87	0.40
546250	39.98	0.62	7.91	0.124	40.76	1.13	< 0.01	< 0.01	0.004	< 0.01	9.87	100.4	< 2	< 2	< 1	10	< 2	< 1	35	0.213	0.264	546250	22.86	0.45
546251	34.62	0.69	6.84	0.102	35.28	0.70	0.02	< 0.01	0.004	< 0.01	21.24	99.50	< 2	< 2	< 1	9	< 2	< 1	37	0.198	0.237	546251	25.22	0.62
546252	36.54	0.90	6.30	0.081	38.17	0.84	0.01	< 0.01	0.004	< 0.01	17.46	100.3	< 2	< 2	< 1	7	< 2	< 1	32	0.223	0.207	546252	30.16	0.66
546253	40.04	0.62	7.65	0.116	41.28	1.64	< 0.01	< 0.01	0.004	< 0.01	8.68	100.1	< 2	< 2	< 1	9	< 2	< 1	37	0.211	0.256	546253	20.23	0.59
546254	38.90	0.71	7.98	0.106	40.45	0.59	< 0.01	< 0.01	0.005	< 0.01	11.87	100.6	< 2	< 2	< 1	9	< 2	< 1	32	0.205	0.247	546254	22.26	0.34
546255	38.96	0.73	7.70	0.098	39.72	0.57	< 0.01	< 0.01	0.005	0.01	11.47	99.28	6	3	< 1	9	< 2	< 1	35	0.213	0.254	546255	12.54	0.16
546256	37.84	0.87	7.80	0.114	39.72	0.38	< 0.01	< 0.01	0.005	< 0.01	12.58	99.33	5	< 2	< 1	8	2	< 1	31	0.211	0.255	546256	14.51	0.25
546257	40.94	0.68	8.32	0.115	42.23	1.16	0.01	< 0.01	0.005	< 0.01	6.81	100.3	5	2	< 1	9	2	< 1	36	0.242	0.267	546257	14.87	0.54
546258	39.53	0.76	8.05	0.115	40.97	1.02	0.01	< 0.01	0.005	< 0.01	9.30	99.77	3	< 2	< 1	9	3	< 1	35	0.238	0.279	546258	17.50	0.83
546259	40.09	0.77	8.14	0.114	41.72	0.42	0.01	< 0.01	0.005	0.02	8.63	99.93	4	< 2	< 1	8	2	< 1	33	0.243	0.263	546259	14.37	0.80
546260.1	50.08	16.11	12.29	0.170	4.95	7.88	2.31	2.87	1.215	0.45	0.80	99.12	732	532	22	26	100	2	343	0.225	1.033	546260	49.11	16.04
546260.2																						546260	36.38	2.40
546260.3																						546260	18.50	0.50
546261	36.50	0.66	6.96	0.103	37.11	0.64	0.02	0.02	0.004	< 0.01	16.16	98.18	2	< 2	< 1	8	< 2	< 1	33	0.174	0.234	546261	18.56	0.82
546262	39.16	0.55	7.91	0.111	40.77	0.05	< 0.01	< 0.01	0.003	< 0.01	11.99	100.6	2	< 2	< 1	8	2	< 1	30	0.225	0.253	546262	12.97	0.46
546263	39.83	0.88	7.33	0.096	40.12	0.22	< 0.01	< 0.01	0.004	< 0.01	12.07	100.6	2	< 2	< 1	9	2	< 1	35	0.220	0.280	546263	11.43	0.40
546264	40.58	0.77	7.34	0.111	41.76	1.52	0.01	0.02	0.004	< 0.01	7.05	99.16	7	< 2	< 1	10	< 2	< 1	38	0.193	0.264	546264	17.25	0.94
546265	39.44	0.76	7.46	0.116	40.71	1.11	0.01	0.02	0.005	< 0.01	8.49	98.12	3	< 2	< 1	9	< 2	< 1	36	0.174	0.266	546265	17.83	1.32
546266	39.96	0.73	7.89	0.112	42.10	1.01	0.02	< 0.01	0.005	0.01	8.48	100.3	5	< 2	< 1	9	3	< 1	36	0.257	0.277	546266	19.12	1.14
546267	39.68	0.79	7.86	0.112	41.80	0.81	0.02	< 0.01	0.004	0.01	9.40	100.5	< 2	< 2	< 1	9	3	< 1	39	0.251	0.271	546267	14.14	0.89
546268	40.90	0.79	8.10	0.118	42.80	1.16	0.02	< 0.01	0.005	< 0.01	6.68	100.6	5	< 2	< 1	9	3	< 1	38	0.260	0.271	546268	25.76	1.09
546269	40.93	0.78	8.36	0.117	42.10	0.68	0.01	< 0.01	0.005	< 0.01	7.66	100.6	3	< 2	< 1	8	< 2	< 1	34	0.238	0.235	546269	15.91	1.03
546270	39.95	0.76	7.98	0.115	41.53	0.49	< 0.01	< 0.01	0.005	< 0.01	8.80	99.64	2	< 2	< 1	9	< 2	< 1	35	0.214	0.246	546270	16.15	0.87
546271	40.59	0.79	7.85	0.117	41.32	1.25	0.01	0.02	0.005	< 0.01	6.49	98.46	4	2	< 1	10	< 2	< 1	40	0.212	0.271	546271	24.80	1.25
546272	40.20	0.80	8.06	0.117	42.16	0.37	0.01	< 0.01	0.004	< 0.01	8.83	100.6	3	< 2	< 1	9	3	< 1	36	0.250	0.265	546272	18.84	0.71
546273	40.36	0.79	7.91	0.114	41.59	0.75	0.01	< 0.01	0.005	< 0.01	8.83	100.4	4	< 2	< 1	9	4	< 1	39	0.242	0.289	546273	12.86	1.23
546274	40.63	0.72	7.96	0.114	41.47	0.95	0.02	< 0.01	0.004	< 0.01	8.72	100.6	20	< 2	< 1	10	4	< 1	39	0.244	0.261	546274	24.93	1.05
546275	39.85	0.80	7.86	0.114	40.61	0.95	0.01	< 0.01	0.004	0.03	8.89	99.13	5	< 2	< 1	10	< 2	< 1	41	0.213	0.283	546275	14.69	1.26
546276	39.90	0.61	7.92	0.123	39.98	1.34	0.01	< 0.01	0.005	< 0.01	9.30	99.19	2	< 2	< 1	9	2	< 1	33	0.239	0.273	546276	12.95	0.84
546277	38.72	0.88	7.62	0.102	39.39	0.34	< 0.01	< 0.01	0.004	0.01	11.60	98.67	< 2	< 2	< 1	9	2	< 1	39	0.221	0.246	546277	14.31	0.89
546278	40.35	0.71	7.71	0.117	40.19	2.15	0.02	< 0.01	0.005	< 0.01	6.48	97.74	3	< 2	< 1	9	< 2	< 1	40	0.232	0.280	546278	24.80	1.28
546279	34.84	0.68	7.18	0.103	36.22	0.84	0.02	< 0.01	0.004	< 0.01	18.33	98.21	< 2	< 2	< 1	8	< 2	< 1	32	0.210	0.229	546279	21.48	1.38
546280	97.66	0.28	0.48	0.006	0.11	0.03	0.02	0.04	0.028	< 0.01	0.12	98.78	24	5	2	< 1	59	< 1	< 5	< 0.010	< 0.010	546280	98.34	0.30
546281	39.69	0.74	8.01	0.111	40.71	1.02	0.01	< 0.01	0.005	< 0.01	8.56	98.87	3	< 2	< 1	9	< 2	< 1	39	0.229	0.277	546281	11.36	0.83

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
547001	38.45	1.50	8.27	0.129	36.02	2.21	0.02	< 0.01	0.020	< 0.01	12.31	98.92	3	< 2	< 1	12	2	< 1	53	0.189	0.242	547001	21.46	0.87
547002	38.78	1.63	7.74	0.106	37.10	1.25	0.02	< 0.01	0.019	< 0.01	12.33	98.98	6	3	< 1	12	3	< 1	51	0.227	0.251	547002	21.29	0.74
547003	39.28	1.41	8.98	0.128	37.72	2.07	0.02	< 0.01	0.018	< 0.01	11.06	100.7	2	< 2	< 1	13	< 2	< 1	51	0.193	0.239	547003	19.67	0.60
547004	38.74	1.22	7.88	0.102	38.00	1.21	0.02	< 0.01	0.015	< 0.01	12.41	99.62	3	< 2	< 1	11	< 2	< 1	44	0.201	0.239	547004	15.37	0.43
547005	38.44	1.51	7.80	0.096	38.20	0.85	0.02	< 0.01	0.018	< 0.01	12.49	99.43	2	< 2	< 1	11	2	< 1	48	0.210	0.242	547005	19.33	0.58
547006	38.71	1.07	7.95	0.126	38.76	0.81	0.03	< 0.01	0.013	< 0.01	11.70	99.17	< 2	< 2	< 1	9	< 2	< 1	36	0.181	0.280	547006	14.10	0.68
547007	37.53	0.71	8.85	0.158	40.09	0.08	< 0.01	< 0.01	0.005	0.01	11.31	98.75	< 2	< 2	< 1	8	2	< 1	29	0.213	0.255	547007	13.14	0.76
547008	38.80	0.88	7.56	0.087	39.32	0.13	0.02	< 0.01	0.006	< 0.01	12.79	99.61	< 2	< 2	< 1	8	< 2	< 1	35	0.223	0.267	547008	14.71	1.02
547009	38.60	0.75	8.51	0.183	39.18	0.57	0.01	< 0.01	0.012	< 0.01	11.34	99.15	< 2	< 2	< 1	8	< 2	< 1	30	0.210	0.222	547009	19.76	0.57
547010	39.48	1.47	7.93	0.089	37.48	1.08	0.02	< 0.01	0.015	< 0.01	12.23	99.78	< 2	< 2	< 1	13	2	< 1	54	0.206	0.236	547010	11.42	0.59
547011	39.19	1.45	8.69	0.122	36.91	1.12	0.04	0.01	0.018	< 0.01	12.15	99.72	2	2	< 1	11	< 2	< 1	53	0.199	0.245	547011	17.22	0.64
547012	39.37	1.51	8.60	0.104	36.86	1.39	0.03	< 0.01	0.017	< 0.01	11.79	99.67	< 2	< 2	< 1	12	2	< 1	54	0.194	0.239	547012	13.88	0.60
547013	39.27	1.37	8.22	0.113	37.53	0.89	0.01	< 0.01	0.014	< 0.01	12.07	99.49	2	< 2	< 1	10	2	< 1	48	0.204	0.242	547013	18.10	0.70
547014	39.24	1.30	7.66	0.120	37.81	0.88	0.02	< 0.01	0.017	0.01	11.96	99.02	2	< 2	< 1	10	2	< 1	43	0.180	0.240	547014	14.87	0.47
547015	38.50	1.23	7.97	0.124	38.34	0.76	< 0.01	< 0.01	0.016	< 0.01	11.68	98.63	< 2	< 2	< 1	10	8	< 1	43	0.176	0.221	547015	17.84	0.49
547016	38.27	1.21	7.03	0.129	38.12	0.27	0.01	< 0.01	0.017	< 0.01	12.54	97.62	< 2	< 2	< 1	13	< 2	< 1	44	0.182	0.255	547016	10.98	0.33
547017	38.93	1.46	9.09	0.109	37.50	0.20	< 0.01	< 0.01	0.014	0.01	12.28	99.60	< 2	< 2	< 1	13	3	< 1	56	0.203	0.271	547017	12.83	0.58
547018	37.73	1.25	8.40	0.099	37.60	0.27	0.03	< 0.01	0.015	< 0.01	12.38	97.80	< 2	< 2	< 1	12	3	< 1	47	0.231	0.257	547018	19.31	0.72
547019	38.42	1.17	8.13	0.132	37.77	0.79	0.01	< 0.01	0.013	0.01	12.78	99.24	< 2	< 2	< 1	11	< 2	< 1	45	0.193	0.237	547019	16.59	0.49
547020.1	50.03	15.75	11.91	0.167	4.92	7.80	2.34	3.07	1.198	0.41	0.76	98.35	732	535	21	26	98	2	334	0.223	1.022	547020	49.17	16.09
547020.2																						547020	36.31	2.42
547020.3																						547020	18.77	0.53
547021	37.82	1.31	7.99	0.100	38.19	0.61	0.01	< 0.01	0.011	< 0.01	12.59	98.63	< 2	< 2	< 1	10	< 2	< 1	44	0.187	0.250	547021	11.61	0.58
547022	38.61	1.26	7.82	0.136	37.12	1.55	0.02	< 0.01	0.015	< 0.01	12.46	98.99	< 2	< 2	< 1	10	2	< 1	47	0.234	0.239	547022	13.00	0.59
547023	38.30	1.41	8.01	0.106	37.30	0.57	0.01	< 0.01	0.016	< 0.01	12.51	98.23	< 2	< 2	< 1	10	2	< 1	43	0.201	0.294	547023	9.67	0.43
547024	38.13	1.10	8.48	0.137	38.07	1.23	0.01	< 0.01	0.011	< 0.01	12.14	99.30	< 2	< 2	< 1	10	< 2	< 1	40	0.198	0.248	547024	18.37	0.54
547025	38.39	1.36	7.98	0.114	37.34	1.42	0.03	< 0.01	0.013	< 0.01	12.00	98.65	< 2	< 2	< 1	11	< 2	< 1	51	0.200	0.245	547025	11.30	0.52
547026	38.13	1.29	8.84	0.133	36.78	1.25	0.01	< 0.01	0.015	< 0.01	11.84	98.30	< 2	< 2	< 1	12	< 2	< 1	51	0.195	0.254	547026	8.69	0.42
547027	38.59	1.55	7.92	0.099	37.06	0.22	< 0.01	< 0.01	0.015	< 0.01	12.69	98.14	3	< 2	< 1	11	< 2	< 1	52	0.206	0.258	547027	10.71	0.60
547028	38.48	1.21	7.96	0.137	37.13	0.48	0.01	< 0.01	0.013	< 0.01	12.66	98.09	< 2	< 2	< 1	12	< 2	< 1	47	0.195	0.237	547028	13.88	0.63
547029	38.52	1.31	8.64	0.140	36.87	1.07	0.02	< 0.01	0.016	< 0.01	12.50	99.10	< 2	< 2	< 1	12	< 2	< 1	51	0.189	0.251	547029	14.89	0.75
547030	38.82	1.35	9.34	0.130	37.58	0.52	< 0.01	< 0.01	0.017	< 0.01	12.40	100.2	< 2	< 2	< 1	11	< 2	< 1	48	0.237	0.250	547030	11.12	0.49
547031	39.54	1.21	8.56	0.157	38.15	1.36	0.01	< 0.01	0.013	0.01	11.35	100.4	< 2	< 2	< 1	12	2	< 1	47	0.209	0.256	547031	9.25	0.39
547032	39.19	1.12	8.45	0.154	37.85	1.90	0.01	< 0.01	0.013	< 0.01	11.50	100.2	< 2	< 2	< 1	11	< 2	< 1	47	0.200	0.243	547032	12.60	0.32
547033	37.96	1.24	8.25	0.096	38.60	0.53	< 0.01	< 0.01	0.011	< 0.01	12.85	99.55	< 2	< 2	< 1	10	2	< 1	46	0.214	0.239	547033	16.06	0.36
547034	38.43	1.24	7.68	0.090	38.19	0.36	0.01	< 0.01	0.011	< 0.01	12.88	98.89	3	< 2	< 1	10	2	< 1	45	0.236	0.251	547034	12.58	0.37
547035	38.20	1.16	8.05	0.098	38.31	0.43	0.01	< 0.01	0.011	< 0.01	12.77	99.05	< 2	< 2	< 1	11	< 2	< 1	45	0.227	0.256	547035	10.89	0.39
547036	38.42	1.11	8.14	0.108	38.59	0.53	< 0.01	< 0.01	0.011	< 0.01	12.30	99.21	< 2	< 2	< 1	9	< 2	< 1	44	0.192	0.253	547036	11.77	0.37
547037	39.57	1.34	7.40	0.077	38.63	0.13	0.01	< 0.01	0.010	< 0.01	12.87	100.0	< 2	< 2	< 1	10	< 2	< 1	47	0.226	0.275	547037	10.04	0.37
547038	39.86	1.67	7.63	0.085	38.22	0.17	< 0.01	< 0.01	0.012	< 0.01	12.44	100.1	< 2	< 2	< 1	9	2	< 1	39	0.220	0.236	547038	15.36	0.67
547039	39.23	0.80	8.58	0.125	39.78	0.27	< 0.01	< 0.01	0.007	< 0.01	11.63	100.4	< 2	< 2	< 1	11	< 2	< 1	41	0.240	0.284	547039	14.51	0.38
547040	99.39	0.45	0.28	0.004	0.18	0.03	0.03	0.08	0.032	< 0.01	0.33	100.8	29	6	2	< 1	46	< 1	6	< 0.010	< 0.010	547040	97.89	0.25
547041	38.93	0.81	8.43	0.125	40.18	0.34	< 0.01	< 0.01	0.007	< 0.01	11.77	100.6	< 2	< 2	< 1	9	2	< 1	34	0.239	0.223	547041	9.53	0.31
547042	39.19	0.85	8.06	0.145	39.10	1.06	0.01	< 0.01	0.007	< 0.01	11.30	99.75	< 2	< 2	< 1	10	3	< 1	42	0.203	0.249	547042	12.63	0.34
547043	39.13	0.97	8.34	0.123	39.48	0.87	0.01	< 0.01	0.007	0.01	11.24	100.2	< 2	< 2	< 1	11	< 2	< 1	44	0.214	0.251	547043	12.66	0.37
547044	38.76	1.02	8.28	0.136	39.07	0.52	0.01	< 0.01	0.007	< 0.01	11.28	99.06	< 2	< 2	< 1	10	< 2	< 1	42	0.214	0.255	547044	14.93	0.46
547045	39.42	0.83	7.84	0.118	39.69	0.64	0.01	< 0.01	0.006	< 0.01	10.72	99.27	< 2	< 2	< 1	9	3	< 1	42	0.185	0.249	547045	16.52	0.58
547046	39.48	0.98	8.26	0.130	39.91	0.67	< 0.01	< 0.01	0.006	< 0.01	10.95	100.4	< 2	< 2	< 1	11	2	< 1	43	0.213	0.250	547046	13.96	0.57
547047	39.16	1.10	8.22	0.120	38.44	0.46	0.01	< 0.01	0.007	< 0.01	12.03	99.57	< 2	< 2	< 1	10	3	< 1	40	0.215	0.241	547047	11.50	0.49
547048	39.10	1.22	7.50	0.090	38.10	0.21	0.01	< 0.01	0.007	< 0.01	12.58	98.82	< 2	< 2	< 1	9	3	< 1	44	0.192	0.244	547048	8.56	0.43
547049	39.01	0.94	8.41	0.090	39.02	0.16	0.01	< 0.01	0.007	< 0.01	11.52	99.18	< 2	< 2	< 1	10	2	< 1	40	0.231	0.264	547049	10.86	0.30

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
547050	38.63	0.82	8.36	0.102	40.23	0.12	0.01	< 0.01	0.007	< 0.01	11.12	99.42	< 2	< 2	< 1	8	2	< 1	29	0.219	0.245	547050	8.23	0.48
547051	38.43	0.86	8.00	0.132	38.44	1.00	0.01	< 0.01	0.006	< 0.01	11.84	98.72	< 2	< 2	< 1	10	2	< 1	43	0.202	0.256	547051	20.82	0.54
547052	39.68	1.12	7.81	0.130	38.03	0.88	0.02	< 0.01	0.006	< 0.01	11.80	99.48	< 2	< 2	< 1	10	2	< 1	41	0.194	0.246	547052	12.76	0.60
547053	39.46	1.11	8.45	0.121	39.02	0.50	0.01	< 0.01	0.007	< 0.01	11.03	99.72	< 2	< 2	< 1	10	2	< 1	41	0.215	0.255	547053	14.76	0.63
547054	39.17	0.71	8.55	0.144	40.02	0.44	0.01	< 0.01	0.005	< 0.01	10.79	99.86	< 2	< 2	< 1	7	2	< 1	26	0.210	0.188	547054	12.85	0.50
547055	38.87	0.69	8.04	0.125	39.88	0.28	< 0.01	< 0.01	0.005	< 0.01	10.91	98.80	< 2	< 2	< 1	7	2	< 1	24	0.214	0.168	547055	19.14	0.42
547056	38.85	0.87	8.33	0.093	40.27	0.11	< 0.01	< 0.01	0.007	< 0.01	11.46	100.0	< 2	< 2	< 1	8	< 2	< 1	33	0.210	0.265	547056	16.25	0.77
547057	39.60	1.45	8.07	0.093	39.05	0.14	0.01	< 0.01	0.008	< 0.01	12.18	100.6	4	3	< 1	8	2	< 1	33	0.213	0.253	547057	14.94	0.56
547058	39.69	1.07	8.50	0.129	39.56	0.64	0.01	< 0.01	0.007	< 0.01	10.22	99.83	4	< 2	< 1	11	2	< 1	38	0.206	0.253	547058	13.58	0.45
547059	39.60	1.13	8.42	0.095	40.48	0.21	0.01	< 0.01	0.009	< 0.01	10.45	100.4	3	< 2	< 1	9	9	< 1	36	0.207	0.255	547059	15.95	0.64
547060.1	50.32	16.40	12.13	0.167	4.93	7.76	2.29	2.84	1.196	0.43	0.59	99.04	726	534	22	26	102	2	335	0.219	1.035	547060	49.37	16.12
547060.2																						547060	36.29	2.41
547060.3																						547060	18.99	0.56

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	LOI	Ni	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		0.003	0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
521899														30.2	0.010	29.737	0.0	29.748	1.35	
521900.1	12.09	0.167	4.95	7.87	2.45	2.80	1.08	0.44	1.07	0.065	0.77	0.238	99.23							
521900.2	13.04	0.124	32.00	2.06	0.14	0.13	0.13	0.02	0.20	0.007	11.06	1.44	98.93							
521900.3	53.16	0.241	17.65	0.17	< 0.01	0.01	0.03	0.01	1.58	0.023	3.42	2.05	97.89	30.2	2.158	27.407	7.1	29.566	2.12	0.10
521901														30.0	0.013	29.535	0.0	29.548	1.60	
521902														30.1	0.025	29.287	0.1	29.312	2.58	
521903														30.0	0.012	29.844	0.0	29.857	0.62	
521904														30.0	0.009	28.638	0.0	28.647	4.55	
521905														30.1	0.009	29.746	0.0	29.755	1.06	
521906														30.1	0.008	29.848	0.0	29.856	0.77	
521907														30.1	0.005	29.714	0.0	29.719	1.14	
521908														30.0	0.004	29.534	0.0	29.538	1.69	
521909														30.0	0.010	29.517	0.0	29.527	1.67	
521910														30.0	0.003	29.814	0.0	29.817	0.75	
521911														30.1	0.007	29.537	0.0	29.543	1.92	
521912														30.0	0.007	29.630	0.0	29.637	1.27	
521913														30.0	0.006	29.810	0.0	29.816	0.67	
521914														30.1	0.004	29.812	0.0	29.816	0.88	
521915														30.0	0.006	29.791	0.0	29.797	0.83	
521916														30.1	0.029	29.535	0.1	29.564	1.70	
521917														30.1	0.056	28.977	0.2	29.033	3.52	
521918														30.1	0.004	29.625	0.0	29.629	1.58	
521919														30.0	0.004	29.746	0.0	29.750	0.89	
521920	0.61	0.003	0.02	0.03	0.02	0.08	0.05	0.01	< 0.01	< 0.003	0.06	< 0.003	99.47	30.0	0.054	29.630	0.2	29.684	1.09	
521921														30.0	0.003	29.329	0.0	29.331	2.27	
521922														30.1	0.057	29.311	0.2	29.369	2.30	
521923														30.1	0.094	29.723	0.3	29.817	0.91	
521924														30.1	0.059	29.608	0.2	29.667	1.47	
521925	28.65	0.211	25.88	1.30	< 0.01	0.01	0.08	0.02	1.97	0.020		0.226	88.86	30.1	0.113	28.649	0.4	28.763	4.36	
521926	24.00	0.213	26.29	1.25	< 0.01	0.04	0.07	0.01	1.77	0.025	9.65	0.205	98.80	30.0	0.514	29.406	1.7	29.920	0.38	
521927	28.62	0.199	26.16	1.51	< 0.01	< 0.01	0.07	0.01	1.79	0.028	9.36	0.231	99.12	30.0	1.830	27.749	6.1	29.579	1.44	
521928	38.40	0.209	18.01	1.58	< 0.01	< 0.01	0.03	< 0.01	1.95	0.025	5.94	0.218	97.26	30.1	1.573	28.222	5.2	29.795	0.86	
521929	61.51	0.263	12.91	0.84	< 0.01	< 0.01	0.06	0.01	3.07	0.044	3.15	0.232	97.59	30.0	1.286	28.489	4.3	29.774	0.88	
521930	21.39	0.088	30.16	0.49	< 0.01	< 0.01	0.01	0.01	1.05	0.014	10.23	0.263	99.36	30.1	3.805	26.157	12.6	29.962	0.48	
521931	28.72	0.125	28.91	0.33	< 0.01	< 0.01	0.03	0.01	1.47	0.014	11.50	0.266	99.15	30.1	2.746	27.124	9.1	29.870	0.67	
521932	28.41	0.105	25.69	0.80	< 0.01	< 0.01	0.01	0.01	1.12	0.017	8.42	0.297	97.92	30.0	2.824	27.069	9.4	29.893	0.40	
521933	37.36	0.090	25.29	0.64	< 0.01	< 0.01	0.03	0.01	0.99	0.020	7.09	0.328	99.16	30.0	2.577	27.152	8.6	29.729	0.99	
521934	29.92	0.156	28.35	0.75	< 0.01	0.04	0.02	0.01	1.09	0.014	8.42	0.288	99.24	30.2	4.527	24.652	15.0	29.179	3.29	0.07
521935	34.16	0.171	24.65	0.60	< 0.01	< 0.01	0.02	0.01	1.23	0.017	7.26	0.291	98.88	30.1	3.191	26.625	10.6	29.816	0.79	
521936	54.24	0.148	17.48	0.44	< 0.01	< 0.01	0.03	0.01	1.10	0.025	4.53	0.354	100.0	30.1	2.795	27.069	9.3	29.863	0.67	
521937	39.66	0.303	25.73	0.14	< 0.01	0.02	0.02	< 0.01	0.95	0.013	7.97	0.457	99.36	30.1	3.628	26.318	12.1	29.946	0.35	
521938	48.26	0.233	21.51	0.47	< 0.01	0.02	0.02	0.01	1.10	0.013	6.24	0.416	99.11	30.1	3.479	25.511	11.6	28.991	3.68	
521939	32.80	0.182	24.58	1.09	< 0.01	< 0.01	0.04	0.01	0.72	0.018	7.39	0.280	100.2	30.1	3.414	26.416	11.4	29.830	0.74	
521940.1	12.06	0.169	4.96	7.81	2.45	2.79	1.09	0.44	1.05	0.065	0.75	0.240	99.04							
521940.2	13.05	0.126	32.19	2.07	0.10	0.13	0.12	0.02	0.19	0.008	10.87	1.44	98.80							
521940.3	52.84	0.250	17.35	0.17	< 0.01	0.02	0.04	0.01	1.58	0.023	3.79	2.05	97.74	30.1	1.908	27.837	6.3	29.745	1.11	0.10
521941	26.29	0.150	30.26	0.49	< 0.01	0.02	0.04	0.01	0.49	0.018	9.08	0.291	100.2	30.0	5.126	23.718	17.1	28.843	3.93	
521942	29.36	0.185	29.52	0.35	< 0.01	0.03	0.03	< 0.01	0.55	0.016	8.47	0.314	100.4	30.0	5.756	23.317	19.2	29.073	3.24	
521943	36.60	0.207	26.43	0.11	< 0.01	0.03	0.04	0.01	0.66	0.019	7.60	0.354	100.3	30.0	4.958	24.805	16.5	29.763	0.90	
521944	33.44	0.152	27.87	0.18	< 0.01	0.02	0.04	0.01	0.55	0.018	8.17	0.270	100.4	30.2	4.210	25.404	14.0	29.614	1.78	
521945	61.68	0.233	15.44	0.05	< 0.01	< 0.01	0.04	0.01	1.19	0.025	3.20	0.359	98.89	30.1	2.741	27.064	9.1	29.805	0.89	

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	LOI	Ni	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		0.003	0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
521946	51.09	0.205	19.45	0.08	< 0.01	< 0.01	0.04	< 0.01	0.88	0.026	5.02	0.310	99.55	30.1	2.932	26.177	9.7	29.109	3.21	
521947	28.90	0.149	29.90	0.27	< 0.01	0.03	0.04	0.01	0.49	0.015	8.72	0.274	99.84	30.2	4.649	25.217	15.4	29.865	1.24	
521948	43.11	0.136	23.53	0.15	< 0.01	0.02	0.05	0.01	0.76	0.023	6.42	0.505	99.75	30.4	3.813	25.556	12.5	29.369	3.41	
521949	34.99	0.119	28.71	0.03	< 0.01	0.02	0.02	0.01	1.25	0.009	8.23	1.20	99.24	30.3	3.472	25.931	11.5	29.403	2.88	
521950	55.41	0.190	18.26	0.04	< 0.01	0.01	0.06	0.01	1.72	0.029	4.53	1.10	98.77	30.1	2.709	27.742	9.0	30.451	-1.11	
521951	38.74	0.164	28.17	0.04	< 0.01	0.02	0.02	0.01	1.87	0.018	6.89	1.12	98.86	30.1	2.270	27.017	7.5	29.287	2.63	
521952	34.75	0.213	27.76	0.19	< 0.01	0.02	0.03	0.01	1.02	0.020	7.58	1.13	99.55	30.2	3.910	25.781	13.0	29.691	1.60	
521953	29.48	0.163	29.93	0.13	< 0.01	0.03	0.03	< 0.01	0.87	0.014	8.15	0.816	100.1	30.7	4.291	26.304	14.0	30.595	0.25	
521954	32.13	0.159	29.49	0.04	< 0.01	0.01	0.03	< 0.01	1.18	0.014	8.34	1.16	99.61	30.4	3.838	26.305	12.6	30.143	0.83	
521955	34.45	0.157	28.80	0.05	< 0.01	0.02	0.02	< 0.01	1.18	0.014	8.22	1.22	99.80	30.0	3.620	26.234	12.1	29.854	0.51	
521956	32.94	0.142	27.30	0.25	< 0.01	0.02	0.03	0.01	0.82	0.020	7.61	0.908	99.39	30.3	3.826	26.496	12.6	30.323	-0.11	
521957	35.69	0.149	26.82	0.16	< 0.01	0.04	0.04	0.01	0.77	0.018	7.09	0.857	99.60	30.0	4.176	25.571	13.9	29.746	0.90	
521958	32.65	0.194	28.08	0.04	< 0.01	0.02	0.04	0.01	0.95	0.021	7.69	1.00	99.90	30.1	5.025	24.329	16.7	29.353	2.37	
521959	24.65	0.144	31.61	0.06	< 0.01	0.02	0.03	0.01	0.70	0.013	9.15	0.539	100.2	30.3	6.999	23.995	23.1	30.994	-2.16	
521960	0.62	0.002	0.03	0.02	0.03	0.06	0.05	0.01	< 0.01	< 0.003	0.08	< 0.003	99.44	27.9	0.058	27.651	0.2	27.709	0.85	
521961	29.77	0.193	28.71	0.18	< 0.01	0.02	0.05	0.01	0.77	0.018	8.29	0.856	99.43	30.3	5.082	25.095	16.8	30.177	0.48	
521962	23.45	0.124	31.21	0.29	< 0.01	0.02	0.03	< 0.01	0.59	0.016	9.02	0.739	99.62	30.6	5.763	23.833	18.8	29.596	3.35	
521963	32.45	0.183	27.38	1.39	< 0.01	0.04	0.05	0.01	1.09	0.021	5.80	1.16	99.72	30.2	3.227	26.865	10.7	30.093	0.22	
521964	29.98	0.172	28.32	1.14	< 0.01	0.02	0.04	< 0.01	0.96	0.020	6.91	1.10	99.90	30.9	3.582	26.708	11.6	30.289	1.95	
521965	24.82	0.187	30.26	2.17	< 0.01	0.02	0.04	< 0.01	0.92	0.018	6.02	1.11	99.79	30.2	3.731	26.451	12.3	30.182	0.12	
521966	25.89	0.197	29.77	1.81	< 0.01	0.02	0.04	0.01	1.07	0.020	6.27	1.18	99.57	30.2	3.054	26.709	10.1	29.763	1.55	
521967	20.86	0.168	31.76	2.06	< 0.01	0.02	0.04	0.01	0.73	0.018	7.37	0.739	99.96	30.3	5.063	24.605	16.7	29.669	2.04	
521968	27.95	0.166	28.65	1.52	< 0.01	0.02	0.04	0.01	0.77	0.018	7.43	0.846	99.61	30.7	4.172	26.296	13.6	30.469	0.59	
521969	25.74	0.176	30.16	1.47	< 0.01	0.03	0.04	0.01	0.77	0.016	6.99	0.960	99.38	30.3	4.167	25.372	13.8	29.539	2.48	
521970	22.16	0.132	30.90	1.91	< 0.01	0.01	0.04	0.01	0.63	0.015	8.11	0.650	100.1	32.0	6.440	24.811	20.1	31.250	2.23	
521971	22.90	0.194	31.64	2.43	< 0.01	0.02	0.04	0.01	0.90	0.018	5.88	1.13	100.1	30.2	4.096	25.901	13.6	29.997	0.58	
521972	34.97	0.133	27.04	0.18	< 0.01	0.02	0.05	0.01	0.86	0.019	7.16	1.13	100.1	31.9	4.216	27.327	13.2	31.543	1.02	
521973	23.14	0.115	31.73	0.29	< 0.01	0.04	0.03	0.01	0.55	0.013	9.81	0.649	99.99	30.2	6.792	22.394	22.5	29.186	3.37	
521974	25.89	0.148	31.27	0.18	< 0.01	0.02	0.04	0.01	0.79	0.014	8.66	0.850	99.79	30.0	4.269	25.225	14.2	29.494	1.68	
521975	22.10	0.176	33.41	0.27	< 0.01	0.01	0.04	0.01	0.71	0.012	8.84	0.705	100.00	30.7	5.202	24.978	17.0	30.180	1.66	
521976	25.79	0.195	29.26	2.77	< 0.01	0.01	0.04	0.01	0.92	0.017	5.99	1.20	99.26	30.4	3.489	26.683	11.5	30.172	0.72	
521977	23.12	0.227	31.04	3.07	< 0.01	0.02	0.03	0.01	0.92	0.013	5.80	1.11	100.1	30.4	3.220	26.581	10.6	29.801	2.01	
546216	21.32	0.208	32.81	0.85	< 0.01	< 0.01	0.02	0.01	1.62	0.026	8.48	0.301	99.23	30.3	2.226	27.412	7.3	29.638	2.19	
546217	29.83	0.247	24.34	1.15	< 0.01	< 0.01	0.04	0.01	4.04	0.047	10.68	0.176	98.28	31.6	0.766	30.309	2.4	31.076	1.54	
546218	26.34	0.242	31.06	0.37	< 0.01	< 0.01	0.03	< 0.01	1.95	0.029	7.25	0.325	98.79	30.3	1.838	28.092	6.1	29.930	1.20	
546219	22.56	0.223	33.10	1.49	< 0.01	< 0.01	0.03	< 0.01	1.58	0.022	6.43	0.420	99.04	30.2	2.320	27.611	7.7	29.931	0.73	
546220.1	12.09	0.170	4.95	7.87	2.47	2.82	1.10	0.44	1.07	0.061	0.80	0.237	99.52							
546220.2	13.16	0.130	32.24	2.10	0.13	0.16	0.13	0.02	0.20	0.009	10.94	1.44	99.34							
546220.3	52.98	0.248	17.22	0.19	< 0.01	0.01	0.03	< 0.01	1.57	0.022	3.89	2.02	97.89	30.1	2.269	26.715	7.5	28.984	3.67	0.11
546221	25.10	0.212	29.17	0.66	< 0.01	< 0.01	0.03	< 0.01	1.40	0.019	11.08	0.449	99.03	30.8	2.254	28.124	7.3	30.378	1.29	
546222	28.27	0.169	30.70	0.46	< 0.01	0.01	0.03	0.01	0.86	0.015	10.90	0.305	100.3	30.5	4.986	25.447	16.3	30.434	0.29	
546223	18.25	0.180	32.30	1.13	< 0.01	< 0.01	0.03	0.01	0.98	0.014	12.23	0.363	99.26	30.8	2.286	28.243	7.4	30.530	0.93	
546224	18.75	0.189	34.61	1.20	< 0.01	0.02	0.03	0.01	0.92	0.014	12.25	0.476	99.47	30.4	5.613	24.415	18.5	30.028	1.19	
546225	31.52	0.218	25.55	0.76	< 0.01	< 0.01	0.03	< 0.01	1.71	0.020	9.76	0.503	98.48	30.2	1.792	28.167	5.9	29.958	0.68	
546226	27.22	0.222	29.32	0.89	< 0.01	< 0.01	0.03	< 0.01	1.76	0.020	11.09	0.453	98.42	30.4	2.309	27.676	7.6	29.985	1.28	
546227	30.63	0.227	28.68	1.80	< 0.01	0.02	0.02	0.01	1.31	0.019	9.52	0.625	99.27	30.3	3.066	27.021	10.1	30.088	0.75	
546228	26.94	0.209	30.36	1.23	< 0.01	< 0.01	0.03	0.01	1.75	0.023	6.81	0.359	99.26	30.3	2.618	27.464	8.6	30.082	0.86	
546229	35.91	0.290	26.27	0.63	< 0.01	0.02	0.02	0.01	2.40	0.030	9.03	1.24	98.58	30.6	1.593	28.739	5.2	30.332	1.00	
546230														30.4	0.060	29.810	0.2	29.871	1.60	
546231	29.98	0.256	28.98	0.98	< 0.01	0.02	0.02	0.01	0.82	0.020	11.22	0.887	99.82	30.2	1.904	28.031	6.3	29.935	0.77	
546232	21.76	0.217	32.03	1.48	< 0.01	0.02	0.02	0.01	0.70	0.010	12.97	0.542	99.95	30.1	5.959	23.717	19.8	29.676	1.26	

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	LOI	Ni	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		0.003	0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
546233	40.82	0.160	25.26	0.46	< 0.01	0.02	0.03	0.01	0.81	0.013	12.32	0.562	99.56	30.3	3.070	26.984	10.1	30.054	0.82	
546234	34.26	0.080	27.72	0.06	< 0.01	0.04	0.02	0.01	0.82	0.014	8.35	0.571	99.92	30.4	4.619	25.565	15.2	30.183	0.59	
546235	47.07	0.086	22.08	0.02	< 0.01	0.02	0.01	0.01	1.09	0.015	6.10	0.694	99.32	30.2	3.422	26.694	11.3	30.115	0.41	
546236	29.24	0.194	29.94	1.18	< 0.01	0.05	0.02	0.01	0.79	0.014	10.93	0.583	99.51	30.1	4.831	25.103	16.0	29.934	0.68	
546237	41.59	0.278	21.63	1.36	< 0.01	0.02	0.03	0.01	2.81	0.031	6.22	1.50	98.69	30.3	1.612	28.302	5.3	29.914	1.26	
546238	28.38	0.235	30.80	1.35	< 0.01	0.01	0.02	0.01	2.02	0.028	3.45	0.675	99.13	30.0	2.425	27.340	8.1	29.765	0.82	
546239	31.97	0.211	29.16	1.29	< 0.01	0.01	0.03	0.02	2.17	0.033	5.09	1.29	97.54	30.3	0.081	28.754	0.3	28.835	4.73	
546240	0.60	0.005	0.03	0.01	0.01	0.08	0.05	0.01	0.01	< 0.003	0.14	< 0.003	99.23	30.1	1.469	27.813	4.9	29.281	2.63	
546241	51.37	0.304	17.56	0.89	0.04	0.02	0.04	0.01	4.71	0.050	3.41	2.24	97.53	30.3	0.837	29.553	2.8	30.390	-0.26	
546242	37.53	0.218	24.18	0.53	< 0.01	0.04	0.03	< 0.01	2.41	0.023	7.09	1.48	99.39	30.3	1.930	27.615	6.4	29.545	2.49	
546243	40.82	0.207	23.38	0.35	< 0.01	0.01	0.02	0.01	1.49	0.014	8.14	0.864	99.53	30.3	2.945	27.216	9.7	30.161	0.40	
546244	45.02	0.224	20.51	0.33	< 0.01	0.02	0.02	< 0.01	1.92	0.019	7.00	1.12	99.02	30.3	2.392	27.878	7.9	30.270	0.03	
546245	46.85	0.231	20.04	0.55	< 0.01	0.02	0.03	0.01	2.27	0.022	6.63	1.70	99.18	30.4	1.435	28.774	4.7	30.209	0.53	
546246	40.21	0.201	23.51	0.48	< 0.01	0.02	0.02	0.01	1.53	0.017	7.74	0.890	99.57	30.1	3.576	26.463	11.9	30.039	0.23	
546247	49.00	0.250	18.82	1.80	< 0.01	0.01	0.03	< 0.01	2.24	0.023	5.38	1.22	98.95	30.4	1.826	27.200	6.0	29.026	4.49	
546248	26.18	0.178	30.75	1.21	< 0.01	< 0.01	0.02	0.01	0.80	0.009	9.25	0.625	99.77	30.3	5.815	24.576	19.2	30.391	-0.25	
546249	44.69	0.243	20.35	1.27	< 0.01	0.02	0.02	< 0.01	2.00	0.023	6.95	1.31	99.14	30.3	2.229	27.975	7.4	30.204	0.28	
546250	39.12	0.267	22.08	1.50	< 0.01	0.03	0.02	0.01	2.57	0.029	7.58	1.52	98.03	30.4	1.711	28.428	5.6	30.138	0.83	
546251	32.55	0.220	26.22	1.10	< 0.01	0.02	0.02	< 0.01	1.97	0.028		1.46	89.42	30.0	0.130	28.685	0.4	28.815	4.08	
546252	25.65	0.191	29.05	0.76	< 0.01	< 0.01	0.02	0.01	1.29	0.017	8.18	0.376	98.31	30.2	1.821	27.564	6.0	29.385	2.60	
546253	45.95	0.311	19.53	0.91	< 0.01	0.04	0.03	0.01	3.80	0.043	6.02	1.21	98.67	30.4	1.033	28.699	3.4	29.732	2.05	
546254	43.99	0.235	20.21	0.97	< 0.01	0.01	0.02	0.01	1.95	0.022	7.64	1.36	99.00	30.0	2.213	27.681	7.4	29.893	0.48	
546255	61.39	0.273	14.84	0.53	< 0.01	0.02	0.03	0.01	3.03	0.031	2.51	2.73	98.08	30.2	1.080	29.122	3.6	30.201	0.04	
546256	57.01	0.276	17.33	0.47	< 0.01	0.01	0.03	0.01	2.54	0.025	4.30	1.78	98.54	30.2	1.426	28.884	4.7	30.309	-0.40	
546257	55.84	0.334	17.85	0.42	< 0.01	0.04	0.05	0.02	4.26	0.047	-0.80	2.78	96.18	30.4	0.502	29.875	1.7	30.377	0.01	
546258	52.10	0.279	20.30	0.27	< 0.01	0.01	0.03	0.01	2.88	0.035	2.50	1.61	98.33	30.2	0.851	29.431	2.8	30.283	-0.17	
546259	55.27	0.356	17.12	0.10	< 0.01	0.07	0.06	0.02	4.52	0.047	0.70	2.78	96.14	30.0	0.586	28.840	2.0	29.426	1.99	
546260.1	12.08	0.166	4.92	7.87	2.48	2.82	1.10	0.45	1.08	0.067	0.78	0.239	99.21							
546260.2	13.14	0.129	32.32	2.07	0.12	0.12	0.12	0.02	0.20	0.009	10.96	1.44	99.42							
546260.3	54.61	0.238	17.80	0.20	0.01	0.06	0.04	0.01	1.61	0.027	2.89	2.04	98.54	30.0	2.175	27.147	7.2	29.322	2.41	
546261	33.51	0.333	21.60	0.19	< 0.01	< 0.01	0.04	0.02	4.02	0.052	5.66	0.387	95.63	30.3	0.334	29.561	1.1	29.896	1.39	
546262	56.30	0.254	17.50	0.05	< 0.01	0.03	0.03	0.01	2.97	0.035	5.27	2.39	98.25	30.2	0.893	29.522	3.0	30.415	-0.65	
546263	64.25	0.303	13.25	0.22	< 0.01	0.02	0.04	0.01	3.47	0.030	1.93	2.55	97.89	30.1	1.310	28.718	4.4	30.027	0.16	
546264	51.91	0.316	18.52	0.58	< 0.01	0.09	0.06	0.02	4.08	0.046	1.46	1.72	96.97	30.7	0.627	29.355	2.0	29.982	2.45	0.02
546265	55.33	0.253	18.08	0.28	0.43	0.12	0.06	0.03	2.56	0.041	0.57	1.79	98.69	30.1	0.614	29.525	2.0	30.139	-0.17	
546266	47.99	0.272	21.53	0.39	0.04	0.04	0.05	0.01	3.16	0.040	2.05	1.73	97.56	30.6	0.825	29.857	2.7	30.682	-0.24	
546267	58.29	0.298	15.86	0.16	0.06	0.02	0.05	0.01	3.21	0.042	0.93	2.19	96.16	30.8	0.726	30.110	2.4	30.837	-0.18	
546268	36.93	0.295	28.89	0.23	0.26	0.07	0.03	0.01	2.76	0.037	0.53	1.36	98.24	30.2	0.942	29.346	3.1	30.288	-0.18	
546269	54.44	0.351	17.70	0.28	0.18	0.09	0.08	0.01	4.23	0.052	0.13	2.85	97.34	30.5	0.491	29.906	1.6	30.397	0.19	
546270	54.47	0.291	17.29	0.24	< 0.01	0.03	0.05	< 0.01	3.58	0.043	0.82	2.20	96.00	30.4	0.868	29.007	2.9	29.874	1.81	
546271	39.15	0.289	27.93	0.23	< 0.01	0.03	0.03	0.01	2.69	0.039	0.06	1.41	97.87	30.5	0.743	29.836	2.4	30.579	-0.18	
546272	47.67	0.317	21.57	0.31	< 0.01	0.02	0.05	0.01	3.58	0.040	1.19	2.49	96.75	30.5	1.026	29.450	3.4	30.476	0.22	
546273	59.40	0.440	15.70	0.34	0.15	0.27	0.08	0.02	4.77	0.055	0.14	2.30	97.75	30.8	0.586	30.544	1.9	31.130	-1.10	
546274	36.01	0.269	27.04	0.89	0.10	0.04	0.04	0.01	3.11	0.037	2.26	1.46	97.25	30.1	1.130	28.243	3.8	29.373	2.26	
546275	55.95	0.315	16.11	0.39	0.01	0.08	0.08	0.01	4.75	0.060	1.10	2.58	97.38	30.2	0.576	29.327	1.9	29.903	0.89	
546276	59.53	0.328	13.33	0.78	0.23	0.04	0.05	0.01	4.15	0.051	1.51	2.20	96.01	30.6	0.922	29.728	3.0	30.650	-0.02	
546277	58.86	0.221	14.50	0.36	< 0.01	0.03	0.04	< 0.01	2.40	0.036	3.04	2.04	96.71	30.2	1.074	29.019	3.6	30.094	0.42	
546278	34.91	0.310	26.65	1.26	< 0.01	0.03	0.06	0.01	4.04	0.049	2.45	1.51	97.35	30.6	0.681	29.490	2.2	30.171	1.25	
546279	31.81	0.316	23.64	0.26	< 0.01	< 0.01	0.04	0.02	3.78	0.044	11.41	0.460	97.97	30.2	0.295	29.196	1.0	29.491	2.50	
546280	0.58	0.005	0.02	0.03	0.01	0.08	0.04	0.01	< 0.01	< 0.003	0.14	< 0.003	99.56	30.3	0.068	29.004	0.2	29.072	4.09	
546281	61.89	0.371	12.83	0.34	< 0.01	< 0.01	0.05	0.01	3.60	0.054	0.74	2.47	96.36	30.8	0.623	29.052	2.0	29.675	3.67	

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	LOI	Ni	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		0.003	0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
547001	45.43	0.198	21.85	0.81	0.01	0.02	0.04	0.01	1.02	0.019	5.99	1.45	99.18	30.2	2.338	27.664	7.8	30.002	0.49	
547002	44.10	0.179	22.35	0.39	< 0.01	0.02	0.04	< 0.01	1.16	0.023	5.40	1.82	97.52	30.7	2.269	28.237	7.4	30.506	0.70	
547003	50.36	0.167	20.75	0.53	0.14	0.02	0.05	< 0.01	1.14	0.028	4.05	1.80	99.31	30.6	2.283	28.126	7.5	30.409	0.53	
547004	58.41	0.189	16.47	0.39	< 0.01	0.03	0.06	< 0.01	1.57	0.026	2.81	2.21	97.93	30.6	1.773	28.319	5.8	30.093	1.77	
547005	49.97	0.170	21.31	0.35	0.02	0.01	0.05	0.01	1.30	0.023	4.28	2.06	99.46	30.4	1.855	27.687	6.1	29.541	2.81	
547006	58.54	0.322	14.23	0.22	< 0.01	0.03	0.06	0.01	3.21	0.034	1.15	3.45	96.00	30.4	1.132	29.179	3.7	30.312	0.17	
547007	58.89	0.260	14.87	0.05	< 0.01	0.03	0.04	< 0.01	3.51	0.043	1.28	3.31	96.12	30.8	1.067	29.610	3.5	30.677	0.46	0.10
547008	57.31	0.174	15.88	0.06	< 0.01	0.06	0.03	< 0.01	2.26	0.032	2.58	2.91	96.99	30.2	1.683	28.226	5.6	29.909	1.05	0.10
547009	45.42	0.301	21.81	0.30	< 0.01	0.04	0.05	0.01	2.31	0.023	3.51	3.06	97.12	30.9	1.419	29.417	4.6	30.836	0.27	0.10
547010	69.67	0.158	10.29	0.19	< 0.01	0.04	0.04	< 0.01	1.58	0.035	0.27	2.84	97.10	30.4	1.530	27.875	5.0	29.405	3.26	0.06
547011	55.96	0.186	17.09	0.29	< 0.01	0.05	0.05	< 0.01	1.20	0.025	3.36	1.90	97.95	30.8	2.633	27.676	8.6	30.309	1.57	0.06
547012	63.98	0.142	13.44	0.31	0.05	0.10	0.05	0.01	1.20	0.033	1.60	2.28	97.68	30.4	1.878	27.408	6.2	29.286	3.68	0.05
547013	53.12	0.181	18.28	0.25	0.01	0.10	0.05	0.01	1.38	0.026	3.69	1.97	97.87	30.6	2.009	28.178	6.6	30.187	1.31	0.07
547014	59.53	0.215	15.17	0.23	0.03	0.11	0.06	0.01	2.02	0.029	1.22	3.36	97.33	30.6	1.349	28.287	4.4	29.635	3.09	0.07
547015	53.46	0.203	18.68	0.25	0.02	0.10	0.06	0.01	1.63	0.025	2.68	2.74	98.20	31.1	1.677	28.289	5.4	29.966	3.53	0.07
547016	69.51	0.244	11.00	0.09	< 0.01	0.02	0.06	0.01	2.13	0.035	0.15	2.87	97.38	30.5	1.559	28.208	5.1	29.768	2.25	0.08
547017	66.48	0.198	12.42	0.09	< 0.01	0.05	0.06	< 0.01	1.52	0.039	1.29	2.18	97.73	30.3	2.365	27.311	7.8	29.676	1.93	0.04
547018	51.83	0.168	19.08	0.15	0.07	0.30	0.06	0.01	1.20	0.032	4.23	1.66	98.82	30.7	2.989	26.318	9.7	29.307	4.48	0.05
547019	53.97	0.224	18.24	0.23	< 0.01	0.06	0.05	0.01	1.81	0.024	3.76	2.30	97.72	30.7	1.803	27.939	5.9	29.742	3.06	0.07
547020.1	12.11	0.170	4.91	7.90	2.45	2.81	1.10	0.44	1.07	0.063	0.83	0.240	99.35							
547020.2	13.12	0.126	32.30	2.08	0.10	0.14	0.13	0.02	0.20	0.007	11.05	1.45	99.45							
547020.3	54.97	0.238	17.41	0.17	< 0.01	0.06	0.04	0.01	1.63	0.026	2.34	2.03	98.20	30.1	2.023	27.179	6.7	29.202	2.85	
547021	64.75	0.192	13.49	0.16	< 0.01	0.08	0.05	0.01	2.00	0.030	1.40	3.01	97.34	30.1	1.522	27.237	5.1	28.759	4.47	0.06
547022	60.21	0.263	13.83	0.83	< 0.01	0.13	0.04	< 0.01	2.50	0.029	1.33	4.01	96.74	30.2	1.229	28.382	4.1	29.611	2.06	0.10
547023	70.75	0.218	10.59	0.12	< 0.01	0.03	0.07	0.01	2.32	0.029	0.22	2.50	96.92	30.2	1.705	28.449	5.6	30.155	0.20	0.04
547024	48.83	0.222	21.54	0.44	< 0.01	0.12	0.05	0.01	1.81	0.020	4.22	1.97	98.12	30.2	1.556	27.584	5.2	29.139	3.46	0.06
547025	66.25	0.211	11.88	0.33	< 0.01	0.07	0.05	0.01	2.34	0.034	0.45	3.44	96.85	31.1	1.161	29.336	3.7	30.497	1.81	0.04
547026	73.95	0.180	9.24	0.18	< 0.01	0.03	0.06	< 0.01	1.81	0.036	-0.40	2.58	96.73	30.3	1.551	27.652	5.1	29.203	3.48	0.05
547027	71.50	0.155	10.55	0.08	0.01	0.06	0.06	< 0.01	1.66	0.037	0.14	2.47	98.03	30.1	1.707	27.981	5.7	29.688	1.50	0.07
547028	61.63	0.224	14.19	0.12	< 0.01	0.10	0.06	0.01	1.89	0.031	2.05	2.09	96.88	30.1	1.590	27.565	5.3	29.155	3.03	0.04
547029	58.13	0.205	15.41	0.41	0.01	0.04	0.08	0.02	2.14	0.033	1.94	3.38	97.44	30.0	1.260	27.668	4.2	28.928	3.67	0.04
547030	69.95	0.172	11.57	0.10	< 0.01	0.03	0.07	0.01	1.46	0.027	0.92	2.10	97.97	30.1	2.031	27.350	6.8	29.381	2.35	0.04
547031	72.49	0.247	9.58	0.24	< 0.01	0.06	0.06	0.01	2.56	0.043	-0.68	2.89	97.11	30.1	1.321	27.672	4.4	28.993	3.52	0.03
547032	65.00	0.197	13.22	0.42	< 0.01	0.03	0.06	0.01	1.88	0.040	1.12	2.76	97.65	30.1	1.373	28.543	4.6	29.917	0.67	0.04
547033	56.91	0.129	18.21	0.21	< 0.01	0.03	0.05	< 0.01	1.03	0.030	3.65	1.59	98.22	30.2	2.399	27.690	8.0	30.089	0.23	0.04
547034	65.45	0.156	12.99	0.12	< 0.01	0.04	0.05	< 0.01	1.73	0.034	1.25	2.74	97.52	30.1	1.631	28.086	5.4	29.716	1.30	0.04
547035	68.94	0.176	11.43	0.12	< 0.01	0.03	0.05	0.01	1.91	0.037	0.38	2.64	96.98	30.2	1.669	28.602	5.5	30.271	-0.22	0.03
547036	65.91	0.164	12.89	0.12	< 0.01	0.06	0.05	< 0.01	1.97	0.035	0.83	2.56	96.71	30.0	1.570	27.656	5.2	29.226	2.73	0.04
547037	71.27	0.276	9.86	0.05	< 0.01	0.06	0.06	0.01	2.44	0.039	0.62	1.66	96.76	30.1	1.771	28.155	5.9	29.926	0.65	0.36
547038	59.29	0.261	15.20	0.07	< 0.01	0.05	0.04	0.01	2.00	0.029	2.41	2.14	97.48	30.2	2.048	27.511	6.8	29.558	2.08	0.10
547039	59.65	0.287	15.06	0.11	< 0.01	0.07	0.04	0.01	2.70	0.038	1.81	2.65	97.31	30.1	1.786	27.708	5.9	29.494	1.99	0.14
547040	0.59	0.005	0.02	0.03	0.01	0.08	0.04	0.01	< 0.01	< 0.003	0.10	< 0.003	99.02	30.1	0.015	29.321	0.0	29.336	2.39	
547041	70.72	0.242	9.99	0.11	0.01	0.08	0.05	0.01	2.69	0.039	-0.73	3.57	96.62	30.1	1.220	28.716	4.1	29.937	0.64	0.06
547042	63.38	0.280	12.22	0.41	< 0.01	0.07	0.04	< 0.01	3.24	0.043	-0.24	4.34	96.69	30.1	0.986	28.969	3.3	29.955	0.35	0.10
547043	63.29	0.221	13.29	0.27	< 0.01	0.05	0.04	< 0.01	2.58	0.036	0.38	3.64	96.80	30.2	1.258	27.749	4.2	29.007	3.91	0.05
547044	57.06	0.268	15.51	0.26	< 0.01	0.05	0.03	< 0.01	2.95	0.036	1.18	3.54	96.24	30.0	1.320	28.761	4.4	30.080	-0.16	0.03
547045	54.21	0.262	15.95	0.50	< 0.01	0.04	0.04	0.01	3.30	0.048	0.28	4.42	96.11	30.1	0.960	28.660	3.2	29.619	1.58	0.02
547046	60.20	0.232	14.27	0.24	< 0.01	0.06	0.04	0.01	2.72	0.037	1.02	3.15	96.46	30.0	1.255	28.449	4.2	29.705	1.10	0.04
547047	65.75	0.215	12.78	0.20	< 0.01	0.04	0.03	< 0.01	2.41	0.034	0.34	3.30	97.05	30.1	1.325	28.535	4.4	29.860	0.72	0.04
547048	73.21	0.201	8.69	0.07	< 0.01	0.07	0.03	< 0.01	2.34	0.034	-0.79	3.80	96.64	30.1	1.123	28.843	3.7	29.966	0.32	0.03
547049	69.32	0.187	11.24	0.07	< 0.01	0.03	0.04	< 0.01	2.57	0.039	0.00	2.81	97.43	30.1	1.664	27.758	5.5	29.422	2.16	0.03

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	LOI	Ni	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		0.003	0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
547050	73.31	0.196	9.15	0.04	< 0.01	0.11	0.05	< 0.01	2.76	0.036	-1.02	3.01	96.36	30.1	1.351	27.439	4.5	28.790	4.25	0.03
547051	44.63	0.245	21.94	0.54	0.04	0.10	0.04	< 0.01	2.11	0.028	4.02	2.45	97.51	30.0	1.631	28.105	5.4	29.736	0.96	0.05
547052	61.95	0.251	12.52	0.36	< 0.01	0.05	0.04	< 0.01	2.85	0.031	0.34	4.30	96.04	30.3	0.850	28.767	2.8	29.617	2.14	0.07
547053	58.84	0.204	15.09	0.20	< 0.01	0.11	0.03	< 0.01	2.44	0.029	1.66	2.90	96.87	30.0	1.287	28.251	4.3	29.538	1.66	0.05
547054	62.15	0.223	13.50	0.14	0.02	0.06	0.05	0.02	2.56	0.028	0.50	4.19	96.79	30.0	0.897	28.697	3.0	29.595	1.43	0.09
547055	49.41	0.194	20.65	0.18	< 0.01	0.06	0.02	< 0.01	1.82	0.019	3.00	2.97	97.88	30.1	1.255	27.624	4.2	28.879	4.00	0.09
547056	55.19	0.176	17.89	0.06	< 0.01	0.05	0.03	0.01	2.45	0.030	2.45	2.53	97.88	30.0	1.708	26.909	5.7	28.617	4.76	0.06
547057	60.01	0.229	15.11	0.05	< 0.01	0.05	0.04	0.01	2.40	0.028	2.10	2.22	97.72	30.0	1.845	27.861	6.1	29.706	1.02	0.13
547058	61.82	0.271	13.77	0.18	< 0.01	0.04	0.04	< 0.01	3.13	0.040	0.80	3.02	97.09	30.0	1.055	28.499	3.5	29.554	1.59	0.07
547059	57.67	0.189	16.44	0.10	< 0.01	0.07	0.06	0.01	2.45	0.033	2.06	2.59	98.25	30.1	1.254	28.405	4.2	29.659	1.40	0.02
547060.1	12.10	0.166	4.98	7.90	2.45	2.78	1.12	0.44	1.07	0.063	0.81	0.237	99.61							
547060.2	13.09	0.125	32.00	2.10	0.11	0.15	0.14	0.02	0.20	0.007	11.19	1.44	99.28							
547060.3	54.84	0.239	17.65	0.19	< 0.01	0.07	0.04	0.01	1.64	0.025	2.86	2.04	99.11	30.0	2.138	27.051	7.1	29.189	2.77	

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
NIST 694 Meas	11.45	1.95	0.74	0.013	0.34	42.92	0.90	0.56	0.120	30.25									1669					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
NIST 694 Meas	11.48	1.90	0.74	0.013	0.35	43.54	0.89	0.54	0.115	30.20									1669					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
GBW 07113 Meas	72.96	13.06	3.23	0.142	0.14	0.58	2.56	5.46	0.283	0.04			502	41	45	5	396	4	7					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
MICA-FE Meas																						34.29	19.52	25.71
MICA-FE Cert																						34.4	19.5	25.6
CHR-BKG Meas																						15.33	12.84	13.78
CHR-BKG Cert																						15.27	12.91	13.87
IF-G Meas																						41.28	0.17	55.92
IF-G Cert																						41.2	0.150	55.8
LKSD-4 Meas																								
LKSD-4 Cert																								
LKSD-4 Meas																								
LKSD-4 Cert																								
BaSO4 Meas																								
BaSO4 Cert																								
BaSO4 Meas																								
BaSO4 Cert																								
W-2a Meas	52.32	15.18	10.78	0.166	6.26	11.14	2.19	0.61	1.079	0.12			172	192	19	35	86	< 1	276	0.012	< 0.010			
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262	0.00700	0.00920			
W-2a Meas	52.18	15.14	10.52	0.163	6.12	10.80	2.22	0.61	1.052	0.13			168	191	19	35	86	< 1	272					
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262					
OREAS 13P Meas																				0.236				
OREAS 13P Cert																				0.226				
OREAS 13P Meas																				0.236				
OREAS 13P Cert																				0.226				
OREAS 13P Meas																				0.236				
OREAS 13P Cert																				0.226				
OREAS 14P Meas																								
OREAS 14P Cert																								
Oreas 73a (Fusion) Meas																						36.39	2.35	
Oreas 73a (Fusion) Cert																						36.4	2.38	
Oreas 74a (Fusion) Meas																						32.48	2.25	
Oreas 74a (Fusion) Cert																						32.4	2.21	
Oreas 75a (Fusion) Meas																						27.30	2.00	
Oreas 75a (Fusion) Cert																						27.3	1.99	
SCH-1 Meas																						8.55	0.99	86.74
SCH-1 Cert																						8.09	0.962	86.84
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
521913 Orig	77.16	8.98	3.62	0.057	1.80	0.51	0.33	2.77	0.422	0.10	4.03	99.78	1554	35	16	11	82	2	111	0.012	< 0.010			
521913 Dup	75.94	8.99	3.55	0.057	1.79	0.50	0.33	2.80	0.439	0.09	4.03	98.51	1558	33	16	11	80	2	110	< 0.010	< 0.010			
521926 Orig	45.79	8.19	7.59	0.125	24.70	3.60	1.70	1.11	0.337	0.11	7.56	100.8	293	263	6	14	42	< 1	96	0.138	0.172			
521926 Split	44.32	7.69	7.23	0.124	24.08	3.59	1.49	1.15	0.338	0.10	7.59	97.70	285	247	6	15	39	< 1	95	0.125	0.173			
521930 Orig	37.08	0.27	6.94	0.113	37.91	1.15	< 0.01	< 0.01	0.003	< 0.01	15.91	99.40	13	20	< 1	4	2	< 1	21	0.225	0.262			
521930 Dup	37.06	0.26	7.14	0.111	37.46	1.12	< 0.01	< 0.01	0.003	0.02	15.91	99.09	13	20	< 1	4	3	< 1	20	0.230	0.237			
521944 Orig																						28.61	1.16	33.44
521944 Split																						31.82	1.36	25.13

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
521944 Orig	39.20	1.79	7.74	0.106	36.81	1.52	< 0.01	< 0.01	0.021	< 0.01	13.18	100.4	4	5	< 1	11	< 2	< 1	59	0.206	0.233			
521944 Dup	38.94	1.76	7.46	0.105	36.76	1.52	< 0.01	< 0.01	0.021	< 0.01	13.18	99.74	4	5	1	11	< 2	< 1	58	0.199	0.231			
521954 Orig	37.58	0.80	7.49	0.100	40.67	0.10	< 0.01	< 0.01	0.005	< 0.01	13.27	100.0	3	< 2	< 1	6	2	< 1	24	0.225	0.253	26.34	0.78	32.13
521954 Split	38.05	0.82	7.51	0.099	41.06	0.11	< 0.01	< 0.01	0.006	< 0.01	12.95	100.6	3	< 2	< 1	6	4	< 1	25	0.220	0.257	28.32	0.71	28.39
521959 Orig	39.31	1.19	9.14	0.103	38.73	0.09	< 0.01	< 0.01	0.013	< 0.01	12.05	100.6	2	< 2	< 1	9	3	< 1	40	0.215	0.273			
521959 Dup	39.16	1.17	8.98	0.101	38.15	0.09	< 0.01	< 0.01	0.013	< 0.01	12.05	99.72	3	< 2	< 1	10	< 2	< 1	42	0.202	0.264			
521976 Orig	39.33	1.37	8.24	0.155	37.42	2.14	0.02	< 0.01	0.017	< 0.01	10.55	99.24	< 2	< 2	< 1	11	< 2	< 1	49	0.210	0.240			
521976 Dup	39.30	1.38	8.29	0.159	37.40	2.12	0.02	< 0.01	0.017	< 0.01	10.55	99.24	< 2	< 2	1	11	< 2	< 1	47	0.204	0.246			
546221 Orig	35.69	0.90	7.30	0.112	37.70	0.91	< 0.01	< 0.01	0.007	< 0.01	16.16	98.80	5	4	< 1	8	2	< 1	37	0.210	0.243			
546221 Split	35.52	0.88	7.25	0.110	37.06	0.88	< 0.01	< 0.01	0.007	0.01	15.96	97.69	5	4	< 1	8	2	< 1	36	0.200	0.235			
546228 Orig	38.42	0.60	7.66	0.109	38.71	1.40	< 0.01	< 0.01	0.004	< 0.01	12.48	99.39	< 2	< 2	< 1	9	< 2	< 1	37	0.230	0.240			
546228 Dup	38.23	0.60	7.58	0.109	38.21	1.41	< 0.01	< 0.01	0.004	< 0.01	12.48	98.64	< 2	< 2	< 1	9	< 2	< 1	40	0.223	0.257			
546230 Orig	35.35	0.56	6.21	0.100	36.81	0.26	0.01	0.02	0.004	< 0.01	19.76	99.08	< 2	2	< 1	7	< 2	< 1	28	0.183	0.183			
546230 Split	36.48	0.54	6.50	0.103	37.10	0.27	0.02	< 0.01	0.004	< 0.01	19.52	100.5	2	< 2	< 1	7	2	< 1	28	0.219	0.181			
546243 Orig	37.69	0.62	7.73	0.105	40.84	0.26	< 0.01	< 0.01	0.005	< 0.01	13.02	100.3	< 2	< 2	< 1	7	< 2	< 1	29	0.228	0.239			
546243 Dup	37.73	0.62	7.77	0.106	40.23	0.26	< 0.01	< 0.01	0.005	< 0.01	13.02	99.75	< 2	< 2	< 1	8	2	< 1	28	0.225	0.248			
546250 Orig	39.98	0.62	7.91	0.124	40.76	1.13	< 0.01	< 0.01	0.004	< 0.01	9.87	100.4	< 2	< 2	< 1	10	< 2	< 1	35	0.213	0.264	22.86	0.45	39.12
546250 Split	40.53	0.63	7.86	0.124	40.18	1.13	< 0.01	< 0.01	0.004	< 0.01	9.87	100.3	2	< 2	< 1	9	2	< 1	34	0.212	0.257	22.19	0.59	37.67
546278 Orig	40.35	0.71	7.71	0.117	40.19	2.15	0.02	< 0.01	0.005	< 0.01	6.48	97.74	3	< 2	< 1	9	< 2	< 1	40	0.232	0.280	24.80	1.28	34.91
546278 Split	40.91	0.72	6.98	0.118	41.48	2.00	< 0.01	< 0.01	0.005	< 0.01	6.78	99.00	3	< 2	< 1	10	< 2	< 1	40	0.196	0.277	17.99	1.00	46.14
547007 Orig																								
547007 Dup																								
547008 Orig	38.75	0.88	7.47	0.087	39.14	0.14	0.02	< 0.01	0.006	< 0.01	12.79	99.29	< 2	< 2	< 1	8	< 2	< 1	36	0.214	0.268			
547008 Dup	38.86	0.89	7.64	0.087	39.50	0.13	0.02	< 0.01	0.006	< 0.01	12.79	99.93	2	< 2	< 1	8	< 2	< 1	35	0.232	0.267			
547017 Orig																								
547017 Dup																								
547025 Orig	38.39	1.36	7.98	0.114	37.34	1.42	0.03	< 0.01	0.013	< 0.01	12.00	98.65	< 2	< 2	< 1	11	< 2	< 1	51	0.200	0.245	11.30	0.52	66.25
547025 Split	38.94	1.37	7.83	0.116	38.77	1.40	0.03	< 0.01	0.014	< 0.01	12.23	100.7	< 2	< 2	< 1	12	< 2	< 1	50	0.186	0.247	12.57	0.56	63.54
547025 Orig	38.54	1.36	8.07	0.114	37.81	1.43	0.03	0.01	0.014	< 0.01	12.00	99.38	< 2	< 2	< 1	11	< 2	< 1	52	0.191	0.247			
547025 Dup	38.24	1.36	7.89	0.113	36.86	1.40	0.03	< 0.01	0.013	< 0.01	12.00	97.91	< 2	< 2	< 1	11	17	< 1	51	0.209	0.243			
547035 Orig																								
547035 Dup																								
547039 Orig	39.33	0.80	8.65	0.125	39.77	0.27	< 0.01	< 0.01	0.007	< 0.01	11.63	100.6	< 2	< 2	< 1	11	< 2	< 1	42	0.251	0.286			
547039 Dup	39.13	0.80	8.51	0.125	39.79	0.27	< 0.01	< 0.01	0.007	0.02	11.63	100.3	< 2	< 2	< 1	11	< 2	< 1	41	0.229	0.283			
547045 Orig	39.42	0.83	7.84	0.118	39.69	0.64	0.01	< 0.01	0.006	< 0.01	10.72	99.27	< 2	< 2	< 1	9	3	< 1	42	0.185	0.249	16.52	0.58	54.21
547045 Split	40.30	0.83	7.94	0.119	40.54	0.65	0.01	< 0.01	0.006	< 0.01	10.62	100.9	< 2	< 2	< 1	9	< 2	< 1	45	0.226	0.256	16.03	0.43	53.96
547045 Orig																								
547054 Orig	39.00	0.71	8.53	0.144	39.88	0.44	0.01	< 0.01	0.005	< 0.01	10.79	99.51	< 2	< 2	< 1	7	2	< 1	25	0.210	0.188			
547054 Dup	39.35	0.72	8.58	0.144	40.17	0.44	0.01	< 0.01	0.006	< 0.01	10.79	100.2	< 2	< 2	< 1	7	2	< 1	26	0.210	0.189			
547055 Orig	38.87	0.69	8.04	0.125	39.88	0.28	< 0.01	< 0.01	0.005	< 0.01	10.91	98.80	< 2	< 2	< 1	7	2	< 1	24	0.214	0.168	19.14	0.42	49.41
547055 Split	39.38	0.70	8.25	0.128	40.70	0.29	< 0.01	< 0.01	0.005	< 0.01	11.20	100.6	< 2	< 2	< 1	7	< 2	< 1	24	0.215	0.171	18.98	0.59	49.25
547055 Orig																								
547055 Dup																								
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank	< 0.01	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01			< 2	< 2	< 1	< 1	< 2	< 1	< 5	0.01	< 0.01			

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	LOI	Ni	Total	% Loss Mass	Calculated Start Mass	Magnetic Fraction	Non-Mag Fraction	Start Mass	Weight % Magnetics	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	g	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		0.003	0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
NIST 694 Meas																			
NIST 694 Cert																			
NIST 694 Meas																			
NIST 694 Cert																			
GBW 07113 Meas																			
GBW 07113 Cert																			
MICA-FE Meas	0.348	4.57	0.45	0.48	8.80	2.50	0.42	0.02	0.025		0.004								
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024		0.00350								
CHR-BKG Meas	0.139	23.55	0.06			0.14		19.7			0.199								
CHR-BKG Cert	0.14	23.47	0.07			0.14		20			0.201								
IF-G Meas	0.041	1.90	1.58	0.05	0.02	0.02	0.06	0.01			< 0.003								
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400			0.00225								
LKSD-4 Meas																			0.85
LKSD-4 Cert																			0.990
LKSD-4 Meas																			1.04
LKSD-4 Cert																			0.990
BaSO4 Meas																			13.6
BaSO4 Cert																			14.0
BaSO4 Meas																			13.2
BaSO4 Cert																			14.0
W-2a Meas																			
W-2a Cert																			
W-2a Meas																			
W-2a Cert																			
OREAS 13P Meas											0.226								
OREAS 13P Cert											0.226								
OREAS 13P Meas																			
OREAS 13P Cert																			
OREAS 13P Meas																			
OREAS 13P Cert																			
OREAS 14P Meas											2.08								
OREAS 14P Cert											2.10								
Oreas 73a (Fusion) Meas		32.48						0.20			1.44								
Oreas 73a (Fusion) Cert		32.5						0.20			1.44								
Oreas 74a (Fusion) Meas		28.95						0.18			3.24								
Oreas 74a (Fusion) Cert		27.9						0.18			3.24								
Oreas 75a (Fusion) Meas		22.45						0.15			5.25								
Oreas 75a (Fusion) Cert		22.3						0.16			5.25								
SCH-1 Meas	1.008	0.07		0.15	0.04	0.08	0.14												
SCH-1 Cert	1.003	0.033		0.026	0.031	0.052	0.124												
OREAS 13b (4-Acid) Meas																			0.96
OREAS 13b (4-Acid) Cert																			1.20
OREAS 13b (4-Acid) Meas																			0.99
OREAS 13b (4-Acid) Cert																			1.20
521913 Orig																			
521913 Dup																			
521926 Orig																			
521926 Split													0.94	13.085	0.144	12.941	13.2	1.1	
521930 Orig																			
521930 Dup																			
521944 Orig	0.152	27.87	0.18	< 0.01	0.02	0.04	0.01	0.55	0.018	8.17	0.270	100.4							

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	LOI	Ni	Total	% Loss Mass	Calculated Start Mass	Magnetic Fraction	Non-Mag Fraction	Start Mass	Weight % Magnetics	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	g	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003		0.003	0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
521944 Split	0.134	30.91	0.41	< 0.01	0.04	0.04	< 0.01	0.45	0.014	9.64	0.269	100.2	1.61	29.635	5.859	23.776	30.1	19.5	0.02
521944 Orig																			
521944 Dup																			
521954 Orig	0.159	29.49	0.04	< 0.01	0.01	0.03	< 0.01	1.18	0.014	8.34	1.16	99.61							
521954 Split	0.154	31.46	0.05	0.01	0.04	0.02	0.01	1.13	0.012	8.78	1.00	100.1	1.24	17.171	2.219	14.952	17.4	12.8	0.06
521959 Orig																			
521959 Dup																			
521976 Orig																			
521976 Dup																			
546221 Orig																			
546221 Split													0.15	27.012	1.411	25.601	27.1	5.2	0.02
546228 Orig																			
546228 Dup																			
546230 Orig																			
546230 Split													4.26	28.756	0.062	28.694	30.0	0.2	
546243 Orig																			
546243 Dup																			
546250 Orig	0.267	22.08	1.50	< 0.01	0.03	0.02	0.01	2.57	0.029	7.58	1.52	98.03							
546250 Split	0.258	24.13	1.27	< 0.01	0.05	0.03	< 0.01	2.72	0.033	7.10	1.60	97.56	2.16	21.866	1.068	20.798	22.3	4.8	0.04
546278 Orig	0.310	26.65	1.26	< 0.01	0.03	0.06	0.01	4.04	0.049	2.45	1.51	97.35							
546278 Split	0.367	19.94	0.79	< 0.01	0.06	0.09	0.01	5.17	0.063	1.51	2.82	95.88	-0.83	30.337	0.617	29.720	30.1	2.1	0.03
547007 Orig																			0.10
547007 Dup																			0.10
547008 Orig																			
547008 Dup																			
547017 Orig																			0.04
547017 Dup																			0.04
547025 Orig	0.211	11.88	0.33	< 0.01	0.07	0.05	0.01	2.34	0.034	0.45	3.44	96.85							0.04
547025 Split	0.212	12.90	0.21	< 0.01	0.03	0.06	0.01	1.96	0.028	1.41	2.95	96.38	-1.54	10.040	0.362	9.678	9.89	3.7	0.06
547025 Orig																			0.04
547025 Dup																			0.05
547035 Orig																			0.03
547035 Dup																			0.03
547039 Orig																			
547039 Dup																			
547045 Orig	0.262	15.95	0.50	< 0.01	0.04	0.04	0.01	3.30	0.048	0.28	4.42	96.11							0.02
547045 Split	0.268	16.42	0.59	< 0.01	0.06	0.04	< 0.01	3.29	0.047	0.44	4.15	95.68	0.46	29.980	1.064	28.917	30.1	3.5	0.02
547045 Orig																			0.02
547054 Orig																			
547054 Dup																			
547055 Orig	0.194	20.65	0.18	< 0.01	0.06	0.02	< 0.01	1.82	0.019	3.00	2.97	97.88							0.09
547055 Split	0.203	20.12	0.18	0.02	0.17	0.06	0.01	1.83	0.023	3.33	3.29	98.05	2.07	16.268	0.647	15.621	16.6	3.9	0.11
547055 Orig																			0.09
547055 Dup																			0.10
Method Blank																			< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	-0.01	< 0.003	< 0.01							
Method Blank																			< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	-0.01	< 0.003	< 0.01							
Method Blank																			

Quality Analysis ... *Innovative Technologies*

Date Submitted: 24-Oct-11
Invoice No.: A11-12363
Invoice Date: 04-Dec-11
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road
Suite 2
Sudbury Ontario P3C 4Y9
Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

15 Pulp samples and 263 Rock samples were submitted for analysis.

The following analytical packages were requested:

Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID

REPORT **A11-12363**

Notes:
Total includes all elements in % oxide to the left of total.

Samples with no data were insufficient for analysis.

CERTIFIED BY :

Eric Hoffman Ph.D.
President/General Manager

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E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

SCC Accredited LAB 265
LAB 266 Accrédité CCN

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521618	48.76	13.39	15.54	0.175	3.67	3.43	2.27	4.43	2.789	0.20	3.55	98.22	2265	155	23	44	203	1	176	< 0.010	0.022	521618		
521619	46.98	12.99	16.32	0.179	4.56	4.43	2.12	3.79	2.790	0.14	4.79	99.08	1385	190	32	44	167	< 1	200	0.013	0.016	521619		
521620	99.71	0.28	0.36	0.004	0.01	0.02	0.01	0.04	0.029	0.01	0.27	100.7	24	4	2	< 1	47	< 1	6	< 0.010	< 0.010	521620	98.00	0.33
521621	50.13	14.08	9.16	0.159	3.96	6.93	2.95	2.08	2.485	0.49	7.23	99.66	1334	247	27	23	243	2	198	0.014	0.015	521621		
521622	81.99	6.18	2.72	0.086	1.22	0.29	0.32	1.80	0.306	0.05	2.88	97.84	1342	16	12	8	52	1	75	< 0.010	< 0.010	521622		
521623	84.38	5.72	2.65	0.096	1.15	0.66	0.26	1.69	0.269	0.05	2.91	99.85	1468	27	10	7	50	1	56	< 0.010	< 0.010	521623		
521624	76.76	8.65	3.75	0.109	1.69	0.64	0.52	2.54	0.412	0.06	4.86	100.0	2168	31	14	10	79	2	92	< 0.010	< 0.010	521624		
521625	81.29	6.73	2.87	0.085	1.45	0.45	0.68	1.74	0.324	0.06	2.52	98.20	1514	28	13	9	66	1	55	< 0.010	< 0.010	521625		
521626	82.82	6.81	2.89	0.076	1.34	0.39	0.73	1.76	0.331	0.07	1.99	99.20	1716	26	12	9	67	1	42	< 0.010	< 0.010	521626		
521627	77.20	8.38	3.60	0.115	1.74	0.43	0.45	2.49	0.417	0.05	3.18	98.04	2480	26	15	13	82	2	85	< 0.010	< 0.010	521627		
521628	79.65	7.61	3.39	0.084	1.51	0.35	0.46	2.20	0.362	0.05	3.57	99.24	2022	20	12	10	71	1	68	< 0.010	< 0.010	521628		
521629	77.09	8.58	3.65	0.082	1.74	0.54	0.38	2.65	0.413	0.07	5.43	100.6	2160	26	16	11	80	2	87	< 0.010	< 0.010	521629		
521630	81.50	6.35	3.17	0.067	1.44	0.80	0.22	2.02	0.302	0.06	4.69	100.6	1430	30	12	8	60	1	65	< 0.010	< 0.010	521630		
521631	78.15	6.91	3.28	0.076	1.67	0.50	0.28	2.14	0.341	0.04	4.56	97.95	1660	22	12	9	67	1	89	< 0.010	< 0.010	521631		
521632	77.41	8.54	3.66	0.064	1.75	0.79	0.39	2.55	0.422	0.06	5.26	100.9	1789	40	17	11	82	2	92	< 0.010	< 0.010	521632		
521633	48.39	11.28	8.27	0.151	11.69	7.28	0.89	0.60	0.973	0.20	9.57	99.29	359	180	18	23	91	< 1	183	0.045	0.063	521633		
521634	44.00	10.90	10.44	0.135	17.39	5.11	0.85	0.36	1.256	0.12	8.14	98.70	82	75	25	36	86	< 1	252	0.052	0.073	521634		
521635	44.81	10.09	9.32	0.140	16.52	6.36	1.20	0.44	1.033	0.13	8.36	98.41	97	106	20	28	64	< 1	212	0.063	0.084	521635		
521636	49.51	15.85	9.87	0.181	4.93	4.37	5.77	1.99	1.372	0.32	4.88	99.05	561	197	21	31	103	< 1	189	0.017	0.027	521636		
521637	48.07	8.90	10.52	0.214	15.33	7.21	1.61	0.80	0.864	0.13	5.03	98.67	138	78	16	25	61	< 1	192	0.089	0.111	521637		
521638	50.60	5.21	7.82	0.155	20.92	9.56	0.27	0.05	0.404	0.08	4.25	99.32	23	24	8	19	31	< 1	120	0.100	0.071	521638		
521639	45.27	3.31	7.29	0.124	27.38	5.68	0.02	< 0.01	0.201	0.02	9.90	99.22	6	67	4	12	16	< 1	74	0.164	0.199	521639		
521640.1	49.86	16.01	11.39	0.167	4.84	7.86	2.25	2.84	1.180	0.43	0.90	97.72	715	518	20	26	108	2	337	0.235	1.139	521640	49.23	16.17
521640.2																						521640	36.38	2.38
521640.3																						521640	18.28	0.53
521641	44.89	11.43	9.56	0.192	19.40	6.88	0.86	0.28	0.895	0.11	5.71	100.2	450	110	15	28	56	< 1	225	0.085	0.093	521641		
521642	41.38	2.66	7.42	0.088	34.88	0.21	0.01	0.01	0.090	0.03	13.06	99.84	15	11	< 1	9	12	< 1	50	0.195	0.209	521642		
521643	43.23	4.71	8.30	0.130	29.52	4.77	0.04	0.03	0.377	0.05	9.78	100.9	15	44	6	18	21	< 1	126	0.150	0.169	521643		
521644	40.40	1.06	7.61	0.096	37.14	0.50	< 0.01	< 0.01	0.009	0.03	12.33	99.17	4	13	< 1	10	< 2	< 1	46	0.198	0.224	521644	27.68	0.71
521645	54.40	16.62	7.12	0.131	6.86	7.89	4.18	0.75	0.704	0.20	1.99	100.8	408	631	14	21	97	< 1	167	0.014	0.026	521645		
521646	41.33	9.17	9.19	0.160	15.86	15.63	0.14	0.02	0.910	0.11	7.53	100.0	27	209	17	26	52	< 1	221	0.070	0.075	521646		
521647	40.65	9.13	9.31	0.168	22.65	8.41	0.05	0.28	0.619	0.13	8.37	99.76	44	568	12	25	48	< 1	199	0.103	0.116	521647	21.94	1.48
521648	36.98	1.28	7.38	0.111	37.37	0.92	< 0.01	< 0.01	0.044	< 0.01	13.86	97.97	8	14	< 1	8	4	< 1	39	0.203	0.254	521648	18.05	0.39
521649	36.85	1.58	8.73	0.102	36.09	0.95	< 0.01	< 0.01	0.098	< 0.01	13.28	97.68	9	15	1	8	6	< 1	47	0.198	0.214	521649		
521650	38.57	1.32	7.97	0.093	36.63	0.26	< 0.01	< 0.01	0.016	< 0.01	12.65	97.52	4	10	< 1	11	3	< 1	50	0.195	0.225	521650	21.84	0.64
521651	37.55	1.17	7.69	0.091	37.40	0.18	< 0.01	< 0.01	0.021	< 0.01	13.40	97.50	5	< 2	< 1	9	4	< 1	43	0.194	0.232	521651	22.65	0.56
521652	34.81	0.38	7.55	0.124	40.64	0.19	< 0.01	< 0.01	0.004	< 0.01	13.64	97.36	5	< 2	< 1	4	< 2	< 1	16	0.219	0.274	521652	18.81	0.30
521653	39.01	1.54	7.77	0.092	37.79	0.06	< 0.01	< 0.01	0.036	< 0.01	12.79	99.11	4	< 2	< 1	9	5	< 1	47	0.203	0.239	521653	20.11	0.76
521654	38.16	1.54	7.25	0.079	37.27	0.19	< 0.01	< 0.01	0.020	< 0.01	13.04	97.55	< 2	< 2	< 1	11	2	< 1	48	0.190	0.213	521654	17.28	0.73
521655	38.17	1.52	7.56	0.081	37.72	0.21	< 0.01	< 0.01	0.020	< 0.01	13.10	98.39	2	< 2	1	11	2	< 1	51	0.182	0.223	521655	22.55	0.91
521656	35.37	0.29	7.90	0.152	40.65	0.28	< 0.01	< 0.01	0.002	< 0.01	12.93	97.57	< 2	< 2	< 1	4	2	< 1	14	0.205	0.216	521656	21.28	0.30
521657	37.48	0.59	7.54	0.111	39.77	0.32	< 0.01	< 0.01	0.006	0.01	13.76	99.61	< 2	< 2	< 1	5	< 2	< 1	28	0.202	0.255	521657	20.40	0.74
521658	39.94	1.59	8.08	0.181	35.51	1.95	0.01	< 0.01	0.022	< 0.01	11.24	98.53	3	3	1	12	2	< 1	56	0.189	0.222	521658	20.81	0.96
521659	39.20	1.56	7.78	0.131	35.66	1.44	0.02	< 0.01	0.019	< 0.01	11.70	97.51	3	2	< 1	11	3	< 1	52	0.201	0.241	521659	25.16	0.87
521660	97.83	0.31	0.54	0.005	0.02	0.02	0.01	0.05	0.028	< 0.01	0.06	98.87	27	4	2	< 1	50	< 1	< 5	< 0.010	< 0.010	521660	99.05	0.29
521661	40.02	1.37	7.52	0.166	35.65	2.15	0.01	< 0.01	0.022	< 0.01	11.18	98.08	3	< 2	< 1	12	4	< 1	54	0.190	0.220	521661	27.09	1.28
521662	40.07	1.83	7.50	0.155	36.41	1.72	0.02	< 0.01	0.020	< 0.01	11.31	99.03	3	< 2	< 1	12	3	< 1	54	0.193	0.222	521662	27.04	0.91
521663	40.32	1.62	7.61	0.160	38.13	1.59	0.02	< 0.01	0.022	< 0.01	11.49	101.0	3	< 2	< 1	11	< 2	< 1	52	0.202	0.225	521663	24.35	1.03
521664	40.58	2.02	7.12	0.110	37.70	1.55	0.02	< 0.01	0.021	0.03	11.74	100.9	4	2	< 1	12	< 2	< 1	53	0.194	0.225	521664	25.60	1.15
521665	39.34	1.65	8.09	0.161	36.81	1.82	0.02	< 0.01	0.021	0.01	11.31	99.23	4	2	< 1	12	< 2	< 1	53	0.194	0.223	521665	23.80	0.88
521666	40.00	1.75	7.69	0.129	37.94	1.37	0.02	< 0.01	0.019	0.02	12.00	100.9	4	2	< 1	9	< 2	< 1	50	0.197	0.215	521666	23.74	1.04

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521667	39.76	1.95	7.96	0.108	36.52	1.80	0.02	< 0.01	0.022	< 0.01	11.66	99.82	4	3	< 1	12	< 2	< 1	55	0.185	0.226	521667	23.60	1.11
521668	39.63	1.85	7.42	0.093	38.78	0.75	0.01	< 0.01	0.017	0.04	12.34	100.9	4	< 2	< 1	10	< 2	< 1	48	0.204	0.230	521668	22.32	1.00
521669	39.63	1.88	8.13	0.103	36.67	1.65	0.02	< 0.01	0.021	0.01	11.79	99.92	4	2	< 1	11	< 2	< 1	53	0.202	0.221	521669	21.62	0.90
521670	39.46	1.83	8.16	0.104	37.93	1.04	0.01	< 0.01	0.021	< 0.01	12.30	100.9	3	< 2	< 1	11	< 2	< 1	53	0.202	0.227	521670	22.36	0.82
521671	40.05	1.89	8.03	0.110	37.11	1.05	0.01	< 0.01	0.020	0.03	11.95	100.2	4	3	< 1	11	< 2	< 1	51	0.198	0.223	521671	14.58	0.63
521672	39.58	1.72	8.18	0.140	36.64	1.41	0.02	< 0.01	0.021	0.03	11.56	99.31	4	3	< 1	11	< 2	< 1	56	0.184	0.219	521672	24.71	1.03
521673	39.23	1.88	8.86	0.121	35.66	1.49	0.01	< 0.01	0.021	< 0.01	11.41	98.70	3	3	< 1	12	< 2	< 1	60	0.204	0.238	521673	20.43	0.90
521674	39.43	1.70	8.07	0.121	36.45	1.40	0.01	< 0.01	0.022	0.02	11.70	98.93	3	2	< 1	12	< 2	< 1	57	0.199	0.229	521674	21.03	0.84
521675	38.89	1.67	9.37	0.123	36.11	1.67	0.02	< 0.01	0.022	0.02	11.53	99.42	3	2	< 1	13	2	< 1	57	0.184	0.223	521675	18.08	0.58
521676	39.15	1.48	8.15	0.121	36.68	1.52	< 0.01	< 0.01	0.021	0.03	12.34	99.50	2	23	< 1	12	< 2	< 1	55	0.208	0.224	521676	17.88	0.53
521677	39.04	1.04	6.91	0.096	36.56	2.93	< 0.01	< 0.01	0.009	0.03	13.66	100.3	5	52	< 1	6	< 2	< 1	25	0.221	0.194	521677	17.75	0.97
521678	38.33	0.93	8.50	0.121	38.80	0.15	< 0.01	< 0.01	0.019	0.02	12.53	99.41	2	< 2	< 1	5	< 2	< 1	26	0.231	0.242	521678	18.41	0.63
521679	40.15	5.43	7.97	0.116	33.67	2.54	0.03	< 0.01	0.212	0.04	10.49	100.6	3	5	2	7	7	< 1	56	0.189	0.193	521679	7.77	1.47
521680.1	49.35	15.64	11.15	0.163	4.77	7.81	2.23	2.73	1.146	0.43	0.82	96.23	708	504	20	26	101	2	334	0.235	1.127	521680	49.28	16.03
521680.2																						521680	36.50	2.41
521680.3																						521680	18.13	0.53
521681	41.74	1.89	7.85	0.122	36.94	0.14	< 0.01	< 0.01	0.021	0.03	11.42	100.2	2	< 2	< 1	11	< 2	< 1	56	0.200	0.221	521681	18.06	1.29
521682	42.84	15.80	13.92	0.227	6.57	12.38	1.62	0.28	1.961	0.16	4.40	100.2	58	289	38	43	113	< 1	431	0.012	0.012	521682		
521683	40.75	2.62	8.08	0.122	34.93	1.96	0.02	< 0.01	0.090	0.04	10.45	99.07	2	< 2	2	13	6	< 1	72	0.190	0.213	521683	11.24	1.10
521684	37.05	2.45	9.42	0.131	36.40	1.23	< 0.01	< 0.01	0.351	0.05	11.61	98.71	3	< 2	5	9	20	< 1	94	0.200	0.227	521684	6.70	0.21
521685	36.18	0.10	8.04	0.100	42.34	0.04	< 0.01	< 0.01	0.004	0.04	12.55	99.39	< 2	< 2	< 1	3	< 2	< 1	13	0.233	0.272	521685	18.20	1.60
521686	36.82	0.07	7.51	0.105	41.70	0.02	< 0.01	< 0.01	0.002	0.03	12.13	98.38	< 2	< 2	< 1	3	< 2	< 1	11	0.233	0.243	521686	6.57	0.33
521687	35.96	0.11	7.25	0.107	42.83	0.03	< 0.01	< 0.01	0.002	0.02	13.09	99.40	< 2	< 2	< 1	4	< 2	< 1	11	0.230	0.249	521687	5.31	0.31
521688	39.05	1.34	7.85	0.085	38.58	0.14	< 0.01	< 0.01	0.014	0.02	12.49	99.57	< 2	< 2	< 1	7	< 2	< 1	41	0.209	0.230	521688	26.55	0.96
521689	38.39	1.01	7.42	0.094	38.51	0.21	< 0.01	< 0.01	0.016	0.01	13.17	98.84	3	< 2	< 1	8	2	< 1	39	0.210	0.209	521689	26.04	0.82
521690	38.40	0.94	8.13	0.161	39.46	0.10	0.03	< 0.01	0.008	0.02	12.00	99.25	< 2	< 2	< 1	8	< 2	< 1	31	0.214	0.221	521690	25.43	0.94
521691	40.48	2.34	7.83	0.084	37.10	0.72	0.10	0.04	0.019	0.03	11.63	100.4	2	< 2	< 1	13	< 2	< 1	59	0.204	0.235	521691	27.82	1.76
521692	40.76	1.61	8.07	0.133	37.26	1.72	0.02	< 0.01	0.021	0.04	9.75	99.40	2	< 2	< 1	12	< 2	< 1	52	0.186	0.222	521692	22.10	1.55
521693	40.55	1.53	7.25	0.137	36.97	1.47	0.02	< 0.01	0.024	0.03	11.17	99.15	2	< 2	< 1	11	< 2	< 1	50	0.189	0.220	521693	25.65	1.21
521694	39.44	1.35	7.71	0.155	36.52	1.15	0.02	< 0.01	0.024	0.02	11.14	97.53	3	< 2	< 1	9	< 2	< 1	46	0.201	0.224	521694	25.12	1.15
521695	39.38	1.30	7.77	0.175	37.09	1.62	0.02	< 0.01	0.024	0.03	10.63	98.03	3	< 2	< 1	10	< 2	< 1	46	0.182	0.219	521695	27.77	1.13
521696	39.91	1.77	7.96	0.102	38.01	0.83	0.04	< 0.01	0.024	0.03	11.68	100.4	2	< 2	< 1	10	< 2	< 1	51	0.208	0.229	521696	26.40	1.45
521697	40.02	1.35	7.75	0.117	38.92	0.78	0.01	< 0.01	0.015	0.02	11.46	100.4	< 2	< 2	< 1	8	< 2	< 1	38	0.213	0.229	521697	24.56	1.25
521698	40.13	1.58	7.86	0.135	37.35	2.20	0.02	< 0.01	0.021	0.03	10.43	99.75	2	< 2	< 1	12	< 2	< 1	55	0.185	0.224	521698	25.29	1.37
521699	38.74	1.89	8.64	0.090	36.61	1.38	0.02	< 0.01	0.022	0.04	11.56	98.98	3	< 2	< 1	12	< 2	< 1	62	0.195	0.228	521699	24.76	1.38
521808	38.68	0.61	7.84	0.115	39.63	0.64	< 0.01	< 0.01	0.003	0.02	11.46	99.01	< 2	< 2	< 1	9	< 2	< 1	31	0.178	0.223	521808	23.47	0.53
521809	38.76	0.62	7.74	0.118	39.65	0.66	< 0.01	< 0.01	0.004	0.02	12.01	99.58	< 2	< 2	< 1	9	2	< 1	33	0.210	0.222	521809	23.22	0.78
521810	38.98	0.65	7.86	0.117	40.47	0.59	< 0.01	< 0.01	0.004	0.01	11.41	100.1	< 2	< 2	< 1	9	< 2	< 1	36	0.216	0.228	521810	23.56	0.94
521811	38.42	0.64	7.73	0.108	39.59	0.67	< 0.01	< 0.01	0.004	0.02	12.41	99.58	< 2	< 2	< 1	9	4	< 1	38	0.232	0.236	521811	24.04	0.74
521812	37.91	0.65	7.85	0.118	39.19	0.75	< 0.01	< 0.01	0.004	0.02	12.35	98.85	< 2	< 2	< 1	8	< 2	< 1	34	0.189	0.242	521812	24.03	0.93
521813	38.04	0.57	7.81	0.122	39.44	0.61	< 0.01	< 0.01	0.004	0.02	12.75	99.38	2	< 2	< 1	9	< 2	< 1	34	0.202	0.223	521813	26.04	0.93
521814	37.35	0.66	7.78	0.102	39.27	0.57	< 0.01	< 0.01	0.005	< 0.01	12.64	98.40	< 2	< 2	< 1	9	2	< 1	37	0.205	0.227	521814	24.57	0.73
521815	36.93	0.61	7.92	0.111	39.74	0.62	< 0.01	< 0.01	0.004	< 0.01	12.30	98.22	< 2	< 2	< 1	10	8	< 1	37	0.195	0.245	521815	26.56	0.90
521816	37.27	0.69	7.69	0.108	39.22	0.99	< 0.01	< 0.01	0.005	0.01	13.32	99.31	2	< 2	2	8	2	< 1	39	0.180	0.252	521816	27.87	0.84
521817	37.56	0.63	7.86	0.133	39.23	1.31	< 0.01	< 0.01	0.004	0.01	12.72	99.45	3	< 2	< 1	9	< 2	< 1	39	0.197	0.269	521817	27.83	0.76
521818	67.24	11.87	5.06	0.080	2.74	1.28	0.75	3.43	0.632	0.15	6.34	99.57	1901	40	24	13	105	2	187	< 0.010	0.011	521818		
521819	66.01	7.15	3.84	0.092	2.06	8.30	0.66	1.65	0.732	0.17	8.31	98.97	1224	275	15	10	102	1	101	0.011	< 0.010	521819		
521820.1	49.41	16.21	11.27	0.163	4.85	7.54	2.32	2.84	1.184	0.42	0.79	97.00	720	522	20	26	99	2	334	0.232	1.117	521820	49.45	16.12
521820.2																						521820	36.48	2.36
521820.3																						521820	18.42	0.50
521821	63.83	8.89	5.38	0.182	2.95	6.29	0.36	2.32	0.591	0.36	9.11	100.3	1846	113	25	14	81	2	174	0.012	0.010	521821		

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521822	73.79	7.71	4.70	0.104	3.32	2.43	0.73	1.35	0.526	0.19	4.79	99.62	1096	64	17	14	69	1	112	0.013	0.012	521822		
521823	63.66	10.73	8.03	0.111	2.84	4.46	3.12	0.32	1.278	0.24	5.22	100.0	294	138	19	20	100	< 1	194	0.010	0.014	521823		
521824	64.93	9.48	6.24	0.149	2.97	4.69	1.34	1.78	1.544	0.27	6.44	99.85	1082	115	21	15	133	1	172	0.012	< 0.010	521824		
521825	72.52	7.19	4.17	0.083	2.28	4.47	1.21	1.56	0.663	0.11	5.53	99.78	1081	148	13	11	73	1	95	0.010	< 0.010	521825		
521826	33.30	15.17	12.24	0.218	17.80	6.56	0.03	1.08	2.192	0.43	10.77	99.79	1838	109	37	28	191	2	259	0.067	0.078	521826		
521827	80.18	6.71	3.00	0.064	1.46	0.57	0.36	2.13	0.324	0.04	3.54	98.38	1368	20	13	9	57	1	68	< 0.010	< 0.010	521827		
522663	38.43	1.76	8.13	0.130	37.27	1.85	0.03	0.01	0.028	< 0.01	11.52	99.14	9	< 2	< 1	12	4	< 1	57	0.163	0.259	522663	12.52	0.57
522664	36.99	0.67	8.23	0.160	40.58	0.28	< 0.01	< 0.01	0.006	< 0.01	12.52	99.45	2	< 2	< 1	9	2	< 1	31	0.197	0.238	522664	13.17	0.65
522665	38.60	1.10	8.85	0.142	39.01	0.49	0.02	0.01	0.014	0.03	12.14	100.4	3	< 2	< 1	9	3	< 1	46	0.185	0.253	522665	13.86	0.63
522666	38.55	1.48	9.21	0.091	38.39	0.62	< 0.01	< 0.01	0.018	< 0.01	12.19	100.6	3	< 2	1	12	2	< 1	58	0.199	0.263	522666	14.45	0.47
522667	38.28	1.28	8.54	0.166	37.47	1.80	0.01	< 0.01	0.020	< 0.01	10.63	98.20	4	< 2	< 1	12	< 2	< 1	54	0.160	0.237	522667	13.84	0.49
522668	39.30	1.70	8.21	0.066	37.90	1.07	0.01	< 0.01	0.020	< 0.01	11.97	100.3	3	< 2	< 1	12	3	< 1	56	0.191	0.262	522668	16.61	0.59
522669	39.95	1.69	8.39	0.136	37.91	1.67	0.02	< 0.01	0.023	0.02	10.79	100.6	3	2	1	12	3	< 1	58	0.233	0.246	522669	15.38	0.72
522670	38.75	2.18	8.96	0.075	37.14	0.94	0.01	< 0.01	0.024	0.02	12.13	100.2	3	3	< 1	11	< 2	< 1	60	0.187	0.237	522670	13.73	0.73
522671	39.35	1.12	7.16	0.096	39.15	0.10	< 0.01	< 0.01	0.008	0.02	12.33	99.36	3	< 2	< 1	6	3	< 1	26	0.192	0.255	522671	9.60	0.60
522672	39.72	1.38	6.42	0.080	40.21	0.16	< 0.01	< 0.01	0.015	< 0.01	12.34	100.3	< 2	< 2	1	7	3	< 1	38	0.218	0.165	522672	17.78	1.36
522673	39.17	2.33	7.21	0.068	38.91	0.47	< 0.01	< 0.01	0.021	0.03	12.45	100.7	2	2	< 1	11	2	< 1	57	0.174	0.228	522673	12.79	1.33
522674	38.87	2.05	8.89	0.112	36.86	1.54	0.02	< 0.01	0.024	< 0.01	11.70	100.1	3	4	1	14	< 2	< 1	62	0.192	0.256	522674	13.90	1.16
522675	38.62	2.05	9.54	0.112	35.88	1.56	0.02	< 0.01	0.038	0.02	11.51	99.34	5	4	< 1	14	2	< 1	63	0.194	0.253	522675	11.31	0.76
522676	39.28	1.38	8.36	0.130	38.36	0.65	0.01	< 0.01	0.017	< 0.01	11.31	99.50	2	< 2	< 1	11	3	< 1	50	0.182	0.247	522676	12.62	0.52
522677	39.55	2.72	10.59	0.184	34.24	2.05	0.31	0.04	0.467	0.04	9.73	99.92	5	98	9	19	27	< 1	133	0.177	0.225	522677	17.22	0.74
522678	37.20	0.86	8.50	0.115	40.18	0.07	< 0.01	< 0.01	0.015	0.02	12.75	99.72	< 2	< 2	< 1	8	3	< 1	39	0.202	0.258	522678	14.48	0.52
522679	37.03	0.83	8.46	0.116	39.92	0.07	< 0.01	< 0.01	0.014	0.01	12.88	99.35	2	< 2	< 1	8	2	< 1	36	0.213	0.267	522679	12.58	0.48
522680	99.12	0.31	0.72	0.008	0.04	0.02	0.02	0.04	0.031	< 0.01	0.14	100.4	24	4	1	< 1	57	< 1	6	< 0.010	< 0.010	522680	98.53	0.22
522681	38.51	1.12	9.44	0.161	39.33	0.73	0.01	< 0.01	0.014	< 0.01	11.42	100.7	< 2	< 2	2	12	< 2	< 1	47	0.202	0.258	522681	12.87	0.58
522682	38.58	1.57	8.64	0.093	38.46	0.38	< 0.01	< 0.01	0.022	0.01	12.52	100.3	4	< 2	1	11	3	< 1	53	0.179	0.246	522682	12.65	0.60
522683	38.92	1.27	8.62	0.127	38.32	0.50	< 0.01	< 0.01	0.017	0.02	11.99	99.78	4	< 2	< 1	10	< 2	< 1	44	0.193	0.238	522683	15.48	0.61
522684	38.13	1.00	8.62	0.117	39.66	0.13	< 0.01	< 0.01	0.009	< 0.01	11.69	99.38	< 2	< 2	< 1	8	2	< 1	33	0.208	0.235	522684	15.23	0.57
522685	38.37	1.29	8.38	0.159	37.54	1.48	0.02	< 0.01	0.019	< 0.01	11.54	98.80	< 2	< 2	< 1	13	3	< 1	54	0.204	0.242	522685	13.78	0.84
522686	38.78	1.74	8.49	0.135	37.33	1.86	0.02	< 0.01	0.021	0.01	11.28	99.68	< 2	< 2	2	14	2	< 1	59	0.186	0.250	522686	13.29	0.73
522687	39.44	1.62	7.91	0.126	37.63	1.76	0.02	< 0.01	0.020	0.03	11.72	100.3	< 2	< 2	1	11	3	< 1	55	0.173	0.247	522687	14.14	0.75
522688	39.05	1.87	7.86	0.094	36.84	1.84	0.02	< 0.01	0.022	< 0.01	11.76	99.35	< 2	< 2	1	13	< 2	< 1	59	0.209	0.241	522688	14.14	0.63
522689	39.18	1.59	8.68	0.129	38.34	2.05	0.02	< 0.01	0.021	< 0.01	10.35	100.4	< 2	< 2	< 1	12	2	< 1	56	0.167	0.248	522689	13.00	0.67
522690	39.50	1.28	7.90	0.128	38.53	1.08	0.01	< 0.01	0.015	< 0.01	11.79	100.2	< 2	< 2	< 1	11	2	< 1	44	0.194	0.237	522690	12.68	0.43
523382	38.64	0.77	8.47	0.153	39.91	0.83	< 0.01	< 0.01	0.005	< 0.01	11.12	99.91	< 2	< 2	< 1	10	2	< 1	38	0.209	0.257	523382	16.85	0.40
523383	38.04	0.73	8.06	0.108	40.45	0.42	< 0.01	< 0.01	0.006	< 0.01	11.60	99.41	< 2	< 2	< 1	9	2	< 1	38	0.217	0.246	523383	15.34	0.52
523384	37.61	0.82	8.46	0.136	37.96	0.52	< 0.01	< 0.01	0.006	0.01	12.30	97.84	< 2	< 2	< 1	11	2	< 1	42	0.199	0.254	523384	15.81	0.45
523385	36.32	0.73	7.67	0.113	38.87	0.64	< 0.01	< 0.01	0.006	< 0.01	13.42	97.78	< 2	< 2	< 1	10	2	< 1	35	0.204	0.254	523385	17.48	0.41
523386	39.13	0.97	8.15	0.131	37.19	0.69	< 0.01	< 0.01	0.009	< 0.01	12.32	98.60	< 2	< 2	< 1	9	3	< 1	40	0.185	0.240	523386	17.64	0.46
523387	38.95	0.96	7.06	0.070	38.02	0.13	< 0.01	< 0.01	0.006	< 0.01	12.47	97.66	3	< 2	< 1	7	4	< 1	35	0.212	0.247	523387	10.94	1.06
523388	38.37	0.78	8.19	0.133	37.79	0.75	< 0.01	< 0.01	0.006	0.01	12.04	98.08	< 2	< 2	< 1	11	2	< 1	41	0.198	0.241	523388	15.65	0.45
523389	39.34	0.88	8.19	0.124	39.17	0.95	< 0.01	< 0.01	0.007	0.02	11.71	100.4	< 2	< 2	< 1	12	2	< 1	43	0.181	0.258	523389	15.23	0.60
523390	38.54	0.84	8.18	0.125	37.87	0.98	< 0.01	< 0.01	0.006	0.03	12.73	99.31	< 2	< 2	< 1	10	< 2	< 1	41	0.191	0.232	523390	17.05	0.51
523391	38.88	0.78	8.08	0.136	38.53	1.48	0.01	< 0.01	0.007	0.03	11.99	99.93	< 2	< 2	< 1	10	< 2	< 1	42	0.218	0.225	523391	14.61	0.39
523392	39.12	1.10	8.52	0.091	38.19	0.74	0.01	< 0.01	0.007	0.03	12.47	100.3	< 2	< 2	< 1	10	< 2	< 1	46	0.224	0.243	523392	13.73	0.46
523403	38.89	0.96	7.78	0.099	36.86	1.78	< 0.01	< 0.01	0.006	0.02	13.41	99.82	< 2	< 2	< 1	10	< 2	< 1	50	0.212	0.188	523403	20.07	0.59
523404	37.80	0.69	8.51	0.136	38.08	0.75	< 0.01	< 0.01	0.006	0.09	12.81	98.87	< 2	< 2	< 1	10	2	< 1	38	0.213	0.238	523404	18.43	0.32
523405	39.53	0.76	7.76	0.133	41.38	0.20	< 0.01	< 0.01	0.004	0.04	10.79	100.6	< 2	< 2	< 1	10	< 2	< 1	36	0.186	0.227	523405	20.64	0.69
523406	38.23	0.69	7.99	0.120	38.05	0.65	< 0.01	< 0.01	0.005	0.03	12.78	98.55	< 2	< 2	< 1	11	3	< 1	39	0.206	0.230	523406	16.90	0.34
523407	37.92	0.64	7.69	0.132	38.26	0.87	< 0.01	< 0.01	0.004	0.03	12.95	98.51	< 2	< 2	< 1	9	< 2	< 1	35	0.167	0.232	523407	18.14	0.25
523408	37.45	0.80	7.45	0.102	37.57	1.63	< 0.01	< 0.01	0.007	0.03	13.77	98.81	< 2	< 2	< 1	8	< 2	< 1	38	0.195	0.212	523408	20.28	0.27

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
523409	37.42	0.76	8.00	0.113	39.60	0.30	< 0.01	< 0.01	0.005	0.02	12.97	99.20	< 2	< 2	< 1	9	< 2	< 1	36	0.210	0.231	523409	18.91	0.54
523410	39.09	0.80	7.56	0.114	38.66	0.84	< 0.01	< 0.01	0.004	0.04	11.46	98.58	< 2	< 2	< 1	9	3	< 1	39	0.181	0.217	523410	22.24	0.54
523411	38.87	0.71	7.52	0.123	38.88	0.62	< 0.01	< 0.01	0.004	0.01	11.64	98.39	< 2	< 2	< 1	9	< 2	< 1	34	0.182	0.218	523411	18.44	0.56
523412	39.25	1.02	7.96	0.100	37.75	0.07	< 0.01	< 0.01	0.009	0.05	13.07	99.29	< 2	< 2	< 1	10	< 2	< 1	39	0.206	0.223	523412	11.64	0.56
523423	39.37	0.75	7.73	0.109	37.44	0.37	< 0.01	< 0.01	0.005	0.03	12.29	98.10	< 2	< 2	< 1	10	3	< 1	37	0.202	0.217	523423	16.52	0.41
523424	38.07	0.83	8.22	0.097	38.72	0.12	< 0.01	< 0.01	0.006	0.02	13.87	99.97	< 2	< 2	< 1	8	2	< 1	33	0.193	0.211	523424	16.61	0.33
523425	38.71	0.67	7.69	0.111	37.80	0.88	< 0.01	< 0.01	0.005	0.02	13.45	99.35	< 2	< 2	< 1	11	< 2	< 1	37	0.162	0.226	523425	19.45	0.57
523426	39.69	0.66	7.66	0.121	39.86	0.52	< 0.01	< 0.01	0.005	0.01	12.43	101.0	< 2	< 2	< 1	8	< 2	< 1	35	0.194	0.216	523426	19.47	0.51
523427	38.77	0.67	8.20	0.120	39.41	0.58	< 0.01	< 0.01	0.004	0.02	13.18	101.0	< 2	< 2	< 1	10	< 2	< 1	39	0.196	0.229	523427	18.02	0.47
523428	38.64	0.66	7.70	0.112	38.73	0.72	< 0.01	< 0.01	0.004	0.03	13.14	99.74	< 2	< 2	< 1	9	2	< 1	38	0.186	0.216	523428	21.18	0.41
523429	38.48	0.72	7.94	0.106	38.67	0.35	< 0.01	< 0.01	0.006	0.04	13.02	99.35	< 2	< 2	< 1	9	< 2	< 1	34	0.178	0.238	523429	18.80	0.43
523430	39.07	0.69	7.73	0.133	38.31	0.81	< 0.01	< 0.01	0.004	0.03	12.84	99.63	< 2	< 2	< 1	10	< 2	< 1	37	0.189	0.237	523430	19.70	0.38
523431	38.14	0.69	8.15	0.132	38.29	0.68	< 0.01	< 0.01	0.004	< 0.01	12.93	99.04	< 2	< 2	< 1	11	< 2	< 1	39	0.187	0.233	523431	20.63	0.26
523432	37.48	0.60	7.85	0.144	37.02	1.16	< 0.01	< 0.01	0.004	0.03	13.37	97.68	< 2	< 2	< 1	10	3	< 1	38	0.186	0.226	523432	23.22	0.22
523433	38.14	0.75	6.97	0.095	38.63	0.48	< 0.01	< 0.01	0.004	0.04	12.79	97.91	3	< 2	< 1	11	< 2	< 1	39	0.205	0.210	523433	17.60	0.30
523434	38.01	0.68	7.88	0.124	38.28	0.86	< 0.01	< 0.01	0.004	0.03	13.02	98.90	< 2	< 2	< 1	9	< 2	< 1	37	0.190	0.220	523434	21.21	0.38
523435	38.18	0.66	8.11	0.129	38.18	0.78	< 0.01	< 0.01	0.004	< 0.01	12.72	98.78	< 2	< 2	< 1	10	< 2	< 1	37	0.191	0.230	523435	18.64	0.44
523436	37.88	0.78	7.39	0.099	37.67	0.96	< 0.01	< 0.01	0.004	0.02	13.18	98.00	< 2	< 2	< 1	8	< 2	< 1	44	0.183	0.229	523436	19.42	0.42
523437	38.52	0.61	7.35	0.104	37.86	0.49	< 0.01	< 0.01	0.003	0.03	12.92	97.91	< 2	< 2	< 1	8	3	< 1	36	0.205	0.214	523437	19.16	0.52
523438	38.88	0.71	7.77	0.101	39.54	0.48	< 0.01	< 0.01	0.004	0.02	12.95	100.5	< 2	< 2	< 1	9	< 2	< 1	36	0.209	0.238	523438	16.71	0.42
523439	39.10	0.77	7.64	0.102	38.92	0.57	< 0.01	< 0.01	0.004	0.02	12.86	99.99	< 2	< 2	< 1	10	7	< 1	37	0.179	0.226	523439	19.19	0.39
523440.1	49.51	16.16	11.04	0.162	4.84	7.55	2.32	2.89	1.165	0.41	0.80	96.85	724	518	20	26	101	2	331	0.227	1.110	523440	49.43	16.13
523440.2																						523440	36.40	2.45
523440.3																						523440	18.34	0.49
523441	38.66	0.83	7.02	0.097	37.94	0.90	< 0.01	< 0.01	0.004	0.01	13.38	98.85	< 2	< 2	< 1	9	< 2	< 1	38	0.194	0.219	523441	18.94	0.47
523442	37.78	0.95	8.77	0.086	37.63	1.06	< 0.01	< 0.01	0.005	0.02	13.26	99.57	< 2	< 2	< 1	9	< 2	< 1	45	0.212	0.226	523442	16.61	0.59
523443	37.59	0.76	8.53	0.115	38.61	1.03	< 0.01	< 0.01	0.004	0.01	13.56	100.2	< 2	< 2	< 1	10	2	< 1	37	0.209	0.236	523443	16.34	0.32
523444	38.35	0.83	7.06	0.097	38.38	1.03	< 0.01	< 0.01	0.004	0.02	13.81	99.58	2	< 2	< 1	9	< 2	< 1	42	0.223	0.240	523444	17.54	0.32
523445	37.34	0.77	7.82	0.080	38.41	0.33	< 0.01	< 0.01	0.004	0.03	12.68	97.46	< 2	< 2	< 1	7	3	< 1	35	0.204	0.254	523445	17.70	0.50
523446	37.32	0.72	7.42	0.101	38.60	0.84	< 0.01	< 0.01	0.004	0.02	13.41	98.45	< 2	< 2	< 1	10	< 2	< 1	36	0.191	0.250	523446	17.36	0.46
523447	36.97	0.54	8.28	0.124	38.62	0.56	< 0.01	< 0.01	0.004	0.03	13.26	98.40	< 2	< 2	< 1	9	< 2	< 1	29	0.200	0.202	523447	19.33	0.30
523448	37.41	0.71	8.06	0.119	38.09	1.23	< 0.01	< 0.01	0.005	< 0.01	14.09	99.73	3	< 2	< 1	11	3	< 1	42	0.186	0.239	523448	19.87	0.43
523449	37.62	0.74	7.36	0.103	38.59	0.99	< 0.01	< 0.01	0.004	< 0.01	13.99	99.40	< 2	< 2	< 1	10	2	< 1	39	0.192	0.219	523449	18.00	0.37
523450	37.37	0.72	8.03	0.103	38.62	0.84	< 0.01	< 0.01	0.005	< 0.01	14.21	99.91	< 2	< 2	< 1	9	< 2	< 1	39	0.197	0.247	523450	16.25	0.51
523451	36.84	0.91	7.48	0.106	39.11	0.88	< 0.01	< 0.01	0.005	< 0.01	15.02	100.4	< 2	< 2	< 1	7	< 2	< 1	38	0.206	0.205	523451	15.95	0.43
523452	35.74	0.69	7.80	0.089	36.22	0.64	0.03	< 0.01	0.004	< 0.01	18.89	100.1	< 2	< 2	< 1	9	< 2	< 1	36	0.190	0.221	523452	12.00	0.28
523453	35.46	0.77	7.05	0.095	37.50	0.93	0.01	< 0.01	0.004	0.02	18.41	100.2	< 2	< 2	< 1	8	< 2	< 1	37	0.199	0.212	523453	10.80	0.18
523454	36.59	0.68	8.32	0.137	37.57	1.81	< 0.01	< 0.01	0.005	< 0.01	14.68	99.80	2	< 2	< 1	10	< 2	< 1	42	0.189	0.254	523454	20.62	0.17
546123	38.17	0.68	8.33	0.119	38.83	0.70	< 0.01	< 0.01	0.004	0.01	11.20	98.05	< 2	< 2	< 1	10	2	< 1	42	0.190	0.247	546123	13.44	0.41
546124	39.04	0.51	8.36	0.142	40.25	0.25	< 0.01	< 0.01	0.004	< 0.01	9.59	98.14	< 2	< 2	< 1	10	2	< 1	34	0.199	0.242	546124	17.31	0.69
546125	37.52	0.66	8.63	0.140	38.57	0.54	< 0.01	< 0.01	0.005	< 0.01	12.35	98.43	< 2	< 2	< 1	9	< 2	< 1	39	0.194	0.228	546125	24.95	0.43
546126	38.13	0.73	8.56	0.103	39.72	0.14	< 0.01	< 0.01	0.005	0.02	12.54	99.95	< 2	< 2	< 1	10	3	< 1	36	0.217	0.236	546126	22.87	0.69
546127	40.37	3.67	8.60	0.132	33.01	4.28	0.40	0.04	0.297	0.03	9.85	100.7	2	14	6	16	19	< 1	102	0.168	0.193	546127	17.36	1.18
546128	38.78	0.76	8.27	0.161	39.81	0.06	< 0.01	< 0.01	0.005	< 0.01	12.19	100.1	< 2	< 2	< 1	10	< 2	< 1	36	0.193	0.227	546128	21.28	0.60
546129	38.27	0.67	9.02	0.131	40.04	0.40	< 0.01	< 0.01	0.005	0.01	12.08	100.6	< 2	< 2	< 1	9	2	< 1	36	0.199	0.222	546129	21.61	0.43
546130	38.29	0.67	8.36	0.140	40.06	0.62	< 0.01	< 0.01	0.005	< 0.01	11.85	100.0	< 2	< 2	< 1	9	2	< 1	36	0.202	0.229	546130	20.65	0.81
546131	38.24	0.79	8.31	0.104	39.34	0.71	< 0.01	< 0.01	0.005	< 0.01	12.57	100.1	< 2	< 2	< 1	9	3	< 1	43	0.196	0.241	546131	26.40	0.51
546132	38.19	0.67	7.68	0.133	39.69	0.48	< 0.01	< 0.01	0.004	< 0.01	12.07	98.94	< 2	< 2	< 1	10	< 2	< 1	37	0.197	0.226	546132	24.00	0.57
546133	38.74	0.74	7.91	0.114	39.83	0.38	< 0.01	< 0.01	0.004	< 0.01	12.24	99.98	< 2	< 2	< 1	9	< 2	< 1	35	0.197	0.229	546133	21.64	0.58
546134	38.77	0.75	8.27	0.131	39.96	0.19	< 0.01	< 0.01	0.004	< 0.01	12.24	100.3	< 2	< 2	< 1	9	< 2	< 1	37	0.206	0.213	546134	20.45	0.62
546135	38.46	0.73	8.41	0.132	39.27	0.22	< 0.01	< 0.01	0.004	< 0.01	12.09	99.33	< 2	< 2	< 1	9	< 2	< 1	36	0.211	0.218	546135	20.80	0.50

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
546136	40.03	1.01	8.01	0.095	39.01	0.19	< 0.01	< 0.01	0.005	< 0.01	11.82	100.2	< 2	< 2	< 1	10	2	< 1	42	0.213	0.234	546136	13.67	0.75
546137	37.62	11.97	9.44	0.167	15.74	15.39	0.84	0.18	0.941	0.05	8.35	100.7	20	79	19	29	56	< 1	231	0.056	0.075	546137	31.55	1.73
546138	40.31	0.88	8.01	0.112	39.31	0.26	< 0.01	< 0.01	0.006	< 0.01	11.78	100.7	< 2	< 2	< 1	10	< 2	< 1	42	0.208	0.287	546138	15.43	0.78
546139	38.40	0.76	8.68	0.131	39.72	0.69	< 0.01	< 0.01	0.005	0.01	12.37	100.8	< 2	< 2	< 1	10	3	< 1	39	0.199	0.230	546139	24.42	0.43
546140	99.18	0.34	0.81	0.007	0.23	0.03	0.03	0.05	0.031	0.01	0.19	100.9	24	5	2	< 1	55	< 1	7	< 0.010	< 0.010	546140	98.78	0.25
546141	37.57	0.60	8.49	0.133	39.85	0.91	< 0.01	< 0.01	0.004	0.01	12.67	100.3	< 2	< 2	< 1	9	2	< 1	38	0.196	0.238	546141	19.13	0.47
546142	38.32	0.42	8.31	0.146	41.62	0.45	< 0.01	< 0.01	0.003	0.01	11.47	100.8	< 2	< 2	< 1	9	3	< 1	32	0.207	0.226	546142	17.32	0.96
546143	38.61	0.80	7.94	0.102	39.32	0.80	< 0.01	< 0.01	0.005	0.01	12.85	100.4	< 2	< 2	< 1	9	2	< 1	43	0.208	0.231	546143	18.91	0.40
546144	38.25	0.87	8.41	0.106	39.95	0.73	< 0.01	< 0.01	0.005	< 0.01	12.39	100.7	< 2	< 2	< 1	10	2	< 1	42	0.180	0.238	546144	16.40	0.43
546145	37.76	0.56	8.64	0.151	39.02	0.73	< 0.01	< 0.01	0.004	< 0.01	12.52	99.40	< 2	< 2	< 1	8	2	< 1	34	0.193	0.206	546145	16.93	0.25
546146	38.12	0.76	8.21	0.100	39.06	0.49	< 0.01	< 0.01	0.004	< 0.01	12.51	99.26	< 2	< 2	< 1	9	< 2	< 1	42	0.204	0.247	546146	19.00	0.34
546147	38.71	0.73	7.81	0.120	39.34	0.86	< 0.01	< 0.01	0.005	< 0.01	13.30	100.9	< 2	< 2	< 1	10	< 2	< 1	40	0.200	0.236	546147	17.36	0.25
546148	38.28	0.64	8.22	0.112	39.70	0.64	< 0.01	< 0.01	0.004	< 0.01	13.11	100.7	< 2	< 2	< 1	9	< 2	< 1	36	0.194	0.227	546148	17.38	0.36
546149	38.67	0.63	7.93	0.116	39.03	0.84	< 0.01	< 0.01	0.004	< 0.01	13.68	100.9	< 2	< 2	< 1	9	< 2	< 1	37	0.192	0.213	546149	18.20	0.35
546150	37.73	0.57	8.11	0.123	38.84	0.54	< 0.01	< 0.01	0.004	< 0.01	13.27	99.18	< 2	< 2	< 1	8	< 2	< 1	31	0.183	0.232	546150	19.51	0.43
546151	37.99	0.64	8.22	0.124	38.90	1.42	< 0.01	< 0.01	0.004	< 0.01	13.24	100.5	< 2	< 2	< 1	9	< 2	< 1	39	0.183	0.245	546151	18.10	0.37
546152	38.05	0.77	7.05	0.098	38.62	1.09	< 0.01	< 0.01	0.004	< 0.01	14.13	99.81	< 2	< 2	< 1	8	< 2	< 1	35	0.204	0.217	546152	16.58	0.41
546153	38.18	0.84	7.46	0.100	38.70	0.54	< 0.01	< 0.01	0.005	< 0.01	13.52	99.35	< 2	< 2	< 1	9	2	< 1	39	0.195	0.257	546153	20.03	0.71
546154	38.33	0.76	7.26	0.098	40.12	0.51	< 0.01	< 0.01	0.005	< 0.01	13.53	100.6	< 2	< 2	< 1	8	2	< 1	35	0.201	0.218	546154	18.83	0.50
546155	38.22	0.73	7.43	0.105	39.77	0.73	< 0.01	< 0.01	0.005	0.01	13.52	100.5	< 2	< 2	< 1	9	< 2	< 1	34	0.222	0.214	546155	21.93	0.71
546156	38.06	0.73	7.56	0.103	39.36	0.99	< 0.01	< 0.01	0.005	0.01	13.78	100.6	< 2	< 2	< 1	8	< 2	< 1	33	0.190	0.215	546156	16.77	0.33
546157	37.85	0.68	7.72	0.110	39.58	0.95	< 0.01	< 0.01	0.003	0.02	13.77	100.7	< 2	< 2	< 1	10	< 2	< 1	36	0.239	0.225	546157	14.67	0.42
546158	37.72	0.64	8.44	0.118	39.82	0.22	< 0.01	< 0.01	0.004	0.02	13.68	100.7	< 2	< 2	< 1	8	2	< 1	33	0.205	0.232	546158	16.84	0.36
546159	37.92	0.65	8.08	0.114	39.89	0.39	0.02	< 0.01	0.005	0.02	13.56	100.6	< 2	< 2	< 1	9	2	< 1	32	0.206	0.232	546159	8.38	0.41
546160.1	49.94	16.43	11.18	0.165	4.87	7.66	2.34	2.88	1.181	0.41	0.72	97.79	726	525	20	26	100	2	336	0.230	1.120	546160	49.50	16.19
546160.2																						546160	36.53	2.46
546160.3																						546160	18.17	0.51
546161	37.92	0.66	7.79	0.107	38.82	0.55	0.01	< 0.01	0.003	< 0.01	13.60	99.47	< 2	< 2	< 1	9	4	< 1	39	0.178	0.257	546161	7.29	0.40
546162	37.64	0.63	7.78	0.116	38.36	1.90	< 0.01	< 0.01	0.006	< 0.01	14.30	100.8	< 2	< 2	< 1	7	< 2	< 1	32	0.175	0.261	546162	10.53	0.40
546163	37.73	0.75	7.94	0.109	39.99	0.51	< 0.01	< 0.01	0.004	< 0.01	13.35	100.4	< 2	< 2	< 1	10	2	< 1	45	0.159	0.272	546163	14.05	0.44
546164	37.97	0.67	7.78	0.107	39.32	1.08	< 0.01	< 0.01	0.004	< 0.01	13.65	100.6	< 2	< 2	< 1	9	3	< 1	39	0.169	0.253	546164	13.46	0.46
546165	38.54	0.74	8.00	0.080	38.94	1.10	< 0.01	< 0.01	0.004	< 0.01	13.38	100.8	< 2	< 2	< 1	8	2	< 1	42	0.193	0.247	546165	11.19	0.24
546166	38.65	0.65	7.79	0.126	39.39	0.92	< 0.01	< 0.01	0.005	< 0.01	12.28	99.83	< 2	< 2	< 1	9	2	< 1	38	0.200	0.229	546166	8.48	0.21
546167	38.43	0.67	7.85	0.130	39.91	0.83	< 0.01	< 0.01	0.004	0.01	12.26	100.1	< 2	< 2	< 1	9	2	< 1	38	0.186	0.215	546167	9.05	0.23
546168	38.00	0.61	8.27	0.131	39.60	0.64	< 0.01	< 0.01	0.005	< 0.01	12.61	99.87	< 2	< 2	< 1	9	2	< 1	39	0.171	0.276	546168	14.20	0.47
546169	38.33	0.76	8.27	0.087	39.23	0.28	< 0.01	< 0.01	0.005	< 0.01	12.84	99.81	6	3	< 1	7	2	< 1	36	0.186	0.239	546169	12.67	0.26
546170	38.58	0.73	7.75	0.086	38.83	0.53	< 0.01	< 0.01	0.005	< 0.01	12.94	99.47	< 2	< 2	< 1	9	2	< 1	41	0.195	0.238	546170	12.06	0.31
546171	38.25	0.64	7.81	0.117	39.35	0.87	< 0.01	< 0.01	0.004	< 0.01	12.30	99.35	< 2	< 2	< 1	9	2	< 1	41	0.155	0.242	546171	14.20	0.50
546172	37.19	0.70	8.11	0.094	38.63	0.79	< 0.01	< 0.01	0.004	< 0.01	12.73	98.26	< 2	< 2	< 1	10	2	< 1	40	0.167	0.247	546172	16.42	0.53
546173	37.73	0.67	8.11	0.106	37.46	0.92	< 0.01	< 0.01	0.004	< 0.01	12.98	97.99	< 2	< 2	< 1	9	2	< 1	41	0.202	0.283	546173	12.96	0.36
546174	38.80	0.71	7.89	0.101	39.14	0.62	< 0.01	< 0.01	0.004	< 0.01	12.72	100.0	< 2	< 2	< 1	10	3	< 1	41	0.189	0.254	546174	16.55	0.40
546175	38.02	0.71	7.86	0.102	38.69	0.69	< 0.01	< 0.01	0.005	< 0.01	12.45	98.55	< 2	< 2	< 1	9	3	< 1	47	0.179	0.246	546175	14.30	0.38
546176	38.12	0.71	7.51	0.088	38.54	0.59	< 0.01	< 0.01	0.004	< 0.01	12.99	98.56	< 2	< 2	< 1	9	< 2	< 1	38	0.188	0.250	546176	16.60	0.53
546177	38.56	0.72	7.51	0.104	38.79	0.65	< 0.01	< 0.01	0.006	< 0.01	11.98	98.32	10	< 2	< 1	9	2	< 1	41	0.186	0.260	546177	21.75	0.52
546178	38.18	0.61	7.82	0.126	39.76	0.69	< 0.01	< 0.01	0.004	< 0.01	12.32	99.51	4	< 2	< 1	9	2	< 1	36	0.182	0.257	546178	24.80	0.69
546179	37.94	0.69	7.28	0.086	39.28	0.53	< 0.01	< 0.01	0.004	< 0.01	12.16	97.98	2	< 2	< 1	9	2	< 1	39	0.165	0.242	546179	24.22	0.60
546180	100.0	0.29	0.38	0.003	0.03	0.02	< 0.01	0.04	0.033	< 0.01	0.06	100.9	26	4	1	< 1	48	< 1	6	< 0.010	< 0.010	546180	98.92	0.29
546181	38.06	0.67	7.96	0.077	39.49	0.39	< 0.01	< 0.01	0.004	< 0.01	12.76	99.40	3	< 2	< 1	9	2	< 1	40	0.183	0.254	546181	25.57	0.53
546182	38.53	0.71	7.49	0.082	38.71	0.33	< 0.01	< 0.01	0.005	< 0.01	13.03	98.89	2	< 2	< 1	7	4	< 1	37	0.204	0.284	546182	25.67	0.41
546183	37.59	0.58	7.79	0.097	38.25	0.66	< 0.01	< 0.01	0.004	< 0.01	12.80	97.77	< 2	< 2	< 1	8	3	< 1	36	0.178	0.251	546183	23.21	0.32
546184	38.00	0.71	8.55	0.091	39.03	0.57	< 0.01	< 0.01	0.004	0.02	12.27	99.24	< 2	< 2	< 1	9	3	< 1	38	0.204	0.242	546184	21.81	0.37

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
546185	39.26	0.66	7.16	0.095	39.76	0.40	< 0.01	< 0.01	0.004	< 0.01	12.30	99.65	2	< 2	< 1	8	< 2	< 1	35	0.217	0.221	546185	20.63	0.50
546186	38.73	0.72	7.70	0.090	40.14	0.22	< 0.01	< 0.01	0.007	0.02	12.99	100.6	4	2	< 1	8	< 2	< 1	31	0.189	0.256	546186	20.12	0.45
546187	38.13	0.75	7.48	0.099	37.88	1.33	< 0.01	< 0.01	0.004	< 0.01	12.77	98.46	< 2	< 2	< 1	8	2	< 1	40	0.183	0.244	546187	24.73	0.70
546188	40.10	0.67	7.48	0.119	39.62	0.35	< 0.01	< 0.01	0.006	< 0.01	11.92	100.3	< 2	< 2	< 1	10	< 2	< 1	42	0.201	0.258	546188	24.99	0.74
546189	40.58	0.57	7.39	0.127	39.89	0.19	< 0.01	< 0.01	0.003	< 0.01	11.40	100.2	< 2	< 2	< 1	11	2	< 1	43	0.215	0.267	546189	26.99	0.72
546190	40.65	0.74	7.85	0.134	37.84	1.74	< 0.01	< 0.01	0.005	< 0.01	10.45	99.43	< 2	< 2	< 1	13	3	< 1	50	0.197	0.278	546190	27.56	0.67
546191	39.78	0.67	7.90	0.120	39.86	0.92	< 0.01	< 0.01	0.004	< 0.01	11.09	100.3	< 2	< 2	< 1	10	3	< 1	41	0.204	0.261	546191	24.48	0.60
546192	39.49	0.76	7.30	0.085	40.23	0.22	< 0.01	< 0.01	0.004	< 0.01	11.84	99.94	< 2	< 2	< 1	9	2	< 1	39	0.203	0.257	546192	30.87	0.87
546193	40.40	0.78	7.70	0.109	40.34	0.53	< 0.01	< 0.01	0.004	0.01	10.91	100.8	< 2	< 2	< 1	9	2	< 1	44	0.191	0.265	546193	28.94	0.92
546194	40.60	0.77	7.12	0.104	40.29	0.22	< 0.01	< 0.01	0.004	< 0.01	11.23	100.3	2	< 2	< 1	9	2	< 1	40	0.189	0.253	546194	28.32	1.00
546195	39.57	0.75	7.42	0.111	39.97	0.21	< 0.01	< 0.01	0.004	< 0.01	11.44	99.49	2	< 2	< 1	9	2	< 1	40	0.180	0.246	546195	27.59	0.91
546196	39.25	0.71	7.96	0.113	40.09	0.74	< 0.01	< 0.01	0.004	< 0.01	11.00	99.87	< 2	< 2	< 1	10	2	< 1	44	0.201	0.237	546196	29.40	0.73
546197	40.28	0.72	6.95	0.120	37.96	2.67	0.01	< 0.01	0.005	< 0.01	10.64	99.35	< 2	< 2	< 1	13	< 2	< 1	52	0.170	0.226	546197	27.06	0.63
546198	38.35	0.69	7.35	0.120	39.11	0.19	< 0.01	< 0.01	0.004	< 0.01	12.24	98.06	< 2	< 2	< 1	9	< 2	< 1	39	0.196	0.286	546198	28.08	0.84
523292	38.08	0.67	8.41	0.153	39.47	0.33	0.01	0.03	0.011	0.02	13.77	101.0	17	< 2	< 1	11	2	< 1	33	0.131	0.221	523292	17.77	0.26
523293	38.22	0.66	8.53	0.131	38.94	0.92	< 0.01	0.01	0.007	< 0.01	12.95	100.4	7	< 2	< 1	10	2	< 1	41	0.210	0.259	523293	18.72	0.30
523294	38.27	0.66	7.84	0.123	39.01	0.74	< 0.01	< 0.01	0.006	< 0.01	13.37	100.0	9	< 2	< 1	10	3	< 1	40	0.194	0.250	523294	20.54	0.27
523295	38.40	0.69	7.84	0.115	38.81	1.16	< 0.01	< 0.01	0.006	< 0.01	13.61	100.7	16	< 2	< 1	9	3	< 1	41	0.205	0.252	523295	23.07	0.32
523296	37.81	0.53	8.14	0.162	38.88	0.71	< 0.01	0.01	0.006	< 0.01	12.67	98.92	18	< 2	< 1	9	3	< 1	35	0.188	0.254	523296	18.58	0.32
523297	38.78	0.76	6.87	0.068	39.17	0.83	< 0.01	< 0.01	0.006	< 0.01	13.35	99.86	9	< 2	< 1	8	< 2	< 1	37	0.191	0.234	523297	19.34	0.39
523298	36.98	0.44	6.94	0.094	40.60	0.12	< 0.01	< 0.01	0.010	< 0.01	14.13	99.33	5	< 2	< 1	5	3	< 1	21	0.220	0.191	523298	15.41	0.35
523299	38.33	0.34	6.52	0.086	42.05	0.27	< 0.01	< 0.01	0.003	0.01	13.21	100.8	6	< 2	< 1	4	< 2	< 1	17	0.249	0.123	523299	19.73	0.48

523300 not analyzed as per client

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
521618														30.3	0.021	30.090	0.1	30.111	0.63	
521619														30.0	0.018	29.276	0.1	29.295	2.50	
521620	0.37	0.006	0.02	0.01	0.02	0.07	0.04	0.01	< 0.01	< 0.003	< 0.003	0.08	98.96	30.2	0.034	28.933	0.1	28.967	4.03	
521621														30.1	0.023	29.247	0.1	29.270	2.60	
521622														30.2	0.046	29.377	0.2	29.423	2.62	
521623														30.2	0.026	30.235	0.1	30.260	-0.08	
521624														30.1	0.014	29.872	0.0	29.886	0.62	
521625														30.1	0.027	28.937	0.1	28.964	3.77	
521626														30.1	0.008	29.550	0.0	29.558	1.92	
521627														30.1	0.073	29.734	0.2	29.808	0.86	
521628														30.1	0.080	29.840	0.3	29.920	0.45	
521629														30.1	0.050	29.371	0.2	29.421	2.41	
521630														30.2	0.073	29.957	0.2	30.030	0.41	
521631														30.0	0.023	29.602	0.1	29.624	1.33	
521632														30.3	0.088	29.437	0.3	29.525	2.47	
521633														30.3	0.029	29.441	0.1	29.470	2.66	
521634														30.1	0.072	28.904	0.2	28.975	3.78	
521635														30.1	0.082	28.986	0.3	29.067	3.49	
521636														30.1	0.033	29.815	0.1	29.848	0.87	
521637														30.2	0.036	30.207	0.1	30.243	-0.30	
521638														30.1	0.004	28.923	0.0	28.926	4.05	
521639														30.1	0.004	29.366	0.0	29.371	2.32	
521640.1	12.20	0.170	4.96	7.90	2.44	2.78	1.11	0.44	1.08	0.064	0.233	0.82	99.60							
521640.2	13.14	0.129	32.31	2.08	0.09	0.14	0.13	0.02	0.20	0.004	1.44	11.16	99.60							
521640.3	55.25	0.246	17.89	0.16	< 0.01	0.01	0.03	0.01	1.61	0.020	2.03	3.66	99.71	30.3	2.154	28.197	7.1	30.351	-0.03	0.11
521641														30.2	0.005	29.398	0.0	29.403	2.61	
521642														30.0	0.073	29.653	0.2	29.726	0.99	
521643														30.1	0.019	29.119	0.1	29.138	3.17	
521644	32.60	0.161	26.62	0.14	< 0.01	< 0.01	0.02	0.01	1.22	0.026	0.257	7.63	98.06	30.1	3.706	26.249	12.3	29.955	0.42	0.04
521645														30.0	0.006	29.017	0.0	29.023	3.30	
521646														30.1	0.004	29.278	0.0	29.282	2.58	
521647	42.46	0.281	20.09	1.07	< 0.01	< 0.01	0.07	0.01	2.81	0.046	0.231	8.37	98.80	30.0	0.479	28.642	1.6	29.122	3.04	0.07
521648	52.15	0.393	19.06	0.83	< 0.01	0.02	0.02	0.01	1.23	0.021	0.446	5.63	98.22	30.0	2.917	27.252	9.7	30.170	-0.43	0.07
521649														30.0	0.325	29.337	1.1	29.662	1.20	0.06
521650	44.26	0.361	21.84	0.22	< 0.01	0.12	0.02	0.01	1.22	0.023	0.281	6.47	97.31	30.1	3.026	26.847	10.1	29.873	0.68	0.03
521651	47.30	0.370	20.73	0.22	< 0.01	0.05	0.02	0.01	1.24	0.017	0.339	6.59	100.1	30.0	3.051	26.320	10.2	29.371	2.23	0.05
521652	51.85	0.320	20.19	0.16	< 0.01	0.10	0.01	0.01	1.32	0.013	0.343	5.37	98.79	30.0	2.981	26.946	9.9	29.927	0.36	0.05
521653	49.34	0.396	20.44	0.05	< 0.01	0.03	0.04	0.01	1.29	0.021	0.345	5.28	98.11	30.1	3.064	26.587	10.2	29.651	1.51	0.04
521654	56.46	0.333	17.05	0.13	< 0.01	0.02	0.03	0.01	1.16	0.021	0.357	4.39	97.94	30.1	2.223	27.267	7.4	29.489	2.00	0.03
521655	45.81	0.298	22.37	0.22	< 0.01	0.07	0.03	0.01	1.00	0.020	0.329	6.10	99.72	30.0	2.720	26.300	9.1	29.020	3.31	0.04
521656	42.21	0.266	25.61	0.19	< 0.01	0.04	0.01	0.01	1.05	0.009	0.316	7.16	98.44	30.2	4.195	26.007	13.9	30.202	-0.11	0.05
521657	45.70	0.336	23.91	0.31	< 0.01	< 0.01	0.03	0.01	0.69	0.024	0.551	7.33	99.93	30.0	3.841	26.035	12.8	29.876	0.55	0.08
521658	46.10	0.348	22.12	0.57	< 0.01	0.03	0.02	< 0.01	1.01	0.020	0.439	5.46	97.88	30.0	2.186	26.829	7.3	29.015	3.42	0.03
521659	42.37	0.274	22.70	0.43	< 0.01	0.05	0.02	0.01	0.74	0.017	0.372	6.38	99.38	30.0	3.559	25.513	11.9	29.072	3.19	0.03
521660	0.55	0.003	0.01	0.03	0.01	0.07	0.04	0.01	0.01	< 0.003	< 0.003	0.04	100.1	30.7	0.048	29.687	0.2	29.735	2.99	
521661	35.54	0.259	24.88	0.56	< 0.01	0.06	0.02	0.01	0.76	0.016	0.479	6.97	97.91	30.0	3.724	26.038	12.4	29.763	0.92	0.04
521662	36.74	0.263	24.43	0.86	< 0.01	0.03	0.02	0.01	0.77	0.017	0.562	6.49	98.13	30.1	3.619	25.842	12.0	29.461	2.07	0.06
521663	41.43	0.326	22.34	0.39	< 0.01	0.12	0.03	< 0.01	0.98	0.020	0.538	6.05	97.61	30.0	3.156	26.604	10.5	29.760	0.85	0.04
521664	38.74	0.236	24.18	0.44	< 0.01	0.05	0.02	0.01	0.80	0.017	0.408	6.37	98.00	30.1	3.223	26.683	10.7	29.906	0.57	0.03
521665	44.53	0.283	21.54	0.42	< 0.01	0.07	0.02	0.01	0.85	0.016	0.597	5.78	98.79	30.0	3.486	25.829	11.6	29.315	2.32	0.04
521666	42.39	0.219	23.21	0.43	< 0.01	0.03	0.02	0.01	0.74	0.016	0.488	6.84	99.15	30.0	3.572	25.798	11.9	29.370	2.25	0.03

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
521667	44.04	0.182	21.14	0.42	< 0.01	0.08	0.03	< 0.01	0.72	0.018	0.513	5.78	97.62	30.1	3.170	25.970	10.5	29.140	3.05	0.03
521668	47.74	0.194	20.29	0.23	< 0.01	0.12	0.02	0.01	0.86	0.017	0.550	5.38	98.72	30.0	2.655	26.654	8.8	29.310	2.32	0.03
521669	48.81	0.202	20.31	0.30	< 0.01	0.04	0.02	0.01	0.79	0.020	0.561	4.92	98.48	30.0	3.054	25.995	10.2	29.049	3.26	0.01
521670	46.72	0.201	21.24	0.20	< 0.01	0.06	0.03	0.01	0.66	0.020	0.781	5.45	98.52	30.1	3.320	25.956	11.0	29.275	2.67	0.02
521671	62.89	0.292	14.57	0.19	< 0.01	0.04	0.04	0.01	1.03	0.021	0.519	2.91	97.70	30.0	2.440	26.676	8.1	29.116	3.04	0.01
521672	41.76	0.213	22.24	0.37	< 0.01	0.03	0.03	0.01	0.71	0.019	0.849	6.13	98.08	30.1	3.658	25.456	12.2	29.114	3.21	< 0.01
521673	52.00	0.213	18.30	0.29	< 0.01	0.04	0.03	0.01	0.88	0.022	0.858	4.29	98.24	30.0	3.476	25.698	11.6	29.173	2.86	0.01
521674	49.93	0.228	20.82	0.26	< 0.01	0.03	0.03	< 0.01	0.91	0.022	1.10	4.29	99.48	30.0	3.071	26.173	10.2	29.245	2.54	0.02
521675	58.97	0.211	15.09	0.21	< 0.01	0.03	0.03	< 0.01	0.79	0.021	0.991	2.46	97.45	30.0	2.952	27.379	9.8	30.331	-0.97	0.02
521676	55.36	0.201	17.61	0.37	< 0.01	< 0.01	0.04	0.01	0.98	0.026	0.942	4.07	98.87	30.0	2.525	27.167	8.4	29.691	1.18	0.02
521677	54.26	0.287	17.46	0.46	< 0.01	< 0.01	0.04	0.01	2.10	0.025	0.400	3.93	98.49	30.0	1.817	27.145	6.1	28.962	3.51	0.04
521678	52.57	0.217	18.51	0.04	< 0.01	0.08	0.03	0.01	1.52	0.012	1.13	4.65	97.80	30.0	3.183	26.180	10.6	29.364	2.20	0.17
521679	76.60	0.144	7.51	0.39	< 0.01	0.02	0.22	0.01	2.52	0.031	0.204	0.14	97.02	30.0	1.183	28.122	3.9	29.305	2.38	< 0.01
521680.1	12.11	0.170	4.93	7.81	2.37	2.75	1.09	0.44	1.07	0.067	0.233	0.83	99.18							
521680.2	13.10	0.127	32.36	2.08	0.10	0.13	0.12	0.03	0.20	0.007	1.44	11.06	99.66							
521680.3	55.42	0.240	17.89	0.15	< 0.01	0.02	0.03	0.01	1.68	0.024	2.02	3.02	99.16	30.6	2.065	28.495	6.7	30.559	0.22	0.11
521681	55.29	0.305	15.85	0.11	< 0.01	0.05	0.23	0.01	2.84	0.049	0.229	3.50	97.80	30.0	0.945	28.477	3.1	29.421	1.96	0.02
521682														30.0	0.009	29.067	0.0	29.076	3.14	
521683	68.45	0.273	10.50	0.96	< 0.01	< 0.01	0.19	0.01	1.85	0.045	0.343	1.31	97.74	30.0	1.682	27.222	5.6	28.904	3.77	0.02
521684	77.80	0.095	9.19	0.03	< 0.01	< 0.01	0.01	0.01	2.89	0.025	1.36	0.04	98.29	30.0	1.707	26.905	5.7	28.612	4.77	0.08
521685	50.26	0.175	18.71	0.99	< 0.01	0.02	0.58	0.05	1.57	0.047	0.707	4.70	97.58	30.0	3.184	26.324	10.6	29.507	1.79	0.06
521686	78.79	0.082	8.46	0.02	< 0.01	0.08	0.01	< 0.01	2.69	0.019	1.53	-0.65	97.91	30.1	1.570	27.577	5.2	29.146	3.03	0.02
521687	76.77	0.079	7.56	0.01	< 0.01	< 0.01	0.02	0.01	2.94	0.019	1.24	-0.52	97.21	30.1	1.470	28.221	4.9	29.691	1.34	0.01
521688	32.77	0.101	27.45	0.08	< 0.01	0.01	0.03	0.01	0.90	0.016	1.03	7.57	97.45	30.0	3.550	26.249	11.8	29.799	0.81	0.02
521689	34.50	0.130	26.11	0.09	< 0.01	0.04	0.04	0.01	0.96	0.015	1.13	7.62	97.49	30.1	3.048	26.756	10.1	29.804	0.94	0.03
521690	36.52	0.211	26.07	0.08	< 0.01	0.07	0.03	0.01	1.68	0.024	1.75	6.41	99.22	30.2	2.426	26.611	8.0	29.037	3.71	0.03
521691	33.02	0.124	27.12	0.59	< 0.01	< 0.01	0.05	0.01	0.84	0.022	1.04	7.23	99.59	30.1	3.871	25.627	12.9	29.498	1.99	0.02
521692	43.61	0.192	21.78	0.59	< 0.01	0.04	0.06	0.01	1.52	0.027	1.71	5.08	98.24	30.1	2.092	27.238	7.0	29.330	2.52	0.02
521693	37.36	0.218	25.16	0.65	< 0.01	0.03	0.06	0.01	1.34	0.020	1.59	6.41	99.68	30.2	2.521	27.584	8.4	30.105	0.25	0.03
521694	37.53	0.222	24.91	0.52	< 0.01	0.03	0.06	0.01	1.47	0.022	1.72	6.18	98.92	30.0	2.306	27.144	7.7	29.450	1.94	0.04
521695	30.88	0.241	28.08	1.45	< 0.01	0.05	0.05	0.01	1.24	0.019	1.64	6.54	99.10	30.0	2.381	27.146	7.9	29.527	1.67	0.03
521696	33.92	0.151	27.35	0.40	0.01	0.09	0.05	0.01	1.05	0.018	1.40	7.31	99.60	30.1	3.327	26.406	11.1	29.733	1.15	0.02
521697	38.05	0.168	25.19	0.96	< 0.01	0.04	0.04	0.01	1.50	0.018	1.78	5.84	99.39	30.0	2.376	27.576	7.9	29.952	0.24	0.02
521698	36.32	0.200	25.14	1.37	0.02	0.07	0.05	0.01	1.50	0.023	1.85	5.61	98.82	30.0	1.989	26.761	6.6	28.750	4.23	0.02
521699	39.41	0.116	24.80	0.61	0.09	0.04	0.04	0.01	0.81	0.022	1.27	6.54	99.90	30.0	3.854	25.873	12.8	29.727	1.06	
521808	33.54	0.158	26.00	0.79	< 0.01	< 0.01	0.01	0.01	1.36	0.022	1.23	7.42	98.30	30.1	0.744	28.703	2.5	29.447	2.12	
521809	35.39	0.169	27.42	0.69	< 0.01	< 0.01	0.02	0.01	1.42	0.020	1.36	7.54	97.97	30.1	3.029	26.477	10.1	29.507	1.83	
521810	35.55	0.166	25.93	0.62	0.45	0.18	0.02	0.01	1.46	0.022	1.57	6.94	97.42	30.0	2.788	26.801	9.3	29.589	1.43	
521811	37.98	0.163	25.00	0.70	0.15	0.14	0.02	< 0.01	1.35	0.017	1.27	7.04	98.61	30.1	2.962	27.130	9.9	30.093	-0.07	0.02
521812	37.58	0.169	24.66	0.92	0.20	0.22	0.02	< 0.01	1.37	0.017	1.28	7.14	98.55	30.1	3.049	27.136	10.1	30.186	-0.32	0.02
521813	33.69	0.162	25.92	1.06	0.12	0.20	0.02	< 0.01	1.20	0.016	1.13	8.10	98.58	30.0	3.397	25.407	11.3	28.804	4.08	0.02
521814	37.57	0.149	26.03	0.23	0.07	0.10	0.02	0.01	1.07	0.016	1.28	6.78	98.62	30.0	3.241	26.000	10.8	29.242	2.60	0.03
521815	33.62	0.161	26.72	0.29	0.08	0.23	0.02	0.01	1.20	0.018	1.12	7.53	98.46	30.0	3.269	25.849	10.9	29.117	3.00	0.03
521816	30.82	0.143	28.57	0.15	0.07	0.17	0.02	0.01	0.87	0.016	1.15	8.27	98.97	30.1	4.401	25.773	14.6	30.175	-0.23	0.08
521817	30.49	0.181	27.82	0.54	0.91	0.23	0.03	0.01	1.22	0.015	1.18	8.18	99.39	30.0	3.508	26.350	11.7	29.858	0.59	0.05
521818														27.8	0.005	27.341	0.0	27.346	1.49	
521819														30.1	0.001	29.226	0.0	29.226	2.82	
521820.1	12.14	0.168	5.00	7.86	2.44	2.78	1.10	0.44	1.07	0.063	0.240	0.77	99.64							
521820.2	13.13	0.126	32.18	2.09	0.10	0.16	0.13	0.02	0.20	0.007	1.44	11.03	99.45							
521820.3	55.62	0.237	17.89	0.18	< 0.01	0.01	0.04	0.01	1.52	0.023	2.03	3.64	100.1	30.2	2.196	27.770	7.3	29.966	0.65	0.10
521821														30.1	0.007	29.971	0.0	29.979	0.45	

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
521822														30.0	0.005	29.351	0.0	29.356	2.24	
521823														30.0	0.017	29.356	0.1	29.372	2.23	
521824														30.0	0.077	29.455	0.3	29.532	1.63	
521825														30.0	0.023	29.578	0.1	29.601	1.44	
521826														11.8	0.009	11.578	0.1	11.587	1.57	
521827														30.0	0.010	29.394	0.0	29.404	2.11	
522663	67.22	0.213	12.21	0.27	0.06	0.09	0.04	0.01	1.42	0.025	2.12	0.71	97.47	30.0	1.851	28.145	6.2	29.996	0.15	0.05
522664	63.23	0.196	14.57	0.12	0.06	0.14	0.05	0.03	1.79	0.024	2.92	1.23	98.18	30.0	1.638	27.288	5.5	28.925	3.68	0.22
522665	64.42	0.211	13.82	0.09	0.11	0.11	0.05	0.02	1.72	0.025	1.80	1.23	98.09	30.1	2.183	27.421	7.3	29.604	1.57	0.12
522666	63.39	0.211	14.76	0.23	< 0.01	0.04	0.04	0.01	1.62	0.029	2.25	1.56	99.04	30.1	2.462	27.201	8.2	29.663	1.34	0.06
522667	67.55	0.155	14.06	0.08	0.02	0.12	0.04	0.01	1.28	0.026	0.668	0.54	98.88	30.1	1.923	27.961	6.4	29.884	0.60	0.07
522668	60.10	0.131	16.48	0.14	0.02	0.06	0.04	0.01	1.17	0.024	1.40	2.09	98.86	30.1	2.469	27.318	8.2	29.788	1.02	0.06
522669	60.78	0.169	15.46	0.28	0.03	0.09	0.05	0.01	1.55	0.026	2.29	1.08	97.91	30.1	1.773	27.883	5.9	29.656	1.36	0.06
522670	66.50	0.118	13.72	0.15	0.02	0.10	0.05	0.01	0.93	0.026	1.15	1.39	98.62	30.0	2.318	27.561	7.7	29.879	0.46	0.04
522671	70.75	0.138	10.45	0.05	< 0.01	0.04	0.03	0.01	2.03	0.019	2.68	0.45	96.84	30.0	1.565	28.274	5.2	29.840	0.68	0.26
522672	54.65	0.154	15.70	0.09	0.26	0.32	0.05	0.01	1.21	0.022	3.67	2.01	97.29	30.0	1.416	27.261	4.7	28.677	4.50	0.10
522673	72.07	0.181	7.45	0.24	0.41	0.06	0.05	0.01	1.45	0.024	1.78	-0.22	97.63	30.0	0.213	28.684	0.7	28.897	3.72	0.06
522674	66.93	0.196	11.04	0.21	0.35	0.06	0.05	0.01	1.22	0.026	1.43	0.64	97.22	30.0	2.048	27.646	6.8	29.693	1.12	0.04
522675	71.47	0.193	10.28	0.19	< 0.01	0.02	0.04	< 0.01	1.16	0.026	1.40	0.53	97.36	30.2	2.322	27.396	7.7	29.718	1.48	0.03
522676	67.38	0.382	11.61	0.14	0.01	0.04	0.06	0.01	1.94	0.035	2.05	0.34	97.14	30.0	1.819	27.798	6.1	29.617	1.36	0.02
522677	56.71	0.410	15.39	0.15	0.13	0.15	0.07	0.01	2.00	0.033	1.69	2.01	96.71	30.1	1.832	28.050	6.1	29.883	0.57	0.02
522678	58.70	0.189	16.32	0.05	0.05	0.21	0.05	< 0.01	1.72	0.028	2.07	2.94	97.32	30.2	2.146	28.071	7.1	30.218	-0.07	0.14
522679	62.92	0.212	14.28	0.05	0.01	0.04	0.05	0.01	2.00	0.029	2.20	1.98	96.85	30.0	2.054	27.889	6.8	29.944	0.25	0.16
522680	0.69	0.008	0.02	0.02	0.01	0.08	0.04	0.01	< 0.01	< 0.003	< 0.003	0.09	99.71	30.1	0.048	28.966	0.2	29.014	3.52	
522681	64.30	0.240	13.48	0.13	< 0.01	0.03	0.03	0.01	1.83	0.027	1.97	1.35	96.83	30.0	2.050	28.100	6.8	30.150	-0.35	0.05
522682	65.38	0.158	12.82	0.10	0.03	0.04	0.04	0.01	1.43	0.028	2.21	1.35	96.85	30.0	2.154	27.681	7.2	29.835	0.71	0.08
522683	58.85	0.230	15.90	0.14	< 0.01	0.04	0.05	0.01	1.60	0.024	1.99	2.51	97.41	30.1	2.411	27.585	8.0	29.996	0.22	0.05
522684	57.72	0.178	16.72	0.09	0.06	0.07	0.03	0.01	1.60	0.023	2.26	3.55	98.11	30.1	2.145	27.690	7.1	29.835	0.89	0.04
522685	61.83	0.223	14.69	0.22	< 0.01	< 0.01	0.06	0.01	1.79	0.028	2.80	2.16	98.35	30.0	1.723	28.146	5.7	29.870	0.44	0.04
522686	62.67	0.200	13.51	0.32	< 0.01	0.02	0.06	< 0.01	1.87	0.033	2.89	2.12	97.71	30.2	1.513	28.628	5.0	30.141	0.04	0.05
522687	59.58	0.212	14.70	0.56	0.02	0.04	0.05	0.01	1.96	0.026	3.21	2.24	97.50	30.0	1.432	28.269	4.8	29.701	0.96	0.04
522688	61.11	0.144	14.54	0.30	< 0.01	0.03	0.06	0.01	1.37	0.030	2.53	2.91	97.80	30.8	1.871	28.661	6.1	30.533	0.73	0.03
522689	62.41	0.259	13.19	0.84	0.06	0.03	0.08	0.01	2.41	0.037	2.88	1.08	96.96	30.0	1.221	28.766	4.1	29.987	0.05	0.01
522690	63.39	0.229	13.45	0.25	0.02	0.04	0.05	0.01	2.15	0.027	2.84	1.82	97.39	29.7	1.616	27.858	5.4	29.473	0.61	0.03
523382	53.78	0.227	17.61	0.19	0.07	0.05	0.02	0.01	2.35	0.029	2.69	2.76	97.04	29.7	1.649	27.475	5.5	29.124	2.02	0.04
523383	56.01	0.201	16.73	0.08	0.03	0.03	0.02	0.01	2.31	0.027	2.80	2.59	96.70	30.0	1.681	27.681	5.6	29.362	2.00	0.03
523384	55.29	0.222	16.93	0.10	0.02	0.04	0.02	0.01	2.02	0.027	2.33	3.67	96.94	30.0	1.985	27.371	6.6	29.357	2.00	0.04
523385	52.45	0.209	18.89	0.08	0.02	0.05	0.02	0.01	1.72	0.021	1.88	4.70	97.93	30.9	2.082	28.362	6.7	30.444	1.62	0.04
523386	53.25	0.219	18.50	0.11	0.04	0.04	0.03	0.01	1.72	0.024	1.66	4.00	97.70	31.0	2.605	28.281	8.4	30.887	0.32	0.02
523387	67.09	0.133	11.97	0.02	0.03	0.04	0.03	< 0.01	2.23	0.030	2.54	1.00	97.11	30.6	1.716	28.440	5.6	30.156	1.31	0.02
523388	57.87	0.222	16.57	0.13	0.01	0.03	0.02	0.01	1.98	0.028	1.99	2.78	97.74	30.3	2.092	27.939	6.9	30.031	0.99	0.02
523389	58.31	0.217	15.87	0.15	0.05	0.01	0.02	0.01	2.26	0.029	1.83	2.56	97.15	30.1	2.003	27.866	6.7	29.869	0.61	0.01
523390	54.03	0.207	17.94	0.13	0.02	0.04	0.02	0.01	1.76	0.024	1.89	3.87	97.49	30.9	2.264	28.134	7.3	30.398	1.62	0.02
523391	58.59	0.239	15.87	0.31	0.01	0.07	0.03	0.01	2.02	0.026	2.51	2.45	97.14	30.1	1.695	28.063	5.6	29.758	1.00	0.02
523392	63.89	0.174	14.11	0.07	< 0.01	0.04	0.02	0.01	1.67	0.027	1.95	1.72	97.87	30.8	2.337	28.011	7.6	30.348	1.62	0.02
523403	50.68	0.136	20.75	0.19	< 0.01	< 0.01	0.02	0.01	0.93	0.021	1.58	4.77	99.69	30.8	2.580	27.792	8.4	30.372	1.30	0.03
523404	49.62	0.223	20.87	0.17	< 0.01	0.03	0.02	0.01	1.98	0.024	1.54	5.07	98.30	30.1	2.514	27.426	8.3	29.941	0.66	0.02
523405	44.86	0.211	23.13	0.09	0.03	0.04	0.02	0.01	2.46	0.038	1.73	4.34	98.30	30.3	1.764	28.134	5.8	29.898	1.32	0.45
523406	54.87	0.225	18.56	0.12	0.04	0.05	0.02	0.01	2.14	0.029	1.84	3.40	98.54	30.2	2.096	27.861	7.0	29.958	0.66	0.04
523407	49.39	0.248	20.61	0.29	< 0.01	0.02	0.02	0.01	2.37	0.023	2.05	4.74	98.15	30.3	1.666	28.192	5.5	29.859	1.32	0.02
523408	48.87	0.190	21.65	0.14	0.05	0.08	0.02	0.01	1.48	0.017	1.48	5.12	99.65	30.3	2.436	27.436	8.0	29.872	1.32	0.06

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
523409	48.29	0.256	21.73	0.05	< 0.01	< 0.01	0.02	0.01	2.04	0.020	1.52	4.81	98.15	30.2	2.402	27.460	8.0	29.862	0.99	0.04
523410	41.52	0.197	24.10	0.67	< 0.01	< 0.01	0.02	0.02	1.92	0.027	2.07	3.56	96.81	30.0	1.823	27.908	6.1	29.731	1.00	0.04
523411	48.49	0.206	20.25	0.47	< 0.01	0.04	0.02	0.01	2.37	0.022	2.41	3.80	97.07	29.9	1.524	27.357	5.1	28.881	3.35	0.07
523412	66.93	0.499	11.70	0.02	< 0.01	< 0.01	0.05	0.01	3.06	0.038	0.476	1.30	97.42	30.2	1.388	28.372	4.6	29.760	1.33	0.03
523423	57.89	0.275	16.76	0.14	< 0.01	0.05	0.02	0.01	1.87	0.025	1.26	2.58	97.80	30.3	2.273	27.722	7.5	29.995	0.99	0.02
523424	54.76	0.195	18.83	0.06	< 0.01	0.03	0.02	0.01	1.48	0.021	1.13	4.82	98.29	30.2	3.008	26.871	10.0	29.879	0.99	0.08
523425	48.37	0.192	20.30	1.38	< 0.01	0.03	0.02	0.01	1.31	0.021	1.31	4.86	97.80	30.2	3.017	26.795	10.0	29.811	1.32	0.03
523426	49.65	0.221	20.72	0.12	< 0.01	0.05	0.02	0.01	1.78	0.024	1.45	3.94	97.96	30.1	2.435	27.462	8.1	29.898	0.66	0.02
523427	51.79	0.212	19.80	0.10	< 0.01	0.02	0.02	0.01	1.52	0.021	1.25	4.41	97.62	30.4	2.928	27.106	9.6	30.034	1.31	0.01
523428	45.20	0.193	22.83	0.17	< 0.01	0.03	0.02	0.01	1.36	0.018	1.33	5.59	98.33	30.8	3.092	27.305	10.0	30.398	1.30	0.01
523429	50.61	0.189	20.71	0.07	< 0.01	0.04	0.01	0.01	1.48	0.018	1.34	4.55	98.25	30.5	3.057	26.951	10.0	30.008	1.64	0.01
523430	49.16	0.222	21.44	0.15	0.04	0.10	0.01	0.01	1.75	0.022	1.40	4.12	98.50	30.0	2.650	26.620	8.8	29.270	2.44	0.01
523431	46.66	0.213	23.64	0.21	0.06	0.05	0.01	0.01	1.40	0.020	1.16	5.12	99.44	30.1	3.212	26.702	10.7	29.914	0.66	0.01
523432	39.16	0.211	25.85	0.29	0.06	0.05	0.02	0.01	1.14	0.015	1.15	7.90	99.30	30.1	3.358	26.613	11.2	29.971	0.33	0.02
523433	53.30	0.184	19.73	0.26	0.01	0.01	0.02	0.01	1.50	0.024	1.40	4.49	98.83	30.5	2.422	27.631	8.0	30.053	1.31	0.04
523434	44.63	0.192	23.12	0.32	< 0.01	< 0.01	0.02	< 0.01	1.20	0.018	1.27	6.20	98.55	30.1	3.258	26.380	10.8	29.638	1.66	0.02
523435	49.64	0.201	20.32	0.23	< 0.01	< 0.01	0.02	0.01	1.43	0.021	1.33	4.99	97.24	30.1	2.831	26.986	9.4	29.817	1.00	0.01
523436	48.57	0.171	20.87	0.49	< 0.01	0.01	0.02	0.01	1.34	0.020	1.39	5.39	98.10	30.1	2.766	27.090	9.2	29.856	0.67	0.02
523437	48.46	0.159	21.96	0.14	< 0.01	0.01	0.01	< 0.01	1.31	0.018	1.33	5.38	98.44	30.0	2.522	26.979	8.4	29.502	1.67	0.01
523438	54.49	0.171	19.18	0.45	< 0.01	< 0.01	0.01	0.01	1.62	0.022	1.02	4.37	98.45	30.0	2.655	27.094	8.8	29.749	1.00	0.01
523439	48.78	0.160	20.61	0.29	< 0.01	< 0.01	0.02	0.01	1.29	0.019	1.17	5.13	97.05	30.1	2.714	27.127	9.0	29.841	1.00	< 0.01
523440.1	12.20	0.170	5.01	7.92	2.44	2.81	1.10	0.45	1.07	0.065	0.237	0.67	99.70							
523440.2	13.05	0.127	32.33	2.05	0.09	0.14	0.12	0.02	0.19	0.007	1.44	10.89	99.30							
523440.3	55.78	0.240	17.83	0.15	< 0.01	0.01	0.03	0.01	1.56	0.024	2.02	3.54	100.0	30.7	2.157	28.667	7.0	30.823	-0.24	0.10
523441	48.06	0.164	20.62	0.94	< 0.01	0.01	0.02	0.01	1.27	0.019	1.28	5.66	97.44	30.3	2.678	27.210	8.8	29.888	1.32	0.01
523442	55.08	0.114	18.33	1.47	< 0.01	< 0.01	0.02	0.01	0.88	0.019	0.951	4.94	98.93	30.2	3.294	26.436	10.9	29.729	1.65	0.03
523443	54.57	0.177	17.91	1.60	< 0.01	< 0.01	0.02	0.01	1.25	0.016	0.719	5.24	98.14	30.1	3.083	26.652	10.2	29.736	1.33	0.02
523444	47.50	0.177	19.34	3.17	< 0.01	0.01	0.02	0.01	1.30	0.018	1.04	7.33	97.77	30.1	2.671	26.814	8.9	29.485	1.89	0.02
523445	49.37	0.158	21.09	0.68	< 0.01	< 0.01	0.02	< 0.01	1.40	0.016	1.09	6.27	98.26	30.0	2.847	26.743	9.5	29.589	1.33	0.02
523446	47.78	0.206	19.96	2.04	< 0.01	< 0.01	0.02	0.01	1.56	0.019	0.808	7.76	97.96	29.9	2.490	26.704	8.3	29.194	2.34	0.03
523447	42.74	0.228	23.57	1.66	< 0.01	0.01	0.01	< 0.01	1.07	0.013	0.893	8.77	98.56	30.1	3.216	26.434	10.7	29.651	1.33	0.01
523448	39.41	0.248	22.95	3.03	< 0.01	< 0.01	0.01	0.01	1.01	0.016	0.747	10.45	98.15	30.1	3.424	26.264	11.4	29.688	1.33	0.01
523449	44.46	0.237	21.25	2.30	< 0.01	< 0.01	0.01	0.01	1.11	0.016	0.905	9.47	98.11	30.1	2.685	27.174	8.9	29.859	0.67	0.02
523450	50.05	0.208	19.24	1.44	< 0.01	0.01	0.03	0.01	1.48	0.022	0.944	8.37	98.53	30.2	2.451	27.541	8.1	29.992	0.66	0.04
523451	53.99	0.166	18.81	0.42	< 0.01	0.02	0.03	0.01	1.14	0.022	0.725	7.50	99.19	30.8	2.246	27.938	7.3	30.184	1.95	0.03
523452	64.97	0.356	12.17	0.23	< 0.01	< 0.01	0.04	0.01	2.73	0.031	0.229	4.34	97.66	30.2	0.655	29.210	2.2	29.865	0.99	< 0.01
523453	60.98	0.247	11.69	0.70	< 0.01	< 0.01	0.04	0.02	4.46	0.049	0.184	4.39	96.86	30.1	0.259	29.321	0.9	29.581	1.69	0.02
523454	38.93	0.223	23.28	2.28	< 0.01	< 0.01	0.02	< 0.01	1.40	0.024	0.282	10.95	100.1	30.2	2.061	27.430	6.8	29.491	2.25	0.01
546123	61.95	0.213	14.13	0.12	< 0.01	0.02	0.02	0.01	2.37	0.037	2.69	1.21	96.56	30.1	1.628	28.380	5.4	30.008	0.27	0.05
546124	54.08	0.269	18.33	0.10	< 0.01	0.02	0.03	0.01	2.79	0.043	2.13	1.73	97.45	30.6	1.492	28.398	4.9	29.890	2.43	0.03
546125	38.16	0.213	26.75	0.17	< 0.01	0.01	0.02	< 0.01	1.09	0.017	1.14	6.81	99.70	30.5	3.822	26.379	12.5	30.201	0.93	0.08
546126	41.10	0.154	24.91	0.07	< 0.01	0.01	0.02	0.01	1.09	0.022	0.770	6.61	98.30	30.8	4.181	26.190	13.6	30.372	1.25	0.09
546127	53.91	0.323	17.83	0.27	< 0.01	0.02	0.04	0.01	2.10	0.033	0.998	3.23	97.31	30.1	1.847	28.037	6.1	29.884	0.83	0.03
546128	45.70	0.327	22.46	0.02	< 0.01	0.01	0.02	0.01	1.61	0.023	1.01	5.19	98.23	30.9	3.292	27.418	10.7	30.711	0.62	0.03
546129	45.66	0.218	22.91	0.14	< 0.01	0.01	0.03	0.01	1.22	0.021	1.27	5.29	98.76	30.3	3.582	26.456	11.8	30.038	0.92	0.03
546130	46.50	0.178	22.52	0.15	< 0.01	0.01	0.02	0.01	1.56	0.023	1.58	4.69	98.67	30.9	2.664	27.830	8.6	30.494	1.16	0.05
546131	35.50	0.158	27.73	0.19	< 0.01	0.02	0.02	0.01	0.90	0.014	0.970	7.35	99.72	30.1	4.306	25.855	14.3	30.161	-0.08	0.07
546132	38.24	0.229	25.87	0.14	< 0.01	0.02	0.02	< 0.01	1.61	0.020	1.72	6.29	98.68	30.7	2.576	27.919	8.4	30.495	0.55	0.07
546133	45.75	0.229	22.51	0.10	< 0.01	0.02	0.02	< 0.01	1.64	0.026	1.64	4.86	98.98	30.4	2.811	27.446	9.3	30.257	0.40	0.03
546134	47.73	0.256	21.76	0.07	< 0.01	0.03	0.02	0.01	1.42	0.023	1.46	4.52	98.31	30.8	3.112	26.750	10.1	29.861	3.03	0.04
546135	47.58	0.258	21.85	0.07	< 0.01	0.03	0.02	0.01	1.39	0.021	1.36	4.45	98.32	30.4	3.289	27.024	10.8	30.313	0.35	0.03

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
546136	65.02	0.316	13.46	0.03	< 0.01	0.05	0.02	0.01	1.97	0.038	1.11	1.69	98.09	30.7	2.208	28.590	7.2	30.798	-0.39	0.03
546137	23.28	0.224	30.07	2.00	< 0.01	0.04	0.13	0.01	1.16	0.021	1.41	8.02	99.64	30.9	0.654	29.911	2.1	30.565	1.16	0.03
546138	59.68	0.261	15.19	0.10	< 0.01	0.03	0.03	0.01	2.62	0.037	1.57	2.16	97.82	30.4	2.170	27.919	7.1	30.089	0.94	0.03
546139	39.38	0.189	25.78	0.52	< 0.01	0.02	0.02	0.01	1.26	0.022	1.08	6.24	99.35	30.3	3.395	25.714	11.2	29.109	3.86	0.02
546140	0.63	0.005	0.01	0.03	0.01	0.09	0.04	0.01	< 0.01	< 0.003	< 0.003	0.21	100.1	30.3	0.088	29.284	0.3	29.372	2.96	
546141	52.27	0.209	19.97	0.18	< 0.01	0.01	0.02	0.01	1.86	0.029	1.33	4.19	99.60	30.6	2.421	28.046	7.9	30.468	0.57	0.03
546142	51.18	0.170	20.06	0.13	< 0.01	0.02	0.02	< 0.01	2.31	0.034	2.08	3.07	97.32	30.4	1.631	28.640	5.4	30.271	0.30	0.03
546143	51.99	0.176	20.12	0.11	< 0.01	0.03	0.02	< 0.01	1.47	0.023	1.23	4.32	98.76	30.2	2.496	27.596	8.3	30.093	0.46	0.03
546144	57.69	0.195	17.70	0.17	< 0.01	0.03	0.03	0.01	1.80	0.033	1.31	3.04	98.82	30.7	2.294	28.271	7.5	30.565	0.45	0.01
546145	55.29	0.241	18.65	0.20	0.15	0.04	0.03	0.01	1.71	0.024	1.58	3.73	98.83	30.3	1.951	28.256	6.4	30.207	0.35	0.01
546146	52.29	0.175	20.52	0.11	< 0.01	0.02	0.02	0.01	1.50	0.025	1.30	4.14	99.41	30.6	2.628	28.041	8.6	30.668	-0.28	0.02
546147	53.09	0.216	20.51	0.15	< 0.01	0.02	0.02	< 0.01	1.53	0.022	1.43	4.62	99.15	30.9	2.149	28.845	6.9	30.994	-0.15	0.02
546148	53.70	0.205	19.81	0.09	< 0.01	0.03	0.02	0.01	1.64	0.025	1.20	4.39	98.84	30.5	2.218	27.525	7.3	29.743	2.38	0.01
546149	51.36	0.191	20.89	0.09	< 0.01	0.03	0.03	0.01	1.30	0.020	1.71	4.81	98.96	30.8	2.377	28.005	7.7	30.382	1.26	0.03
546150	46.31	0.200	23.55	0.13	< 0.01	0.02	0.02	0.01	1.66	0.021	1.33	5.94	99.09	30.0	2.203	27.659	7.3	29.861	0.57	0.02
546151	48.43	0.215	21.38	0.50	< 0.01	0.02	0.03	< 0.01	1.93	0.025	1.81	5.07	97.84	30.9	1.747	28.803	5.7	30.551	1.03	0.02
546152	53.96	0.172	19.31	0.11	< 0.01	0.02	0.03	< 0.01	1.63	0.021	1.65	4.31	98.18	30.2	1.805	28.004	6.0	29.808	1.45	0.04
546153	46.89	0.190	22.39	0.15	< 0.01	0.03	0.02	0.01	1.75	0.026	1.26	5.45	98.89	30.9	2.073	27.806	6.7	29.880	3.17	0.02
546154	48.84	0.201	21.38	0.10	0.06	0.02	0.03	0.01	1.81	0.027	1.64	5.15	98.60	30.4	1.900	27.883	6.3	29.782	2.00	0.04
546155	41.75	0.199	24.83	0.15	< 0.01	0.04	0.03	0.01	1.53	0.023	1.36	6.72	99.25	30.6	2.393	27.895	7.8	30.288	1.08	0.02
546156	54.44	0.196	18.92	0.09	0.01	0.02	0.03	0.01	1.67	0.020	1.77	4.00	98.28	30.9	1.954	28.749	6.3	30.703	0.58	0.04
546157	59.70	0.211	16.04	0.06	< 0.01	0.01	0.02	0.01	1.99	0.027	1.84	2.68	97.62	30.4	1.802	28.890	5.9	30.692	-0.87	0.04
546158	51.19	0.211	21.22	0.06	< 0.01	0.01	0.02	< 0.01	1.66	0.022	1.47	5.35	98.42	30.7	2.259	27.637	7.4	29.896	2.48	0.06
546159	74.30	0.387	9.26	0.05	0.03	0.03	0.03	< 0.01	2.34	0.029	2.21	-0.30	97.16	31.0	1.553	28.765	5.0	30.318	2.17	0.02
546160.1	12.13	0.166	4.96	7.81	2.44	2.84	1.09	0.44	1.05	0.068	0.233	0.79	99.71							
546160.2	13.03	0.125	32.39	2.04	0.09	0.15	0.12	0.02	0.20	0.007	1.44	10.99	99.59							
546160.3	55.38	0.238	17.90	0.16	< 0.01	0.01	0.03	0.01	1.55	0.023	2.03	3.63	99.61	30.3	2.185	27.707	7.2	29.892	1.34	0.10
546161	76.54	0.238	7.63	0.03	< 0.01	0.03	0.02	0.01	2.54	0.033	2.81	-1.24	96.29	25.8	1.187	24.180	4.6	25.366	1.59	0.01
546162	67.41	0.242	11.60	0.08	< 0.01	0.03	0.03	0.01	2.73	0.030	2.75	0.74	96.56	30.7	1.456	27.961	4.7	29.418	4.10	0.01
546163	61.57	0.192	14.79	0.05	< 0.01	0.02	0.03	0.01	2.18	0.037	2.09	1.95	97.37	30.6	1.799	27.659	5.9	29.458	3.82	0.01
546164	63.32	0.195	13.94	0.20	0.01	0.03	0.02	0.01	2.19	0.033	2.26	1.85	97.97	30.4	0.998	28.256	3.3	29.253	3.63	0.01
546165	70.30	0.139	11.39	0.05	< 0.01	0.03	0.03	0.01	1.63	0.026	2.44	0.42	97.90	30.2	1.903	28.091	6.3	29.994	0.82	0.01
546166	73.99	0.195	8.98	0.10	< 0.01	0.04	0.02	0.01	2.40	0.035	3.92	-1.36	97.00	31.5	1.226	29.880	3.9	31.107	1.31	0.01
546167	68.85	0.245	11.37	0.16	< 0.01	0.03	0.03	< 0.01	2.68	0.038	4.72	-1.15	96.22	30.2	0.851	28.640	2.8	29.492	2.32	0.02
546168	60.05	0.240	15.59	0.09	< 0.01	0.02	0.02	< 0.01	2.76	0.036	2.13	1.83	97.40	30.3	1.564	28.260	5.2	29.825	1.50	0.01
546169	66.54	0.165	13.75	0.09	0.10	0.03	0.03	0.01	1.59	0.028	1.98	1.42	98.66	30.0	2.087	27.530	7.0	29.617	1.36	0.02
546170	67.19	0.173	11.90	0.11	< 0.01	0.02	0.02	0.01	1.71	0.019	2.78	0.47	96.77	26.3	1.541	24.279	5.9	25.820	1.98	0.01
546171	58.75	0.198	16.05	0.16	0.03	< 0.01	0.01	0.01	2.11	0.028	2.35	2.11	96.51	30.1	1.607	27.841	5.3	29.449	2.12	0.01
546172	55.38	0.160	18.06	0.09	< 0.01	0.03	0.01	0.01	1.65	0.023	1.80	3.34	97.49	30.1	2.313	27.891	7.7	30.203	-0.50	< 0.01
546173	63.32	0.188	13.99	0.14	0.04	0.01	0.02	< 0.01	2.07	0.025	2.13	1.63	96.89	30.1	2.035	27.600	6.8	29.635	1.47	0.01
546174	54.86	0.174	18.10	0.12	< 0.01	0.01	0.02	0.01	1.76	0.025	2.23	3.06	97.33	30.2	2.111	27.617	7.0	29.728	1.62	0.02
546175	60.44	0.175	15.38	0.10	< 0.01	0.02	0.02	< 0.01	1.87	0.024	2.33	1.89	96.92	30.1	1.789	28.012	6.0	29.802	0.83	0.01
546176	56.18	0.148	17.42	0.11	0.03	0.03	0.01	0.01	1.61	0.024	2.20	2.92	97.82	30.0	2.228	27.138	7.4	29.367	2.26	0.01
546177	43.78	0.165	23.41	0.24	0.06	0.03	0.02	< 0.01	1.52	0.017	1.42	5.52	98.45	30.2	2.655	27.039	8.8	29.694	1.58	0.01
546178	34.99	0.162	27.52	0.21	0.01	0.03	0.01	0.01	1.42	0.019	1.39	7.14	98.39	30.0	3.141	26.020	10.5	29.161	2.85	0.01
546179	36.91	0.132	26.83	0.16	< 0.01	0.01	0.01	0.01	1.25	0.018	1.27	6.92	98.33	30.0	3.107	26.382	10.3	29.489	1.77	< 0.01
546180	0.57	0.006	0.01	0.02	0.02	0.08	0.05	0.01	< 0.01	< 0.003	< 0.003	0.12	100.1	32.2	0.053	31.414	0.2	31.466	2.29	
546181	36.08	0.113	27.35	0.12	< 0.01	0.01	0.01	0.01	1.12	0.019	1.13	7.45	99.50	30.1	3.831	25.762	12.7	29.594	1.60	< 0.01
546182	35.67	0.144	27.09	0.17	< 0.01	0.01	0.01	< 0.01	1.40	0.017	1.25	7.51	99.33	30.0	3.508	26.015	11.7	29.523	1.67	< 0.01
546183	39.41	0.140	26.27	0.17	< 0.01	0.01	0.01	0.01	1.14	0.014	1.33	7.14	99.15	30.1	3.499	26.012	11.6	29.511	1.81	0.02
546184	44.80	0.135	22.97	0.25	< 0.01	0.01	0.01	< 0.01	1.20	0.017	1.51	5.57	98.63	30.0	3.338	26.393	11.1	29.731	0.99	0.01

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
546185	46.33	0.165	22.43	0.13	< 0.01	0.01	0.02	0.01	1.81	0.024	2.12	4.78	98.93	30.0	1.999	27.650	6.7	29.649	1.32	< 0.01
546186	44.68	0.161	23.39	0.09	0.01	0.01	0.02	0.01	1.42	0.015	1.53	6.05	97.95	30.0	3.023	26.959	10.1	29.982	0.19	0.04
546187	37.01	0.146	25.87	0.31	0.01	0.02	0.01	< 0.01	1.27	0.017	1.45	6.83	98.37	30.0	2.938	26.568	9.8	29.506	1.76	0.04
546188	36.34	0.160	26.37	0.31	< 0.01	< 0.01	0.02	0.01	1.38	0.021	1.46	7.73	99.48	30.0	3.588	25.620	11.9	29.208	2.76	0.07
546189	29.59	0.219	30.81	0.14	< 0.01	0.02	0.01	0.01	1.35	0.023	1.23	7.49	98.59	30.0	3.277	26.364	10.9	29.641	1.32	0.08
546190	31.41	0.222	27.87	1.88	0.02	0.03	0.01	0.01	1.26	0.026	0.994	6.33	98.29	30.1	3.549	26.315	11.8	29.863	0.63	0.11
546191	35.56	0.200	27.50	0.57	< 0.01	0.02	0.01	0.01	1.54	0.023	1.39	6.49	98.39	30.2	2.706	27.217	9.0	29.923	0.77	0.10
546192	24.64	0.143	31.67	0.19	< 0.01	0.02	0.01	0.01	1.11	0.020	1.03	8.51	99.08	30.1	4.294	25.614	14.3	29.908	0.74	0.06
546193	28.55	0.162	30.84	0.43	0.02	0.02	0.02	0.01	1.33	0.022	1.27	7.28	99.81	30.1	3.252	26.538	10.8	29.791	1.15	0.03
546194	30.05	0.179	29.47	0.25	0.03	0.01	0.01	0.01	1.59	0.026	1.66	6.70	99.31	30.0	2.584	26.650	8.6	29.234	2.67	0.02
546195	32.09	0.171	28.71	0.16	< 0.01	0.03	0.02	0.01	1.55	0.025	1.57	6.80	99.64	30.0	2.438	26.484	8.1	28.922	3.69	0.03
546196	26.18	0.155	32.93	0.41	< 0.01	0.03	0.01	0.01	0.93	0.018	0.974	7.86	99.63	30.1	4.061	25.646	13.5	29.707	1.18	0.02
546197	31.62	0.202	27.30	2.27	< 0.01	0.03	0.01	0.01	1.38	0.027	1.44	6.17	98.14	30.1	1.969	27.854	6.5	29.823	0.79	0.07
546198	28.95	0.192	29.95	0.13	< 0.01	< 0.01	0.03	0.02	1.87	0.028	1.04	8.07	99.15	30.0	2.827	26.131	9.4	28.959	3.57	0.02
523292	52.07	0.225	19.35	0.10	0.03	0.02	0.02	0.01	2.07	0.024	1.55	4.36	97.86	30.1	1.837	27.859	6.1	29.696	1.36	0.01
523293	51.58	0.185	20.61	0.18	0.02	0.01	0.02	0.01	1.50	0.021	1.21	5.03	99.39	30.1	2.521	27.405	8.4	29.926	0.51	0.02
523294	47.60	0.182	21.57	0.10	< 0.01	0.03	0.01	0.01	1.47	0.020	1.55	5.77	99.12	30.1	2.455	27.008	8.2	29.464	2.02	0.01
523295	42.29	0.172	24.11	0.17	0.03	0.01	0.01	0.01	1.29	0.019	1.17	6.69	99.37	30.0	2.997	26.875	10.0	29.872	0.54	0.01
523296	50.92	0.238	19.72	0.11	0.03	0.02	0.02	0.01	2.24	0.025	1.60	4.80	98.63	30.1	1.925	27.897	6.4	29.823	0.83	0.02
523297	50.83	0.129	20.42	0.06	0.02	0.02	0.02	0.01	1.39	0.021	1.64	4.64	98.93	30.0	2.570	26.962	8.6	29.533	1.69	0.06
523298	57.47	0.188	18.10	0.03	0.15	0.03	0.04	0.01	1.74	0.020	1.73	4.04	99.31	30.0	1.801	27.930	6.0	29.731	0.93	0.06
523299	47.73	0.141	22.55	0.03	< 0.01	0.02	0.01	0.01	1.63	0.018	2.07	4.30	98.71	30.1	1.326	28.478	4.4	29.804	1.09	0.04

523300 not analyzed as per client

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
NIST 694 Meas	11.22	1.90	0.76	0.014	0.36	44.52	0.89	0.57	0.118	30.22									1682					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
DNC-1 Meas	47.04	18.31	9.48	0.145	10.01	11.00	1.90	0.23	0.471	0.06			106	143	15	31	34		155	0.033	0.026			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148.0	0.025	0.027			
GBW 07113 Meas	71.77	13.01	3.15	0.137	0.14	0.55	2.38	5.32	0.279	0.05			497	40	43	5	393	4	< 5					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
MICA-FE Meas																						34.45	19.45	25.77
MICA-FE Cert																						34.4	19.5	25.6
CHR-BKG Meas																						15.08	12.94	13.89
CHR-BKG Cert																						15.27	12.91	13.87
IF-G Meas																						41.32	0.17	55.90
IF-G Cert																						41.2	0.150	55.8
LKSD-4 Meas																								
LKSD-4 Cert																								
LKSD-4 Meas																								
LKSD-4 Cert																								
BaSO4 Meas																								
BaSO4 Cert																								
BaSO4 Meas																								
BaSO4 Cert																								
W-2a Meas	52.83	15.47	10.63	0.167	6.32	10.72	2.20	0.64	1.076	0.12			176	197	18	36	85	< 1	278	0.012	< 0.010			
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262	0.00700	0.00920			
OREAS 13P Meas																				0.223				
OREAS 13P Cert																				0.226				
OREAS 14P Meas																				1.968				
OREAS 14P Cert																				2.10				
SY-4 Meas	49.69	19.58	6.15	0.108	0.50	7.91	6.98	1.67	0.283	0.14			344	1191	113	1	537	3	8	< 0.010	< 0.010			
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0	0.000	0.001			
Oreas 73a (Fusion) Meas																				1.485	0.221	36.38	2.36	
Oreas 73a (Fusion) Cert																				1.44	0.20	36.4	2.38	
Oreas 74a (Fusion) Meas																						32.56	2.17	
Oreas 74a (Fusion) Cert																						32.4	2.21	
Oreas 75a (Fusion) Meas																						27.30	2.02	
Oreas 75a (Fusion) Cert																						27.3	1.99	
BIR-1a Meas	47.84	15.78	11.13	0.174	9.60	13.11	1.79	0.02	0.970	0.03			8	110	14	43	15	< 1	333	0.022	0.036			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310	0	0			
OREAS 13b (fusion) Meas													715	546			108		343		0.981			
OREAS 13b (fusion) Cert													694	537			108		330		1.08			
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
BCR-2 Meas	54.30	13.67	13.18		3.52	6.93	3.12	1.82	2.228	0.34			696	345	32	33	168		428		< 0.010			
BCR-2 Cert	54.1	13.5	13.8		3.59	7.12	3.16	1.79	2.26	0.35			683	346	37	33	188		416		0			
521632 Orig	77.41	8.54	3.66	0.064	1.75	0.79	0.39	2.55	0.422	0.06	5.26	100.9	1789	40	17	11	82	2	92	< 0.010	< 0.010			
521640.1 Orig	50.03	16.10	11.51	0.167	4.85	7.84	2.27	2.86	1.182	0.43	0.90	98.15	717	521	20	26	111	2	339	0.237	1.141			
521640.1 Dup	49.69	15.93	11.26	0.167	4.83	7.87	2.23	2.81	1.178	0.42	0.90	97.29	713	514	21	26	105	2	336	0.233	1.137			
521640.2 Orig	36.98	2.35	12.64	0.135	32.52	2.11	0.13	0.14	0.116	0.03	11.07	98.21	20	14	3	8	23	< 1	55					
521640.2 Dup	36.72	2.40	13.01	0.133	32.69	2.04	0.13	0.14	0.118	0.04	11.07	98.50	20	13	6	8	24	< 1	50					
521645 Orig	54.40	16.62	7.12	0.131	6.86	7.89	4.18	0.75	0.704	0.20	1.99	100.8	408	631	14	21	97	< 1	167	0.014	0.026			
521645 Split	54.30	17.13	7.01	0.127	6.84	7.53	4.35	0.76	0.687	0.18	1.91	100.8	406	622	12	20	90	< 1	162	0.015	0.026			

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
521647 Orig	41.33	9.51	9.20	0.166	22.99	8.31	0.06	0.28	0.616	0.13	8.37	101.0	44	567	11	25	47	< 1	195	0.110	0.114			
521647 Dup	39.97	8.75	9.41	0.170	22.30	8.50	0.05	0.28	0.622	0.13	8.37	98.55	44	568	12	26	49	< 1	203	0.097	0.117			
521647 Orig	41.33	9.51	9.20	0.166	22.99	8.31	0.06	0.28	0.616	0.13	8.37	101.0	44	567	11	25	47	< 1	195					
521655 Orig																								
521655 Dup																								
521661 Orig	40.02	1.37	7.52	0.166	35.65	2.15	0.01	< 0.01	0.022	< 0.01	11.18	98.08	3	< 2	< 1	12	4	< 1	54	0.190	0.220			
521665 Orig	39.34	1.65	8.09	0.161	36.81	1.82	0.02	< 0.01	0.021	0.01	11.31	99.23	4	2	< 1	12	< 2	< 1	53	0.194	0.223			
521665 Split	39.67	1.68	8.01	0.166	36.25	1.96	0.02	< 0.01	0.021	< 0.01	11.40	99.20	4	< 2	< 1	12	3	< 1	57	0.194	0.225			
521665 Orig																								
521665 Dup																								
521675 Orig	38.89	1.67	9.37	0.123	36.11	1.67	0.02	< 0.01	0.022	0.02	11.53	99.42	3	2	< 1	13	2	< 1	57	0.184	0.223			
521675 Split	38.83	1.67	9.15	0.122	36.28	1.64	0.01	< 0.01	0.021	< 0.01	11.58	99.30	3	< 2	< 1	13	3	< 1	57	0.172	0.221			
521675 Orig																								
521675 Dup																								
521676 Orig	38.55	1.45	8.04	0.120	36.15	1.50	< 0.01	< 0.01	0.021	0.02	12.34	98.21	2	22	< 1	12	< 2	< 1	55	0.203	0.220			
521676 Dup	39.76	1.50	8.26	0.122	37.21	1.54	< 0.01	< 0.01	0.021	0.03	12.34	100.8	2	23	< 1	12	< 2	< 1	54	0.213	0.228			
521676 Orig	38.55	1.45	8.04	0.120	36.15	1.50	< 0.01	< 0.01	0.021	0.02	12.34	98.21	2	22	< 1	12	< 2	< 1	55					
521676 Dup	39.76	1.50	8.26	0.122	37.21	1.54	< 0.01	< 0.01	0.021	0.03	12.34	100.8	2	23	< 1	12	< 2	< 1	54					
521680.1 Orig	49.13	15.81	11.18	0.164	4.83	7.78	2.22	2.72	1.147	0.43	0.82	96.23	706	503	20	25	99	2	331	0.235	1.133			
521680.1 Dup	49.56	15.46	11.12	0.162	4.72	7.84	2.24	2.74	1.144	0.43	0.82	96.23	711	505	19	26	103	2	337	0.236	1.121			
521680.2 Orig	37.36	2.45	13.01	0.134	33.00	2.06	0.13	0.10	0.122	0.04	10.72	99.11	21	13	1	8	23	< 1	54					
521683 Orig																								
521683 Dup																								
521691 Orig	40.63	2.36	7.78	0.084	37.20	0.71	0.10	0.04	0.019	0.03	11.63	100.6	2	< 2	< 1	13	< 2	< 1	58	0.201	0.233			
521691 Dup	40.34	2.32	7.87	0.084	36.99	0.73	0.10	0.04	0.019	0.02	11.63	100.2	2	< 2	< 1	13	2	< 1	59	0.207	0.237			
521691 Orig	40.63	2.36	7.78	0.084	37.20	0.71	0.10	0.04	0.019	0.03	11.63	100.6	2	< 2	< 1	13	< 2	< 1	58					
521691 Dup	40.34	2.32	7.87	0.084	36.99	0.73	0.10	0.04	0.019	0.02	11.63	100.2	2	< 2	< 1	13	2	< 1	59					
521693 Orig																								
521693 Dup																								
521811 Orig	38.42	0.64	7.73	0.108	39.59	0.67	< 0.01	< 0.01	0.004	0.02	12.41	99.58	< 2	< 2	< 1	9	4	< 1	38	0.232	0.236			
521811 Split	38.32	0.65	7.52	0.106	39.87	0.65	< 0.01	< 0.01	0.004	< 0.01	12.59	99.71	< 2	< 2	< 1	10	< 2	< 1	36	0.199	0.229			
521811 Orig																								
521811 Dup																								
521813 Orig	38.46	0.58	7.95	0.123	39.81	0.63	< 0.01	< 0.01	0.004	0.02	12.75	100.3	2	< 2	< 1	9	2	< 1	35	0.208	0.229			
521813 Dup	37.62	0.57	7.67	0.120	39.07	0.60	< 0.01	< 0.01	0.004	0.03	12.75	98.43	2	< 2	< 1	9	< 2	< 1	33	0.196	0.217			
521813 Orig	38.46	0.58	7.95	0.123	39.81	0.63	< 0.01	< 0.01	0.004	0.02	12.75	100.3	2	< 2	< 1	9	2	< 1	35					
521813 Dup	37.62	0.57	7.67	0.120	39.07	0.60	< 0.01	< 0.01	0.004	0.03	12.75	98.43	2	< 2	< 1	9	< 2	< 1	33					
521820.1 Orig	49.20	16.12	11.16	0.161	4.80	7.46	2.33	2.84	1.162	0.42	0.79	96.44	718	513	20	25	97	2	334	0.230	1.106			
521820.1 Dup	49.62	16.30	11.38	0.164	4.90	7.61	2.32	2.83	1.206	0.43	0.79	97.56	722	530	20	26	102	2	333	0.235	1.129			
521826 Orig	33.23	15.26	12.12	0.217	17.62	6.51	0.03	1.08	2.184	0.42	10.77	99.44	1826	108	37	27	187	2	256	0.067	0.077			
521826 Dup	33.37	15.08	12.37	0.219	17.98	6.61	0.03	1.08	2.199	0.43	10.77	100.1	1851	109	37	28	195	2	262	0.067	0.078			
521826 Orig	33.23	15.26	12.12	0.217	17.62	6.51	0.03	1.08	2.184	0.42	10.77	99.44	1826	108	37	27	187	2	256					
521826 Dup	33.37	15.08	12.37	0.219	17.98	6.61	0.03	1.08	2.199	0.43	10.77	100.1	1851	109	37	28	195	2	262					
522664 Orig																								
522664 Dup																								
522674 Orig	38.87	2.05	8.89	0.112	36.86	1.54	0.02	< 0.01	0.024	< 0.01	11.70	100.1	3	4	1	14	< 2	< 1	62	0.192	0.256			
522674 Split	39.47	2.12	8.27	0.106	36.39	1.44	0.02	< 0.01	0.023	0.02	11.64	99.51	4	4	< 1	14	2	< 1	60	0.203	0.232			
522674 Orig																								
522674 Dup																								
522678 Orig	36.98	0.84	8.61	0.117	40.18	0.07	< 0.01	< 0.01	0.015	0.02	12.75	99.61	2	< 2	< 1	9	3	< 1	37	0.197	0.261			
522678 Dup	37.42	0.88	8.39	0.114	40.18	0.07	< 0.01	< 0.01	0.015	0.01	12.75	99.84	< 2	< 2	< 1	8	3	< 1	40	0.208	0.255			
522678 Orig	36.98	0.84	8.61	0.117	40.18	0.07	< 0.01	< 0.01	0.015	0.02	12.75	99.61	2	< 2	< 1	9	3	< 1	37					
522678 Dup	37.42	0.88	8.39	0.114	40.18	0.07	< 0.01	< 0.01	0.015	0.01	12.75	99.84	< 2	< 2	< 1	8	3	< 1	40					
522684 Orig																								
522684 Dup																								
523383 Orig	38.33	0.75	8.04	0.108	40.61	0.42	< 0.01	< 0.01	0.006	< 0.01	11.60	99.86	< 2	< 2	< 1	9	2	< 1	40	0.215	0.246			
523383 Dup	37.74	0.72	8.08	0.107	40.29	0.42	< 0.01	< 0.01	0.006	< 0.01	11.60	98.97	< 2	< 2	< 1	9	3	< 1	35	0.220	0.247			

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
523392 Orig																								
523392 Dup																								
523405 Orig	39.53	0.76	7.76	0.133	41.38	0.20	< 0.01	< 0.01	0.004	0.04	10.79	100.6	< 2	< 2	< 1	10	< 2	< 1	36	0.186	0.227			
523405 Split	38.78	0.75	7.57	0.127	40.78	0.20	< 0.01	< 0.01	0.004	< 0.01	10.72	98.93	< 2	< 2	< 1	10	< 2	< 1	36	0.202	0.237			
523406 Orig	38.23	0.69	7.99	0.120	38.05	0.65	< 0.01	< 0.01	0.005	0.03	12.78	98.55	< 2	< 2	< 1	11	3	< 1	39	0.206	0.230			
523406 Split	37.54	0.66	8.24	0.124	39.23	0.67	< 0.01	< 0.01	0.005	< 0.01	12.62	99.09	< 2	< 2	< 1	11	< 2	< 1	39	0.214	0.254			
523408 Orig	37.75	0.81	7.49	0.102	37.47	1.63	< 0.01	< 0.01	0.007	0.02	13.77	99.07	< 2	< 2	< 1	8	< 2	< 1	38	0.191	0.208			
523408 Dup	37.15	0.79	7.42	0.101	37.66	1.62	< 0.01	< 0.01	0.006	0.03	13.77	98.55	< 2	< 2	< 1	8	2	< 1	38	0.199	0.216			
523408 Orig	37.75	0.81	7.49	0.102	37.47	1.63	< 0.01	< 0.01	0.007	0.02	13.77	99.07	< 2	< 2	< 1	8	< 2	< 1	38					
523408 Dup	37.15	0.79	7.42	0.101	37.66	1.62	< 0.01	< 0.01	0.006	0.03	13.77	98.55	< 2	< 2	< 1	8	2	< 1	38					
523412 Orig																								
523412 Dup																								
523425 Orig																								
523425 Dup																								
523435 Orig	38.21	0.66	8.09	0.129	38.29	0.77	< 0.01	< 0.01	0.004	< 0.01	12.72	98.88	< 2	< 2	< 1	10	< 2	< 1	37	0.208	0.230			
523435 Dup	38.15	0.66	8.13	0.130	38.07	0.79	< 0.01	< 0.01	0.004	0.02	12.72	98.67	< 2	< 2	< 1	10	5	< 1	37	0.173	0.230			
523435 Orig	38.21	0.66	8.09	0.129	38.29	0.77	< 0.01	< 0.01	0.004	< 0.01	12.72	98.88	< 2	< 2	< 1	10	< 2	< 1	37					
523435 Dup	38.15	0.66	8.13	0.130	38.07	0.79	< 0.01	< 0.01	0.004	0.02	12.72	98.67	< 2	< 2	< 1	10	5	< 1	37					
523440.1 Orig	49.59	16.20	10.93	0.161	4.86	7.57	2.32	2.88	1.170	0.40	0.80	96.88	725	521	20	26	94	2	332	0.225	1.107			
523440.1 Dup	49.43	16.12	11.15	0.162	4.83	7.53	2.32	2.89	1.160	0.43	0.80	96.82	724	515	20	26	108	2	329	0.230	1.113			
523443 Orig	37.59	0.76	8.53	0.115	38.61	1.03	< 0.01	< 0.01	0.004	0.01	13.56	100.2	< 2	< 2	< 1	10	2	< 1	37	0.209	0.236			
523443 Split	37.30	0.76	8.51	0.114	38.65	1.02	< 0.01	< 0.01	0.004	< 0.01	13.48	99.85	< 2	< 2	< 1	11	< 2	< 1	39	0.215	0.242			
523443 Orig																								
523443 Dup																								
523447 Orig	36.59	0.54	8.24	0.123	38.16	0.55	< 0.01	< 0.01	0.004	0.04	13.26	97.52	< 2	< 2	< 1	9	< 2	< 1	29	0.202	0.201			
523447 Dup	37.34	0.54	8.32	0.125	39.09	0.56	< 0.01	< 0.01	0.004	0.03	13.26	99.28	< 2	< 2	< 1	9	< 2	< 1	28	0.198	0.203			
523447 Orig	36.59	0.54	8.24	0.123	38.16	0.55	< 0.01	< 0.01	0.004	0.04	13.26	97.52	< 2	< 2	< 1	9	< 2	< 1	29					
523447 Dup	37.34	0.54	8.32	0.125	39.09	0.56	< 0.01	< 0.01	0.004	0.03	13.26	99.28	< 2	< 2	< 1	9	< 2	< 1	28					
523453 Orig																								
546130 Orig	38.45	0.67	8.44	0.140	40.36	0.62	< 0.01	< 0.01	0.005	< 0.01	11.85	100.6	< 2	< 2	< 1	9	3	< 1	37	0.196	0.230			
546130 Dup	38.14	0.67	8.27	0.140	39.75	0.62	< 0.01	< 0.01	0.005	< 0.01	11.85	99.46	< 2	< 2	< 1	9	2	< 1	36	0.208	0.228			
546131 Orig	38.24	0.79	8.31	0.104	39.34	0.71	< 0.01	< 0.01	0.005	< 0.01	12.57	100.1	< 2	< 2	< 1	9	3	< 1	43	0.196	0.241			
546131 Split	38.07	0.80	8.22	0.105	39.45	0.68	< 0.01	< 0.01	0.004	< 0.01	12.76	100.1	< 2	< 2	< 1	9	< 2	< 1	44	0.208	0.240			
546131 Orig																								
546131 Dup																								
546141 Orig	37.57	0.60	8.49	0.133	39.85	0.91	< 0.01	< 0.01	0.004	0.01	12.67	100.3	< 2	< 2	< 1	9	2	< 1	38	0.196	0.238			
546141 Split	36.98	0.59	8.30	0.130	39.06	0.87	< 0.01	< 0.01	0.004	0.01	12.67	98.63	< 2	< 2	< 1	9	< 2	< 1	36	0.192	0.231			
546141 Orig																								
546141 Dup																								
546147 Orig	38.71	0.73	7.81	0.120	39.34	0.86	< 0.01	< 0.01	0.005	< 0.01	13.30	100.9	< 2	< 2	< 1	10	< 2	< 1	40	0.200	0.236			
546147 Orig	38.71	0.73	7.81	0.120	39.34	0.86	< 0.01	< 0.01	0.005	< 0.01	13.30	100.9	< 2	< 2	< 1	10	< 2	< 1	40					
546151 Orig																								
546151 Dup																								
546160.1 Orig	50.02	16.38	11.31	0.165	4.88	7.70	2.34	2.88	1.184	0.43	0.72	98.01	725	522	19	26	106	2	337	0.235	1.121			
546160.1 Dup	49.86	16.48	11.05	0.165	4.87	7.63	2.35	2.88	1.178	0.39	0.72	97.57	726	528	20	26	94	2	334	0.224	1.119			
546169 Orig	38.33	0.76	8.27	0.087	39.23	0.28	< 0.01	< 0.01	0.005	< 0.01	12.84	99.81	6	3	< 1	7	2	< 1	36	0.186	0.239			
546169 Split	37.60	0.77	8.04	0.084	39.09	0.26	< 0.01	< 0.01	0.004	< 0.01	12.78	98.63	< 2	< 2	< 1	7	< 2	< 1	34	0.203	0.211			
546169 Orig																								
546169 Dup																								
546174 Orig	38.92	0.70	7.88	0.102	38.80	0.62	< 0.01	< 0.01	0.004	< 0.01	12.72	99.76	< 2	< 2	< 1	10	3	< 1	39	0.203	0.256			
546174 Dup	38.69	0.72	7.91	0.101	39.48	0.61	< 0.01	< 0.01	0.004	< 0.01	12.72	100.3	< 2	< 2	< 1	10	2	< 1	44	0.175	0.251			
546174 Orig	38.92	0.70	7.88	0.102	38.80	0.62	< 0.01	< 0.01	0.004	< 0.01	12.72	99.76	< 2	< 2	< 1	10	3	< 1	39					
546174 Dup	38.69	0.72	7.91	0.101	39.48	0.61	< 0.01	< 0.01	0.004	< 0.01	12.72	100.3	< 2	< 2	< 1	10	2	< 1	44					
546179 Orig																								
546179 Dup																								
546189 Orig																								
546189 Dup																								

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
546191 Orig	39.96	0.67	7.95	0.121	39.72	0.92	< 0.01	< 0.01	0.004	< 0.01	11.09	100.4	< 2	< 2	< 1	10	3	< 1	41	0.212	0.262			
546191 Dup	39.59	0.67	7.85	0.119	39.99	0.92	< 0.01	< 0.01	0.004	< 0.01	11.09	100.2	< 2	< 2	< 1	10	2	< 1	42	0.196	0.261			
546191 Orig	39.96	0.67	7.95	0.121	39.72	0.92	< 0.01	< 0.01	0.004	< 0.01	11.09	100.4	< 2	< 2	< 1	10	3	< 1	41					
546191 Dup	39.59	0.67	7.85	0.119	39.99	0.92	< 0.01	< 0.01	0.004	< 0.01	11.09	100.2	< 2	< 2	< 1	10	2	< 1	42					
546198 Orig	38.35	0.69	7.35	0.120	39.11	0.19	< 0.01	< 0.01	0.004	< 0.01	12.24	98.06	< 2	< 2	< 1	9	< 2	< 1	39	0.196	0.286			
546198 Split	38.15	0.68	7.68	0.124	40.13	0.19	< 0.01	< 0.01	0.004	< 0.01	12.14	99.10	< 2	< 2	< 1	9	< 2	< 1	35	0.211	0.262			
546198 Split	38.15	0.68	7.68	0.124	40.13	0.19	< 0.01	< 0.01	0.004	< 0.01	12.14	99.10	< 2	< 2	< 1	9	< 2	< 1	35	0.211	0.262			
523292 Orig																								
523292 Dup																								
523298 Orig	36.98	0.44	6.94	0.094	40.60	0.12	< 0.01	< 0.01	0.010	< 0.01	14.13	99.33	5	< 2	< 1	5	3	< 1	21	0.220	0.191			
523298 Orig	36.98	0.44	6.94	0.094	40.60	0.12	< 0.01	< 0.01	0.010	< 0.01	14.13	99.33	5	< 2	< 1	5	3	< 1	21					
Method Blank																								
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
NIST 694 Meas													
NIST 694 Cert													
DNC-1 Meas													
DNC-1 Cert													
GBW 07113 Meas													
GBW 07113 Cert													
MICA-FE Meas	0.352	4.56	0.48	0.51	8.76	2.50	0.42	0.02	0.025	0.004			
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350			
CHR-BKG Meas	0.132	23.27	0.06			0.14		19.9		0.196			
CHR-BKG Cert	0.14	23.47	0.07			0.14		20		0.201			
IF-G Meas	0.041	1.87	1.52	0.05	0.02	0.02	0.06	0.01		< 0.003			
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225			
LKSD-4 Meas													0.85
LKSD-4 Cert													0.990
LKSD-4 Meas													1.00
LKSD-4 Cert													0.990
BaSO4 Meas													13.6
BaSO4 Cert													14.0
BaSO4 Meas													13.3
BaSO4 Cert													14.0
W-2a Meas													
W-2a Cert													
OREAS 13P Meas										0.230			
OREAS 13P Cert										0.226			
OREAS 14P Meas										2.10			
OREAS 14P Cert										2.10			
SY-4 Meas													
SY-4 Cert													
Oreas 73a (Fusion) Meas		32.56						0.20		1.44			
Oreas 73a (Fusion) Cert		32.5						0.20		1.44			
Oreas 74a (Fusion) Meas		27.85						0.18		3.23			
Oreas 74a (Fusion) Cert		27.9						0.18		3.24			
Oreas 75a (Fusion) Meas		22.45						0.15		5.24			
Oreas 75a (Fusion) Cert		22.3						0.16		5.25			
BIR-1a Meas													
BIR-1a Cert													
OREAS 13b (fusion) Meas													
OREAS 13b (fusion) Cert													
OREAS 13b (4-Acid) Meas													0.97
OREAS 13b (4-Acid) Cert													1.20
OREAS 13b (4-Acid) Meas													0.95
OREAS 13b (4-Acid) Cert													1.20
BCR-2 Meas													
BCR-2 Cert													
521632 Orig													
521640.1 Orig													
521640.1 Dup													
521640.2 Orig													
521640.2 Dup													
521645 Orig													
521645 Split													

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
521647 Orig													
521647 Dup													
521647 Orig													
521655 Orig													0.04
521655 Dup													0.04
521661 Orig													
521665 Orig													
521665 Split													
521665 Orig													0.04
521665 Dup													0.04
521675 Orig													
521675 Split													
521675 Orig													0.02
521675 Dup													0.02
521676 Orig													
521676 Dup													
521676 Orig													
521676 Dup													
521680.1 Orig													
521680.1 Dup													
521680.2 Orig													
521683 Orig													0.02
521683 Dup													0.02
521691 Orig													
521691 Dup													
521691 Orig													
521691 Dup													
521693 Orig													0.02
521693 Dup													0.03
521811 Orig													
521811 Split													
521811 Orig													0.02
521811 Dup													0.02
521813 Orig													
521813 Dup													
521813 Orig													
521813 Dup													
521820.1 Orig													
521820.1 Dup													
521826 Orig													
521826 Dup													
521826 Orig													
521826 Dup													
522664 Orig													0.22
522664 Dup													0.21
522674 Orig													
522674 Split													
522674 Orig													0.04
522674 Dup													0.03
522678 Orig													
522678 Dup													
522678 Orig													
522678 Dup													
522684 Orig													0.04
522684 Dup													0.04
523383 Orig													
523383 Dup													

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
523392 Orig													0.02
523392 Dup													0.02
523405 Orig													
523405 Split													
523406 Orig													
523406 Split													
523408 Orig													
523408 Dup													
523408 Orig													
523408 Dup													
523412 Orig													0.03
523412 Dup													0.02
523425 Orig													0.03
523425 Dup													0.02
523435 Orig													0.02
523435 Dup													0.01
523435 Orig													
523435 Dup													
523440.1 Orig													
523440.1 Dup													
523443 Orig													
523443 Split													
523443 Orig													0.02
523443 Dup													0.02
523447 Orig													
523447 Dup													
523447 Orig													
523447 Dup													
523453 Orig													0.02
546130 Orig													
546130 Dup													
546131 Orig													
546131 Split													
546131 Orig													0.08
546131 Dup													0.07
546141 Orig													
546141 Split													
546141 Orig													0.03
546141 Dup													0.02
546147 Orig													
546147 Orig													
546151 Orig													0.02
546151 Dup													0.02
546160.1 Orig													
546160.1 Dup													
546169 Orig													
546169 Split													
546169 Orig													0.01
546169 Dup													0.02
546174 Orig													
546174 Dup													
546174 Orig													
546174 Dup													
546179 Orig													< 0.01
546179 Dup													< 0.01
546189 Orig													0.08
546189 Dup													0.08

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
546191 Orig													
546191 Dup													
546191 Orig													
546191 Dup													
546198 Orig													
546198 Split													
546198 Split													
523292 Orig													0.01
523292 Dup													0.01
523298 Orig													
523298 Orig													
Method Blank													< 0.01
Method Blank													< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	
Method Blank													< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 21-Oct-11
Invoice No.: A11-12353
Invoice Date: 07-Dec-11
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road
Suite 2
Sudbury Ontario P3C 4Y9
Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

18 Pulp samples and 168 Rock samples were submitted for analysis.

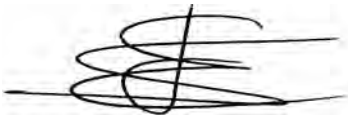
The following analytical packages were requested:

Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (1-10) Whole Rock Analysis-XRF
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID

REPORT **A11-12353**

Notes:
Total includes all elements in % oxide to the left of total.

CERTIFIED BY :



Emmanuel Eseme , Ph.D.
Quality Control

SCC Accredited LAB 265
LAB 266 Accrédité CCN

ACTIVATION LABORATORIES LTD.

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID(Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
523286	36.32	0.61	8.12	0.129	38.50	0.33	< 0.01	< 0.01	0.010	< 0.01	14.78	98.82	47	5	< 1	8	2	< 1	28	0.216	0.214	523286	15.35	0.32
523287	37.39	0.78	7.86	0.115	38.08	0.43	< 0.01	< 0.01	0.007	< 0.01	14.15	98.83	21	3	1	10	3	< 1	35	0.193	0.271	523287	18.92	0.57
523288	37.11	0.78	8.21	0.095	38.86	0.43	< 0.01	< 0.01	0.006	0.03	13.81	99.35	13	< 2	1	11	2	< 1	40	0.203	0.290	523288	18.41	0.97
523289	37.12	0.69	7.74	0.109	38.70	0.85	< 0.01	< 0.01	0.005	< 0.01	14.11	99.33	8	< 2	< 1	10	5	< 1	38	0.198	0.262	523289	19.46	0.49
523300.1	48.77	15.44	11.91	0.165	4.80	7.87	2.18	2.71	1.178	0.41	0.73	96.16	698	514	20	25	106	2	342	0.209	0.990	523300	49.22	15.88
523300.2																						523300	36.22	2.37
523300.3																						523300	18.74	0.74
546063	37.08	0.77	7.93	0.119	38.38	1.61	< 0.01	< 0.01	0.005	< 0.01	13.07	98.97	9	6	< 1	10	3	< 1	41	0.180	0.247	546063	22.97	0.31
546064	37.32	0.71	7.96	0.117	38.56	0.39	< 0.01	< 0.01	0.004	< 0.01	13.45	98.53	5	< 2	< 1	9	3	< 1	36	0.186	0.230	546064	22.92	0.49
546065	38.30	0.81	7.79	0.123	38.58	0.89	< 0.01	< 0.01	0.005	< 0.01	12.51	99.02	6	< 2	1	10	4	< 1	45	0.192	0.224	546065	23.28	1.16
546066	36.80	0.84	8.06	0.118	39.35	0.39	< 0.01	< 0.01	0.007	< 0.01	13.68	99.25	3	< 2	< 1	9	3	< 1	37	0.210	0.249	546066	20.91	0.48
546067	36.71	0.72	7.63	0.125	39.35	0.57	< 0.01	< 0.01	0.005	0.02	13.93	99.06	3	< 2	< 1	11	6	< 1	37	0.186	0.263	546067	21.00	0.83
546068	36.84	0.62	7.62	0.149	37.64	1.34	< 0.01	< 0.01	0.005	< 0.01	13.54	97.77	7	< 2	< 1	9	17	< 1	36	0.179	0.243	546068	20.39	0.85
546069	35.47	0.59	8.13	0.154	39.91	0.23	< 0.01	< 0.01	0.004	< 0.01	13.77	98.27	17	< 2	< 1	9	7	< 1	31	0.214	0.226	546069	17.36	0.83
546070	36.64	0.71	7.64	0.121	39.01	0.32	< 0.01	< 0.01	0.004	0.02	13.92	98.38	3	< 2	< 1	8	2	< 1	33	0.200	0.222	546070	17.01	0.69
546071	37.09	0.68	7.80	0.135	39.31	0.31	< 0.01	< 0.01	0.004	< 0.01	13.35	98.69	4	< 2	< 1	9	3	< 1	31	0.196	0.224	546071	18.03	0.91
546072	37.62	0.77	8.03	0.106	38.16	0.63	< 0.01	< 0.01	0.005	< 0.01	12.88	98.22	< 2	< 2	< 1	9	< 2	< 1	43	0.190	0.246	546072	20.99	0.53
546073	37.79	0.63	8.42	0.141	39.56	0.39	< 0.01	< 0.01	0.005	< 0.01	12.32	99.26	7	< 2	< 1	10	< 2	< 1	33	0.210	0.214	546073	14.50	0.71
546074	37.24	0.64	7.69	0.122	37.70	1.05	< 0.01	< 0.01	0.004	< 0.01	13.67	98.15	4	< 2	< 1	9	3	< 1	38	0.203	0.248	546074	16.07	0.63
546075	37.37	0.62	8.02	0.119	38.30	0.82	< 0.01	< 0.01	0.004	< 0.01	13.15	98.40	2	< 2	< 1	10	< 2	< 1	38	0.198	0.249	546075	19.29	0.61
546076	37.22	0.60	8.10	0.128	39.32	0.72	< 0.01	< 0.01	0.003	< 0.01	12.60	98.68	8	< 2	< 1	9	< 2	< 1	37	0.194	0.229	546076	18.17	0.45
546077	38.03	0.58	7.98	0.130	39.20	0.53	< 0.01	< 0.01	0.004	< 0.01	11.76	98.22	3	< 2	< 1	10	2	< 1	34	0.197	0.248	546077	19.03	0.33
546078	37.78	0.74	7.94	0.122	38.98	0.58	< 0.01	< 0.01	0.005	< 0.01	12.23	98.39	3	< 2	< 1	9	< 2	< 1	35	0.182	0.250	546078	19.04	0.30
546079	37.40	0.61	7.75	0.121	39.39	0.54	< 0.01	< 0.01	0.004	< 0.01	12.61	98.42	2	< 2	< 1	9	2	< 1	32	0.171	0.227	546079	17.15	0.47
546080	98.04	0.32	0.60	0.007	0.05	0.03	0.02	0.05	0.030	< 0.01	0.06	99.20	38	5	2	< 1	50	< 1	6	< 0.010	< 0.010	546080	97.72	0.34
546081	37.10	0.55	8.73	0.154	39.47	0.45	< 0.01	< 0.01	0.004	< 0.01	11.62	98.10	4	< 2	< 1	10	< 2	< 1	37	0.201	0.253	546081	17.37	0.46
546082	38.32	0.70	7.77	0.094	39.36	0.96	< 0.01	< 0.01	0.004	< 0.01	13.55	100.8	3	< 2	< 1	9	< 2	< 1	39	0.188	0.220	546082	17.31	0.39
546083	36.11	0.61	8.69	0.117	38.51	0.93	< 0.01	< 0.01	0.004	< 0.01	13.51	98.49	< 2	< 2	< 1	10	< 2	< 1	39	0.205	0.261	546083	17.52	0.44
546084	37.51	0.61	8.28	0.121	39.12	0.82	< 0.01	< 0.01	0.003	< 0.01	12.36	98.82	< 2	< 2	< 1	9	2	< 1	37	0.197	0.249	546084	17.98	0.47
546085	37.22	0.66	8.16	0.108	38.49	0.76	< 0.01	< 0.01	0.003	< 0.01	12.37	97.78	2	< 2	< 1	9	3	< 1	36	0.195	0.217	546085	18.83	0.52
546086	37.98	0.69	7.28	0.105	38.76	0.21	< 0.01	< 0.01	0.004	< 0.01	13.01	98.04	< 2	< 2	< 1	8	2	< 1	32	0.190	0.216	546086	16.37	0.49
546087	38.45	0.69	7.09	0.108	38.87	0.23	< 0.01	< 0.01	0.005	< 0.01	13.03	98.48	2	< 2	< 1	8	2	< 1	33	0.183	0.223	546087	18.03	0.59
546088	38.52	0.77	8.04	0.107	38.79	0.69	< 0.01	< 0.01	0.006	< 0.01	12.42	99.36	2	< 2	< 1	10	2	< 1	40	0.184	0.264	546088	18.09	0.54
546089	38.46	0.78	7.50	0.080	38.79	0.37	< 0.01	< 0.01	0.006	< 0.01	12.53	98.53	< 2	< 2	< 1	8	< 2	< 1	35	0.194	0.225	546089	15.55	0.47
546090	38.68	0.65	7.95	0.133	39.94	0.90	< 0.01	< 0.01	0.006	< 0.01	12.35	100.6	9	< 2	< 1	10	< 2	< 1	38	0.199	0.231	546090	17.01	0.38
546091	37.07	0.66	8.17	0.113	39.86	0.60	< 0.01	< 0.01	0.005	0.01	12.21	98.70	2	< 2	< 1	8	3	< 1	35	0.218	0.267	546091	16.01	0.35
546092	37.17	0.68	8.39	0.104	39.73	0.57	< 0.01	< 0.01	0.004	< 0.01	12.77	99.42	< 2	< 2	< 1	9	3	< 1	39	0.221	0.256	546092	15.88	0.41
546093	37.65	0.69	8.18	0.113	40.23	0.59	< 0.01	< 0.01	0.005	0.01	11.30	98.77	< 2	< 2	< 1	9	2	< 1	39	0.177	0.273	546093	18.74	0.28
546094	37.76	0.60	7.84	0.107	40.54	0.84	< 0.01	< 0.01	0.004	< 0.01	12.01	99.71	2	< 2	< 1	8	2	< 1	40	0.164	0.262	546094	17.21	0.32
546095	37.40	0.52	8.56	0.121	40.47	0.43	< 0.01	< 0.01	0.004	< 0.01	11.38	98.89	< 2	< 2	< 1	10	2	< 1	38	0.211	0.255	546095	16.00	0.26
546096	37.42	0.63	8.56	0.141	40.53	0.72	< 0.01	< 0.01	0.010	< 0.01	11.40	99.42	< 2	< 2	1	7	2	< 1	30	0.194	0.221	546096	17.61	0.25
546097	37.85	0.60	8.39	0.103	40.41	0.59	< 0.01	< 0.01	0.004	< 0.01	11.64	99.60	< 2	< 2	< 1	10	< 2	< 1	38	0.185	0.262	546097	19.98	0.56
546098	37.89	0.64	7.76	0.117	40.69	0.52	< 0.01	< 0.01	0.003	< 0.01	11.45	99.07	< 2	< 2	< 1	9	< 2	< 1	35	0.178	0.221	546098	19.08	0.56
546099	36.69	0.64	8.46	0.126	39.13	0.47	< 0.01	< 0.01	0.004	0.01	12.31	97.85	< 2	< 2	< 1	10	2	< 1	36	0.176	0.264	546099	19.04	0.47
546100.1	49.80	16.00	12.03	0.168	4.86	7.97	2.24	2.72	1.197	0.43	0.84	98.27	711	525	21	26	103	2	345	0.221	1.026	546100	49.02	16.00
546100.2																						546100	36.25	2.28
546100.3																						546100		
546101	38.23	0.73	7.90	0.118	40.03	0.51	< 0.01	< 0.01	0.005	< 0.01	12.12	99.65	< 2	< 2	< 1	9	3	< 1	37	0.168	0.249	546101	20.47	0.52
546102	38.75	0.70	7.19	0.108	39.22	0.93	< 0.01	< 0.01	0.004	< 0.01	12.03	98.94	< 2	< 2	< 1	10	3	< 1	41	0.171	0.277	546102	18.82	0.53
546103	38.40	0.61	7.84	0.143	40.01	0.89	< 0.01	< 0.01	0.004	< 0.01	11.25	99.16	< 2	< 2	< 1	9	3	< 1	33	0.183	0.248	546103	25.01	0.70
546104	37.39	0.62	6.51	0.117	39.33	0.57	0.01	< 0.01	0.005	< 0.01	13.00	97.55	2	< 2	< 1	8	3	< 1	29	0.170	0.220	546104	18.42	0.59

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID(Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
546105	37.91	0.70	7.73	0.103	40.07	0.71	< 0.01	< 0.01	0.005	< 0.01	11.93	99.18	< 2	< 2	< 1	9	2	< 1	33	0.174	0.242	546105	20.52	0.57
546106	38.19	0.68	6.90	0.108	39.86	0.46	< 0.01	< 0.01	0.007	< 0.01	13.37	99.60	< 2	< 2	< 1	7	3	< 1	27	0.196	0.237	546106	18.56	0.55
546107	38.12	0.74	7.06	0.079	39.65	0.17	< 0.01	< 0.01	0.004	< 0.01	12.95	98.80	< 2	< 2	< 1	8	3	< 1	35	0.185	0.283	546107	23.34	0.57
546108	38.63	0.72	7.79	0.107	39.83	0.88	< 0.01	< 0.01	0.004	< 0.01	11.12	99.10	< 2	< 2	< 1	9	2	< 1	36	0.164	0.263	546108	16.25	0.89
546109	39.89	0.58	7.62	0.129	39.86	0.76	< 0.01	< 0.01	0.002	0.02	10.31	99.17	6	2	< 1	10	2	< 1	36	0.144	0.239	546109	16.81	0.61
546110	37.78	0.63	7.71	0.123	38.97	1.17	< 0.01	< 0.01	0.004	< 0.01	11.51	97.91	< 2	< 2	< 1	10	3	< 1	36	0.145	0.247	546110	14.77	0.40
546111	39.28	0.64	7.36	0.106	38.34	0.77	< 0.01	< 0.01	0.002	0.02	11.25	97.77	4	< 2	< 1	10	3	< 1	36	0.140	0.228	546111	18.31	0.69
546112	39.03	0.61	7.64	0.141	40.14	1.04	0.01	< 0.01	0.004	< 0.01	9.67	98.30	2	< 2	< 1	9	< 2	< 1	36	0.188	0.257	546112	16.60	0.85
546113	37.83	0.74	7.90	0.073	39.36	0.66	< 0.01	< 0.01	0.004	< 0.01	11.61	98.20	< 2	< 2	< 1	9	2	< 1	37	0.188	0.244	546113	15.81	0.52
546114	36.46	0.63	6.99	0.126	38.34	0.77	0.01	< 0.01	0.006	< 0.01	15.60	98.95	< 2	< 2	< 1	8	3	< 1	31	0.176	0.216	546114	15.09	0.38
546115	38.61	0.65	7.80	0.136	40.51	0.78	0.01	< 0.01	0.007	< 0.01	10.75	99.26	2	< 2	< 1	8	3	< 1	30	0.163	0.229	546115	15.34	0.36
546116	39.16	0.69	8.22	0.124	41.46	1.16	< 0.01	< 0.01	0.004	< 0.01	7.46	98.29	< 2	< 2	< 1	10	3	< 1	42	0.174	0.254	546116	18.75	0.40
546117	38.95	0.71	7.71	0.110	40.02	0.81	0.02	< 0.01	0.004	< 0.01	10.87	99.21	4	< 2	< 1	9	3	< 1	39	0.194	0.270	546117	12.20	0.42
546118	38.53	0.62	7.67	0.135	40.40	0.64	0.01	< 0.01	0.004	< 0.01	10.13	98.15	< 2	< 2	< 1	9	3	< 1	34	0.164	0.263	546118	14.85	0.67
546119	37.41	0.82	7.85	0.087	38.98	0.62	0.01	< 0.01	0.004	< 0.01	12.44	98.23	< 2	< 2	< 1	9	2	< 1	42	0.197	0.260	546119	10.69	0.40
546120.1	50.34	15.95	12.01	0.169	4.95	7.99	2.25	2.78	1.201	0.44	0.84	98.93	718	536	22	26	106	2	347	0.221	1.011	546120	49.10	15.82
546120.2																						546120	36.33	2.29
546120.3																						546120	18.86	0.72
522613	39.56	1.21	7.24	0.124	34.18	3.34	0.01	< 0.01	0.015	< 0.01	14.61	100.3	4	85	< 1	8	3	< 1	39	0.157	0.201	522613		
522614	38.05	1.60	7.26	0.132	34.57	2.79	< 0.01	< 0.01	0.026	0.01	14.52	98.98	126	81	< 1	10	3	< 1	47	0.158	0.226	522614		
522615	38.55	1.73	7.14	0.111	34.83	1.97	< 0.01	< 0.01	0.026	0.01	13.63	98.01	76	62	< 1	10	2	< 1	50	0.157	0.202	522615		
522616	39.41	1.91	7.51	0.084	34.78	1.28	< 0.01	< 0.01	0.032	< 0.01	12.84	97.85	31	42	< 1	11	5	< 1	55	0.167	0.221	522616		
522617	38.38	0.91	6.92	0.107	34.28	2.81	< 0.01	< 0.01	0.013	0.02	14.34	97.77	30	76	< 1	6	< 2	< 1	31	0.167	0.229	522617		
522618	35.24	4.97	8.46	0.189	29.01	4.96	< 0.01	< 0.01	0.346	0.04	15.37	98.59	37	118	7	15	23	< 1	101	0.124	0.156	522618		
522619	47.26	14.73	10.52	0.191	6.27	5.87	5.26	0.52	1.161	0.17	6.02	97.98	199	187	20	38	69	< 1	255	0.024	0.028	522619		
522620.1	49.55	16.03	11.74	0.166	4.91	7.95	2.29	2.73	1.202	0.43	0.86	97.86	717	529	20	25	109	2	350	0.228	1.047	522620	48.91	15.50
522620.2																						522620	36.40	2.27
522620.3																						522620	18.63	0.72
522621	44.00	11.55	9.77	0.201	19.69	5.50	0.95	0.33	0.660	0.19	6.57	99.42	238	122	14	27	43	< 1	205	0.086	0.125	522621		
522622	50.86	18.09	8.87	0.131	5.00	3.92	5.14	2.45	0.900	0.24	3.87	99.48	1504	155	18	34	53	< 1	158	0.021	0.026	522622		
522623	45.47	11.11	11.67	0.207	15.53	5.84	1.91	0.10	1.375	0.16	5.24	98.62	107	46	28	35	75	< 1	267	0.093	0.108	522623		
522624	46.99	12.34	10.64	0.199	14.11	6.09	2.68	0.20	1.225	0.18	5.19	99.83	170	77	24	33	78	< 1	256	0.064	0.080	522624		
522625	47.02	14.22	10.66	0.182	7.28	8.42	3.87	0.83	1.456	0.14	5.26	99.33	633	276	27	38	66	< 1	314	0.017	0.025	522625		
522626	46.40	17.24	10.70	0.196	5.04	10.10	3.32	1.82	1.294	0.18	4.25	100.5	1230	391	28	40	70	< 1	327	0.017	0.036	522626		
522627	46.40	17.23	10.75	0.190	5.05	9.34	4.02	0.82	1.383	0.16	4.59	99.92	420	435	27	40	75	< 1	316	0.014	0.029	522627		
522628	49.98	13.64	9.28	0.156	11.68	4.92	3.51	1.08	1.147	0.20	4.09	99.68	821	93	20	32	84	< 1	222	0.037	0.055	522628		
522629	49.23	14.38	11.30	0.193	6.89	6.74	4.67	0.59	0.424	0.04	5.05	99.51	287	181	13	57	19	< 1	281	0.014	0.022	522629		
522630	46.12	12.63	9.87	0.227	6.98	13.55	3.09	0.79	0.319	0.03	6.53	100.1	500	143	13	51	20	< 1	250	0.011	0.014	522630		
522631	31.78	9.94	4.64	0.123	4.07	24.46	1.05	2.15	0.344	0.52	20.63	99.71	5851	630	26	22	50	< 1	114	0.016	0.013	522631		
522632	38.55	13.91	8.40	0.139	10.67	13.52	1.71	0.22	0.661	0.11	11.52	99.40	294	650	13	34	44	< 1	217	0.043	0.052	522632		
522633	37.66	2.79	9.49	0.140	33.29	2.72	0.03	0.03	0.040	0.01	12.84	99.06	106	32	1	13	4	< 1	64	0.223	0.280	522633	25.89	1.05
522634	39.33	1.72	6.84	0.101	35.45	1.76	0.02	< 0.01	0.025	< 0.01	12.36	97.61	12	33	< 1	11	4	< 1	51	0.184	0.248	522634	28.94	0.91
522635	40.41	1.72	7.69	0.112	35.67	1.69	0.01	< 0.01	0.025	< 0.01	12.40	99.73	11	29	< 1	11	4	< 1	55	0.203	0.262	522635	23.94	0.69
522636	40.32	1.65	7.37	0.097	35.26	0.99	0.01	< 0.01	0.019	0.01	12.42	98.15	12	12	< 1	9	3	< 1	44	0.184	0.233	522636	30.64	0.79
522637	39.99	1.22	8.09	0.107	37.99	0.29	< 0.01	< 0.01	0.018	< 0.01	12.06	99.78	13	6	< 1	11	3	< 1	59	0.196	0.249	522637	30.26	0.72
522638	39.60	0.78	8.37	0.103	38.23	0.10	< 0.01	< 0.01	0.009	< 0.01	12.17	99.38	13	4	< 1	8	3	< 1	29	0.196	0.231	522638	25.63	0.36
522639	38.41	0.98	8.04	0.113	38.45	0.15	< 0.01	< 0.01	0.017	0.01	12.98	99.15	16	4	1	9	3	< 1	42	0.172	0.242	522639	27.45	0.53
522640	96.79	0.30	0.61	0.006	0.02	0.04	0.02	0.04	0.033	< 0.01	0.26	98.12	33	5	1	< 1	59	< 1	6	< 0.010	< 0.010	522640	97.59	0.34
522641	38.66	1.41	7.80	0.143	37.95	1.07	< 0.01	< 0.01	0.021	< 0.01	12.52	99.59	10	2	< 1	11	2	< 1	50	0.182	0.240	522641	28.46	0.88
522642	39.56	1.57	8.91	0.115	37.80	0.62	0.01	< 0.01	0.021	< 0.01	12.19	100.8	17	4	< 1	12	3	< 1	56	0.196	0.234	522642	16.25	0.61
522643	39.48	1.56	8.20	0.128	37.52	1.60	0.01	< 0.01	0.020	< 0.01	12.10	100.6	9	2	< 1	12	< 2	< 1	52	0.181	0.224	522643	16.79	0.71

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID(Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
522644	39.49	1.18	8.24	0.123	37.88	0.45	< 0.01	< 0.01	0.012	0.01	12.63	100.0	11	14	< 1	10	< 2	< 1	43	0.202	0.224	522644	17.45	0.50
522645	38.03	1.29	8.20	0.161	37.18	1.23	< 0.01	< 0.01	0.017	< 0.01	12.32	98.45	7	< 2	< 1	11	2	< 1	49	0.166	0.230	522645	22.39	0.71
522646	39.42	1.71	9.41	0.092	35.91	1.33	0.01	< 0.01	0.028	< 0.01	11.55	99.46	11	< 2	< 1	11	4	< 1	61	0.186	0.230	522646	24.98	0.93
522647	39.89	1.32	8.26	0.128	38.37	0.64	< 0.01	< 0.01	0.014	< 0.01	12.06	100.7	8	3	1	11	< 2	< 1	46	0.197	0.227	522647	25.71	0.93
522648	39.79	1.62	8.53	0.114	37.90	1.23	0.02	< 0.01	0.020	< 0.01	11.77	101.0	9	2	< 1	12	< 2	< 1	57	0.180	0.237	522648	22.17	0.86
522649	39.50	1.43	8.76	0.119	37.80	0.70	< 0.01	< 0.01	0.018	< 0.01	11.75	100.1	5	< 2	1	10	2	< 1	48	0.192	0.228	522649	25.69	0.99
522650	39.74	1.69	8.53	0.127	36.99	1.96	0.01	< 0.01	0.023	< 0.01	11.32	100.4	6	2	< 1	13	3	< 1	60	0.180	0.230	522650	23.20	1.03
522651	39.18	1.70	9.07	0.099	36.25	1.80	0.01	< 0.01	0.023	< 0.01	11.28	99.41	6	< 2	< 1	13	< 2	< 1	62	0.182	0.222	522651	25.62	0.98
522652	38.74	1.87	7.38	0.097	37.19	1.78	0.01	< 0.01	0.020	< 0.01	12.49	99.60	7	3	1	11	< 2	< 1	56	0.179	0.210	522652	24.78	1.07
522653	39.79	1.56	8.23	0.099	37.44	1.70	0.01	< 0.01	0.020	< 0.01	11.90	100.8	5	2	< 1	12	< 2	< 1	52	0.178	0.216	522653	28.61	0.92
522654	40.51	1.56	7.82	0.179	37.42	2.61	0.02	< 0.01	0.024	< 0.01	10.77	100.9	10	2	< 1	11	< 2	< 1	57	0.171	0.217	522654	30.21	1.20
522655	39.81	1.54	8.07	0.180	36.69	2.69	0.02	< 0.01	0.024	< 0.01	10.88	99.90	9	2	< 1	12	3	< 1	59	0.185	0.219	522655	27.73	1.00
522656	39.11	1.29	8.34	0.164	36.32	2.18	0.01	< 0.01	0.022	< 0.01	11.08	98.51	6	2	< 1	12	< 2	< 1	54	0.160	0.221	522656	28.82	0.99
522657	39.05	0.85	8.79	0.131	39.83	0.17	< 0.01	< 0.01	0.011	< 0.01	12.15	101.0	5	< 2	< 1	10	< 2	< 1	39	0.195	0.236	522657	25.28	0.58
522658	39.52	1.61	7.80	0.122	38.45	0.93	< 0.01	< 0.01	0.022	0.01	12.09	100.6	12	3	< 1	11	< 2	< 1	52	0.192	0.232	522658	26.18	0.99
522659	39.61	1.63	8.36	0.113	38.10	1.05	0.01	< 0.01	0.022	< 0.01	11.89	100.8	12	2	< 1	12	< 2	< 1	53	0.188	0.234	522659	25.14	0.97
522660.1	49.83	16.12	12.20	0.167	4.88	7.91	2.23	2.79	1.202	0.42	0.84	98.58	712	526	20	26	108	2	345	0.218	1.013	522660	49.15	15.97
522660.2																						522660	36.28	2.34
522660.3																						522660	18.73	0.69
522661	40.84	1.71	7.78	0.118	37.13	2.08	0.02	< 0.01	0.022	< 0.01	11.21	100.9	9	< 2	< 1	12	2	< 1	59	0.166	0.238	522661	28.85	1.08
522662	39.32	1.59	8.90	0.140	37.79	1.80	0.02	< 0.01	0.022	< 0.01	11.17	100.8	7	< 2	< 1	12	< 2	< 1	56	0.178	0.222	522662	27.49	0.87
521751	36.72	0.21	7.12	0.131	44.39	0.04	< 0.01	< 0.01	0.001	< 0.01	12.29	100.9	4	< 2	< 1	3	< 2	< 1	8	0.289	0.086	521751	25.72	0.11
521752	35.33	0.11	6.16	0.090	44.87	0.05	< 0.01	< 0.01	0.002	< 0.01	14.24	100.8	5	< 2	< 1	3	< 2	< 1	7	0.323	0.068	521752	21.70	0.16
521753	36.25	0.08	5.61	0.065	45.35	0.03	< 0.01	< 0.01	0.001	< 0.01	13.37	100.7	7	< 2	< 1	3	< 2	< 1	7	0.334	0.061	521753	22.75	0.13
521754	35.75	0.08	6.56	0.073	44.50	0.03	< 0.01	< 0.01	0.001	< 0.01	13.60	100.6	9	< 2	< 1	3	< 2	< 1	5	0.304	0.054	521754	17.08	0.03
521755	36.29	0.09	6.04	0.065	44.85	0.03	< 0.01	< 0.01	0.002	< 0.01	13.23	100.6	6	< 2	< 1	3	< 2	< 1	9	0.320	0.053	521755	16.41	0.04
521756	38.98	0.22	5.70	0.082	44.37	0.06	< 0.01	< 0.01	0.002	< 0.01	11.38	100.8	4	< 2	< 1	4	< 2	< 1	8	0.271	0.064	521756	23.87	0.20
521757	38.82	0.74	7.73	0.111	41.17	0.21	< 0.01	< 0.01	0.004	< 0.01	11.64	100.4	5	< 2	< 1	9	< 2	< 1	33	0.195	0.245	521757	28.37	0.87
521758	37.98	0.66	8.09	0.114	39.91	0.66	< 0.01	< 0.01	0.004	< 0.01	13.17	100.6	4	< 2	< 1	10	< 2	< 1	36	0.187	0.227	521758	23.88	0.34
521759	38.87	0.69	7.55	0.102	40.14	0.57	< 0.01	< 0.01	0.005	< 0.01	12.43	100.4	4	< 2	< 1	10	< 2	< 1	32	0.182	0.229	521759	28.32	0.51
521760	99.72	0.29	0.76	0.004	0.05	0.03	0.03	0.04	0.029	< 0.01	0.04	101.0	28	10	2	< 1	56	< 1	5	< 0.010	< 0.010	521760	97.85	0.36
521761	37.28	0.62	7.75	0.117	39.41	1.27	< 0.01	< 0.01	0.004	< 0.01	14.15	100.6	3	< 2	< 1	9	< 2	< 1	36	0.167	0.234	521761	27.87	0.22
521762	38.56	0.77	7.01	0.078	39.99	0.69	< 0.01	< 0.01	0.004	< 0.01	13.22	100.3	3	< 2	< 1	9	2	< 1	38	0.212	0.229	521762	24.32	0.37
521763	37.81	0.68	8.09	0.113	40.15	0.83	< 0.01	< 0.01	0.005	< 0.01	13.11	100.8	4	< 2	< 1	8	< 2	< 1	35	0.180	0.228	521763	26.80	0.34
521764	38.01	0.64	8.01	0.110	40.59	0.51	< 0.01	< 0.01	0.005	< 0.01	12.66	100.5	6	< 2	< 1	7	< 2	< 1	30	0.200	0.242	521764	26.12	0.33
521765	37.00	0.69	8.00	0.093	39.23	0.65	< 0.01	< 0.01	0.006	< 0.01	13.30	98.96	3	< 2	< 1	9	< 2	< 1	32	0.168	0.224	521765	26.64	0.46
521766	37.44	0.69	8.26	0.108	39.22	0.52	< 0.01	< 0.01	0.006	< 0.01	13.36	99.61	3	< 2	< 1	9	< 2	< 1	33	0.196	0.221	521766	27.07	0.43
521767	36.89	0.55	8.44	0.107	39.96	0.13	< 0.01	< 0.01	0.006	< 0.01	13.27	99.33	4	< 2	< 1	8	< 2	< 1	22	0.181	0.215	521767	25.45	0.26
521768	37.59	0.65	7.41	0.084	39.97	0.51	< 0.01	< 0.01	0.004	< 0.01	14.40	100.6	3	< 2	< 1	8	< 2	< 1	30	0.208	0.222	521768	25.00	0.42
521769	37.90	0.64	7.38	0.111	39.51	0.52	< 0.01	< 0.01	0.004	< 0.01	13.72	99.80	5	< 2	< 1	9	< 2	< 1	32	0.214	0.211	521769	27.58	0.50
521770	37.11	0.47	7.67	0.113	38.24	0.66	< 0.01	< 0.01	0.004	< 0.01	14.95	99.22	3	< 2	< 1	9	< 2	< 1	29	0.200	0.227	521770	22.70	0.86
521771	32.57	0.45	7.05	0.088	37.38	0.13	0.04	< 0.01	0.003	< 0.01	22.90	100.6	3	< 2	< 1	8	3	< 1	25	0.190	0.209	521771	19.35	0.84
521772	32.81	0.53	6.68	0.093	35.69	0.82	0.05	< 0.01	0.003	< 0.01	23.28	99.95	3	< 2	< 1	7	4	< 1	30	0.175	0.202	521772	19.77	1.12
521773	37.54	0.57	7.46	0.116	39.71	0.89	< 0.01	< 0.01	0.004	< 0.01	13.78	100.1	4	< 2	< 1	8	< 2	< 1	32	0.194	0.204	521773	27.94	0.55
521774	37.03	0.57	8.13	0.124	39.76	0.80	< 0.01	< 0.01	0.005	< 0.01	13.25	99.68	< 2	< 2	< 1	9	< 2	< 1	33	0.201	0.237	521774	17.46	0.48
521775	37.72	0.58	8.37	0.098	39.60	0.53	< 0.01	< 0.01	0.006	< 0.01	13.43	100.3	< 2	< 2	< 1	8	< 2	< 1	31	0.203	0.243	521775	16.07	0.54
521776	37.89	0.68	7.40	0.109	39.52	0.75	0.02	< 0.01	0.004	< 0.01	13.06	99.44	3	< 2	< 1	8	< 2	< 1	44	0.176	0.228	521776	14.77	0.34
521777	37.01	0.62	6.99	0.105	38.79	0.70	< 0.01	< 0.01	0.004	0.02	13.39	97.65	2	< 2	< 1	8	< 2	< 1	35	0.185	0.230	521777	14.94	0.27
521778	39.33	0.52	7.59	0.112	37.55	2.44	0.02	0.02	0.007	0.01	11.62	99.22	< 2	< 2	< 1	9	< 2	< 1	32	0.180	0.214	521778	17.84	0.51
521779	37.07	0.74	8.03	0.123	39.55	0.75	< 0.01	< 0.01	0.004	< 0.01	13.19	99.49	< 2	< 2	< 1	8	< 2	< 1	37	0.205	0.250	521779	15.72	0.48
521780.1	49.98	16.29	12.06	0.168	4.91	7.86	2.26	2.79	1.214	0.39	0.69	98.61	723	523	21	25	96	2	341	0.216	1.041	521780	49.39	15.88

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID(Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521780.2																						521780	36.32	2.41
521780.3																						521780	18.82	0.67
521781	37.22	0.61	8.00	0.124	39.06	0.54	< 0.01	< 0.01	0.004	0.01	12.97	98.56	< 2	< 2	< 1	9	< 2	< 1	34	0.206	0.211	521781	17.02	0.39
521782	38.24	0.73	7.60	0.101	38.57	0.56	0.01	< 0.01	0.004	0.01	13.04	98.88	< 2	< 2	< 1	9	< 2	< 1	35	0.169	0.219	521782	14.57	0.42
521783	37.99	0.87	7.64	0.106	38.54	0.81	< 0.01	< 0.01	0.005	0.02	13.34	99.34	< 2	< 2	< 1	9	< 2	< 1	38	0.188	0.224	521783	16.43	0.46
521784	38.55	0.90	7.38	0.102	38.29	0.79	0.01	< 0.01	0.004	0.01	13.58	99.61	< 2	< 2	< 1	9	< 2	< 1	38	0.200	0.211	521784	12.72	0.53
521785	32.76	0.66	6.68	0.098	33.62	0.80	0.06	0.01	0.003	< 0.01	23.14	97.84	< 2	< 2	< 1	7	< 2	< 1	32	0.181	0.199	521785		
521786	37.07	0.63	7.06	0.111	38.24	0.36	0.01	< 0.01	0.003	0.01	15.95	99.45	< 2	< 2	< 1	8	< 2	< 1	41	0.200	0.202	521786	10.11	0.51
521787	37.20	0.64	7.60	0.111	38.59	0.74	< 0.01	< 0.01	0.003	0.02	13.23	98.13	< 2	< 2	< 1	9	< 2	< 1	41	0.200	0.213	521787	14.15	0.33
521788	38.16	0.72	7.50	0.121	39.46	0.68	0.01	< 0.01	0.004	0.02	12.58	99.25	< 2	< 2	< 1	9	< 2	< 1	36	0.201	0.222	521788	16.20	0.44
521789	35.93	0.59	7.82	0.125	37.26	0.61	0.01	< 0.01	0.003	< 0.01	15.45	97.82	< 2	< 2	< 1	9	< 2	< 1	33	0.198	0.211	521789	12.24	0.64
521790	34.79	0.63	7.14	0.098	35.92	0.44	0.03	< 0.01	0.003	0.01	19.52	98.58	< 2	< 2	< 1	8	< 2	< 1	35	0.186	0.201	521790	10.86	0.69
521791	37.84	0.95	7.64	0.094	38.54	0.54	0.02	< 0.01	0.005	0.02	12.80	98.45	< 2	< 2	< 1	9	23	< 1	39	0.197	0.222	521791	12.47	0.58
521792	38.09	0.62	8.05	0.143	39.06	0.68	< 0.01	< 0.01	0.003	0.01	11.18	97.86	< 2	< 2	< 1	9	< 2	< 1	32	0.195	0.217	521792	18.06	0.55
521793	37.23	0.65	7.49	0.121	37.85	0.27	0.02	< 0.01	0.003	< 0.01	14.49	98.15	< 2	< 2	< 1	9	< 2	< 1	35	0.201	0.230	521793	12.14	0.83
521794	45.16	13.26	11.85	0.188	6.88	10.73	3.89	0.23	1.517	0.11	4.51	98.33	15	113	30	42	83	< 1	356	0.012	0.015	521794		
521795	44.33	14.32	11.71	0.191	6.97	11.34	3.71	0.22	1.516	0.19	4.79	99.28	12	102	30	41	83	< 1	355	< 0.010	0.014	521795		
521796	37.70	0.67	7.00	0.106	38.20	0.11	0.01	< 0.01	0.006	0.01	14.22	98.05	< 2	< 2	< 1	8	< 2	< 1	32	0.201	0.210	521796	13.59	0.48
521797	36.92	0.74	7.37	0.100	37.08	0.28	0.04	0.01	0.009	< 0.01	16.33	98.88	3	2	< 1	8	3	< 1	32	0.197	0.227	521797	10.65	0.63
521798	37.49	0.66	7.25	0.115	38.14	1.05	0.01	< 0.01	0.006	0.01	13.89	98.62	< 2	3	< 1	8	< 2	< 1	36	0.196	0.201	521798	13.60	0.66
521799	37.22	0.65	7.89	0.117	38.36	0.65	< 0.01	< 0.01	0.005	0.01	13.70	98.60	5	< 2	< 1	9	< 2	< 1	40	0.189	0.235	521799	13.22	0.67
521800	95.67	0.44	2.12	0.018	0.21	0.07	0.07	0.07	0.036	0.02	-0.15	98.57	38	6	1	< 1	52	< 1	7	< 0.010	< 0.010	521800		
523290 extra	37.23	0.65	8.00	0.125	38.62	0.43	0.02	< 0.01	0.004	0.01	13.43	98.52	< 2	< 2	< 1	10	< 2	< 1	37	0.197	0.23	523290 extra	12.38	0.33
523291 extra	36.81	0.60	7.07	0.118	38.88	0.64	0.01	< 0.01	0.005	0.01	14.46	98.61	< 2	< 2	< 1	8	< 2	< 1	35	0.188	0.206	523291 extra	16.60	0.36
546121 extra	38.09	0.69	8.28	0.112	39.04	1.10	0.01	< 0.01	0.004	0.01	11.32	98.67	< 2	< 2	< 1	11	< 2	< 1	43	0.201	0.237	546121 extra	16.08	0.56
546122 extra	39.13	0.68	7.96	0.106	39.12	0.59	< 0.01	< 0.01	0.003	0.01	10.80	98.41	< 2	< 2	< 1	9	< 2	< 1	38	0.222	0.220	546122 extra	12.35	0.57
521801 extra	37.88	0.69	8.04	0.108	38.85	0.63	0.01	< 0.01	0.003	< 0.01	12.54	98.76	< 2	< 2	< 1	8	< 2	< 1	40	0.218	0.226	521801 extra	12.56	0.52
521802 extra	37.62	0.68	8.03	0.103	39.21	0.53	< 0.01	< 0.01	0.004	< 0.01	12.19	98.39	< 2	< 2	< 1	9	< 2	< 1	32	0.195	0.217	521802 extra	13.58	0.47
521803 extra	37.53	0.68	7.83	0.115	39.09	0.55	0.01	< 0.01	0.004	< 0.01	12.91	98.74	< 2	< 2	< 1	9	< 2	< 1	36	0.217	0.207	521803 extra	12.65	0.39
521804 extra	37.83	0.65	8.20	0.115	39.28	0.81	0.01	< 0.01	0.004	0.02	11.73	98.65	< 2	< 2	< 1	9	< 2	< 1	38	0.198	0.259	521804 extra	15.04	0.57
521805 extra	37.99	0.63	7.90	0.116	39.11	0.84	0.01	< 0.01	0.004	0.02	11.63	98.24	< 2	< 2	< 1	9	< 2	< 1	37	0.211	0.230	521805 extra	15.82	0.58
521806 extra	37.74	0.64	8.19	0.129	39.76	1.14	0.02	< 0.01	0.004	0.02	11.54	99.18	2	2	< 1	9	9	< 1	32	0.211	0.269	521806 extra	15.51	0.46
521807 extra	38.06	0.64	7.87	0.102	39.51	0.28	0.01	< 0.01	0.003	< 0.01	11.55	98.05	< 2	< 2	< 1	9	3	< 1	36	0.160	0.247	521807 extra	18.39	0.63

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
523286	58.39	0.204	16.75	0.16	0.05	0.07	0.03	0.01	1.56	0.016	2.15	4.03	99.09	30.2	1.623	27.189	5.4	28.811	4.46	0.08
523287	53.55	0.210	17.09	0.16	0.07	0.06	0.02	0.01	2.10	0.021	1.39	5.12	99.29	30.1	2.143	27.686	7.1	29.829	0.91	0.03
523288	53.91	0.181	17.58	0.16	0.20	0.19	0.02	0.01	1.92	0.024	1.10	4.24	98.91	30.1	2.318	26.503	7.7	28.820	4.31	0.01
523289	50.17	0.194	20.39	0.50	< 0.01	< 0.01	0.02	0.02	1.55	0.021	1.28		94.00	30.3	2.445	27.718	8.1	30.163	0.36	0.02
523300.1	12.06	0.168	4.96	7.88	2.38	2.78	1.10	0.44	1.05	0.065	0.235	0.75	98.96							
523300.2	13.22	0.128	32.21	2.08	0.09	0.14	0.12	0.02	0.19	0.008	1.44	10.92	99.16							
523300.3	52.61	0.240	18.51	0.23	< 0.01	0.03	0.04	0.01	1.53	0.021	2.00	3.97	98.67	30.1	2.113	27.576	7.0	29.689	1.25	0.10
546063	36.58	0.178	24.29	0.14	< 0.01	< 0.01	0.02	0.02	1.08	0.016	0.765	6.55	98.71	30.1	2.696	27.195	9.0	29.891	0.74	0.02
546064	36.43	0.197	24.28	0.17	< 0.01	< 0.01	0.02	0.01	1.15	0.015	0.878	8.49	100.1	30.1	3.606	26.042	12.0	29.648	1.40	0.02
546065	42.58	0.207	22.60	0.41	0.20	0.24	0.03	0.01	1.64	0.025	1.20	5.85	99.43	30.2	2.131	27.628	7.1	29.758	1.30	0.01
546066	45.56	0.198	22.60	0.06	< 0.01	< 0.01	0.02	0.01	1.34	0.017	0.815	6.56	99.50	30.0	2.897	27.780	9.6	30.678	-2.12	0.05
546067	40.40	0.256	25.44	0.12	0.14	0.15	0.02	0.01	1.82	0.022	1.15	7.51	98.87	30.2	2.451	27.494	8.1	29.946	0.72	0.03
546068	45.72	0.244	21.75	0.15	0.10	0.14	0.02	0.01	1.73	0.017	1.25	6.01	98.38	30.1	1.882	28.082	6.3	29.964	0.46	0.02
546069	47.14	0.269	22.86	0.08	0.09	0.12	0.02	0.01	2.09	0.025	1.85	5.98	98.73	30.1	1.933	28.546	6.4	30.479	-1.10	0.03
546070	53.72	0.256	19.19	0.10	0.05	0.07	0.02	0.01	1.92	0.022	1.87	4.47	99.39	30.1	1.799	27.914	6.0	29.713	1.31	0.03
546071	50.67	0.246	19.74	0.19	0.16	0.15	0.04	0.02	1.82	0.019	1.67	5.15	98.81	30.1	2.043	26.812	6.8	28.855	4.11	0.05
546072	45.50	0.189	22.88	0.35	< 0.01	< 0.01	0.02	0.01	1.47	0.024	1.39	6.18	99.47	30.0	2.437	27.147	8.1	29.584	1.47	0.03
546073	58.96	0.255	16.47	0.22	0.20	0.17	0.03	0.01	2.23	0.028	2.39	2.90	99.08	30.1	1.467	28.477	4.9	29.944	0.48	0.03
546074	50.86	0.257	21.13	0.28	0.05	0.06	0.02	0.01	2.07	0.030	1.76	5.15	98.37	30.1	1.957	27.556	6.5	29.513	1.86	0.05
546075	47.75	0.214	21.86	0.31	< 0.01	< 0.01	0.03	0.01	1.54	0.026	1.63	5.76	98.93	30.1	2.401	27.284	8.0	29.685	1.36	0.04
546076	46.55	0.226	23.32	0.26	0.07	0.07	0.01	0.01	1.92	0.027	1.78	5.64	98.50	30.1	1.998	27.945	6.6	29.943	0.49	0.05
546077	48.75	0.246	21.35	0.15	0.02	0.02	0.02	0.01	2.38	0.027	2.19	4.48	99.00	30.1	1.707	27.976	5.7	29.683	1.27	0.04
546078	48.00	0.236	22.74	0.11	0.01	0.03	0.02	0.01	2.11	0.023	1.72	5.03	99.38	30.3	1.815	27.885	6.0	29.699	1.92	0.02
546079	51.14	0.220	20.17	0.11	0.01	0.05	0.02	0.01	2.26	0.028	2.35	4.17	98.16	30.0	1.342	28.496	4.5	29.838	0.68	0.03
546080	0.59	0.011	0.05	0.03	0.02	0.07	0.04	0.01	0.01	0.003	< 0.003	0.00	98.89	30.2	0.053	29.792	0.2	29.845	1.05	
546081	51.91	0.229	20.10	0.11	0.05	0.06	0.02	0.01	2.12	0.029	1.85	4.13	98.45	30.2	1.882	28.286	6.2	30.168	0.14	0.02
546082	54.13	0.175	19.13	0.15	0.01	0.02	0.02	0.01	1.78	0.023	1.46	4.38	98.99	30.1	1.926	27.459	6.4	29.385	2.23	0.07
546083	53.36	0.190	19.71	0.10	< 0.01	0.06	0.01	0.01	1.83	0.025	1.66	4.42	99.33	30.1	2.122	27.828	7.0	29.950	0.53	0.04
546084	52.39	0.246	18.95	0.19	0.01	0.02	0.01	0.01	2.70	0.033	1.99	3.82	98.82	30.2	1.640	28.259	5.4	29.899	0.85	0.06
546085	50.83	0.168	20.69	0.10	0.08	0.05	0.01	0.01	1.79	0.023	1.67	4.53	99.30	30.0	2.217	27.494	7.4	29.711	1.04	0.05
546086	56.76	0.188	16.64	0.06	0.07	0.16	0.02	0.01	2.00	0.026	2.10	3.03	97.93	30.2	1.549	27.264	5.1	28.813	4.50	0.01
546087	53.62	0.200	18.30	0.08	0.08	0.03	0.02	0.01	2.02	0.026	2.13	3.55	98.69	30.0	1.691	26.914	5.6	28.605	4.69	0.01
546088	52.03	0.195	19.64	0.11	0.05	0.01	0.02	0.01	2.07	0.025	1.82	4.04	98.64	30.1	2.018	27.918	6.7	29.936	0.70	< 0.01
546089	58.71	0.166	16.07	0.14	< 0.01	0.03	0.02	0.01	1.85	0.023	2.21	2.14	97.39	30.2	1.831	28.321	6.1	30.152	0.11	< 0.01
546090	53.62	0.247	18.67	0.20	0.01	0.04	0.02	0.01	2.30	0.029	2.49	3.35	98.38	30.0	1.542	28.365	5.1	29.907	0.47	0.01
546091	56.05	0.214	17.54	0.32	0.09	0.04	0.02	0.01	2.38	0.029	2.09	3.19	98.33	30.1	1.978	27.838	6.6	29.816	0.90	0.01
546092	59.72	0.160	16.02	0.19	0.03	0.01	0.02	0.01	1.88	0.026	1.95	2.43	98.74	30.0	1.863	27.563	6.2	29.425	1.93	0.01
546093	52.75	0.200	19.71	0.12	< 0.01	0.03	0.02	0.01	2.17	0.028	1.95	3.31	99.31	31.3	1.970	29.011	6.3	30.981	1.09	< 0.01
546094	55.18	0.201	17.93	0.13	< 0.01	0.04	0.01	0.01	2.08	0.027	2.57	2.87	98.58	30.7	1.782	28.587	5.8	30.369	1.22	0.01
546095	57.33	0.207	16.98	0.09	< 0.01	0.03	0.02	< 0.01	2.14	0.028	2.30	2.34	97.71	30.5	1.848	27.448	6.1	29.295	3.86	0.02
546096	52.46	0.212	20.69	0.21	< 0.01	0.05	0.03	0.01	1.64	0.019	2.20	3.33	98.71	30.5	1.748	28.563	5.7	30.311	0.72	0.02
546097	47.44	0.202	22.28	0.18	0.02	0.05	0.02	0.01	1.84	0.023	2.09	4.01	98.71	30.2	1.694	27.611	5.6	29.305	3.04	0.01
546098	50.25	0.168	21.06	0.11	0.02	0.04	0.01	0.01	1.84	0.025	1.67	4.18	99.02	30.2	2.364	28.252	7.8	30.615	-1.49	< 0.01
546099	49.71	0.190	21.33	0.11	< 0.01	0.03	0.01	0.01	1.77	0.024	1.70	4.56	98.93	30.1	2.343	27.713	7.8	30.056	0.20	< 0.01
546100.1	12.06	0.168	4.96	7.88	2.38	2.78	1.10	0.44	1.05	0.065	0.236	0.79	98.93							
546100.2	13.15	0.125	32.18	2.09	0.10	0.15	0.12	0.02	0.20	0.009	1.44	10.78	98.90							
546100.3																				
546101	45.72	0.200	22.85	0.15	< 0.01	0.02	0.02	0.01	1.92	0.029	2.26	4.34	98.51	30.0	1.863	28.106	6.2	29.969	0.15	0.01
546102	49.15	0.236	20.86	0.23	< 0.01	0.02	0.02	0.01	2.56	0.032	2.39	3.56	98.41	30.1	1.594	27.970	5.3	29.565	1.70	0.01
546103	36.80	0.219	26.80	0.28	0.01	0.04	0.01	0.01	1.95	0.021	1.48	6.00	99.33	30.1	2.359	26.962	7.8	29.321	2.49	< 0.01
546104	49.78	0.215	20.59	0.17	< 0.01	0.04	0.02	0.01	2.20	0.025	2.61	3.73	98.39	30.0	1.388	28.353	4.6	29.741	0.92	0.02

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
546105	46.09	0.185	23.18	0.15	< 0.01	0.03	0.02	< 0.01	1.68	0.022	1.98	4.46	98.89	30.1	2.132	27.956	7.1	30.088	-0.09	0.01
546106	51.17	0.215	20.53	0.15	< 0.01	0.04	0.03	0.01	2.18	0.025	2.45	2.86	98.76	30.1	1.523	28.323	5.1	29.846	0.78	< 0.01
546107	38.30	0.123	26.60	0.07	< 0.01	< 0.01	0.02	0.01	1.40	0.022	2.07	6.70	99.15	30.1	2.625	27.086	8.7	29.711	1.14	< 0.01
546108	55.16	0.203	18.09	0.21	< 0.01	< 0.01	0.02	0.01	2.40	0.035	2.47		95.65	30.1	1.700	28.333	5.6	30.032	0.20	< 0.01
546109	53.59	0.245	19.10	0.20	< 0.01	< 0.01	0.02	0.01	2.80	0.034	2.21		95.53	30.1	1.449	28.558	4.8	30.007	0.34	< 0.01
546110	57.66	0.245	16.67	0.36	< 0.01	< 0.01	0.02	0.01	2.73	0.033	2.80	1.62	97.49	30.0	1.396	28.655	4.6	30.051	-0.04	0.02
546111	52.99	0.210	18.34	0.27	< 0.01	0.05	0.02	0.01	2.40	0.034	2.42	2.45	98.18	30.1	1.607	28.172	5.3	29.779	1.03	< 0.01
546112	53.58	0.273	18.31	0.39	0.01	0.02	0.02	0.01	3.02	0.035	2.85	1.07	97.03	30.0	1.283	28.159	4.3	29.442	2.02	0.01
546113	59.22	0.140	16.75	0.16	< 0.01	0.03	0.01	0.01	1.61	0.023	2.36	2.54	99.18	29.2	2.002	26.769	6.9	28.771	1.33	0.02
546114	59.26	0.212	16.57	0.24	< 0.01	0.03	0.03	0.01	2.01	0.025	2.69	1.38	97.92	30.0	1.537	28.337	5.1	29.874	0.54	0.02
546115	58.64	0.239	16.87	0.27	0.01	0.04	0.03	0.01	2.20	0.027	3.14	0.98	98.16	30.0	1.375	28.193	4.6	29.569	1.59	0.02
546116	50.94	0.207	20.38	0.34	< 0.01	< 0.01	0.03	0.01	2.07	0.033	2.54	3.27	98.88	30.1	1.830	27.680	6.1	29.510	1.98	0.02
546117	64.05	0.224	13.34	0.18	< 0.01	0.04	0.02	0.01	2.77	0.038	3.28	0.18	96.74	30.0	1.364	28.395	4.5	29.758	0.87	0.01
546118	58.99	0.184	16.40	0.18	< 0.01	0.03	0.02	< 0.01	2.35	0.030	2.97	1.23	97.89	30.1	1.361	28.517	4.5	29.877	0.87	< 0.01
546119	69.17	0.189	11.70	0.11	< 0.01	0.02	0.02	0.01	2.08	0.028	3.29	-0.14	97.57	30.0	1.665	28.063	5.5	29.727	0.96	0.02
546120.1	12.00	0.167	4.88	7.80	2.41	2.78	1.09	0.43	1.05	0.064	0.233	0.76	98.58							
546120.2	13.24	0.128	32.23	2.09	0.08	0.14	0.12	0.02	0.20	0.009	1.44	10.81	99.12							
546120.3	52.51	0.241	18.59	0.21	< 0.01	< 0.01	0.03	0.01	1.57	0.022	2.01	3.87	98.56	30.0	2.123	27.121	7.1	29.244	2.63	0.09
522613														30.0	0.029	29.198	0.1	29.226	2.68	
522614														30.0	0.017	28.808	0.1	28.824	4.03	
522615														30.0	0.031	29.819	0.1	29.850	0.63	
522616														30.0	0.026	29.157	0.1	29.184	2.82	
522617														30.0	0.016	28.829	0.1	28.846	3.99	
522618														30.0	0.015	29.440	0.1	29.455	1.94	
522619														30.0	0.005	29.309	0.0	29.314	2.32	
522620.1	11.98	0.169	4.93	7.75	2.16	2.73	1.08	0.44	1.04	0.064	0.231	0.77	98.39							
522620.2	13.15	0.128	32.13	2.09	0.10	0.14	0.11	0.02	0.20	0.009	1.44	10.87	99.06							
522620.3	52.75	0.236	18.68	0.19	< 0.01	< 0.01	0.04	0.01	1.57	0.021	2.01	3.66	98.46	30.1	2.077	26.789	6.9	28.867	3.95	0.14
522621														30.0	0.003	29.417	0.0	29.420	1.97	
522622														30.0	0.090	29.285	0.3	29.375	2.17	
522623														30.1	0.005	30.443	0.0	30.448	-1.06	
522624														30.0	0.009	29.415	0.0	29.425	1.98	
522625														30.0	0.003	29.360	0.0	29.363	2.23	
522626														30.0	0.005	29.566	0.0	29.571	1.55	
522627														30.0	0.005	29.545	0.0	29.551	1.56	
522628														30.0	0.007	29.548	0.0	29.555	1.61	
522629														30.0	0.002	29.616	0.0	29.619	1.39	
522630														30.0	0.011	29.882	0.0	29.893	0.39	
522631														30.1	0.010	29.500	0.0	29.510	1.91	
522632														30.0	0.050	28.934	0.2	28.984	3.47	
522633	35.19	0.370	24.97	0.27	< 0.01	< 0.01	0.05	0.01	1.16	0.035	0.277	6.50	98.37	30.0	3.524	26.061	11.7	29.584	1.42	0.02
522634	31.00	0.142	26.67	0.49	< 0.01	< 0.01	0.08	0.02	1.26	0.041	0.285	7.56	100.2	30.0	1.619	27.135	5.4	28.754	4.29	0.06
522635	37.60	0.169	21.89	0.46	< 0.01	< 0.01	0.12	0.01	1.66	0.053	0.282	5.73	98.26	30.0	1.060	28.701	3.5	29.760	0.86	0.05
522636	28.40	0.142	26.64	0.18	< 0.01	< 0.01	0.05	0.01	1.04	0.018	0.233	8.14	100.2	30.1	1.753	27.942	5.8	29.694	1.30	0.03
522637	28.86	0.207	28.09	0.07	< 0.01	< 0.01	0.03	0.01	0.68	0.020	0.292	8.19	100.0	30.0	5.432	23.718	18.1	29.149	2.90	0.03
522638	38.83	0.201	25.09	0.02	< 0.01	< 0.01	0.02	0.01	0.76	0.018	0.277	6.58	98.63	30.1	4.843	25.230	16.1	30.073	-0.07	0.02
522639	33.03	0.205	28.41	0.04	< 0.01	< 0.01	0.03	0.01	0.77	0.014	0.515	8.17	99.60	30.0	4.989	24.588	16.6	29.576	1.51	0.05
522640	0.60	0.008	< 0.01	0.03	< 0.01	0.06	0.05	0.01	< 0.01	< 0.003	< 0.003	0.06	98.75	30.1	0.042	29.422	0.1	29.464	2.00	
522641	30.81	0.218	28.24	0.29	< 0.01	< 0.01	0.03	0.01	0.62	0.015	0.760	8.16	99.07	30.0	4.807	25.055	16.0	29.862	0.57	0.03
522642	51.89	0.249	16.04	0.08	< 0.01	< 0.01	0.03	0.01	0.90	0.019	0.476	3.27	98.03	30.0	2.791	26.923	9.3	29.714	1.05	0.02
522643	57.95	0.252	16.34	0.22	< 0.01	0.04	0.03	0.01	1.07	0.022	1.37	3.11	97.88	23.4	1.997	21.070	8.5	23.067	1.49	0.02

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
522644	57.49	0.300	17.29	0.05	< 0.01	< 0.01	0.03	0.01	1.29	0.021	0.624	3.38	98.74	30.0	2.847	26.945	9.5	29.791	0.80	0.04
522645	44.13	0.264	22.57	0.26	0.01	0.08	0.03	0.01	1.03	0.018	1.17	5.47	98.15	30.1	3.566	26.181	11.9	29.747	1.03	0.03
522646	38.13	0.175	24.90	0.21	< 0.01	< 0.01	0.04	0.01	0.68	0.020	0.425	6.75	99.32	30.1	5.189	24.687	17.2	29.875	0.78	0.03
522647	37.45	0.229	25.41	0.12	< 0.01	0.02	0.02	0.01	0.96	0.017	0.945	6.69	98.49	30.0	4.124	26.542	13.7	30.667	-2.10	0.03
522648	45.83	0.226	21.98	0.17	< 0.01	0.02	0.03	0.01	0.96	0.021	0.908	5.45	98.62	30.0	3.754	26.129	12.5	29.883	0.46	0.05
522649	37.90	0.218	25.16	0.16	< 0.01	0.06	0.03	0.01	0.79	0.018	0.817	6.74	98.57	30.1	4.539	25.186	15.1	29.726	1.11	0.02
522650	42.63	0.207	22.84	0.45	0.01	0.03	0.03	0.01	0.80	0.019	1.10	5.64	98.00	30.0	3.816	25.947	12.7	29.763	0.95	0.02
522651	39.10	0.155	24.70	0.48	< 0.01	0.03	0.03	0.01	0.61	0.021	0.814	6.29	98.81	30.0	4.692	24.970	15.6	29.662	1.26	0.03
522652	39.98	0.153	24.50	0.28	< 0.01	0.03	0.03	0.01	0.67	0.018	0.949	6.29	98.74	30.0	3.369	26.540	11.2	29.909	0.43	0.05
522653	32.93	0.145	28.09	0.52	< 0.01	0.04	0.03	0.01	0.58	0.017	0.747	7.30	99.94	30.0	4.801	25.138	16.0	29.939	0.35	0.05
522654	27.73	0.199	29.07	1.02	< 0.01	0.02	0.03	0.01	0.65	0.015	0.824	7.96	98.93	30.0	4.367	25.461	14.5	29.827	0.68	0.06
522655	34.08	0.209	26.70	0.84	< 0.01	0.03	0.03	0.01	0.77	0.018	0.831	7.10	99.33	30.0	3.962	25.817	13.2	29.779	0.84	0.07
522656	30.59	0.202	28.23	0.52	< 0.01	0.02	0.03	0.01	0.66	0.018	0.699	7.73	98.50	30.1	4.930	24.709	16.4	29.639	1.68	0.07
522657	38.40	0.180	26.30	0.06	< 0.01	0.03	0.03	0.01	0.99	0.018	0.983	6.49	99.34	30.0	4.266	26.016	14.2	30.282	-0.88	0.10
522658	36.11	0.183	26.21	0.28	< 0.01	0.04	0.03	0.01	0.81	0.016	1.18	6.62	98.65	30.0	3.708	26.096	12.4	29.804	0.69	0.08
522659	38.84	0.145	25.19	0.30	< 0.01	0.04	0.03	0.01	0.75	0.016	1.23	6.11	98.75	30.0	3.557	26.104	11.8	29.661	1.27	0.06
522660.1	12.08	0.168	4.96	7.88	2.47	2.79	1.09	0.43	1.07	0.067	0.235	0.75	99.11							
522660.2	13.21	0.125	32.20	2.09	0.08	0.13	0.13	0.02	0.20	0.005	1.44	10.76	99.01							
522660.3	52.60	0.236	18.47	0.20	< 0.01	0.04	0.03	0.01	1.55	0.021	2.02	3.67	98.27	30.1	2.034	27.715	6.8	29.749	1.01	0.11
522661	30.90	0.142	28.29	0.70	< 0.01	0.06	0.03	0.01	0.68	0.016	1.30	7.38	99.43	30.0	3.759	25.894	12.5	29.652	1.20	0.06
522662	32.76	0.180	28.03	0.97	0.01	0.03	0.03	0.01	0.58	0.017	0.963	6.46	98.40	30.0	3.947	25.830	13.1	29.777	0.80	0.05
521751	29.15	0.128	32.29	0.02	< 0.01	0.02	0.01	0.01	0.88	0.006	2.90	7.84	99.06	30.0	1.108	28.500	3.7	29.609	1.36	0.22
521752	37.77	0.127	27.64	0.04	< 0.01	0.03	0.01	0.01	1.21	0.010	2.59	6.55	97.82	30.1	0.686	29.172	2.3	29.858	0.65	0.14
521753	37.55	0.076	28.61	0.03	< 0.01	0.01	0.01	0.01	0.93	0.008	2.94	5.89	98.92	30.0	0.718	28.784	2.4	29.502	1.70	0.07
521754	49.25	0.088	23.50	0.02	< 0.01	0.03	0.01	< 0.01	0.73	0.009	2.14	5.16	98.03	30.0	1.105	28.822	3.7	29.927	0.39	0.06
521755	51.73	0.086	21.92	0.02	0.03	0.04	0.01	0.01	0.83	0.011	2.52	4.26	97.91	30.0	0.745	28.994	2.5	29.740	0.92	0.10
521756	30.31	0.115	30.05	0.04	< 0.01	< 0.01	0.01	0.01	0.51	0.007	3.03	6.62	98.08	30.0	0.798	28.925	2.7	29.723	1.08	0.11
521757	27.50	0.156	31.61	0.15	< 0.01	0.04	0.01	0.01	1.24	0.020	0.906	8.34	99.22	30.1	3.545	26.217	11.8	29.762	1.01	0.03
521758	36.33	0.184	27.49	0.75	< 0.01	0.01	0.02	0.01	1.05	0.016	1.01	8.17	99.24	30.1	3.956	25.782	13.2	29.738	1.04	0.01
521759	28.64	0.155	30.55	0.49	< 0.01	0.02	0.02	< 0.01	1.11	0.015	0.820	8.41	99.05	30.0	3.798	26.712	12.7	30.510	-1.64	< 0.01
521760	0.62	0.008	< 0.01	0.03	< 0.01	0.06	0.05	0.01	< 0.01	< 0.003	< 0.003	0.22	99.21	28.4	0.083	27.560	0.3	27.643	2.66	
521761	26.75	0.179	30.76	1.48	0.06	0.05	0.01	0.01	0.69	0.011	0.749	10.24	99.08	30.1	5.364	24.465	17.8	29.829	0.77	0.03
521762	37.76	0.141	26.03	0.75	< 0.01	0.03	0.01	0.01	1.18	0.017	1.14	7.34	99.10	30.0	3.183	26.791	10.6	29.974	0.20	0.02
521763	32.37	0.167	29.43	0.35	0.01	0.05	0.02	0.01	1.00	0.014	0.849	8.31	99.72	30.0	4.346	25.466	14.5	29.812	0.69	0.01
521764	32.95	0.146	29.52	0.46	0.01	0.04	0.01	0.01	0.79	0.011	0.861	8.47	99.72	30.0	4.746	25.659	15.8	30.404	-1.21	0.01
521765	30.23	0.156	30.52	0.54	0.01	0.06	0.01	0.01	1.03	0.013	0.875	8.53	99.09	30.1	4.137	24.828	13.8	28.965	3.72	0.03
521766	32.42	0.146	28.55	0.57	< 0.01	0.02	0.02	0.01	1.01	0.016	0.866	8.45	99.56	30.1	4.154	25.543	13.8	29.696	1.18	0.02
521767	31.64	0.166	29.86	0.15	< 0.01	< 0.01	0.03	0.02	1.03	0.012	0.740	10.36	99.64	30.0	4.186	25.591	13.9	29.777	0.84	0.01
521768	35.64	0.150	26.70	0.19	< 0.01	< 0.01	0.02	0.01	1.27	0.016	0.454	8.74	98.99	30.0	2.585	27.056	8.6	29.641	1.28	0.02
521769	27.42	0.175	29.50	0.33	< 0.01	< 0.01	0.01	0.01	1.47	0.019	0.455	9.68	99.56	30.1	2.242	27.424	7.5	29.666	1.33	0.01
521770	37.56	0.204	24.58	0.39	< 0.01	< 0.01	0.02	0.01	2.50	0.029	0.405	8.39	98.70	30.0	1.339	28.368	4.5	29.707	1.06	0.01
521771	36.07	0.119	23.89	0.12	< 0.01	< 0.01	0.01	0.01	2.74	0.035	0.276	13.98	97.94	30.1	0.604	28.802	2.0	29.406	2.19	0.03
521772	34.34	0.245	25.49	0.54	< 0.01	< 0.01	0.08	0.04	6.69	0.088	0.285		88.56	30.0	0.138	29.459	0.5	29.597	1.40	
521773	27.46	0.174	30.33	0.67	< 0.01	< 0.01	0.02	0.01	0.93	0.012	0.713	10.63	99.38	30.0	4.339	25.251	14.4	29.590	1.46	0.02
521774	49.82	0.234	19.61	1.14	< 0.01	< 0.01	0.02	0.01	1.81	0.021	1.31	6.75	98.60	30.0	2.164	27.658	7.2	29.821	0.66	0.04
521775	55.27	0.174	17.77	0.70	< 0.01	0.02	0.02	0.01	1.42	0.021	1.56	4.65	98.19	30.1	2.503	27.371	8.3	29.874	0.65	0.03
521776	57.09	0.239	16.31	0.87	< 0.01	0.04	0.01	0.01	1.86	0.023	2.09	3.34	96.98	30.1	1.788	27.814	5.9	29.602	1.49	0.05
521777	58.54	0.234	16.07	0.42	< 0.01	0.07	0.02	0.01	1.93	0.027	1.98	3.09	97.60	30.1	1.841	28.124	6.1	29.965	0.35	0.04
521778	53.16	0.178	18.76	0.63	< 0.01	0.05	0.02	0.01	1.37	0.018	1.36	4.02	97.92	28.1	2.085	25.682	7.4	27.767	1.17	0.03
521779	55.70	0.226	17.30	0.44	< 0.01	0.03	0.01	0.01	1.76	0.021	1.73	3.78	97.19	30.1	2.377	27.997	7.9	30.374	-1.07	0.02
521780.1	12.12	0.163	4.98	7.87	2.44	2.80	1.10	0.44	1.07	0.061	0.235	0.76	99.31							

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
521780.2	13.25	0.126	32.13	2.06	0.11	0.13	0.12	0.02	0.20	0.006	1.44	10.81	99.12							
521780.3	52.73	0.238	18.72	0.19	< 0.01	0.03	0.03	0.01	1.54	0.022	2.02	3.47	98.49	30.1	2.012	27.711	6.7	29.723	1.34	0.09
521781	52.34	0.242	19.05	0.72	< 0.01	0.02	0.01	0.01	1.43	0.017	1.57	5.07	97.88	30.0	2.702	27.758	9.0	30.460	-1.39	0.02
521782	58.48	0.246	15.52	0.92	< 0.01	0.03	0.02	0.01	1.70	0.021	1.80	3.82	97.53	30.1	2.261	27.789	7.5	30.050	0.06	0.03
521783	52.51	0.232	17.72	1.47	< 0.01	0.08	0.01	0.01	1.51	0.020	1.60	6.00	98.05	30.0	2.358	27.559	7.9	29.917	0.37	0.04
521784	62.42	0.231	13.52	0.40	< 0.01	0.01	0.01	0.01	2.53	0.029	1.46	2.96	96.82	30.0	1.127	28.720	3.8	29.848	0.58	0.02
521785														30.0	0.079	29.496	0.3	29.575	1.56	
521786	68.23	0.255	11.93	0.11	< 0.01	< 0.01	0.04	0.04	3.58	0.054	0.268		94.96	30.0	0.762	28.936	2.5	29.698	1.17	< 0.01
521787	55.98	0.213	16.79	0.77	< 0.01	0.03	0.02	0.01	2.12	0.030	1.19	5.98	97.58	30.2	1.485	28.305	4.9	29.790	1.28	0.01
521788	49.45	0.246	19.31	1.32	< 0.01	0.01	0.01	0.01	1.81	0.022	1.25	7.65	97.72	30.0	1.915	28.001	6.4	29.916	0.36	0.03
521789	63.38	0.308	11.08	0.43	< 0.01	< 0.01	0.03	0.01	4.36	0.056	0.452	2.38	97.75	30.3	0.422	29.365	1.4	29.787	1.75	0.02
521790	60.13	0.384	12.52	0.21	< 0.01	< 0.01	0.03	0.01	5.68	0.070	0.276	2.89	87.05	30.2	0.244	29.700	0.8	29.944	0.83	0.01
521791	61.57	0.195	14.61	0.38	< 0.01	0.04	0.01	0.01	1.87	0.027	1.27	4.18	97.19	31.4	1.760	29.593	5.6	31.353	0.03	0.03
521792	48.81	0.225	19.80	0.63	< 0.01	0.05	0.01	0.01	2.06	0.025	1.76	5.12	97.10	30.4	1.787	28.551	5.9	30.338	0.30	0.05
521793	62.39	0.320	12.60	0.16	< 0.01	0.05	0.02	0.01	3.85	0.046	1.63	2.36	96.40	30.4	0.800	29.225	2.6	30.025	1.32	0.02
521794														30.7	0.021	30.147	0.1	30.169	1.72	
521795														30.3	0.022	30.309	0.1	30.331	-0.19	
521796	61.02	0.275	14.62	0.06	< 0.01	0.01	0.02	< 0.01	2.36	0.031	0.800	3.90	97.14	30.6	1.275	29.205	4.2	30.481	0.35	0.03
521797	66.43	0.526	11.17	0.06	< 0.01	< 0.01	0.05	0.02	5.57	0.054	0.444	1.65	96.11	30.8	0.427	29.986	1.4	30.413	1.18	0.02
521798	58.89	0.286	15.43	0.56	< 0.01	0.03	0.02	0.01	2.07	0.027	1.12	4.46	97.14	30.4	1.617	28.509	5.3	30.126	0.94	0.05
521799	59.24	0.243	15.40	0.46	< 0.01	0.04	0.02	0.01	2.02	0.029	1.36	4.53	97.22	31.1	1.938	29.087	6.2	31.024	0.13	0.04
521800														6.29	0.088	6.087	1.4	6.175	1.87	
523290 extra	63.88	0.205	13.68	0.17	< 0.01	0.04	0.02	0.01	2.05	0.025	2.13	2.03	96.92	30.4	1.413	28.373	4.7	29.786	1.99	0.01
523291 extra	54.09	0.204	17.89	0.09	< 0.01	0.03	0.02	0.01	1.98	0.020	1.96	4.18	97.41	30.4	1.611	28.165	5.3	29.776	1.99	0.01
546121 extra	56.18	0.212	17.42	0.21	< 0.01	0.03	0.01	0.01	2.16	0.032	2.06	2.08	97.04	30.4	2.006	28.177	6.6	30.183	0.61	0.02
546122 extra	64.45	0.214	13.34	0.11	< 0.01	0.02	0.02	0.01	2.40	0.033	2.64	0.52	96.65	30.4	1.591	28.816	5.2	30.407	-0.16	0.04
521801 extra	63.36	0.173	14.06	0.31	< 0.01	0.01	0.02	0.01	1.85	0.026	2.03	1.96	96.89	31.0	1.907	28.938	6.2	30.845	0.48	0.04
521802 extra	62.01	0.167	15.00	0.10	< 0.01	0.03	0.01	0.01	1.76	0.026	2.09	2.08	97.31	28.6	1.787	26.520	6.2	28.307	1.00	0.03
521803 extra	62.63	0.187	14.29	0.42	< 0.01	0.04	0.02	0.01	1.78	0.025	2.39	2.37	97.18	20.3	1.118	18.872	5.5	19.990	1.45	0.02
521804 extra	56.66	0.222	16.20	0.75	< 0.01	0.04	0.02	0.01	2.35	0.030	2.13	3.12	97.12	30.6	1.969	28.474	6.4	30.443	0.47	0.02
521805 extra	53.75	0.208	17.98	0.75	< 0.01	0.02	0.01	0.01	2.18	0.026	2.16	3.75	97.22	30.3	1.958	28.017	6.5	29.975	1.11	0.02
521806 extra	54.84	0.210	17.39	0.86	< 0.01	0.02	0.02	0.01	2.35	0.029	2.22	3.44	97.34	31.5	1.935	29.235	6.1	31.169	1.02	0.03
521807 extra	49.02	0.155	21.00	0.36	< 0.01	0.05	0.02	0.01	1.88	0.025	1.69	4.80	98.02	30.9	2.263	27.994	7.3	30.258	2.17	0.01

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
NIST 694 Meas	11.16	1.89	0.75	0.013	0.35	44.41	0.88	0.57	0.116	30.18									1698					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
NIST 694 Meas	11.17	1.91	0.73	0.013	0.36	43.95	0.89	0.56	0.117	30.17									1669					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
DNC-1 Meas	47.93	18.51	9.94	0.156	10.11	11.45	1.87	0.23	0.478	0.13			106	172	17	31	35		158	0.030	0.026			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148.0	0.025	0.027			
GBW 07113 Meas	70.14	12.67	3.13	0.139	0.14	0.55	2.39	5.32	0.273	0.07			492	41	41	6	395	4	< 5					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
GBW 07113 Meas	70.54	12.81	3.17	0.139	0.14	0.54	2.43	5.40	0.275	0.06			495	36	42	5	384	4	7					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
MICA-FE Meas																						34.45	19.45	25.77
MICA-FE Cert																						34.4	19.5	25.6
CHR-BKG Meas																						15.32	12.88	13.82
CHR-BKG Cert																						15.27	12.91	13.87
IF-G Meas																						41.32	0.17	55.90
IF-G Cert																						41.2	0.150	55.8
LKSD-4 Meas																								
LKSD-4 Cert																								
LKSD-4 Meas																								
LKSD-4 Cert																								
BaSO4 Meas																								
BaSO4 Cert																								
BaSO4 Meas																								
BaSO4 Cert																								
OREAS 13P Meas																				0.223				
OREAS 13P Cert																				0.226				
OREAS 13P Meas																				0.225				
OREAS 13P Cert																				0.226				
OREAS 14P Meas																				2.090				
OREAS 14P Cert																				2.10				
SY-4 Meas	49.81	20.40	6.22	0.105	0.51	7.90	7.02	1.67	0.286	0.14			345	1065	113	1	546	3	10	< 0.010	< 0.010			
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0	0.000	0.001			
Oreas 73a (Fusion) Meas																				1.422	0.200	36.38	2.36	
Oreas 73a (Fusion) Cert																				1.44	0.20	36.4	2.38	
Oreas 74a (Fusion) Meas																						32.56	2.17	
Oreas 74a (Fusion) Cert																						32.4	2.21	
Oreas 75a (Fusion) Meas																						27.30	2.02	
Oreas 75a (Fusion) Cert																						27.3	1.99	
BIR-1a Meas	48.31	16.03	11.26	0.170	9.50	13.10	1.80	0.02	0.975	0.03			8	98	13	44	15	< 1	341	0.024	0.036			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310	0	0			
OREAS 13b (fusion) Meas																					0.982			
OREAS 13b (fusion) Cert																					1.08			
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
BCR-2 Meas	54.80	13.46	13.58		3.50	6.92	3.12	1.80	2.273	0.36			695	304	30	33	171		436		< 0.010			

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
BCR-2 Cert	54.1	13.5	13.8		3.59	7.12	3.16	1.79	2.26	0.35			683	346	37	33	188		416		0			
546065 Orig																								
546065 Dup																								
546072 Orig	37.46	0.77	8.10	0.107	38.29	0.64	< 0.01	< 0.01	0.005	0.02	12.88	98.28	< 2	< 2	< 1	9	< 2	< 1	43	0.183	0.254			
546072 Dup	37.78	0.77	7.96	0.104	38.04	0.63	< 0.01	< 0.01	0.005	< 0.01	12.88	98.17	2	< 2	< 1	9	< 2	< 1	44	0.198	0.238			
546075 Orig																								
546075 Dup																								
546085 Orig																								
546085 Dup																								
546089 Orig	38.68	0.80	7.42	0.079	38.86	0.36	< 0.01	< 0.01	0.006	< 0.01	12.53	98.74	< 2	< 2	< 1	8	< 2	< 1	35	0.201	0.223			
546089 Dup	38.25	0.77	7.58	0.080	38.73	0.38	< 0.01	< 0.01	0.006	< 0.01	12.53	98.32	2	< 2	< 1	8	< 2	< 1	35	0.187	0.227			
546095 Orig																								
546095 Dup																								
546103 Orig	38.42	0.61	7.93	0.145	40.27	0.89	< 0.01	< 0.01	0.004	< 0.01	11.25	99.52	< 2	< 2	< 1	9	3	< 1	33	0.190	0.248			
546103 Dup	38.39	0.61	7.76	0.141	39.74	0.88	< 0.01	< 0.01	0.004	< 0.01	11.25	98.79	< 2	< 2	< 1	9	3	< 1	34	0.177	0.248			
546113 Orig																								
546113 Dup																								
546118 Orig	38.63	0.62	8.14	0.135	40.42	0.64	0.01	< 0.01	0.004	< 0.01	10.13	98.75	< 2	< 2	< 1	9	3	< 1	34	0.163	0.264			
546118 Dup	38.43	0.62	7.20	0.135	40.38	0.64	0.01	< 0.01	0.004	< 0.01	10.13	97.55	< 2	< 2	< 1	9	3	< 1	35	0.165	0.263			
522627 Orig	46.52	17.60	10.72	0.191	5.07	9.26	4.09	0.83	1.390	0.16	4.59	100.4	425	444	27	40	74	< 1	323	0.015	0.029			
522627 Dup	46.28	16.86	10.77	0.190	5.04	9.42	3.95	0.81	1.376	0.16	4.59	99.44	415	426	26	40	76	< 1	309	0.014	0.029			
522641 Orig	38.35	1.40	7.72	0.142	37.59	1.07	< 0.01	< 0.01	0.021	< 0.01	12.52	98.82	10	2	1	11	2	< 1	50	0.183	0.241			
522641 Dup	38.97	1.42	7.88	0.144	38.31	1.08	< 0.01	< 0.01	0.021	0.01	12.52	100.4	10	2	< 1	11	3	< 1	50	0.180	0.239			
522651 Orig																								
522651 Dup																								
521757 Orig																								
521757 Dup																								
521767 Orig																								
521767 Dup																								
521775 Orig	37.97	0.59	8.38	0.098	39.67	0.53	< 0.01	< 0.01	0.006	< 0.01	13.43	100.7	< 2	< 2	< 1	8	2	< 1	31	0.202	0.242			
521775 Dup	37.47	0.57	8.36	0.099	39.53	0.53	< 0.01	< 0.01	0.006	< 0.01	13.43	100.00	< 2	< 2	< 1	8	< 2	< 1	31	0.203	0.244			
521777 Orig																								
521777 Dup																								
521790 Orig	35.13	0.63	7.22	0.099	36.19	0.45	0.03	< 0.01	0.003	0.01	19.52	99.27	< 2	< 2	< 1	8	< 2	< 1	36	0.189	0.202			
521790 Dup	34.46	0.62	7.06	0.097	35.65	0.43	0.03	< 0.01	0.003	0.01	19.52	97.90	< 2	< 2	< 1	8	< 2	< 1	33	0.183	0.200			
521801 extra Orig																								
521801 extra Dup																								
521803 extra Orig	37.61	0.68	7.96	0.115	39.11	0.55	0.01	< 0.01	0.004	< 0.01	12.91	98.97	< 2	< 2	< 1	9	5	< 1	37	0.215	0.206			
521803 extra Dup	37.45	0.68	7.71	0.115	39.07	0.55	0.01	< 0.01	0.004	0.01	12.91	98.51	< 2	< 2	< 1	9	< 2	< 1	36	0.219	0.208			
Method Blank Method Blank																								
Method Blank Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank Method Blank																						< 0.01	< 0.01	< 0.01

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	% Loss Mass	Calculated Start Mass	Magnetic Fraction	Non-Mag Fraction	Start Mass	Weight % Magnetics	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	g	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
NIST 694 Meas																			
NIST 694 Cert																			
NIST 694 Meas																			
NIST 694 Cert																			
DNC-1 Meas																			
DNC-1 Cert																			
GBW 07113 Meas																			
GBW 07113 Cert																			
GBW 07113 Meas																			
GBW 07113 Cert																			
MICA-FE Meas	0.352	4.56	0.48	0.51	8.76	2.50	0.42	0.02	0.025	0.004									
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350									
CHR-BKG Meas	0.138	23.42	0.06			0.13		19.9		0.198									
CHR-BKG Cert	0.14	23.47	0.07			0.14		20		0.201									
IF-G Meas	0.041	1.87	1.52	0.05	0.02	0.02	0.06	0.01		< 0.003									
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225									
LKSD-4 Meas																			1.01
LKSD-4 Cert																			0.990
LKSD-4 Meas																			0.87
LKSD-4 Cert																			0.990
BaSO4 Meas																			13.2
BaSO4 Cert																			14.0
BaSO4 Meas																			12.7
BaSO4 Cert																			14.0
OREAS 13P Meas										0.226									
OREAS 13P Cert										0.226									
OREAS 13P Meas																			
OREAS 13P Cert																			
OREAS 14P Meas										2.08									
OREAS 14P Cert										2.10									
SY-4 Meas																			
SY-4 Cert																			
Oreas 73a (Fusion) Meas		32.56						0.20		1.44									
Oreas 73a (Fusion) Cert		32.5						0.20		1.44									
Oreas 74a (Fusion) Meas		27.85						0.18		3.24									
Oreas 74a (Fusion) Cert		27.9						0.18		3.24									
Oreas 75a (Fusion) Meas		22.45						0.15		5.25									
Oreas 75a (Fusion) Cert		22.3						0.16		5.25									
BIR-1a Meas																			
BIR-1a Cert																			
OREAS 13b (fusion) Meas																			
OREAS 13b (fusion) Cert																			
OREAS 13b (4-Acid) Meas																			1.10
OREAS 13b (4-Acid) Cert																			1.20
OREAS 13b (4-Acid) Meas																			1.13
OREAS 13b (4-Acid) Cert																			1.20
OREAS 13b (4-Acid) Meas																			1.12
OREAS 13b (4-Acid) Cert																			1.20

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	% Loss Mass	Calculated Start Mass	Magnetic Fraction	Non-Mag Fraction	Start Mass	Weight % Magnetics	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	g	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
BCR-2 Meas																			
BCR-2 Cert																			
546065 Orig																			0.01
546065 Dup																			0.01
546072 Orig																			
546072 Dup																			
546075 Orig																			0.05
546075 Dup																			0.04
546085 Orig																			0.04
546085 Dup																			0.05
546089 Orig																			
546089 Dup																			
546095 Orig																			0.02
546095 Dup																			0.02
546103 Orig																			< 0.01
546103 Dup																			< 0.01
546113 Orig																			0.02
546113 Dup																			0.02
546118 Orig																			
546118 Dup																			
522627 Orig																			
522627 Dup																			
522641 Orig																			0.03
522641 Dup																			0.03
522651 Orig																			0.03
522651 Dup																			0.03
521757 Orig																			0.04
521757 Dup																			0.03
521767 Orig																			0.01
521767 Dup																			0.01
521775 Orig																			
521775 Dup																			
521777 Orig																			0.04
521777 Dup																			0.04
521790 Orig																			
521790 Dup																			
521801 extra Orig																			0.04
521801 extra Dup																			0.04
521803 extra Orig																			
521803 extra Dup																			
Method Blank Method Blank																			< 0.01
Method Blank Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01							
Method Blank Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01							

Quality Analysis ... *Innovative Technologies*

Date Submitted: 21-Oct-11
Invoice No.: A11-12305
Invoice Date: 04-Dec-11
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road
Suite 2
Sudbury Ontario P3C 4Y9
Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

15 Pulp samples and 171 Rock samples were submitted for analysis.

The following analytical packages were requested:

Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID

REPORT **A11-12305**

Notes:
Total includes all elements in % oxide to the left of total.

Samples with missing data were insufficient for analysis

CERTIFIED BY :

Eric Hoffman Ph.D.
President/General Manager

SCC Accredited LAB 265
LAB 266 Accrédité CCN

ACTIVATION LABORATORIES LTD.

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521538	39.18	1.50	8.48	0.120	36.76	1.12	0.02	< 0.01	0.018	< 0.01	12.52	99.71	29	3	< 1	13	4	< 1	54	0.104	0.235	521538	13.19	0.43
521539	38.88	1.38	8.38	0.133	38.18	1.29	0.01	< 0.01	0.016	0.01	12.11	100.4	31	2	< 1	11	2	< 1	51	0.179	0.226	521539	18.62	0.47
521540	99.63	0.30	0.56	0.005	0.03	0.03	0.01	0.04	0.032	< 0.01	0.10	100.7	27	5	1	< 1	62	< 1	6	< 0.010	< 0.010	521540		
521541	39.08	1.68	8.59	0.127	37.70	0.89	< 0.01	< 0.01	0.015	< 0.01	12.29	100.4	10	< 2	< 1	13	3	< 1	57	0.119	0.227	521541	26.55	0.97
521542	38.81	1.51	8.45	0.107	37.42	0.94	< 0.01	< 0.01	0.015	< 0.01	12.54	99.80	16	< 2	< 1	12	3	< 1	58	0.128	0.232	521542	24.01	0.79
521543	38.91	1.47	8.19	0.112	37.56	0.95	< 0.01	< 0.01	0.015	< 0.01	12.49	99.69	9	< 2	< 1	12	< 2	< 1	53	0.188	0.234	521543	22.51	0.65
521544	38.24	1.21	7.93	0.151	36.35	1.59	< 0.01	< 0.01	0.015	< 0.01	12.25	97.74	9	< 2	1	11	< 2	< 1	50	0.185	0.231	521544	22.41	0.84
521545	38.34	1.33	6.91	0.122	37.76	0.88	< 0.01	< 0.01	0.014	< 0.01	12.20	97.56	7	< 2	< 1	11	2	< 1	51	0.193	0.227	521545	15.29	0.58
521546	38.79	1.43	8.10	0.110	38.34	0.49	< 0.01	< 0.01	0.015	< 0.01	12.40	99.69	7	< 2	< 1	10	< 2	< 1	51	0.201	0.229	521546	24.05	0.66
521547	38.62	1.57	7.29	0.092	38.14	1.19	< 0.01	< 0.01	0.014	< 0.01	12.92	99.84	7	< 2	1	9	3	< 1	55	0.175	0.235	521547	16.83	0.65
521548	37.54	0.60	7.07	0.078	39.75	0.11	< 0.01	< 0.01	0.005	< 0.01	13.14	98.30	2	< 2	< 1	6	3	< 1	25	0.185	0.242	521548	24.05	0.54
521549	37.52	0.85	7.75	0.084	39.80	0.35	< 0.01	< 0.01	0.006	< 0.01	12.93	99.28	< 2	< 2	< 1	8	3	< 1	35	0.209	0.254	521549	26.27	0.80
521550	38.07	1.17	7.96	0.096	38.42	0.85	< 0.01	< 0.01	0.014	< 0.01	12.83	99.42	4	< 2	< 1	11	2	< 1	43	0.166	0.239	521550	23.42	0.68
521551	37.77	1.26	8.35	0.115	37.61	1.40	< 0.01	< 0.01	0.013	< 0.01	13.19	99.71	8	2	< 1	11	2	< 1	49	0.187	0.245	521551	20.10	0.55
521552	39.42	1.37	8.21	0.112	38.30	0.51	< 0.01	< 0.01	0.014	< 0.01	12.70	100.6	3	< 2	< 1	10	3	< 1	48	0.129	0.229	521552	28.43	0.87
521553	40.48	1.73	7.39	0.105	38.86	0.13	< 0.01	< 0.01	0.018	< 0.01	12.04	100.8	5	< 2	< 1	9	3	< 1	47	0.129	0.223	521553	30.23	1.14
521554	40.66	5.35	9.48	0.147	25.54	7.09	0.64	0.09	0.705	0.13	8.92	98.75	11	43	14	20	41	< 1	183	0.121	0.137	521554		
521555	41.55	5.15	9.77	0.150	26.06	7.37	0.63	0.07	0.760	0.05	8.82	100.4	11	34	15	22	42	< 1	194	0.122	0.133	521555		
521556	39.27	1.33	8.25	0.166	38.91	0.85	< 0.01	< 0.01	0.011	< 0.01	11.33	100.1	8	< 2	< 1	12	4	< 1	48	0.122	0.245	521556	27.56	0.79
521557	38.43	1.51	8.09	0.097	37.66	0.56	< 0.01	< 0.01	0.011	< 0.01	12.51	98.86	4	< 2	< 1	11	2	< 1	52	0.179	0.230	521557	21.75	0.74
521558	39.27	1.20	7.89	0.125	39.24	1.01	< 0.01	< 0.01	0.011	< 0.01	12.09	100.8	4	< 2	< 1	10	3	< 1	50	0.123	0.227	521558	26.02	0.67
521559	38.04	1.12	7.66	0.112	38.33	0.49	< 0.01	< 0.01	0.011	< 0.01	12.88	98.63	5	< 2	< 1	11	< 2	< 1	46	0.184	0.214	521559	23.22	0.57
521560.1	49.73	15.82	11.88	0.166	4.87	7.82	2.27	2.86	1.182	0.44	0.93	97.97	721	522	21	25	103	2	336	0.221	1.015	521560	49.11	16.22
521560.2																						521560	36.21	2.34
521560.3																						521560	17.00	0.49
521561	38.06	1.37	8.23	0.095	38.02	0.38	< 0.01	< 0.01	0.011	< 0.01	12.67	98.83	3	< 2	< 1	10	3	< 1	50	0.188	0.243	521561	21.10	0.63
521562	37.72	1.19	7.99	0.104	38.31	1.00	< 0.01	< 0.01	0.013	< 0.01	12.60	98.94	4	< 2	< 1	10	4	< 1	45	0.120	0.243	521562	24.33	0.60
521563	37.96	1.25	7.64	0.092	37.20	0.60	< 0.01	< 0.01	0.011	< 0.01	12.90	97.64	3	< 2	< 1	10	2	< 1	48	0.164	0.246	521563	21.53	0.67
521564	38.67	1.43	7.91	0.087	39.13	0.37	< 0.01	< 0.01	0.011	< 0.01	12.80	100.4	7	< 2	< 1	9	2	< 1	50	0.148	0.251	521564	19.64	0.69
521565	38.51	1.26	8.35	0.112	38.25	0.81	< 0.01	< 0.01	0.011	< 0.01	12.77	100.1	3	< 2	< 1	11	9	< 1	52	0.206	0.238	521565	21.30	0.90
521566	38.97	1.22	8.02	0.123	38.96	0.96	< 0.01	< 0.01	0.014	< 0.01	12.60	100.9	3	< 2	< 1	10	3	< 1	45	0.132	0.213	521566	26.31	0.67
521567	38.72	1.16	8.70	0.117	37.13	1.16	< 0.01	< 0.01	0.011	< 0.01	12.27	99.28	2	< 2	< 1	10	2	< 1	50	0.208	0.234	521567	19.57	0.63
521568	38.53	1.20	8.12	0.114	39.10	0.61	< 0.01	< 0.01	0.011	< 0.01	12.58	100.3	3	< 2	< 1	9	3	< 1	44	0.137	0.243	521568	25.21	0.77
521569	38.78	1.22	8.25	0.114	38.77	0.49	< 0.01	< 0.01	0.012	< 0.01	12.67	100.3	4	< 2	< 1	10	3	< 1	45	0.126	0.238	521569	22.71	0.59
521570	37.91	1.02	8.48	0.134	39.09	0.55	< 0.01	< 0.01	0.011	< 0.01	13.07	100.3	3	< 2	< 1	10	3	< 1	42	0.120	0.224	521570	26.11	0.44
521571	38.51	1.26	7.75	0.111	39.41	0.22	< 0.01	< 0.01	0.012	< 0.01	12.93	100.2	2	< 2	< 1	10	3	< 1	45	0.125	0.241	521571	25.56	0.64
521572	38.65	1.28	7.88	0.076	37.56	0.09	< 0.01	< 0.01	0.018	< 0.01	12.80	98.43	< 2	< 2	< 1	9	3	< 1	44	0.205	0.240	521572	30.06	0.82
521573	38.56	1.16	7.97	0.120	38.11	0.07	< 0.01	< 0.01	0.009	< 0.01	12.69	98.67	< 2	< 2	< 1	9	2	< 1	43	0.172	0.243	521573	25.43	0.66
521574	38.25	0.92	8.83	0.137	38.08	0.08	< 0.01	< 0.01	0.012	< 0.01	12.50	98.80	3	< 2	< 1	10	3	< 1	44	0.217	0.257	521574	25.33	0.56
521575	39.26	0.92	7.99	0.134	38.83	0.08	< 0.01	< 0.01	0.010	< 0.01	12.46	99.68	2	< 2	< 1	9	2	< 1	42	0.188	0.245	521575	27.39	0.61
521576	39.76	1.30	8.24	0.104	38.44	0.09	< 0.01	< 0.01	0.008	< 0.01	12.01	99.96	3	< 2	< 1	11	3	< 1	40	0.124	0.233	521576	23.83	0.90
521577	42.41	11.22	13.36	0.175	12.76	14.80	1.23	0.13	1.563	< 0.01	3.32	101.0	11	46	28	40	79	< 1	377	0.033	0.056	521577		
521578	40.01	1.09	7.91	0.116	37.81	0.11	< 0.01	< 0.01	0.019	< 0.01	11.71	98.78	4	< 2	< 1	11	2	< 1	40	0.217	0.234	521578	24.69	0.70
521579	38.92	1.48	8.14	0.079	37.73	0.11	< 0.01	< 0.01	0.020	< 0.01	12.50	98.99	3	< 2	< 1	7	4	< 1	34	0.107	0.222	521579	11.15	0.47
521580	100.1	0.29	0.47	0.004	0.04	0.02	0.01	0.04	0.031	< 0.01	-0.27	100.8	23	3	1	< 1	50	< 1	7	< 0.010	< 0.010	521580	98.02	0.35
521581	40.40	1.81	8.29	0.096	37.98	0.36	0.01	< 0.01	0.049	< 0.01	11.75	100.8	3	< 2	< 1	10	5	< 1	43	0.124	0.219	521581	17.43	0.57
521582	38.64	1.13	7.94	0.096	37.73	0.12	< 0.01	< 0.01	0.007	< 0.01	12.30	97.96	4	< 2	< 1	11	< 2	< 1	39	0.205	0.238	521582	15.32	0.53
521583	39.24	0.89	7.84	0.114	39.15	0.14	< 0.01	< 0.01	0.007	< 0.01	12.37	99.72	3	< 2	< 1	9	< 2	< 1	36	0.212	0.255	521583	24.57	0.46
521584	37.97	1.19	8.17	0.096	39.63	0.47	< 0.01	< 0.01	0.010	< 0.01	12.65	100.2	2	< 2	< 1	9	4	< 1	41	0.201	0.259	521584	24.86	0.55
521585	36.54	0.87	8.29	0.104	38.46	0.32	0.01	< 0.01	0.009	< 0.01	12.94	97.54	2	2	< 1	9	4	< 1	34	0.222	0.238	521585	23.20	0.38
521586	37.79	1.01	8.14	0.082	39.00	0.26	< 0.01	< 0.01	0.009	0.01	13.04	99.35	< 2	< 2	< 1	7	3	< 1	40	0.202	0.250	521586	25.18	0.66

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521587	39.11	3.82	7.35	0.114	29.94	9.31	0.03	< 0.01	0.312	0.05	10.11	100.2	4	19	6	13	19	< 1	90	0.149	0.172	521587	20.70	0.80
521588	37.86	1.00	7.91	0.080	39.07	0.41	< 0.01	< 0.01	0.005	< 0.01	12.71	99.05	< 2	< 2	< 1	6	2	< 1	36	0.190	0.220	521588	24.58	0.51
521589	38.09	0.80	7.89	0.121	40.16	0.49	< 0.01	< 0.01	0.006	< 0.01	12.19	99.74	4	< 2	< 1	7	3	< 1	32	0.208	0.259	521589	24.57	0.41
521590	37.95	0.60	8.55	0.147	40.36	0.25	< 0.01	< 0.01	0.005	0.02	11.31	99.19	< 2	< 2	< 1	8	2	< 1	29	0.194	0.244	521590	22.40	0.27
521591	37.96	0.96	7.95	0.105	38.32	1.39	< 0.01	< 0.01	0.006	< 0.01	13.08	99.77	3	< 2	< 1	9	3	< 1	42	0.207	0.261	521591	24.23	0.46
521592	37.58	0.84	8.25	0.118	37.72	0.92	< 0.01	< 0.01	0.008	0.02	12.72	98.17	17	2	< 1	9	3	< 1	37	0.204	0.228	521592	22.68	0.37
521593	39.30	1.24	7.11	0.064	36.20	0.90	< 0.01	< 0.01	0.011	< 0.01	12.92	97.77	2	2	< 1	9	3	< 1	39	0.199	0.241	521593	15.78	0.24
521594	38.88	1.12	8.42	0.117	35.76	2.23	0.01	< 0.01	0.191	0.08	11.16	97.98	2	< 2	4	13	9	< 1	67	0.187	0.236	521594	23.56	0.96
521595	39.45	1.13	7.53	0.110	36.52	2.22	< 0.01	< 0.01	0.171	0.05	11.06	98.25	3	< 2	4	12	9	< 1	60	0.180	0.212	521595	24.71	0.86
521596	37.46	0.88	7.81	0.114	39.61	0.52	< 0.01	< 0.01	0.014	< 0.01	12.27	98.68	3	< 2	< 1	9	2	< 1	36	0.208	0.237	521596	25.52	0.55
521597	38.18	0.95	8.10	0.113	39.01	1.03	< 0.01	< 0.01	0.021	< 0.01	11.20	98.63	2	< 2	< 1	9	3	< 1	42	0.207	0.221	521597	29.10	0.99
521598	37.73	0.91	8.06	0.092	39.02	0.60	< 0.01	< 0.01	0.008	< 0.01	12.03	98.47	< 2	< 2	< 1	9	3	< 1	37	0.203	0.227	521598	28.24	0.63
521599	39.67	0.90	7.01	0.108	39.74	0.37	< 0.01	< 0.01	0.010	< 0.01	10.44	98.28	2	< 2	1	9	3	< 1	33	0.203	0.217	521599	23.22	0.78
521600.1	49.64	15.85	11.72	0.166	4.90	7.75	2.25	2.87	1.188	0.40	0.48	97.21	718	523	21	25	105	2	335	0.208	1.015	521600	49.16	16.27
521600.2																						521600	36.38	2.30
521600.3																						521600	17.45	0.58
521601	38.88	1.01	7.74	0.119	39.15	0.68	< 0.01	< 0.01	0.010	< 0.01	11.20	98.81	2	< 2	< 1	9	4	< 1	40	0.207	0.254	521601	19.77	0.90
521602	39.12	0.71	7.76	0.109	40.11	0.50	< 0.01	< 0.01	0.005	0.03	9.57	97.91	< 2	< 2	< 1	9	2	< 1	35	0.215	0.248	521602	20.33	0.98
521603	37.68	0.79	8.15	0.102	39.53	0.40	< 0.01	< 0.01	0.006	0.02	11.57	98.25	5	< 2	< 1	10	3	< 1	38	0.210	0.257	521603	23.59	0.65
521604	38.88	0.81	7.95	0.105	40.10	0.37	< 0.01	< 0.01	0.005	< 0.01	12.30	100.5	2	< 2	< 1	10	3	< 1	38	0.201	0.247	521604	19.55	0.70
521605	37.42	0.70	8.49	0.119	38.50	0.24	< 0.01	< 0.01	0.006	< 0.01	12.54	98.01	< 2	< 2	< 1	8	3	< 1	37	0.197	0.246	521605	26.19	0.82
521606	39.00	0.75	7.74	0.121	38.62	1.12	0.03	< 0.01	0.015	< 0.01	10.63	98.03	< 2	< 2	< 1	9	3	< 1	38	0.208	0.263	521606	28.58	1.00
521607	39.63	0.53	7.86	0.118	39.14	0.86	< 0.01	< 0.01	0.005	< 0.01	9.39	97.53	< 2	< 2	< 1	10	5	< 1	36	0.207	0.262	521607	28.21	0.85
521608	37.33	0.73	7.97	0.094	38.35	0.41	< 0.01	< 0.01	0.005	< 0.01	12.76	97.67	< 2	< 2	< 1	8	3	< 1	36	0.211	0.228	521608	26.67	0.81
521609	40.51	0.80	7.73	0.113	39.72	0.72	0.02	< 0.01	0.005	< 0.01	9.14	98.77	5	< 2	< 1	10	4	< 1	40	0.199	0.215	521609	32.50	0.65
521610	39.14	0.71	8.20	0.112	39.26	0.23	< 0.01	< 0.01	0.005	< 0.01	10.82	98.49	2	< 2	< 1	6	4	< 1	46	0.229	0.473	521610	15.88	0.87
521611	38.77	0.97	8.38	0.118	37.53	0.81	< 0.01	< 0.01	0.007	< 0.01	13.27	99.86	< 2	< 2	< 1	10	3	< 1	42	0.182	0.215	521611	30.54	0.85
521612	38.61	0.92	7.56	0.114	38.74	0.52	< 0.01	< 0.01	0.005	0.01	12.42	98.91	< 2	< 2	< 1	10	3	< 1	43	0.195	0.227	521612	26.15	0.62
521613	37.75	1.03	8.26	0.118	37.84	0.51	< 0.01	< 0.01	0.006	< 0.01	13.06	98.58	< 2	< 2	< 1	10	3	< 1	45	0.189	0.270	521613	24.10	0.77
521614	37.61	0.80	8.71	0.142	38.87	0.62	< 0.01	< 0.01	0.007	0.02	11.55	98.33	< 2	< 2	< 1	10	3	< 1	39	0.206	0.305	521614	29.61	0.76
521615	37.46	0.79	8.91	0.138	38.98	0.54	< 0.01	< 0.01	0.006	0.01	12.06	98.89	< 2	< 2	< 1	10	< 2	< 1	38	0.198	0.293	521615	30.72	0.74
521616	38.04	1.23	8.37	0.112	39.54	1.31	< 0.01	< 0.01	0.006	< 0.01	10.72	99.33	< 2	< 2	< 1	10	7	< 1	53	0.187	0.280	521616	26.67	1.12
521617	38.56	0.92	8.01	0.111	40.31	0.46	< 0.01	< 0.01	0.006	0.01	11.41	99.79	< 2	< 2	< 1	8	< 2	< 1	35	0.215	0.244	521617	27.38	0.83
522599	38.54	0.97	7.81	0.095	38.61	0.13	< 0.01	< 0.01	0.006	0.03	12.56	98.74	< 2	< 2	< 1	8	3	< 1	41	0.185	0.224	522599	24.42	0.71
522600.1	50.08	15.98	12.10	0.169	4.99	7.87	2.27	2.80	1.188	0.44	0.97	98.86	721	522	22	25	103	2	338	0.221	1.036	522600	49.12	16.16
522600.2																						522600	36.33	2.39
522600.3																						522600	17.02	0.64
522601	37.66	0.86	7.12	0.091	39.24	0.13	< 0.01	< 0.01	0.007	< 0.01	13.24	98.36	< 2	< 2	< 1	9	3	< 1	38	0.195	0.232	522601	25.74	0.61
522602	37.64	0.68	7.84	0.134	39.17	0.80	< 0.01	< 0.01	0.004	0.01	11.72	97.99	< 2	< 2	< 1	9	3	< 1	36	0.205	0.234	522602	25.72	0.53
522603	37.57	0.61	7.99	0.128	39.97	0.63	< 0.01	< 0.01	0.004	< 0.01	11.70	98.60	< 2	< 2	1	8	2	< 1	34	0.208	0.229	522603	22.91	0.39
522604	37.74	0.67	7.64	0.105	39.14	0.39	< 0.01	< 0.01	0.004	< 0.01	12.87	98.56	< 2	< 2	< 1	9	3	< 1	33	0.189	0.229	522604	28.16	0.58
522605	37.91	0.74	8.40	0.111	39.34	0.64	< 0.01	< 0.01	0.004	< 0.01	12.14	99.29	< 2	< 2	< 1	9	3	< 1	36	0.190	0.255	522605	20.75	0.54
522606	38.13	0.73	8.07	0.110	39.27	0.65	< 0.01	< 0.01	0.004	< 0.01	11.93	98.89	< 2	< 2	< 1	9	3	< 1	38	0.200	0.236	522606	25.04	0.58
522607	38.07	0.65	7.71	0.132	38.34	1.42	< 0.01	< 0.01	0.004	< 0.01	11.79	98.11	< 2	< 2	< 1	10	2	< 1	38	0.184	0.245	522607	22.99	0.49
522608	37.90	0.66	7.59	0.115	38.96	1.03	< 0.01	< 0.01	0.005	< 0.01	11.72	98.00	< 2	< 2	< 1	9	3	< 1	37	0.170	0.227	522608	23.58	0.56
522609	38.17	0.83	7.67	0.099	39.60	0.78	< 0.01	< 0.01	0.008	< 0.01	12.56	99.72	< 2	< 2	< 1	9	2	< 1	38	0.214	0.239	522609	25.19	0.81
522610	37.54	0.62	8.24	0.126	39.68	0.50	< 0.01	< 0.01	0.004	< 0.01	11.98	98.69	< 2	< 2	< 1	8	2	< 1	36	0.194	0.291	522610	20.41	0.69
522611	37.68	0.64	8.04	0.119	40.11	1.21	< 0.01	< 0.01	0.004	0.01	11.74	99.55	< 2	< 2	< 1	9	3	< 1	39	0.115	0.230	522611	23.52	0.54
522612	38.13	0.72	7.46	0.112	40.10	0.82	< 0.01	< 0.01	0.027	< 0.01	11.83	99.20	< 2	< 2	< 1	10	3	< 1	41	0.114	0.255	522612	24.49	0.59
523266	39.32	0.90	8.10	0.121	38.85	1.12	< 0.01	< 0.01	0.006	< 0.01	11.42	99.84	< 2	< 2	1	10	2	< 1	40	0.191	0.264	523266	24.84	0.53
523267	38.75	1.09	8.10	0.083	38.16	1.26	< 0.01	< 0.01	0.007	0.01	12.56	100.0	< 2	< 2	< 1	10	< 2	< 1	45	0.191	0.242	523267	22.43	0.64

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
523268	39.25	0.96	7.38	0.097	38.66	0.80	< 0.01	< 0.01	0.006	0.01	11.88	99.06	< 2	< 2	< 1	8	< 2	< 1	39	0.219	0.212	523268	24.54	0.65
523269	40.14	0.87	7.38	0.118	39.64	0.75	< 0.01	< 0.01	0.006	< 0.01	11.87	100.8	< 2	< 2	< 1	9	2	< 1	37	0.184	0.222	523269	26.92	0.66
523270	39.34	1.01	8.09	0.090	39.03	0.71	< 0.01	< 0.01	0.007	< 0.01	12.30	100.6	< 2	< 2	< 1	9	< 2	< 1	42	0.163	0.262	523270	24.84	0.65
523271	38.95	0.84	7.68	0.135	38.63	1.15	< 0.01	< 0.01	0.006	< 0.01	11.29	98.69	< 2	< 2	< 1	9	< 2	< 1	40	0.214	0.250	523271	30.06	0.65
523272	38.69	1.15	6.89	0.083	38.29	0.57	< 0.01	< 0.01	0.006	< 0.01	12.49	98.18	< 2	< 2	< 1	9	< 2	< 1	45	0.204	0.250	523272	24.14	0.68
523273	39.30	0.79	7.84	0.161	38.64	1.12	< 0.01	< 0.01	0.006	< 0.01	11.08	98.94	< 2	< 2	< 1	9	< 2	< 1	40	0.211	0.247	523273	27.67	0.51
523274	39.67	0.96	8.41	0.122	38.58	0.07	< 0.01	< 0.01	0.006	< 0.01	11.63	99.46	< 2	< 2	< 1	11	2	< 1	42	0.200	0.280	523274	21.51	0.46
523275	39.28	1.01	8.64	0.105	38.01	0.06	< 0.01	< 0.01	0.006	< 0.01	11.79	98.92	< 2	< 2	< 1	11	< 2	< 1	43	0.208	0.271	523275	20.33	0.47
523276	42.92	9.35	12.86	0.205	16.12	8.67	2.44	0.13	1.563	0.14	5.68	100.1	9	51	31	28	89	< 1	344	0.071	0.084	523276	14.92	2.81
523277	39.13	1.12	7.18	0.077	39.00	0.10	0.01	< 0.01	0.011	0.01	12.84	99.49	< 2	< 2	< 1	9	< 2	< 1	46	0.214	0.255	523277	25.37	0.77
523278	38.20	1.04	8.37	0.083	38.93	0.06	< 0.01	< 0.01	0.007	< 0.01	12.39	99.10	< 2	< 2	< 1	9	< 2	< 1	46	0.192	0.260	523278	27.36	0.69
523279	40.17	11.61	9.51	0.162	6.17	12.15	3.04	0.17	1.147	0.08	15.57	99.78	20	196	25	35	65	< 1	284	0.010	0.014	523279		
523280	98.12	0.30	0.75	0.007	0.03	0.03	0.02	0.04	0.030	< 0.01	0.00	99.33	22	3	2	< 1	48	< 1	5	< 0.010	< 0.010	523280	97.68	0.31
523281	40.00	0.90	8.39	0.156	38.07	0.13	0.03	< 0.01	0.011	0.01	11.24	98.93	< 2	< 2	< 1	9	< 2	< 1	38	0.210	0.247	523281	26.51	0.47
523282	38.65	10.48	13.13	0.202	20.69	8.05	0.65	0.09	1.209	0.08	7.19	100.4	5	15	25	29	55	< 1	301	0.110	0.111	523282	27.47	0.42
523283	47.27	13.77	12.91	0.202	5.73	11.44	4.23	0.23	1.700	0.14	1.39	99.00	20	116	36	39	95	< 1	404	< 0.010	< 0.010	523283		
523284	42.11	0.84	6.87	0.094	36.76	0.20	0.02	< 0.01	0.011	< 0.01	11.52	98.42	< 2	< 2	< 1	8	2	< 1	33	0.196	0.224	523284	23.77	1.27
523285	39.65	1.10	7.33	0.111	37.61	0.09	0.01	< 0.01	0.018	< 0.01	11.99	97.92	< 2	< 2	< 1	10	2	< 1	44	0.187	0.253	523285	30.29	1.00
546001	39.58	0.88	7.96	0.169	38.84	1.34	< 0.01	< 0.01	0.008	< 0.01	11.56	100.4	< 2	< 2	< 1	9	< 2	< 1	36	0.209	0.252	546001	28.93	0.53
546002	38.76	0.95	7.34	0.130	39.08	0.76	< 0.01	< 0.01	0.006	< 0.01	12.34	99.36	< 2	< 2	< 1	9	< 2	< 1	37	0.192	0.241	546002	29.92	0.73
546003	38.62	2.23	6.50	0.075	36.84	0.60	< 0.01	< 0.01	0.033	< 0.01	12.83	97.72	< 2	< 2	2	10	4	< 1	48	0.190	0.232	546003	27.32	1.51
546004	39.46	1.47	7.72	0.099	37.45	0.06	< 0.01	< 0.01	0.016	< 0.01	12.19	98.46	< 2	< 2	< 1	8	< 2	< 1	37	0.213	0.196	546004	28.48	1.15
546005	39.02	1.08	7.48	0.130	37.51	0.14	< 0.01	< 0.01	0.008	< 0.01	12.19	97.56	< 2	< 2	< 1	8	< 2	< 1	31	0.226	0.206	546005	31.11	1.05
546006	40.27	1.07	6.84	0.079	38.81	0.06	< 0.01	< 0.01	0.010	< 0.01	11.97	99.13	< 2	< 2	< 1	8	5	< 1	36	0.113	0.204	546006	21.83	0.93
546007	37.86	0.98	8.24	0.113	38.63	0.14	< 0.01	< 0.01	0.008	< 0.01	12.82	98.80	< 2	< 2	< 1	9	< 2	< 1	41	0.193	0.269	546007	31.26	0.87
546008	38.43	0.88	8.08	0.139	39.13	0.94	< 0.01	< 0.01	0.009	< 0.01	12.03	99.64	< 2	< 2	< 1	9	< 2	< 1	37	0.192	0.254	546008	31.24	0.67
546009	38.08	0.90	7.65	0.127	38.63	0.72	< 0.01	< 0.01	0.008	< 0.01	12.59	98.71	< 2	< 2	< 1	9	< 2	< 1	36	0.210	0.242	546009	30.43	0.62
546010	38.14	0.92	7.86	0.115	39.69	0.79	< 0.01	< 0.01	0.008	< 0.01	12.25	99.79	< 2	< 2	< 1	8	< 2	< 1	35	0.220	0.254	546010	30.62	0.58
546011	38.02	0.94	8.07	0.127	38.73	1.43	< 0.01	< 0.01	0.008	< 0.01	11.91	99.24	< 2	< 2	< 1	9	< 2	< 1	37	0.192	0.255	546011	28.69	0.56
546012	37.10	1.01	8.61	0.109	37.68	1.05	0.05	0.02	0.007	< 0.01	12.83	98.47	< 2	< 2	< 1	8	< 2	< 1	35	0.195	0.234	546012	27.84	0.58
546013	37.06	0.83	7.83	0.113	39.48	0.32	< 0.01	< 0.01	0.007	< 0.01	12.73	98.38	< 2	< 2	< 1	8	< 2	< 1	35	0.218	0.250	546013	27.93	0.53
546014	38.23	0.95	7.56	0.108	38.75	0.25	< 0.01	< 0.01	0.008	0.01	12.22	98.09	< 2	< 2	< 1	7	< 2	< 1	31	0.198	0.236	546014	28.44	0.68
546015	38.05	0.90	8.06	0.121	38.85	0.22	< 0.01	< 0.01	0.009	< 0.01	12.37	98.59	< 2	< 2	< 1	8	2	< 1	32	0.200	0.272	546015	27.77	0.67
546016	39.75	1.00	8.59	0.136	39.47	0.09	0.01	< 0.01	0.008	< 0.01	11.72	100.8	< 2	< 2	< 1	7	3	< 1	28	0.190	0.228	546016	29.73	0.82
546017	38.62	0.82	7.41	0.112	39.99	0.23	< 0.01	< 0.01	0.007	< 0.01	12.57	99.76	< 2	< 2	< 1	7	< 2	< 1	29	0.210	0.181	546017	27.68	0.60
546018	37.88	0.88	7.51	0.105	38.48	0.34	< 0.01	< 0.01	0.007	< 0.01	12.55	97.76	< 2	< 2	< 1	9	< 2	< 1	31	0.216	0.218	546018	29.18	0.71
546019	42.41	13.74	14.72	0.223	5.16	14.87	3.05	0.40	2.176	0.17	2.12	99.05	41	140	45	38	121	< 1	515	< 0.010	< 0.010	546019		
546020.1	49.97	15.89	12.26	0.170	4.95	7.96	2.24	2.86	1.192	0.45	0.81	98.75	723	523	22	26	111	2	341	0.226	1.051	546020	49.15	16.24
546020.2																						546020	36.31	2.35
546020.3																						546020	17.39	0.51
546021	35.51	7.57	14.89	0.236	27.98	0.44	0.21	0.05	1.634	0.11	9.88	98.51	32	19	28	36	91	< 1	316	0.124	0.146	546021	24.12	1.82
546022	39.59	7.98	10.59	0.160	24.99	7.24	0.30	0.08	0.984	0.09	8.12	100.1	22	55	18	27	51	< 1	242	0.095	0.124	546022		
546023	37.56	1.30	8.24	0.097	38.82	0.80	0.06	0.02	0.035	0.02	12.95	99.89	4	4	1	9	3	< 1	44	0.201	0.235	546023	27.42	0.76
546024	39.28	0.46	7.49	0.088	42.17	0.05	< 0.01	< 0.01	0.011	< 0.01	10.52	100.1	< 2	< 2	< 1	3	< 2	< 1	15	0.242	0.280	546024	16.92	0.95
546025	38.10	0.76	7.79	0.108	40.57	0.15	< 0.01	< 0.01	0.013	< 0.01	11.24	98.74	< 2	< 2	< 1	6	3	< 1	25	0.193	0.187	546025	26.27	0.51
546026	38.46	0.81	8.03	0.118	40.78	0.55	< 0.01	< 0.01	0.008	< 0.01	11.71	100.5	< 2	< 2	< 1	8	7	< 1	32	0.214	0.256	546026	26.39	0.47
546027	38.22	0.94	7.73	0.082	40.10	0.20	0.02	< 0.01	0.008	0.01	12.58	99.89	< 2	< 2	< 1	9	< 2	< 1	33	0.227	0.230	546027	17.36	0.36
546028	37.56	0.76	8.25	0.135	39.08	0.45	0.01	< 0.01	0.013	0.02	12.97	99.25	< 2	< 2	< 1	9	16	< 1	33	0.202	0.291	546028	18.02	0.45
546029	37.61	0.79	8.69	0.145	39.92	0.40	< 0.01	< 0.01	0.013	0.02	12.20	99.78	< 2	< 2	< 1	8	< 2	< 1	35	0.216	0.414	546029	19.44	1.09
546030	38.79	0.79	7.81	0.114	40.44	0.32	< 0.01	< 0.01	0.008	< 0.01	12.15	100.5	< 2	< 2	< 1	9	< 2	< 1	31	0.225	0.199	546030	18.22	0.34
546031	38.17	0.81	7.84	0.116	39.68	0.28	< 0.01	< 0.01	0.008	< 0.01	12.00	98.92	< 2	< 2	< 1	10	< 2	< 1	31	0.219	0.213	546031	19.68	0.44

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
546032	38.38	0.93	7.96	0.076	38.58	0.56	< 0.01	< 0.01	0.006	0.01	12.35	98.87	< 2	< 2	< 1	9	< 2	< 1	37	0.211	0.187	546032	16.64	0.33
546033	38.13	0.85	7.81	0.109	39.36	0.66	< 0.01	< 0.01	0.006	0.01	12.94	99.88	< 2	< 2	< 1	11	< 2	< 1	40	0.178	0.239	546033	16.73	0.30
546034	38.51	0.84	7.43	0.111	39.46	0.21	< 0.01	< 0.01	0.006	< 0.01	13.12	99.70	< 2	< 2	< 1	9	< 2	< 1	38	0.210	0.216	546034	19.73	0.34
546035	38.70	0.84	7.59	0.113	39.76	0.23	0.01	< 0.01	0.006	0.01	13.17	100.4	3	< 2	< 1	9	< 2	< 1	37	0.201	0.241	546035	21.14	0.41
546036	38.80	0.83	7.92	0.116	39.96	0.32	< 0.01	< 0.01	0.006	< 0.01	12.82	100.8	< 2	< 2	< 1	10	< 2	< 1	41	0.221	0.245	546036	17.66	0.31
546037	38.58	0.95	8.55	0.104	39.29	0.56	< 0.01	< 0.01	0.007	0.02	12.82	100.9	< 2	< 2	< 1	7	< 2	< 1	36	0.211	0.211	546037	22.17	0.46
546038	39.05	0.80	8.24	0.124	39.73	0.43	< 0.01	< 0.01	0.007	0.01	12.49	100.9	< 2	< 2	< 1	8	< 2	< 1	35	0.228	0.214	546038	22.49	0.43
546039	37.91	0.82	7.89	0.106	39.41	0.40	< 0.01	< 0.01	0.006	0.04	13.11	99.70	< 2	< 2	< 1	9	< 2	< 1	34	0.213	0.239	546039	20.64	0.57
546040	98.95	0.31	0.50	0.005	0.11	0.02	0.02	0.04	0.033	< 0.01	0.10	100.1	22	3	2	< 1	52	< 1	6	< 0.010	< 0.010	546040	97.81	0.38
546041	38.01	0.78	8.16	0.112	39.18	0.93	< 0.01	< 0.01	0.006	< 0.01	13.36	100.6	7	< 2	< 1	10	< 2	< 1	41	0.221	0.249	546041	18.54	0.54
546042	38.79	0.46	7.26	0.097	40.51	0.10	< 0.01	< 0.01	0.002	0.02	12.71	99.95	< 2	< 2	< 1	6	< 2	< 1	25	0.203	0.248	546042	16.34	1.20
546043	39.38	1.25	7.83	0.124	38.21	0.37	< 0.01	< 0.01	0.046	0.02	12.50	99.73	< 2	< 2	< 1	10	4	< 1	49	0.211	0.220	546043	20.49	0.57
546044	36.64	0.63	7.07	0.113	37.19	0.20	0.02	< 0.01	0.004	0.02	18.33	100.2	< 2	2	< 1	6	< 2	< 1	24	0.216	0.170	546044	12.20	1.17
546045	37.63	1.34	6.55	0.083	33.86	3.04	0.03	< 0.01	0.093	0.02	17.07	99.72	< 2	16	2	9	7	< 1	50	0.188	0.174	546045	9.23	1.56
546046	39.28	0.88	7.54	0.115	38.17	0.85	0.01	< 0.01	0.007	< 0.01	13.21	100.1	< 2	< 2	< 1	9	2	< 1	39	0.206	0.226	546046	26.82	0.59
546047	38.31	0.70	8.31	0.123	38.34	0.94	< 0.01	< 0.01	0.005	< 0.01	13.21	99.96	< 2	< 2	< 1	9	< 2	< 1	38	0.211	0.215	546047	21.85	0.39
546048	38.72	0.73	7.62	0.111	38.73	0.58	< 0.01	< 0.01	0.005	0.01	13.24	99.75	< 2	< 2	< 1	8	< 2	< 1	38	0.220	0.212	546048	22.33	0.53
546049	37.74	0.75	8.15	0.119	38.42	0.54	< 0.01	< 0.01	0.005	< 0.01	13.19	98.93	< 2	< 2	< 1	9	< 2	< 1	36	0.224	0.222	546049	23.51	0.35
546050	37.54	0.66	8.16	0.125	38.97	0.69	< 0.01	< 0.01	0.005	< 0.01	13.28	99.42	< 2	< 2	< 1	8	< 2	< 1	34	0.205	0.228	546050	20.25	0.30
546051	37.74	0.29	7.37	0.109	40.57	0.02	< 0.01	< 0.01	0.003	< 0.01	11.68	97.80	3	< 2	< 1	6	< 2	< 1	21	0.237	0.219	546051	10.06	0.69
546052	36.09	0.50	7.91	0.107	38.52	0.21	< 0.01	< 0.01	0.004	< 0.01	17.20	100.6	2	< 2	< 1	9	< 2	< 1	33	0.217	0.227	546052	16.17	0.82
546053	32.91	0.50	6.73	0.122	33.59	0.59	0.04	< 0.01	0.004	< 0.01	25.76	100.3	< 2	2	< 1	7	< 2	< 1	27	0.180	0.177	546053	6.18	0.62
546054	37.12	0.82	8.73	0.113	36.28	0.74	0.02	< 0.01	0.009	< 0.01	16.67	100.5	< 2	3	< 1	9	< 2	< 1	39	0.208	0.202	546054	11.92	0.35
546055	38.26	0.83	8.58	0.102	36.97	0.38	0.02	< 0.01	0.007	0.01	15.83	101.0	< 2	2	< 1	9	< 2	< 1	40	0.213	0.208	546055	16.77	0.45
546056	45.07	9.84	10.00	0.148	17.82	8.44	2.56	0.10	0.894	0.06	5.64	100.6	11	90	17	29	43	< 1	233	0.081	0.088	546056	23.86	2.09
546057	31.76	0.83	7.50	0.104	34.35	0.43	0.05	0.01	0.006	< 0.01	24.59	99.64	2	7	< 1	8	< 2	< 1	35	0.195	0.195	546057	4.76	0.71
546058	40.07	0.77	7.80	0.109	38.16	1.77	0.01	< 0.01	0.007	< 0.01	10.38	99.08	3	< 2	< 1	11	< 2	< 1	48	0.176	0.244	546058	28.02	0.36
546059	38.12	0.79	8.39	0.109	38.65	0.74	< 0.01	< 0.01	0.006	< 0.01	13.20	100.0	< 2	< 2	< 1	9	< 2	< 1	39	0.211	0.203	546059	24.87	0.49
546061	37.51	0.86	8.06	0.111	39.09	0.30	< 0.01	< 0.01	0.007	< 0.01	13.35	99.28	< 2	< 2	< 1	9	< 2	< 1	34	0.216	0.218	546061	25.53	0.59
546062	38.27	0.89	8.38	0.108	39.20	0.64	< 0.01	< 0.01	0.006	0.01	12.22	99.73	3	< 2	< 1	9	2	< 1	41	0.219	0.226	546062	19.54	0.47
546060.1	49.38	15.92	11.98	0.167	4.84	7.81	2.25	2.82	1.171	0.45	0.79	97.57	715	514	21	25	104	2	332	0.220	1.026	546060	49.06	16.18
546060.2																						546060	36.25	2.39
546060.3																						546060	17.06	0.53

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
521538	67.46	0.169	12.89	0.19	0.02	0.03	0.05	0.01	1.31	0.029	1.60	1.75	99.12	31.0	1.995	27.458	6.4	29.452	5.06	0.03
521539	54.55	0.179	18.76	0.30	< 0.01	0.06	0.04	0.01	1.03	0.021	1.81	3.74	99.59	30.4	2.162	28.957	7.1	31.119	-2.23	0.03
521540														30.2	0.056	29.674	0.2	29.731	1.44	
521541	35.35	0.150	27.04	0.42	< 0.01	0.04	0.04	0.01	0.64	0.019	0.905	7.35	99.47	30.2	3.813	27.923	12.6	31.736	-5.12	0.02
521542	40.32	0.138	24.19	0.29	< 0.01	< 0.01	0.04	0.01	0.80	0.018	0.936	6.92	100.1	30.6	3.546	26.760	11.6	30.306	0.90	0.02
521543	41.38	0.151	23.23	0.28	< 0.01	< 0.01	0.03	0.01	0.73	0.019	1.24	6.29	99.41	30.1	3.110	26.435	10.2	29.545	0.94	0.03
521544	34.70	0.165	24.47	0.18	< 0.01	< 0.01	0.04	0.01	0.87	0.014	1.42	7.15	99.47	30.3	3.257	26.374	10.8	29.631	-0.08	0.02
521545	59.06	0.166	16.66	0.13	< 0.01	< 0.01	0.04	0.01	1.03	0.022	1.95	3.13	98.91	30.0	2.355	26.144	7.8	28.499	1.45	0.04
521546	39.22	0.152	25.36	0.17	< 0.01	< 0.01	0.04	0.01	0.82	0.018	1.20	6.86	99.06	30.1	3.583	26.250	11.9	29.833	0.97	0.03
521547	52.78	0.150	17.44	0.13	< 0.01	< 0.01	0.03	0.01	1.05	0.025	2.03	3.86	99.38	30.3	2.249	26.460	7.4	28.709	0.81	0.07
521548	33.89	0.104	29.45	0.05	< 0.01	< 0.01	0.02	0.01	1.05	0.014	0.785	8.69	99.44	30.4	4.010	25.507	13.2	29.649	1.39	0.47
521549	28.34	0.116	31.59	0.10	< 0.01	< 0.01	0.02	0.01	0.91	0.016	0.937	9.01	98.87	30.1	3.997	26.053	13.0	30.191	-2.51	0.06
521550	35.17	0.134	26.36	0.23	< 0.01	< 0.01	0.04	< 0.01	0.84	0.018	1.16	7.88	99.20	30.2	3.572	26.172	11.8	29.961	0.63	0.06
521551	47.52	0.164	21.20	0.20	< 0.01	< 0.01	0.04	0.01	0.90	0.021	1.36	5.14	98.71	30.3	2.991	26.877	10.4	29.870	1.38	0.09
521552	32.43	0.135	27.84	0.12	< 0.01	0.03	0.05	0.01	0.69	0.019	0.618	8.19	99.41	30.3	5.426	25.445	17.9	30.871	-1.74	0.12
521553	29.36	0.183	28.56	0.04	< 0.01	0.05	0.06	0.01	0.95	0.021	0.744	7.93	99.24	31.1	3.998	26.644	12.9	30.642	1.47	0.06
521554														30.3	0.014	30.226	0.0	30.241	0.21	
521555														30.1	0.019	29.606	0.1	29.626	1.61	
521556	35.25	0.264	26.87	0.48	< 0.01	0.05	0.02	0.01	1.19	0.018	1.00	6.34	99.79	30.7	3.256	27.114	10.6	30.370	1.17	0.03
521557	44.24	0.150	22.38	0.15	< 0.01	< 0.01	0.03	0.01	1.12	0.020	1.40	5.69	99.11	30.3	2.881	26.982	9.5	29.863	0.47	0.03
521558	36.28	0.188	26.48	0.68	< 0.01	0.04	0.03	0.01	1.08	0.019	1.25	6.82	99.56	31.6	2.155	28.393	6.8	30.548	3.47	0.03
521559	38.40	0.170	25.31	0.22	< 0.01	< 0.01	0.03	0.01	0.98	0.017	1.18	6.95	99.25	30.3	3.016	26.742	10.0	29.758	0.96	0.03
521560.1	12.24	0.164	4.86	7.72	2.39	2.77	1.08	0.44	1.05	0.064	0.230	0.80	99.13							
521560.2	13.12	0.128	32.33	2.10	0.08	0.12	0.13	0.02	0.20	0.008	1.44	10.85	99.07							
521560.3	58.52	0.246	16.19	0.31	< 0.01	0.08	0.05	0.01	1.68	0.027	2.10	2.04	98.71	30.1	1.913	27.447	6.4	29.360	2.37	
521561	43.96	0.135	22.59	0.13	< 0.01	< 0.01	0.03	0.01	0.90	0.017	1.33	6.12	99.34	30.2	3.082	26.018	10.1	29.244	2.14	
521562	37.84	0.157	26.73	0.43	< 0.01	0.05	0.03	0.01	0.98	0.016	1.07	7.16	99.39	30.1	3.195	26.358	10.6	29.553	1.88	
521563	43.71	0.129	22.71	0.14	< 0.01	< 0.01	0.03	0.01	0.96	0.017	1.47	6.02	99.18	30.5	2.964	26.675	9.7	29.639	1.31	
521564	50.97	0.135	20.18	0.09	< 0.01	0.05	0.04	0.01	1.11	0.020	1.51	4.49	98.92	30.7	2.576	28.602	8.4	31.179	-1.42	
521565	41.44	0.161	23.19	0.22	< 0.01	< 0.01	0.03	0.01	0.94	0.019	1.29	6.60	99.54	30.4	2.887	26.386	10.0	29.274	3.56	
521566	34.12	0.174	28.06	0.45	< 0.01	0.09	0.03	0.01	0.79	0.014	1.04	7.82	99.58	31.4	3.634	28.059	11.6	31.693	-0.99	
521567	49.80	0.166	20.70	0.29	< 0.01	< 0.01	0.03	< 0.01	1.02	0.018	1.54	4.78	98.99	30.6	2.530	26.746	8.2	29.494	0.58	
521568	36.98	0.155	26.96	0.29	< 0.01	0.03	0.03	0.01	0.83	0.016	1.21	7.47	99.91	30.8	3.315	27.109	10.8	30.424	1.23	
521569	43.88	0.165	23.69	0.19	< 0.01	0.06	0.04	0.01	1.05	0.014	1.26	6.10	99.69	30.5	2.933	27.652	9.6	30.585	-0.26	
521570	35.47	0.184	27.72	0.23	< 0.01	0.05	0.04	0.01	0.81	0.010	1.32	7.82	100.2	31.1	2.490	27.934	8.0	30.423	2.08	
521571	35.10	0.172	28.04	0.17	< 0.01	0.02	0.03	0.01	0.88	0.020	0.958	8.08	99.66	30.1	2.472	27.492	8.2	29.964	0.56	
521572	27.81	0.112	30.50	0.05	< 0.01	< 0.01	0.04	0.01	0.57	0.015	0.849	9.06	100.5	30.7	5.108	24.418	16.5	29.904	1.14	
521573	36.40	0.216	26.13	0.04	< 0.01	< 0.01	0.03	0.01	0.96	0.018	0.935	7.64	100.2	30.1	4.044	25.578	13.4	29.621	-1.31	
521574	35.61	0.221	26.93	0.05	< 0.01	< 0.01	0.03	0.01	0.98	0.020	1.02	7.91	99.04	30.7	4.585	25.386	14.9	29.972	-3.94	
521575	30.48	0.208	29.21	0.04	< 0.01	< 0.01	0.03	< 0.01	0.91	0.016	0.953	8.29	98.93	30.3	4.780	25.365	15.8	30.145	-3.59	
521576	41.37	0.242	23.22	0.07	< 0.01	0.05	0.03	< 0.01	1.45	0.026	1.03	6.91	99.09	30.2	3.486	25.699	11.6	29.184	3.23	
521577														30.8	0.009	29.780	0.0	29.789	3.41	
521578	39.73	0.228	24.49	0.04	< 0.01	< 0.01	0.05	0.01	1.31	0.022	1.23	5.51	98.87	30.4	3.206	26.437	10.5	29.643	2.02	
521579	72.12	0.245	10.80	0.04	< 0.01	0.03	0.08	< 0.01	1.91	0.030	1.26	1.17	99.30	30.4	1.974	30.194	6.5	32.167	-5.87	
521580	0.52	0.007	0.08	0.02	< 0.01	0.05	0.04	0.01	< 0.01	< 0.003	< 0.003	0.09	99.19	30.5	0.080	28.799	0.3	28.879	5.34	
521581	57.88	0.235	17.04	0.06	< 0.01	0.05	0.09	< 0.01	1.71	0.033	1.38	2.83	99.28	30.1	2.255	26.103	7.5	28.358	5.92	
521582	59.49	0.216	16.01	0.06	< 0.01	< 0.01	0.04	0.01	1.79	0.030	1.85	2.59	98.15	30.0	2.141	27.595	7.1	29.736	0.95	
521583	36.92	0.207	25.81	0.11	< 0.01	< 0.01	0.03	0.01	1.42	0.015	1.49	7.02	98.99	30.2	2.990	26.409	10.2	29.399	-5.39	
521584	36.42	0.146	26.95	0.14	< 0.01	0.04	0.03	0.01	0.99	0.016	1.12	7.96	99.20	30.3	3.987	26.204	13.2	30.191	0.38	
521585	40.40	0.146	25.76	0.08	< 0.01	0.01	0.03	< 0.01	1.06	0.018	1.30	7.34	99.70	30.6	3.420	25.536	11.2	28.956	5.37	
521586	36.18	0.108	27.45	0.07	< 0.01	0.03	0.03	0.01	0.70	0.013	1.03	8.21	99.67	30.2	3.916	27.574	13.0	31.489	-4.26	

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
521587	47.71	0.216	20.65	0.57	< 0.01	0.03	0.03	0.01	1.94	0.023	1.84	4.26	98.75	30.7	1.390	26.726	4.5	28.117	8.36	
521588	38.64	0.116	26.43	0.17	< 0.01	0.04	0.02	0.01	0.84	0.013	0.958	7.48	99.76	30.7	3.937	26.833	12.8	30.770	-0.38	
521589	35.02	0.179	27.90	0.25	< 0.01	0.04	0.02	0.01	1.35	0.016	1.32	7.93	98.96	30.6	3.123	26.334	10.2	29.457	3.87	
521590	40.77	0.245	25.31	0.21	< 0.01	0.03	0.03	0.01	1.94	0.017	1.68	6.19	99.09	31.6	2.616	27.806	8.3	30.423	3.69	
521591	39.77	0.163	24.83	0.64	< 0.01	0.02	0.03	< 0.01	1.20	0.018	1.29	7.11	99.73	30.2	3.508	28.051	11.6	31.559	-4.38	
521592	42.76	0.178	23.77	0.55	< 0.01	0.02	0.03	< 0.01	1.22	0.021	1.10	6.80	99.50	30.0	3.213	26.783	10.7	29.996	0.18	
521593	60.31	0.379	14.27	0.41	< 0.01	0.03	0.08	0.02	3.22	0.030	0.322	3.86	98.93	30.0	0.790	27.903	2.6	28.693	4.43	
521594	42.95	0.218	22.54	1.11	< 0.01	0.04	0.36	0.02	1.63	0.058	0.656	5.38	99.45	30.1	2.569	26.946	8.5	29.515	1.94	
521595	40.04	0.230	24.06	0.81	< 0.01	0.02	0.24	0.01	1.66	0.041	0.660	6.08	99.38	30.3	2.262	29.176	7.5	31.437	-3.84	
521596	37.06	0.184	26.37	0.49	< 0.01	0.02	0.05	< 0.01	1.32	0.019	1.22	7.25	99.96	30.2	3.036	27.353	10.0	30.389	-0.52	
521597	29.88	0.142	28.87	0.67	< 0.01	0.02	0.04	0.01	1.01	0.022	1.07	7.41	99.18	30.0	3.913	27.378	13.0	31.291	-4.15	
521598	30.72	0.129	29.77	0.23	< 0.01	0.02	0.04	< 0.01	0.88	0.016	0.820	8.48	99.93	30.2	4.881	27.075	16.2	31.955	-5.98	
521599	40.61	0.204	23.74	0.36	< 0.01	0.06	0.05	0.01	2.20	0.023	2.71	4.58	98.51	30.2	1.587	27.066	5.3	27.653	5.04	
521600.1	12.08	0.169	4.98	7.80	2.38	2.83	1.10	0.44	1.06	0.064	0.233	0.75	99.32							
521600.2	13.16	0.128	32.18	2.07	0.10	0.15	0.13	0.02	0.20	0.007	1.44	10.90	99.17							
521600.3	58.07	0.245	16.23	0.15	< 0.01	0.09	0.04	< 0.01	1.73	0.030	2.09	2.05	98.71	30.0	1.875	27.374	6.2	29.249	2.63	
521601	48.74	0.197	20.11	0.30	< 0.01	0.02	0.04	< 0.01	2.16	0.027	2.05	3.92	98.18	30.3	1.972	28.594	6.5	30.566	-0.87	
521602	44.58	0.200	21.57	0.41	< 0.01	0.03	0.03	0.01	2.63	0.035	2.63	3.57	96.92	30.2	1.485	27.524	4.9	29.009	4.04	
521603	39.99	0.150	25.67	0.27	< 0.01	0.02	0.03	< 0.01	1.51	0.020	1.31	6.53	99.69	30.2	2.984	27.037	9.9	30.022	0.44	
521604	49.06	0.190	20.72	0.21	< 0.01	0.04	0.03	0.01	2.12	0.026	1.58	5.01	99.17	30.2	2.349	27.256	7.8	29.605	2.11	
521605	33.97	0.139	28.35	0.14	< 0.01	0.02	0.03	0.01	1.20	0.021	0.747	8.22	99.81	30.2	4.058	26.224	13.4	30.282	-0.23	
521606	29.69	0.172	29.18	1.16	< 0.01	0.03	0.05	0.01	1.57	0.022	1.34	6.32	99.07	30.2	2.933	28.193	9.7	31.126	-3.15	
521607	29.04	0.188	31.13	0.97	< 0.01	0.04	0.02	0.01	1.81	0.024	1.25	5.37	98.85	30.0	2.430	26.992	8.1	29.421	1.99	
521608	32.95	0.108	28.58	0.17	< 0.01	0.01	0.03	0.01	1.07	0.018	0.956	8.26	99.64	30.0	3.964	26.020	13.2	29.984	0.17	
521609	21.37	0.169	34.73	1.34	< 0.01	0.03	0.03	0.01	1.09	0.018	1.25	6.00	99.18	30.1	2.907	26.086	9.7	28.993	3.60	
521610	49.65	0.491	17.77	0.29	< 0.01	0.02	0.04	< 0.01	6.76	0.064	1.63	3.01	96.33	30.2	1.911	28.294	6.3	30.205	-0.04	
521611	24.28	0.142	31.62	0.53	< 0.01	0.04	0.02	< 0.01	0.63	0.011	0.449	10.76	99.84	30.0	7.290	22.490	24.3	29.781	0.85	
521612	33.38	0.218	28.33	0.84	< 0.01	0.01	0.03	0.01	1.41	0.021	0.867	7.32	99.16	30.4	2.698	26.024	8.9	28.722	5.49	
521613	39.29	0.325	25.03	0.81	< 0.01	0.02	0.03	0.01	2.08	0.028	0.716	5.35	98.54	30.1	2.259	27.015	7.5	29.274	2.89	
521614	27.05	0.210	31.04	0.25	< 0.01	0.04	0.03	0.01	1.38	0.019	0.843	8.60	99.76	30.0	4.778	25.126	15.9	29.905	0.42	
521615	24.90	0.202	32.22	0.23	< 0.01	0.03	0.03	0.01	1.11	0.018	0.677	9.16	100.0	30.4	6.054	24.366	19.9	30.420	-0.02	
521616	32.23	0.152	27.69	0.51	< 0.01	0.03	0.03	0.01	1.66	0.027	1.07	7.39	98.52	30.2	2.574	27.535	8.5	30.109	0.15	
521617	29.91	0.181	29.79	0.29	< 0.01	0.03	0.04	0.01	1.45	0.020	1.18	8.06	99.09	30.1	2.713	27.590	9.0	30.303	-0.73	
522599	40.82	0.153	24.59	0.11	< 0.01	0.03	0.03	0.01	1.14	0.020	1.46	5.94	99.40	30.2	3.499	26.021	11.6	29.519	2.25	
522600.1	12.03	0.166	4.95	7.78	2.42	2.80	1.09	0.44	1.07	0.061	0.234	0.73	99.06							
522600.2	13.09	0.128	32.11	2.06	0.10	0.12	0.12	0.02	0.20	0.009	1.44	10.95	99.07							
522600.3	58.22	0.238	16.53	0.15	< 0.01	0.09	0.04	< 0.01	1.68	0.027	2.09	2.04	98.73	30.0	1.969	27.081	6.6	29.049	3.25	
522601	35.40	0.178	27.30	0.09	< 0.01	0.03	0.03	< 0.01	1.20	0.021	1.21	7.97	99.74	30.2	3.694	27.002	12.2	30.696	-1.67	
522602	33.88	0.113	28.82	0.07	< 0.01	0.03	0.03	< 0.01	0.72	0.010	0.895	8.81	99.59	30.4	4.322	26.289	14.2	30.612	-0.57	
522603	38.81	0.226	26.61	0.36	< 0.01	0.05	0.02	0.01	1.87	0.020	1.82	6.23	99.28	30.2	2.247	27.406	7.4	29.653	1.81	
522604	27.60	0.139	32.13	0.25	< 0.01	0.05	0.02	0.01	0.88	0.015	0.838	9.62	100.3	30.3	4.317	27.874	14.2	32.192	-6.15	
522605	45.36	0.193	23.77	0.34	< 0.01	0.04	0.02	0.01	1.72	0.023	1.40	5.41	99.55	30.1	2.687	27.325	8.9	30.011	0.39	
522606	35.28	0.174	28.37	0.39	< 0.01	0.02	0.02	0.01	1.24	0.019	0.966	7.85	99.87	30.2	3.590	24.877	11.9	28.467	5.77	
522607	40.58	0.246	25.33	0.88	< 0.01	0.05	0.02	< 0.01	1.82	0.024	1.20	6.01	99.63	30.1	2.203	28.128	7.3	30.331	-0.68	
522608	36.64	0.180	27.60	0.43	< 0.01	0.04	0.03	0.01	1.38	0.019	1.15	7.66	99.26	30.1	3.141	25.954	10.4	29.095	3.26	
522609	35.03	0.174	27.90	0.71	< 0.01	0.03	0.02	0.01	1.42	0.021	1.42	6.53	99.23	30.1	2.513	27.093	8.3	29.606	1.64	
522610	42.49	0.277	24.34	0.37	< 0.01	0.02	0.03	0.01	2.97	0.032	1.40	5.24	98.19	30.2	2.180	27.822	7.2	30.002	0.77	
522611	36.87	0.214	27.23	0.84	< 0.01	0.03	0.03	0.01	1.60	0.024	1.19	6.70	98.74	30.1	2.426	27.718	8.1	30.144	-0.05	
522612	36.53	0.196	26.71	0.68	< 0.01	0.02	0.02	< 0.01	1.95	0.029	1.25	6.78	99.16	30.2	2.473	26.149	8.2	28.622	5.21	
523266	37.95	0.191	26.35	0.76	< 0.01	0.06	0.02	0.01	1.35	0.022	1.37	6.09	99.51	30.0	2.778	26.351	9.2	29.129	3.05	
523267	44.87	0.129	23.25	0.34	< 0.01	0.01	0.02	0.01	0.93	0.019	1.08	5.81	99.50	30.2	3.292	27.195	10.9	30.487	-0.89	

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
523268	39.68	0.163	25.42	0.37	< 0.01	0.09	0.02	0.01	1.19	0.021	1.48	5.90	99.54	30.3	2.852	27.242	9.4	30.094	0.55	
523269	33.26	0.184	28.12	0.68	< 0.01	0.02	0.02	< 0.01	1.12	0.019	1.57	6.75	99.26	30.3	2.841	26.966	9.4	29.808	1.50	
523270	38.06	0.148	26.12	0.32	< 0.01	0.02	0.03	0.01	1.16	0.020	1.25	6.95	99.52	30.3	3.636	26.450	12.0	30.086	0.65	
523271	27.25	0.202	30.71	1.02	< 0.01	0.02	0.02	< 0.01	1.05	0.014	1.20	7.51	99.67	30.2	3.419	27.439	11.3	30.858	-2.17	
523272	41.40	0.165	24.44	0.17	< 0.01	0.02	0.02	0.01	1.23	0.021	1.28	5.94	99.49	30.1	2.710	26.174	9.0	28.884	3.94	
523273	34.27	0.240	28.25	0.42	< 0.01	0.03	0.02	< 0.01	1.20	0.019	1.25	6.16	99.99	30.2	3.107	26.687	10.3	29.794	1.24	
523274	48.56	0.270	21.55	0.04	< 0.01	0.01	0.03	< 0.01	1.53	0.031	1.20	4.45	99.64	30.1	3.193	25.092	10.6	28.285	6.05	
523275	49.76	0.230	21.07	0.04	< 0.01	0.02	0.03	0.01	1.42	0.030	1.08	4.62	99.07	30.1	3.494	26.542	11.6	30.036	0.25	
523276	65.75	0.299	8.95	3.35	0.24	0.14	1.04	0.08	1.34	0.099	0.328	0.72	100.1	30.1	0.674	29.369	2.2	30.043	0.08	
523277	38.59	0.158	25.59	0.05	< 0.01	0.02	0.03	< 0.01	1.30	0.025	0.889	7.11	99.84	30.0	3.068	25.763	10.2	28.831	4.00	
523278	34.65	0.131	27.75	0.05	< 0.01	0.03	0.03	0.01	0.90	0.022	0.915	7.58	100.1	30.1	4.412	25.553	14.7	29.965	0.37	
523279														30.2	0.003	29.901	0.0	29.904	0.87	
523280	0.52	0.010	0.02	0.02	< 0.01	0.08	0.04	0.01	< 0.01	< 0.003	< 0.003	-0.03	98.66	30.0	0.086	28.149	0.3	28.234	5.94	
523281	36.37	0.359	25.94	0.05	< 0.01	< 0.01	0.03	0.01	1.34	0.021	0.676	6.35	98.98	30.1	3.556	25.008	11.8	28.563	5.17	0.14
523282	34.56	0.236	25.47	0.06	< 0.01	0.58	0.10	0.06	1.40	0.036	2.44		92.83	30.1	0.022	28.246	0.1	28.268	6.13	
523283														30.1	0.036	29.928	0.1	29.963	0.35	
523284	41.90	0.277	21.68	0.07	< 0.01	0.12	0.10	0.01	2.82	0.040	0.280	6.07	98.38	30.1	0.826	28.830	2.8	29.657	1.32	0.05
523285	28.26	0.178	29.82	0.05	< 0.01	0.03	0.02	0.01	1.02	0.019	0.806	8.34	99.80	30.1	4.375	25.240	14.6	29.616	1.48	0.11
546001	29.14	0.258	29.14	1.37	< 0.01	0.03	0.03	0.01	1.18	0.015	1.72	6.97	99.28	30.0	2.852	26.254	9.5	29.106	3.14	0.08
546002	26.03	0.208	31.45	0.35	< 0.01	0.04	0.02	0.01	1.05	0.015	1.29	8.44	99.51	30.1	3.021	25.632	10.0	28.653	4.83	0.14
546003	35.46	0.174	26.04	0.07	< 0.01	0.03	0.12	0.01	1.32	0.031	0.264	7.69	100.0	30.1	1.981	27.638	6.6	29.619	1.47	0.07
546004	33.48	0.211	27.03	0.04	< 0.01	0.03	0.05	0.01	0.90	0.014	0.587	7.78	99.74	30.0	3.522	24.489	11.7	28.011	6.70	0.18
546005	26.91	0.219	29.91	0.05	< 0.01	0.02	0.03	< 0.01	0.75	0.015	0.739	8.76	99.52	30.2	4.547	26.265	15.1	30.811	-2.00	0.17
546006	47.18	0.259	20.80	0.05	< 0.01	0.02	0.05	0.01	1.86	0.034	0.598	5.03	98.60	30.2	2.230	27.667	7.4	29.897	1.02	0.10
546007	24.08	0.155	32.07	0.06	< 0.01	0.01	0.02	0.01	0.69	0.010	0.839	9.79	99.84	30.0	6.046	23.892	20.1	29.938	0.35	0.06
546008	24.39	0.181	32.31	0.52	< 0.01	0.04	0.03	0.01	0.74	0.012	1.12	8.89	100.1	30.3	4.765	25.438	15.7	30.203	0.19	0.05
546009	27.06	0.175	30.44	0.44	< 0.01	0.03	0.03	0.01	0.84	0.013	0.986	8.87	99.91	30.1	4.274	25.539	14.2	29.813	0.99	0.06
546010	24.63	0.166	32.66	0.56	< 0.01	0.03	0.02	< 0.01	0.81	0.012	1.03	9.21	100.3	30.1	3.339	26.223	11.1	29.563	1.65	0.05
546011	30.82	0.199	28.52	1.06	< 0.01	0.03	0.02	< 0.01	0.94	0.013	1.19	7.45	99.46	30.1	3.988	25.947	13.3	29.935	0.47	0.08
546012	32.97	0.145	28.58	0.21	< 0.01	0.02	0.03	0.01	0.70	0.011	0.782	8.51	100.4	30.2	5.137	26.139	17.0	31.276	-3.67	0.09
546013	29.58	0.168	30.63	0.16	< 0.01	0.02	0.02	< 0.01	0.98	0.012	0.897	8.98	99.84	30.2	4.442	23.902	14.7	28.344	6.01	0.06
546014	29.61	0.152	30.19	0.23	0.01	0.01	0.03	0.01	0.87	0.014	0.919	8.35	99.51	30.1	3.958	25.323	13.2	29.281	2.62	0.11
546015	32.05	0.167	28.66	0.15	< 0.01	0.03	0.03	0.01	0.96	0.011	0.993	8.17	99.61	30.1	4.154	25.361	13.8	29.514	1.81	0.08
546016	29.17	0.161	30.21	0.06	< 0.01	0.04	0.03	0.01	0.76	0.014	0.772	8.22	99.99	30.0	4.786	25.069	15.9	29.855	0.56	0.04
546017	30.32	0.159	30.30	0.20	< 0.01	0.02	0.03	0.01	0.80	0.010	1.17	8.49	99.76	30.0	3.630	27.779	12.1	31.409	-4.65	0.06
546018	27.57	0.148	31.07	0.13	< 0.01	0.04	0.03	0.01	0.76	0.013	1.01	9.22	99.85	30.1	4.945	26.652	16.4	31.597	-4.96	0.06
546019														30.0	0.088	30.179	0.3	30.267	-0.76	
546020.1	12.08	0.165	4.95	7.82	2.45	2.80	1.10	0.44	1.07	0.062	0.234	0.83	99.39							
546020.2	13.14	0.127	32.08	2.06	0.11	0.13	0.13	0.02	0.20	0.008	1.45	10.85	98.96							
546020.3	58.46	0.244	16.12	0.14	< 0.01	0.03	0.04	0.01	1.74	0.026	2.08	1.75	98.48	30.1	1.905	27.549	6.3	29.454	2.02	
546021	37.83	0.271	23.29	0.24	0.16	0.13	1.40	0.09	1.33	0.071	0.873	8.15	99.78	30.0	0.446	28.338	1.5	28.783	4.12	0.07
546022														30.1	0.004	30.518	0.0	30.522	-1.33	
546023	30.89	0.156	29.52	0.08	0.02	0.16	0.02	0.01	0.85	0.018	0.903	8.67	99.48	30.0	4.159	24.991	13.9	29.150	2.87	0.20
546024	54.70	0.118	18.82	0.03	< 0.01	0.02	0.03	< 0.01	3.00	0.018	1.85	1.89	98.33	30.0	1.838	27.589	6.1	29.427	1.95	0.05
546025	33.97	0.154	28.70	0.17	< 0.01	0.07	0.04	0.01	1.20	0.013	1.64	6.69	99.40	30.2	2.699	27.750	8.9	30.449	-0.85	0.04
546026	32.62	0.194	28.76	0.27	< 0.01	0.03	0.03	0.01	1.68	0.014	1.53	7.22	99.20	30.2	2.800	27.267	9.3	30.067	0.39	0.04
546027	54.10	0.168	19.18	0.08	< 0.01	0.01	0.03	< 0.01	1.83	0.024	2.25	3.50	98.86	30.0	2.191	28.928	7.3	31.119	-3.59	0.03
546028	50.20	0.230	19.76	0.14	< 0.01	0.03	0.05	< 0.01	2.45	0.022	1.74	4.56	97.58	30.0	2.409	28.881	8.0	31.290	-4.22	0.05
546029	42.52	0.258	23.03	0.21	< 0.01	0.02	0.07	< 0.01	3.48	0.028	1.53	5.52	97.09	30.1	2.530	28.298	8.4	30.829	-2.55	
546030	50.94	0.169	20.51	0.12	< 0.01	0.02	0.03	0.01	1.71	0.021	2.48	4.19	98.71	30.0	1.850	27.769	6.2	29.619	1.38	0.04
546031	47.45	0.182	22.22	0.12	< 0.01	0.03	0.04	0.01	1.80	0.020	1.98	4.75	98.69	30.1	2.053	26.139	6.8	28.192	6.22	0.04

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
546032	58.71	0.126	17.44	0.08	< 0.01	0.02	0.03	< 0.01	1.29	0.022	1.93	2.83	99.43	30.0	2.185	27.736	7.3	29.920	0.38	0.04
546033	56.12	0.171	17.73	0.12	< 0.01	0.03	0.03	0.01	1.83	0.025	2.16	3.48	98.67	30.1	1.951	27.520	6.5	29.471	2.03	0.05
546034	47.24	0.179	21.63	0.11	< 0.01	0.03	0.03	0.01	1.62	0.015	2.01	5.43	98.34	30.1	2.025	27.380	6.7	29.405	2.18	0.06
546035	43.41	0.187	23.23	0.12	< 0.01	0.02	0.03	0.01	1.79	0.021	1.80	6.22	98.33	30.1	2.405	28.081	8.0	30.486	-1.40	0.06
546036	52.22	0.187	18.88	0.09	< 0.01	0.02	0.03	0.01	1.96	0.024	2.10	4.34	97.80	30.2	2.022	27.327	6.7	29.348	2.76	0.05
546037	43.22	0.140	23.88	0.10	< 0.01	0.03	0.03	0.01	1.11	0.016	1.37	6.21	98.74	30.0	3.234	27.205	10.8	30.439	-1.39	0.06
546038	41.72	0.172	23.41	0.09	< 0.01	0.01	0.02	0.01	1.35	0.014	1.50	6.24	97.44	30.1	2.558	27.373	8.5	29.931	0.56	0.08
546039	44.31	0.213	22.61	0.06	< 0.01	0.02	0.02	0.01	1.68	0.023	1.58	5.97	97.69	30.0	2.563	27.956	8.5	30.519	-1.61	
546040	0.50	0.007	0.10	0.02	< 0.01	0.06	0.04	0.01	< 0.01	< 0.003	< 0.003	0.12	99.05	30.1	0.044	29.538	0.1	29.582	1.75	
546041	49.60	0.343	20.04	0.06	< 0.01	0.02	0.02	0.01	1.78	0.023	1.45	5.06	97.46	30.1	2.733	28.106	9.1	30.840	-2.47	
546042	52.88	0.273	17.67	0.03	< 0.01	0.01	0.02	0.01	2.64	0.027	2.15	3.60	96.84	30.0	1.660	28.920	5.5	30.580	-1.89	0.05
546043	47.13	0.362	20.23	0.12	< 0.01	0.04	0.03	0.02	1.93	0.025	1.47	4.88	97.27	30.1	2.122	26.010	7.1	28.131	6.45	0.09
546044	50.21	0.510	13.48	0.33	< 0.01	< 0.01	0.09	0.03	6.57	0.068	0.635	6.98	96.14	29.4	0.347	27.709	1.2	28.056	3.00	
546045	57.30	0.154	10.91	1.62	< 0.01	< 0.01	0.15	0.02	7.33	0.087	0.364	5.43	95.04	30.0	0.319	28.319	1.1	28.638	1.00	0.10
546046	30.56	0.218	28.23	0.45	< 0.01	0.02	0.02	< 0.01	1.02	0.014	0.892	9.57	98.39	30.0	3.982	27.629	13.3	31.611	-5.20	0.04
546047	42.56	0.210	23.04	0.93	< 0.01	0.01	0.01	0.01	1.17	0.019	0.930	7.26	98.37	30.0	3.734	27.546	12.4	31.281	-4.10	0.05
546048	39.38	0.191	24.60	1.13	< 0.01	0.02	0.02	0.01	1.09	0.012	0.996	8.21	98.49	30.0	3.379	26.013	11.3	29.392	2.14	0.03
546049	37.83	0.227	25.32	1.01	< 0.01	0.01	0.01	0.01	1.06	0.013	0.911	8.65	98.89	30.0	4.087	25.895	13.6	29.982	0.19	0.03
546050	44.82	0.239	22.40	0.91	< 0.01	0.02	0.02	< 0.01	1.48	0.017	1.07	7.27	98.77	30.0	3.340	26.273	11.1	29.614	1.41	0.04
546051	65.25	0.136	13.41	0.03	< 0.01	< 0.01	0.02	0.01	3.06	0.036	1.14	3.47	97.61	30.0	0.887	27.941	3.0	28.828	0.69	0.03
546052	48.29	0.192	20.45	0.22	< 0.01	< 0.01	0.01	0.01	2.27	0.035	0.244	9.62	98.38	30.0	1.279	28.053	4.3	29.435	1.93	0.03
546053	53.20	0.162	13.01	0.31	< 0.01	< 0.01	0.05	0.01	8.27	0.092	0.169		82.03	30.0	0.204	28.649	0.7	28.853	1.00	0.18
546054	64.67	0.121	13.56	0.14	< 0.01	0.02	0.02	0.01	1.87	0.030	0.314	5.18	98.20	30.0	2.073	27.810	6.9	29.883	0.54	0.01
546055	52.13	0.120	18.57	0.14	< 0.01	0.03	0.02	0.01	1.66	0.026	0.237	7.92	98.07	30.0	2.296	26.283	7.6	28.579	4.83	0.02
546056	37.62	0.260	21.56	1.30	0.27	0.26	0.21	0.04	1.80	0.024	0.244	8.55	98.09	30.3	0.544	29.732	1.8	30.275	-0.03	0.07
546057	70.75	0.183	5.95	0.06	< 0.01	< 0.01	0.06	0.02	8.19	0.088	0.292		91.05	30.0	0.144	28.731	0.5	28.876	1.64	< 0.01
546058	35.30	0.226	24.41	4.35	< 0.01	0.01	0.02	0.01	1.53	0.025	1.26	3.57	99.08	30.0	2.567	27.125	8.6	29.692	1.08	< 0.01
546059	35.23	0.158	26.37	1.15	< 0.01	0.01	0.01	0.01	0.84	0.016	0.715	8.57	98.42	30.0	4.444	25.319	14.8	29.763	0.95	
546061	32.89	0.157	28.28	0.35	< 0.01	0.04	0.02	0.01	0.92	0.013	0.827	8.95	98.54	30.0	4.370	25.538	14.5	29.908	0.46	
546062	48.45	0.188	21.22	0.57	0.01	0.02	0.02	0.01	1.44	0.022	1.01	5.11	98.08	30.0	2.780	27.082	9.3	29.862	0.54	
546060.1	12.00	0.164	4.93	7.77	2.43	2.81	1.09	0.44	1.05	0.063	0.233	0.82	99.05							
546060.2	13.03	0.127	32.07	2.03	0.09	0.13	0.13	0.02	0.19	0.008	1.44	10.81	98.72							
546060.3	58.39	0.245	16.75	0.15	< 0.01	0.04	0.04	0.01	1.70	0.028	2.08	2.09	99.06	30.1	1.936	27.418	6.4	29.354	2.34	

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
NIST 694 Meas	11.45	1.95	0.74	0.013	0.34	42.92	0.90	0.56	0.120	30.25									1669					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
NIST 694 Meas	11.50	1.86	0.75	0.013	0.36	44.28	0.90	0.55	0.119	30.18									1682					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
DNC-1 Meas	46.95	19.07	9.85	0.147	10.00	11.38	1.94	0.23	0.484	0.06			105	146	15	31	34		157	0.035	0.027			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148.0	0.025	0.027			
DNC-1 Meas	47.06	18.30	9.90	0.148	10.21	11.15	1.95	0.23	0.491	0.07			105	143	16	31	34		151					
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148.0					
GBW 07113 Meas	71.08	12.76	3.19	0.142	0.14	0.56	2.55	5.45	0.281	0.04			505	40	45	5	394	4	6					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
MICA-FE Meas																						34.30	19.37	25.81
MICA-FE Cert																						34.4	19.5	25.6
CHR-BKG Meas																						15.33	12.84	13.92
CHR-BKG Cert																						15.27	12.91	13.87
IF-G Meas																						41.18	0.17	55.92
IF-G Cert																						41.2	0.150	55.8
W-2a Meas	52.32	15.18	10.78	0.166	6.26	11.14	2.19	0.61	1.079	0.12			172	192	19	35	86	< 1	276	0.016	< 0.010			
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262	0.00700	0.00920			
W-2a Meas	52.13	15.21	11.09	0.168	6.33	10.84	2.24	0.61	1.098	0.13			174	191	19	35	89	< 1	275					
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262					
OREAS 13P Meas																				0.236				
OREAS 13P Cert																				0.226				
OREAS 13P Meas																				0.236				
OREAS 13P Cert																				0.226				
OREAS 13P Meas																				0.236				
OREAS 13P Cert																				0.226				
OREAS 14P Meas																				2.129				
OREAS 14P Cert																				2.10				
SY-4 Meas	49.73	20.62	6.06	0.106	0.49	8.06	7.02	1.68	0.285	0.12			345	1200	114	1	546	3	8	< 0.010	< 0.010			
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0	0.000	0.001			
SY-4 Meas	49.59	20.61	6.20	0.106	0.52	8.01	6.94	1.63	0.287	0.13			342	1207	115	1	525	3	8					
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0					
Oreas 73a (Fusion) Meas	41.04	2.71			36.03															1.599	0.194	36.46	2.36	
Oreas 73a (Fusion) Cert	36.4	2.38			32.5															1.44	0.20	36.4	2.38	
Oreas 74a (Fusion) Meas																						32.60	2.11	
Oreas 74a (Fusion) Cert																						32.4	2.21	
Oreas 75a (Fusion) Meas																						27.30	2.00	
Oreas 75a (Fusion) Cert																						27.3	1.99	
BIR-1a Meas	47.97	15.81	11.30	0.171	9.52	13.48	1.86	0.02	0.953	< 0.01			8	108	14	44	15	< 1	336	0.023	0.036			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310	0	0			
BIR-1a Meas	48.23	15.50	11.33	0.169	9.65	12.91	1.90	0.02	0.964	0.03			8	107	14	44	23	< 1	334					
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310					
OREAS 13b (fusion) Meas													726	525			102		349		0.955			
OREAS 13b (fusion) Cert													694	537			108		330		1.08			
BCR-2 Meas	54.05	13.37	14.08		3.57	6.99	3.10	1.78	2.272	0.36			694	339	32	33	173		434		< 0.010			
BCR-2 Cert	54.1	13.5	13.8		3.59	7.12	3.16	1.79	2.26	0.35			683	346	37	33	188		416		0			
521547 Orig																								
521547 Dup																								
521552 Orig	39.38	1.46	8.69	0.102	38.31	0.09	< 0.01	< 0.01	0.016	< 0.01	12.70	100.8	2	< 2	< 1	10	3	< 1	47	0.130	0.238			
521552 Dup	39.46	1.28	7.73	0.122	38.29	0.94	< 0.01	< 0.01	0.011	< 0.01	12.70	100.5	5	< 2	< 1	10	3	< 1	49	0.127	0.221			
521557 Orig																								
521557 Dup																								
521565 Orig	38.51	1.26	8.35	0.112	38.25	0.81	< 0.01	< 0.01	0.011	< 0.01	12.77	100.1	3	< 2	< 1	11	9	< 1	52	0.206	0.238			
521565 Split	39.05	1.24	8.27	0.111	38.78	0.72	< 0.01	< 0.01	0.011	0.01	12.72	100.9	3	< 2	< 1	11	3	< 1	48	0.238	0.219			

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
521569 Orig	39.14	1.24	8.18	0.112	38.76	0.47	< 0.01	< 0.01	0.012	< 0.01	12.67	100.6	4	< 2	< 1	10	3	< 1	45	0.128	0.234			
521569 Dup	38.42	1.20	8.32	0.117	38.78	0.51	< 0.01	< 0.01	0.012	< 0.01	12.67	100.0	4	< 2	< 1	10	3	< 1	46	0.124	0.243			
521572 Orig	39.11	1.29	7.88	0.076	37.73	0.09	< 0.01	< 0.01	0.018	< 0.01	12.80	99.00	< 2	< 2	< 1	9	3	< 1	44	0.211	0.240			
521572 Dup	38.19	1.27	8.01	0.076	37.39	0.09	< 0.01	< 0.01	0.018	< 0.01	12.80	97.85	< 2	< 2	< 1	9	3	< 1	44	0.228	0.241			
521572 Orig	39.11	1.29	7.88	0.076	37.73	0.09	< 0.01	< 0.01	0.018	< 0.01	12.80	99.00	< 2	< 2	< 1	9	3	< 1	44	0.211	0.240			
521572 Dup	38.19	1.27	8.01	0.076	37.39	0.09	< 0.01	< 0.01	0.018	< 0.01	12.80	97.85	< 2	< 2	< 1	9	3	< 1	44	0.228	0.241			
521572 Orig	39.11	1.29	7.88	0.076	37.73	0.09	< 0.01	< 0.01	0.018	< 0.01	12.80	99.00	< 2	< 2	< 1	9	3	< 1	44					
521572 Dup	38.19	1.27	8.01	0.076	37.39	0.09	< 0.01	< 0.01	0.018	< 0.01	12.80	97.85	< 2	< 2	< 1	9	3	< 1	44					
521583 Orig	39.06	0.89	7.81	0.112	38.92	0.14	< 0.01	< 0.01	0.007	< 0.01	12.37	99.28	3	< 2	< 1	9	2	< 1	35	0.198	0.250			
521583 Dup	39.41	0.88	7.88	0.115	39.37	0.14	< 0.01	< 0.01	0.007	< 0.01	12.37	100.2	4	< 2	< 1	9	< 2	< 1	37	0.239	0.261			
521583 Orig	39.06	0.89	7.81	0.112	38.92	0.14	< 0.01	< 0.01	0.007	< 0.01	12.37	99.28	3	< 2	< 1	9	2	< 1	35	0.198	0.250			
521583 Dup	39.41	0.88	7.88	0.115	39.37	0.14	< 0.01	< 0.01	0.007	< 0.01	12.37	100.2	4	< 2	< 1	9	< 2	< 1	37	0.239	0.261			
521583 Orig	39.06	0.89	7.81	0.112	38.92	0.14	< 0.01	< 0.01	0.007	< 0.01	12.37	99.28	3	< 2	< 1	9	2	< 1	35	0.192	0.250			
521583 Dup	39.41	0.88	7.88	0.115	39.37	0.14	< 0.01	< 0.01	0.007	< 0.01	12.37	100.2	4	< 2	< 1	9	< 2	< 1	37	0.232	0.261			
521583 Orig	39.06	0.89	7.81	0.112	38.92	0.14	< 0.01	< 0.01	0.007	< 0.01	12.37	99.28	3	< 2	< 1	9	2	< 1	35					
521583 Dup	39.41	0.88	7.88	0.115	39.37	0.14	< 0.01	< 0.01	0.007	< 0.01	12.37	100.2	4	< 2	< 1	9	< 2	< 1	37					
521585 Orig	36.54	0.87	8.29	0.104	38.46	0.32	0.01	< 0.01	0.009	< 0.01	12.94	97.54	2	2	< 1	9	4	< 1	34	0.222	0.238			
521585 Split	38.03	0.88	7.94	0.098	40.22	0.27	< 0.01	< 0.01	0.008	0.01	13.29	100.8	< 2	< 2	< 1	9	< 2	< 1	35	0.216	0.212			
521595 Orig	39.45	1.13	7.53	0.110	36.52	2.22	< 0.01	< 0.01	0.171	0.05	11.06	98.25	3	< 2	4	12	9	< 1	60	0.180	0.212			
521595 Split	40.64	1.16	7.69	0.109	37.17	2.11	< 0.01	< 0.01	0.160	0.03	11.37	100.4	2	< 2	3	12	8	< 1	58	0.200	0.196			
521598 Orig	37.63	0.92	8.06	0.092	38.89	0.60	< 0.01	< 0.01	0.008	0.02	12.03	98.24	< 2	< 2	< 1	9	3	< 1	37	0.199	0.224			
521598 Dup	37.83	0.91	8.06	0.093	39.16	0.60	< 0.01	< 0.01	0.008	< 0.01	12.03	98.69	< 2	< 2	< 1	9	2	< 1	37	0.207	0.231			
521615 Orig	37.45	0.78	8.96	0.139	38.92	0.55	< 0.01	< 0.01	0.007	0.01	12.06	98.88	< 2	< 2	< 1	10	< 2	< 1	39	0.197	0.287			
521615 Dup	37.47	0.79	8.85	0.136	39.04	0.54	< 0.01	< 0.01	0.006	0.01	12.06	98.90	< 2	< 2	< 1	10	3	< 1	38	0.199	0.300			
522602 Orig	37.64	0.68	7.84	0.134	39.17	0.80	< 0.01	< 0.01	0.004	0.01	11.72	97.99	< 2	< 2	< 1	9	3	< 1	36	0.205	0.234			
522602 Split	39.08	0.69	7.94	0.134	39.65	0.74	< 0.01	< 0.01	0.004	< 0.01	11.66	99.89	< 2	< 2	< 1	9	< 2	< 1	36	0.216	0.218			
522610 Orig	37.73	0.63	8.23	0.125	39.85	0.50	< 0.01	< 0.01	0.004	< 0.01	11.98	99.06	< 2	< 2	< 1	8	2	< 1	36	0.194	0.283			
522610 Dup	37.34	0.61	8.25	0.127	39.50	0.51	< 0.01	< 0.01	0.004	< 0.01	11.98	98.32	< 2	< 2	< 1	8	2	< 1	36	0.194	0.299			
523278 Orig	38.48	1.05	8.29	0.084	39.12	0.06	0.01	< 0.01	0.007	< 0.01	12.39	99.50	< 2	< 2	< 1	10	< 2	< 1	45	0.202	0.264			
523278 Dup	37.92	1.03	8.45	0.083	38.74	0.06	< 0.01	< 0.01	0.007	< 0.01	12.39	98.69	< 2	< 2	< 1	9	< 2	< 1	46	0.182	0.256			
523285 Orig	39.65	1.10	7.33	0.111	37.61	0.09	0.01	< 0.01	0.018	< 0.01	11.99	97.92	< 2	< 2	< 1	10	2	< 1	44	0.187	0.253			
523285 Split	39.71	1.07	7.41	0.111	38.98	0.06	0.01	< 0.01	0.017	< 0.01	12.03	99.41	< 2	< 2	< 1	10	3	< 1	45	0.212	0.232			
523285 Orig																								
523285 Dup																								
546010 Orig	38.62	0.93	7.92	0.116	39.96	0.78	< 0.01	< 0.01	0.008	< 0.01	12.25	100.6	< 2	< 2	< 1	9	< 2	< 1	35	0.249	0.247			
546010 Dup	37.65	0.91	7.81	0.115	39.42	0.81	< 0.01	< 0.01	0.008	< 0.01	12.25	98.98	< 2	< 2	< 1	8	< 2	< 1	35	0.191	0.262			
546024 Orig	39.35	0.46	7.46	0.088	41.94	0.05	< 0.01	< 0.01	0.011	< 0.01	10.52	99.89	< 2	< 2	< 1	3	2	< 1	14	0.246	0.280			
546024 Dup	39.21	0.46	7.52	0.088	42.41	0.06	< 0.01	< 0.01	0.011	< 0.01	10.52	100.3	< 2	< 2	< 1	3	< 2	< 1	15	0.238	0.280			
546028 Orig	37.56	0.76	8.25	0.135	39.08	0.45	0.01	< 0.01	0.013	0.02	12.97	99.25	< 2	< 2	< 1	9	16	< 1	33	0.202	0.291			
546028 Split	37.14	0.70	8.77	0.145	38.97	0.61	< 0.01	< 0.01	0.014	0.01	12.93	99.29	< 2	< 2	< 1	10	< 2	< 1	35	0.190	0.330			
546028 Orig																								
546028 Dup																								
546029 Orig	37.61	0.79	8.69	0.145	39.92	0.40	< 0.01	< 0.01	0.013	0.02	12.20	99.78	< 2	< 2	< 1	8	< 2	< 1	35	0.216	0.414			
546029 Split	37.05	0.76	8.54	0.143	39.35	0.39	< 0.01	< 0.01	0.013	< 0.01	12.32	98.57	< 2	< 2	< 1	8	2	< 1	34	0.214	0.407			
546038 Orig																								
546038 Dup																								
546039 Orig	37.94	0.81	7.89	0.106	39.47	0.40	< 0.01	< 0.01	0.006	0.08	13.11	99.81	< 2	< 2	< 1	9	< 2	< 1	33	0.212	0.237			
546039 Dup	37.87	0.83	7.90	0.106	39.35	0.40	0.01	< 0.01	0.006	0.01	13.11	99.60	< 2	< 2	< 1	9	< 2	< 1	36	0.214	0.241			
546048 Orig																								
546048 Dup																								
546056 Dup	45.07	9.84	10.00	0.148	17.82	8.44	2.56	0.10	0.894	0.06	5.64	100.6	11	90	17	29	43	< 1	233	0.081	0.088			
546058 Orig																								
546058 Dup																								
546062 Orig	38.27	0.89	8.38	0.108	39.20	0.64	< 0.01	< 0.01	0.006	0.01	12.22	99.73	3	< 2	< 1	9	2	< 1	41	0.219	0.226			
546062 Split	38.10	0.89	8.32	0.107	39.16	0.64	< 0.01	< 0.01	0.006	0.02	12.21	99.44	3	< 2	< 1	9	< 2	< 1	42	0.219	0.230			
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01

Quality Control																								
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
Method Blank																						< 0.01	< 0.01	< 0.01

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
NIST 694 Meas													
NIST 694 Cert													
NIST 694 Meas													
NIST 694 Cert													
DNC-1 Meas													
DNC-1 Cert													
DNC-1 Meas													
DNC-1 Cert													
GBW 07113 Meas													
GBW 07113 Cert													
MICA-FE Meas	0.354	4.54	0.51	0.51	8.78	2.52	0.42	0.02	0.026	0.004			
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350			
CHR-BKG Meas	0.145	23.58	0.06			0.13		19.8		0.203			
CHR-BKG Cert	0.14	23.47	0.07			0.14		20		0.201			
IF-G Meas	0.041	1.87	1.52	0.05	0.02	0.03	0.06	0.01		< 0.003			
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225			
W-2a Meas													
W-2a Cert													
W-2a Meas													
W-2a Cert													
OREAS 13P Meas										0.227			
OREAS 13P Cert										0.226			
OREAS 13P Meas													
OREAS 13P Cert													
OREAS 13P Meas													
OREAS 13P Cert													
OREAS 14P Meas										2.10			
OREAS 14P Cert										2.10			
SY-4 Meas													
SY-4 Cert													
SY-4 Meas													
SY-4 Cert													
Oreas 73a (Fusion) Meas		32.52						0.20		1.44			
Oreas 73a (Fusion) Cert		32.5						0.20		1.44			
Oreas 74a (Fusion) Meas		27.99						0.18		3.22			
Oreas 74a (Fusion) Cert		27.9						0.18		3.24			
Oreas 75a (Fusion) Meas		22.51						0.15		5.26			
Oreas 75a (Fusion) Cert		22.3						0.16		5.25			
BIR-1a Meas													
BIR-1a Cert													
BIR-1a Meas													
BIR-1a Cert													
OREAS 13b (fusion) Meas													
OREAS 13b (fusion) Cert													
BCR-2 Meas													
BCR-2 Cert													
521547 Orig													0.07
521547 Dup													0.06
521552 Orig													
521552 Dup													
521557 Orig													0.03
521557 Dup													0.03
521565 Orig													
521565 Split													

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
521569 Orig													
521569 Dup													
521572 Orig													
521572 Dup													
521572 Orig													
521572 Dup													
521572 Orig													
521572 Dup													
521583 Orig													
521583 Dup													
521583 Orig													
521583 Dup													
521583 Orig													
521583 Dup													
521583 Orig													
521583 Dup													
521585 Orig													
521585 Split													
521595 Orig													
521595 Split													
521598 Orig													
521598 Dup													
521615 Orig													
521615 Dup													
522602 Orig													
522602 Split													
522610 Orig													
522610 Dup													
523278 Orig													
523278 Dup													
523285 Orig													
523285 Split													
523285 Orig													0.12
523285 Dup													0.11
546010 Orig													0.06
546010 Dup													0.05
546024 Orig													
546024 Dup													
546028 Orig													
546028 Split													
546028 Orig													0.05
546028 Dup													0.05
546029 Orig													
546029 Split													
546038 Orig													0.08
546038 Dup													0.08
546039 Orig													
546039 Dup													
546048 Orig													0.03
546048 Dup													0.03
546056 Dup													
546058 Orig													< 0.01
546058 Dup													0.03
546062 Orig													
546062 Split													
Method Blank													< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 17-Oct-11
Invoice No.: A11-12001
Invoice Date: 22-Dec-11
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road, Suite 2
Sudbury Ontario P3C 4Y9 Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

150 Rock samples were submitted for analysis.

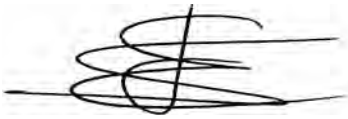
The following analytical packages were requested:

Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID

REPORT **A11-12001**

Notes:
Total includes all elements in % oxide to the left of total.

CERTIFIED BY :



Emmanuel Eseme , Ph.D.
Quality Control

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
Date Analyzed	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Oct 31 2011 11:50AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM
Upper Limit												101.0												
Method Name	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES		Fusion / XRF	Fusion / XRF
Package Code	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	Client ID	4C (1-10)	4C (1-10)
522530	33.53	0.57	7.02	0.113	35.13	0.05	0.02	< 0.01	0.006	< 0.01	24.44	100.9	9	< 2	< 1	7	2	< 1	30	0.187	0.220	522530	7.88	0.72
522531	32.64	0.55	7.02	0.132	34.39	0.11	0.01	< 0.01	0.004	< 0.01	24.93	99.79	3	2	< 1	8	3	< 1	33	0.181	0.223	522531	12.37	0.84
522532	42.98	13.92	11.19	0.191	7.46	13.16	3.18	0.08	1.541	0.09	7.16	101.0	24	118	28	39	78	< 1	373	0.013	0.016	522532		
522533	33.32	10.92	10.54	0.170	7.98	12.86	1.59	0.28	1.364	0.13	19.08	98.23	49	55	27	34	69	< 1	320	0.019	0.020	522533		
522534	33.37	0.82	5.75	0.081	28.17	0.19	0.04	0.02	0.006	< 0.01	31.98	100.4	5	< 2	< 1	6	3	< 1	24	0.120	0.167	522534		
522535	33.47	0.82	5.67	0.079	27.38	0.14	0.03	0.01	0.007	< 0.01	31.67	99.25	22	< 2	< 1	6	3	< 1	23	0.118	0.173	522535		
522536	35.58	5.08	8.04	0.123	20.31	5.33	0.16	0.03	0.661	0.07	24.71	100.1	3	13	18	15	53	< 1	143	0.102	0.109	522536		
522537	47.99	14.09	10.46	0.168	6.78	9.31	3.90	0.09	1.340	0.08	5.33	99.54	7	105	28	38	77	< 1	314	0.012	0.020	522537		
522538	43.37	13.94	10.43	0.170	6.03	11.38	3.76	0.21	1.408	0.08	9.30	100.1	21	103	27	37	76	< 1	340	0.013	0.014	522538		
522539	31.73	0.58	6.32	0.095	31.82	0.08	0.03	< 0.01	0.007	< 0.01	29.15	99.80	11	< 2	< 1	6	2	< 1	24	0.166	0.203	522539	14.03	0.61
522540	96.75	0.67	2.37	0.020	0.35	0.15	0.13	0.10	0.040	< 0.01	0.42	101.0	26	6	2	< 1	52	< 1	9	< 0.010	< 0.010	522540	97.56	0.23
522541	29.90	0.54	5.91	0.086	29.84	0.08	0.03	0.03	0.005	< 0.01	34.32	100.7	3	< 2	< 1	6	2	< 1	28	0.157	0.182	522541		
522542	32.01	0.63	6.46	0.093	31.57	0.06	0.03	0.01	0.004	< 0.01	29.21	100.1	2	< 2	< 1	8	2	< 1	31	0.170	0.214	522542	20.65	0.49
522543	29.77	0.72	6.04	0.081	30.41	0.10	0.01	< 0.01	0.004	< 0.01	33.61	100.7	2	< 2	< 1	7	3	< 1	29	0.169	0.190	522543		
522544	32.80	0.94	6.11	0.058	33.13	0.35	0.02	< 0.01	0.009	< 0.01	26.93	100.3	4	2	< 1	7	3	< 1	32	0.177	0.197	522544	12.07	1.12
522545	31.56	0.64	5.89	0.063	32.33	0.34	0.03	0.02	0.008	< 0.01	29.98	100.8	2	< 2	< 1	6	2	< 1	31	0.168	0.209	522545		
522546	30.70	0.59	7.74	0.089	34.22	0.28	0.03	< 0.01	0.004	< 0.01	26.59	100.2	2	< 2	< 1	8	2	< 1	36	0.189	0.228	522546	2.96	1.68
522547	35.66	0.79	6.53	0.077	35.38	0.48	0.03	< 0.01	0.005	< 0.01	21.89	100.8	4	< 2	< 1	7	2	< 1	36	0.189	0.219	522547	10.58	1.21
522548	38.27	0.91	7.76	0.086	39.25	0.41	0.02	< 0.01	0.007	< 0.01	14.01	100.7	< 2	< 2	< 1	10	< 2	< 1	38	0.221	0.270	522548	21.99	0.55
522549	38.26	0.75	7.76	0.099	39.93	0.30	< 0.01	< 0.01	0.005	< 0.01	13.38	100.5	< 2	< 2	< 1	10	< 2	< 1	35	0.220	0.261	522549	18.93	0.54
522550	39.13	0.91	7.74	0.099	39.73	0.06	< 0.01	< 0.01	0.006	< 0.01	12.70	100.4	2	< 2	< 1	9	3	< 1	37	0.217	0.254	522550	19.89	0.68
522551	40.75	5.32	9.05	0.170	28.50	6.99	0.63	0.05	0.496	0.05	8.72	100.8	10	40	9	18	28	< 1	144	0.149	0.169	522551	15.11	0.92
522552	38.86	0.88	8.57	0.120	39.32	0.06	0.01	< 0.01	0.006	< 0.01	12.71	100.5	< 2	< 2	< 1	9	2	< 1	40	0.212	0.273	522552	20.00	0.64
522553	36.52	12.60	17.15	0.228	11.72	14.99	0.40	0.03	2.389	0.21	4.75	101.0	3	51	44	43	122	< 1	552	0.040	0.040	522553		
522554	41.46	1.00	7.07	0.097	37.39	0.16	0.02	< 0.01	0.015	< 0.01	11.80	99.00	< 2	< 2	< 1	8	2	< 1	34	0.204	0.238	522554		
522555	42.75	1.18	7.38	0.106	37.35	0.19	0.01	< 0.01	0.075	< 0.01	11.72	100.8	2	< 2	< 1	9	6	< 1	45	0.201	0.237	522555		
522556	39.97	1.06	7.08	0.079	39.53	0.10	< 0.01	< 0.01	0.006	< 0.01	12.17	99.96	2	< 2	< 1	9	2	< 1	35	0.219	0.271	522556	9.25	1.25
522557	38.55	0.65	7.89	0.107	41.05	0.13	0.01	< 0.01	0.004	< 0.01	12.38	100.7	< 2	< 2	< 1	9	2	< 1	33	0.222	0.268	522557	14.79	0.65
522558	38.35	0.60	8.38	0.127	41.01	0.28	0.01	< 0.01	0.004	< 0.01	11.56	100.3	< 2	< 2	< 1	9	< 2	< 1	33	0.227	0.272	522558	12.36	0.79
522559	38.17	0.69	7.83	0.087	41.02	0.21	< 0.01	< 0.01	0.004	< 0.01	12.13	100.1	2	< 2	< 1	8	< 2	< 1	32	0.218	0.254	522559	13.33	0.84
522560.1	49.07	16.17	11.84	0.164	4.86	7.67	2.30	2.81	1.185	0.44	0.97	97.46	713	545	21	26	104	2	332	0.232	1.031	522560	49.44	15.82
522560.2																						522560	36.58	2.25
522560.3																						522560	20.66	0.71
522561	39.63	0.61	7.45	0.107	41.37	0.20	< 0.01	< 0.01	0.004	< 0.01	10.94	100.3	< 2	< 2	< 1	9	< 2	< 1	32	0.238	0.251	522561	14.16	0.91
522562	38.59	0.62	7.92	0.101	41.36	0.22	0.03	0.01	0.004	< 0.01	10.41	99.24	< 2	< 2	< 1	7	2	< 1	30	0.215	0.284	522562	13.27	1.00
522563	38.58	0.57	7.82	0.105	41.25	0.50	0.01	< 0.01	0.004	< 0.01	10.35	99.16	2	< 2	< 1	9	3	< 1	30	0.219	0.264	522563	14.38	1.32
522564	37.93	0.62	7.95	0.093	41.47	0.29	0.01	< 0.01	0.004	< 0.01	12.27	100.6	< 2	< 2	< 1	8	2	< 1	31	0.211	0.270	522564	11.75	0.79
522565	38.82	0.52	8.66	0.145	41.27	0.54	0.01	< 0.01	0.004	< 0.01	10.79	100.7	< 2	< 2	< 1	7	3	< 1	27	0.220	0.256	522565	15.36	0.81
522566	38.72	0.67	7.56	0.112	39.49	1.32	0.01	< 0.01	0.005	< 0.01	11.49	99.37	2	< 2	< 1	10	2	< 1	42	0.199	0.262	522566	14.84	0.56
522567	38.74	0.82	7.89	0.093	40.32	0.42	0.01	< 0.01	0.005	< 0.01	12.03	100.3	< 2	< 2	< 1	8	2	< 1	41	0.220	0.255	522567	21.18	0.58
522568	38.56	0.51	8.25	0.143	41.16	0.63	< 0.01	< 0.01	0.004	< 0.01	10.23	99.46	< 2	< 2	< 1	7	< 2	< 1	30	0.209	0.268	522568	16.11	0.95
522569	38.16	0.60	8.02	0.133	40.21	0.68	0.02	< 0.01	0.004	< 0.01	11.70	99.51	< 2	< 2	< 1	8	2	< 1	33	0.211	0.248	522569	16.27	0.69
522570	38.31	0.69	8.38	0.104	40.01	0.54	0.02	< 0.01	0.005	< 0.01	11.42	99.46	< 2	< 2	< 1	8	2	< 1	35	0.203	0.232	522570	14.77	0.53
522571	38.34	0.58	8.02	0.126	41.29	0.43	0.02	< 0.01	0.004	< 0.01	11.67	100.5	6	< 2	< 1	8	3	< 1	29	0.202	0.247	522571	15.95	0.55
522572	38.25	0.58	7.91	0.112	41.15	0.71	0.01	< 0.01	0.004	< 0.01	11.59	100.3	< 2	< 2	< 1	9	2	< 1	30	0.211	0.238	522572	14.94	0.72

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
Date Analyzed	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Oct 31 2011 11:50AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM
Upper Limit												101.0												
Method Name	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES		Fusion / XRF	Fusion / XRF
Package Code	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	Client ID	4C (1-10)	4C (1-10)
522573	38.28	0.52	7.62	0.095	42.44	0.07	0.01	< 0.01	0.002	< 0.01	11.71	100.7	< 2	< 2	< 1	6	3	< 1	26	0.227	0.252	522573	16.27	0.64
522574	38.29	0.44	7.91	0.115	42.42	0.06	0.02	< 0.01	0.003	< 0.01	10.78	100.0	3	< 2	< 1	6	2	< 1	23	0.233	0.269	522574	12.23	0.72
522575	37.92	0.51	7.64	0.108	42.28	0.06	0.02	< 0.01	0.003	< 0.01	11.30	99.84	< 2	< 2	< 1	5	2	< 1	24	0.233	0.256	522575	12.11	0.79
522576	39.45	0.35	6.07	0.071	40.03	0.05	< 0.01	< 0.01	0.003	< 0.01	11.93	97.97	3	< 2	< 1	4	3	< 1	19	0.238	0.212	522576	14.34	1.28
522577	38.71	0.72	7.32	0.096	38.65	0.09	0.02	< 0.01	0.003	< 0.01	11.91	97.52	2	< 2	< 1	6	3	< 1	21	0.219	0.211	522577	12.62	0.67
522578	40.24	1.55	7.03	0.077	35.40	1.26	0.05	0.01	0.083	< 0.01	11.81	97.51	< 2	2	2	9	7	< 1	45	0.198	0.232	522578	8.43	0.46
522579	36.63	0.60	8.30	0.088	38.95	0.12	< 0.01	< 0.01	0.003	< 0.01	12.71	97.42	4	< 2	< 1	8	< 2	< 1	28	0.217	0.254	522579	15.26	0.63
522580	96.62	0.52	2.95	0.023	0.11	0.03	0.12	0.09	0.029	< 0.01	-0.39	100.1	36	3	2	< 1	53	< 1	8	< 0.010	< 0.010	522580	97.77	0.25
522581	37.47	0.61	8.12	0.110	40.15	0.52	0.02	< 0.01	0.003	< 0.01	12.75	99.76	< 2	< 2	< 1	7	3	< 1	28	0.215	0.232	522581	11.84	0.75
522582	37.87	0.60	8.65	0.116	40.52	0.17	0.02	< 0.01	0.007	0.01	12.07	100.0	3	< 2	< 1	8	27	< 1	29	0.222	0.259	522582	11.35	0.65
522583	37.51	0.65	8.44	0.102	39.50	0.71	< 0.01	< 0.01	0.003	< 0.01	13.01	99.91	< 2	< 2	< 1	9	3	< 1	33	0.207	0.248	522583	13.47	0.54
522584	38.02	0.69	8.31	0.140	39.88	0.90	0.01	< 0.01	0.004	< 0.01	12.70	100.7	< 2	< 2	< 1	9	3	< 1	34	0.217	0.246	522584	16.68	0.52
522585	36.88	0.74	7.95	0.098	38.74	0.71	0.02	0.01	0.005	< 0.01	12.73	97.89	< 2	< 2	< 1	9	2	< 1	37	0.215	0.273	522585	16.26	0.65
522586	37.69	0.72	8.49	0.097	39.55	0.28	< 0.01	< 0.01	0.004	< 0.01	13.11	99.97	< 2	< 2	< 1	9	3	< 1	36	0.213	0.232	522586	16.91	0.55
522587	38.10	0.63	7.88	0.125	40.52	0.53	0.01	< 0.01	0.005	< 0.01	12.08	99.87	3	< 2	< 1	9	3	< 1	31	0.214	0.238	522587	14.76	0.58
522588	40.31	1.05	7.50	0.103	37.08	1.46	0.14	0.01	0.052	< 0.01	11.80	99.48	2	3	1	9	6	< 1	42	0.204	0.220	522588	14.98	0.65
522589	48.31	13.15	13.22	0.192	5.38	8.12	5.39	0.24	1.857	0.14	2.06	98.06	17	93	37	38	102	< 1	407	< 0.010	< 0.010	522589		
522590	38.34	1.00	8.09	0.097	39.09	0.05	0.02	< 0.01	0.008	< 0.01	12.80	99.48	3	< 2	< 1	8	3	< 1	42	0.204	0.240	522590	7.86	0.60
522591	37.53	0.91	8.85	0.103	37.70	0.13	0.03	< 0.01	0.012	< 0.01	12.47	97.74	< 2	< 2	< 1	10	4	< 1	44	0.213	0.282	522591	10.54	0.49
522592	41.96	13.58	11.65	0.179	6.54	18.16	2.42	0.32	1.399	0.13	3.03	99.36	14	95	30	39	82	< 1	316	0.012	0.017	522592		
522593	37.87	0.84	8.33	0.128	37.87	0.05	0.02	< 0.01	0.007	< 0.01	12.28	97.41	3	< 2	< 1	10	3	< 1	38	0.191	0.283	522593	14.42	0.56
522594	41.42	0.91	7.37	0.081	36.74	0.07	0.02	< 0.01	0.006	< 0.01	11.79	98.41	< 2	< 2	< 1	8	4	< 1	35	0.200	0.243	522594	23.14	0.88
522595	41.62	0.90	7.20	0.080	36.78	0.09	0.01	< 0.01	0.007	< 0.01	11.75	98.46	< 2	< 2	< 1	8	3	< 1	37	0.210	0.241	522595	11.31	0.81
522596	39.95	0.80	7.67	0.070	36.89	0.15	0.01	< 0.01	0.008	0.01	11.93	97.51	3	5	< 1	10	3	< 1	42	0.196	0.265	522596	6.32	0.57
522597	37.51	0.78	8.57	0.125	38.37	0.08	< 0.01	< 0.01	0.005	0.01	11.97	97.42	2	3	< 1	9	4	< 1	39	0.209	0.308	522597	17.20	0.98
522598	39.84	1.82	7.49	0.097	36.43	0.51	0.01	< 0.01	0.159	0.01	11.68	98.05	3	5	2	10	12	< 1	58	0.207	0.209	522598	10.06	1.24
523455	38.07	0.87	7.96	0.127	37.88	0.60	< 0.01	< 0.01	0.010	< 0.01	11.97	97.50	3	4	< 1	8	3	< 1	31	0.212	0.211	523455	13.49	0.34
523456	38.11	0.86	8.56	0.156	38.05	0.33	< 0.01	< 0.01	0.008	< 0.01	11.46	97.55	2	< 2	< 1	8	3	< 1	31	0.211	0.235	523456	11.88	0.34
523457	38.49	1.03	7.28	0.103	39.47	0.24	< 0.01	< 0.01	0.010	< 0.01	12.70	99.34	< 2	3	1	7	3	< 1	37	0.215	0.266	523457	12.51	0.44
523458	37.76	0.89	7.91	0.114	39.10	0.17	0.01	< 0.01	0.007	< 0.01	12.40	98.38	< 2	< 2	< 1	9	3	< 1	33	0.215	0.255	523458	11.06	0.31
523459	37.48	0.89	8.02	0.111	39.01	0.09	0.01	< 0.01	0.008	< 0.01	12.37	98.01	< 2	< 2	< 1	9	3	< 1	30	0.207	0.243	523459	9.93	0.27
523460	97.49	0.32	1.02	0.013	0.38	0.13	0.03	0.04	0.035	0.02	0.34	99.81	26	15	2	< 1	48	< 1	8	< 0.010	< 0.010	523460	97.96	0.28
523461	36.91	0.87	9.08	0.120	37.84	0.17	< 0.01	< 0.01	0.008	< 0.01	12.52	97.53	< 2	< 2	< 1	9	2	< 1	34	0.203	0.288	523461	9.71	0.34
523462	37.56	0.94	8.40	0.098	37.84	0.17	0.02	< 0.01	0.007	< 0.01	12.39	97.44	< 2	< 2	< 1	9	3	< 1	38	0.201	0.248	523462	15.23	0.63
523463	37.75	0.97	7.75	0.115	37.46	0.86	< 0.01	< 0.01	0.007	< 0.01	12.53	97.45	< 2	< 2	< 1	10	< 2	< 1	42	0.193	0.261	523463	12.61	0.32
523464	38.36	1.10	7.84	0.073	38.99	0.52	0.01	< 0.01	0.007	0.02	13.08	100.0	< 2	< 2	< 1	7	< 2	< 1	40	0.204	0.227	523464	12.89	0.35
523465	38.26	0.95	7.51	0.116	37.77	0.60	< 0.01	< 0.01	0.009	< 0.01	12.41	97.65	5	< 2	< 1	9	< 2	< 1	38	0.195	0.264	523465	11.32	0.33
523466	38.19	0.93	7.46	0.104	38.29	0.41	0.01	< 0.01	0.011	< 0.01	12.60	98.01	4	< 2	1	7	3	< 1	32	0.193	0.230	523466	15.90	0.32
523467	38.16	0.94	7.07	0.058	37.79	0.06	0.02	< 0.01	0.008	< 0.01	13.35	97.47	< 2	< 2	< 1	6	3	< 1	33	0.198	0.211	523467	12.95	0.37
523468	37.27	0.79	8.27	0.099	38.68	0.27	< 0.01	< 0.01	0.009	< 0.01	12.55	97.96	< 2	< 2	< 1	8	3	< 1	32	0.205	0.237	523468	12.17	0.22
523469	38.34	1.01	8.50	0.117	38.85	0.48	< 0.01	< 0.01	0.008	< 0.01	11.85	99.18	< 2	< 2	< 1	10	3	< 1	42	0.208	0.306	523469	13.84	0.51
523470	39.12	0.87	7.30	0.125	39.34	0.38	< 0.01	< 0.01	0.006	< 0.01	11.14	98.30	< 2	< 2	< 1	9	2	< 1	34	0.209	0.302	523470	14.52	0.58
523471	37.40	0.89	7.87	0.077	38.50	0.13	0.01	< 0.01	0.006	< 0.01	12.91	97.80	< 2	< 2	< 1	5	4	< 1	29	0.211	0.314	523471	17.39	0.78
523472	39.25	0.66	7.51	0.117	40.78	0.07	0.01	< 0.01	0.004	< 0.01	10.96	99.36	< 2	< 2	< 1	5	6	< 1	21	0.237	0.241	523472	14.26	0.68
523473	38.07	0.90	8.48	0.091	38.45	0.27	0.01	< 0.01	0.007	< 0.01	12.77	99.05	< 2	< 2	< 1	9	3	< 1	37	0.212	0.268	523473	10.12	0.29

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
Date Analyzed	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Oct 31 2011 11:50AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM
Upper Limit												101.0												
Method Name	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES		Fusion / XRF	Fusion / XRF
Package Code	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	Client ID	4C (1-10)	4C (1-10)
523474	38.51	0.90	7.90	0.113	39.72	0.52	< 0.01	< 0.01	0.008	< 0.01	11.80	99.48	< 2	< 2	< 1	9	3	< 1	33	0.218	0.229	523474	13.38	0.27
523475	38.07	0.88	7.71	0.115	38.98	0.46	< 0.01	< 0.01	0.008	< 0.01	11.78	98.02	< 2	< 2	< 1	8	2	< 1	34	0.206	0.219	523475	16.61	0.52
523476	37.97	0.98	7.74	0.102	39.06	0.70	< 0.01	< 0.01	0.010	< 0.01	11.58	98.15	3	< 2	< 1	9	3	< 1	38	0.227	0.263	523476	14.75	0.35
523477	38.02	1.13	7.17	0.074	38.43	0.38	< 0.01	< 0.01	0.009	< 0.01	12.62	97.85	< 2	< 2	< 1	8	4	< 1	38	0.204	0.230	523477	16.06	0.51
523478	38.65	0.95	8.37	0.105	39.54	0.95	< 0.01	< 0.01	0.010	< 0.01	11.30	99.85	3	< 2	< 1	9	3	< 1	38	0.191	0.274	523478	13.03	0.34
523479	39.18	0.94	7.58	0.115	39.98	1.07	0.01	< 0.01	0.010	< 0.01	11.50	100.4	2	< 2	< 1	9	3	< 1	37	0.222	0.247	523479	13.14	0.28
523480.1	49.43	16.11	11.85	0.164	4.89	7.74	2.28	2.82	1.184	0.45	0.82	97.72	716	542	21	26	104	2	336	0.225	1.022	523480	49.23	15.93
523480.2																						523480	36.45	2.22
523480.3																						523480	20.22	0.75
523481	39.04	0.91	7.89	0.114	40.57	0.75	0.01	< 0.01	0.010	< 0.01	11.45	100.7	2	< 2	< 1	8	3	< 1	31	0.209	0.244	523481	16.59	0.30
523482	37.99	0.95	7.95	0.098	39.49	0.67	0.01	< 0.01	0.009	< 0.01	11.72	98.88	2	< 2	< 1	9	3	< 1	34	0.222	0.244	523482	13.88	0.43
523483	38.58	1.02	7.52	0.089	39.63	0.66	0.01	< 0.01	0.007	< 0.01	12.50	100.0	2	< 2	< 1	10	4	< 1	39	0.203	0.244	523483	12.73	0.40
523484	39.61	1.04	7.76	0.139	38.52	2.65	0.02	< 0.01	0.008	< 0.01	10.42	100.1	3	< 2	< 1	13	5	< 1	46	0.186	0.284	523484	10.75	0.49
523485	37.27	1.09	9.52	0.107	39.97	0.19	0.02	< 0.01	0.030	< 0.01	11.74	99.92	2	< 2	< 1	7	3	< 1	31	0.196	0.432	523485	16.67	0.78
523486	39.06	0.82	7.61	0.123	40.36	0.67	0.02	< 0.01	0.014	< 0.01	10.94	99.62	2	< 2	< 1	8	3	< 1	29	0.210	0.238	523486	12.09	0.37
523487	38.42	0.76	8.15	0.126	40.34	0.09	< 0.01	< 0.01	0.009	< 0.01	11.82	99.70	2	< 2	< 1	9	3	< 1	29	0.250	0.233	523487	14.87	0.25
523488	39.15	1.51	7.73	0.081	38.79	0.11	< 0.01	< 0.01	0.022	< 0.01	12.64	100.0	2	< 2	< 1	8	3	< 1	38	0.216	0.269	523488	10.37	0.57
523489	38.58	1.00	8.34	0.120	40.12	0.15	< 0.01	< 0.01	0.015	< 0.01	12.01	100.3	2	< 2	< 1	9	3	< 1	33	0.179	0.266	523489	16.29	0.24
523490	38.51	0.78	8.36	0.143	40.66	0.58	0.01	< 0.01	0.011	< 0.01	10.82	99.86	2	< 2	< 1	9	3	< 1	32	0.215	0.277	523490	10.10	0.24
523491	38.03	0.83	7.88	0.064	41.26	0.11	0.01	< 0.01	0.013	< 0.01	12.63	100.8	2	< 2	< 1	6	3	< 1	29	0.197	0.246	523491	19.05	0.72
523492	38.58	0.61	7.68	0.111	41.41	0.08	0.02	< 0.01	0.014	< 0.01	10.95	99.44	3	< 2	< 1	7	3	< 1	26	0.215	0.350	523492	10.41	0.63
523493	37.64	0.68	7.46	0.099	40.82	0.09	0.02	< 0.01	0.015	< 0.01	11.27	98.09	2	< 2	< 1	5	3	< 1	21	0.212	0.230	523493	14.29	0.46
523494	37.24	0.78	8.60	0.123	40.85	0.10	0.01	< 0.01	0.008	< 0.01	11.72	99.40	< 2	< 2	< 1	10	3	< 1	32	0.198	0.232	523494	11.80	0.37
523495	37.10	0.88	8.86	0.121	41.06	0.10	0.05	0.03	0.008	< 0.01	11.85	100.0	3	< 2	< 1	11	3	< 1	33	0.203	0.222	523495	10.73	0.25
523496	38.86	1.86	7.35	0.080	39.28	0.11	0.01	< 0.01	0.026	< 0.01	12.69	100.3	2	< 2	< 1	10	6	< 1	41	0.189	0.248	523496	10.11	0.55
523497	38.76	0.40	7.74	0.110	43.42	0.03	< 0.01	< 0.01	0.005	< 0.01	10.33	100.8	2	< 2	< 1	3	2	< 1	14	0.226	0.223	523497	11.93	0.24
523498	38.99	1.05	8.63	0.123	39.97	0.05	< 0.01	< 0.01	0.009	< 0.01	11.87	100.7	8	< 2	< 1	10	2	< 1	37	0.210	0.283	523498	12.89	0.26
523499	39.73	1.03	7.45	0.107	39.40	0.05	< 0.01	< 0.01	0.008	< 0.01	12.40	100.1	3	< 2	< 1	7	3	< 1	36	0.203	0.230	523499	12.33	0.25
523500	98.76	0.36	1.22	0.013	0.29	0.05	0.05	0.05	0.034	< 0.01	0.17	101.0	26	6	1	< 1	62	< 1	6	< 0.010	< 0.010	523500	97.75	0.39
523251	39.16	0.89	8.17	0.124	39.06	0.05	< 0.01	< 0.01	0.006	< 0.01	12.45	99.90	2	< 2	< 1	9	3	< 1	33	0.220	0.226	523251	14.54	0.36
523252	38.13	0.95	7.75	0.129	38.97	0.08	0.02	< 0.01	0.007	< 0.01	12.66	98.67	2	< 2	< 1	10	5	< 1	38	0.180	0.249	523252	16.15	0.39
523253	37.82	0.86	8.38	0.121	38.75	0.56	< 0.01	< 0.01	0.006	< 0.01	12.76	99.24	< 2	< 2	< 1	11	3	< 1	41	0.197	0.292	523253	13.16	0.50
523254	38.54	0.70	7.50	0.081	39.92	0.15	0.01	< 0.01	0.006	< 0.01	13.08	99.97	3	< 2	< 1	6	3	< 1	29	0.244	0.254	523254	17.39	0.61
523255	38.49	0.67	7.48	0.083	39.84	0.10	< 0.01	< 0.01	0.005	< 0.01	13.11	99.77	3	< 2	< 1	7	3	< 1	25	0.210	0.253	523255	11.93	0.53
523256	38.55	1.09	8.14	0.109	39.46	0.16	0.01	< 0.01	0.015	< 0.01	12.20	99.71	2	< 2	< 1	10	4	< 1	43	0.222	0.263	523256	11.01	0.47
523257	39.46	0.98	7.67	0.106	39.38	0.07	0.02	< 0.01	0.006	< 0.01	12.30	99.97	2	< 2	< 1	9	3	< 1	36	0.200	0.212	523257	13.91	0.38
523258	39.56	1.15	7.58	0.080	38.16	0.10	< 0.01	< 0.01	0.007	< 0.01	12.35	98.97	< 2	< 2	< 1	9	5	< 1	41	0.189	0.259	523258	10.12	0.36
523259	39.16	0.97	7.38	0.098	38.86	0.05	0.01	< 0.01	0.006	< 0.01	12.59	99.11	2	< 2	< 1	9	3	< 1	43	0.211	0.235	523259	10.93	0.25
523260.1	49.62	16.26	11.85	0.166	4.96	7.76	2.29	2.92	1.187	0.45	0.76	98.22	723	549	21	26	104	2	338	0.228	1.041	523260	49.12	15.75
523260.2																						523260	36.22	2.63
523260.3																						523260	19.50	0.70
523261	37.15	1.67	8.20	0.111	37.81	0.12	< 0.01	< 0.01	0.011	< 0.01	11.02	96.07	2	< 2	< 1	7	2	< 1	43	0.218	1.546	523261	12.05	1.70
523262	38.55	0.76	8.22	0.124	39.43	0.22	0.01	< 0.01	0.007	< 0.01	12.07	99.37	4	< 2	< 1	9	3	< 1	34	0.222	0.260	523262	10.45	0.36
523263	40.69	1.03	5.21	0.086	41.12	1.31	< 0.01	0.01	0.008	< 0.01	10.14	99.63	2	2	< 1	6	3	< 1	43	0.164	0.186	523263	11.25	0.39
523264	39.49	0.85	8.23	0.149	39.39	1.26	< 0.01	< 0.01	0.006	< 0.01	10.43	99.81	< 2	< 2	< 1	11	3	< 1	44	0.196	0.252	523264	13.89	0.33

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
Date Analyzed	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Nov 8 2011 9:09AM	Oct 31 2011 11:50AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM
Upper Limit												101.0												
Method Name	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES		Fusion / XRF	Fusion / XRF
Package Code	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	Client ID	4C (1-10)	4C (1-10)
523265	38.70	0.94	8.23	0.122	37.97	1.31	< 0.01	< 0.01	0.007	< 0.01	11.12	98.37	2	< 2	< 1	10	3	< 1	45	0.208	0.260	523265	13.97	0.40
521328	38.52	1.63	8.34	0.102	37.92	0.59	< 0.01	< 0.01	0.016	< 0.01	12.61	99.72	3	3	< 1	9	3	< 1	49	0.201	0.241	521328	16.19	0.64
521329	39.75	1.63	8.29	0.116	36.83	0.92	0.01	< 0.01	0.021	< 0.01	11.99	99.53	11	8	< 1	12	3	< 1	58	0.198	0.244	521329	13.94	0.60
521330	98.68	0.32	0.86	0.009	0.04	0.03	0.02	0.05	0.031	< 0.01	0.02	100.0	42	5	1	< 1	54	< 1	7	< 0.010	< 0.010	521330	97.38	0.34
522275	39.59	0.99	8.67	0.134	38.24	0.06	< 0.01	< 0.01	0.007	< 0.01	11.77	99.46	3	< 2	< 1	10	2	< 1	40	0.199	0.254	522275	11.34	0.26
522320	98.77	0.31	0.81	0.009	0.06	0.03	0.02	0.05	0.031	< 0.01	0.16	100.2	31	4	1	< 1	53	< 1	7	< 0.010	< 0.010	522320	98.12	0.32
521350.2																						521350	36.32	2.27
521350.3																						521350	20.34	0.77

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	Ni	P2O5	Cr	V2O5	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.003	0.01	0.01	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
Date Analyzed	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Nov 11 2011 12:05PM
Upper Limit													101.0							
Method Name	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Davis Tube	Davis Tube	Davis Tube	Davis Tube	Davis Tube	Davis Tube	IR Spectroscopy
Package Code	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	4F-S
522530	70.08	0.067	9.21	0.04	< 0.01	0.05	0.02	0.165	< 0.01	3.78	0.089	4.84	96.87	30.0	0.970	27.541	3.2	28.511	5.08	0.02
522531	49.21	0.120	16.74	0.08	< 0.01	0.04	0.05	0.157	0.01	4.44	0.100	12.52	96.57	30.0	0.761	28.128	2.5	28.890	3.82	0.26
522532														30.3	0.023	30.077	0.1	30.100	0.58	
522533														30.2	0.022	30.011	0.1	30.033	0.44	
522534														30.0	0.036	30.178	0.1	30.214	-0.60	
522535														30.2	0.041	29.802	0.1	29.843	1.27	
522536														30.1	0.042	29.580	0.1	29.622	1.44	
522537														30.1	0.024	29.694	0.1	29.719	1.35	
522538														30.1	0.034	29.930	0.1	29.964	0.58	
522539	60.36	0.098	3.96	0.06	< 0.01	< 0.01	0.06	0.493	0.02	8.36	0.145		91.69	30.2	0.185	29.629	0.6	29.814	1.12	0.03
522540	0.70	0.010	0.17	0.02	0.01	0.08	0.04	< 0.003	0.02	< 0.01	< 0.003	0.23	99.07	24.2	0.272	23.852	1.1	24.124	0.29	0.02
522541														30.2	0.069	29.619	0.2	29.688	1.85	
522542	48.12	0.107	12.02	0.07	< 0.01	< 0.01	0.09	0.453	0.07	6.72	0.151		88.67	30.2	0.219	28.483	0.7	28.702	4.86	< 0.01
522543														30.1	0.007	29.702	0.0	29.709	1.43	
522544	55.05	0.060	7.41	0.11	< 0.01	0.01	0.10	0.255	0.01	8.54	0.218	8.43	94.98	30.0	0.247	28.508	0.8	28.756	4.19	0.16
522545														30.0	0.080	29.211	0.3	29.290	2.48	
522546	65.19	0.219	8.77	0.15	< 0.01	< 0.01	0.10	0.293	0.06	10.4	0.175		89.60	30.2	0.127	29.955	0.4	30.082	0.51	
522547	55.18	0.299	15.10	0.23	< 0.01	0.01	0.12	0.234	0.03	6.42	0.142		89.40	30.1	0.250	29.827	0.8	30.077	0.14	0.04
522548	42.05	0.309	23.75	0.80	< 0.01	0.03	0.02	0.368	0.01	1.27	0.019	7.63	98.75	30.1	3.865	25.837	12.8	29.702	1.48	0.02
522549	48.38	0.248	20.48	0.84	< 0.01	0.04	0.02	0.347	0.01	1.52	0.024	7.00	98.32	30.2	3.037	26.715	10.0	29.752	1.64	0.02
522550	49.61	0.469	20.71	0.04	< 0.01	0.02	0.02	0.416	0.01	1.51	0.025	4.91	98.28	30.1	2.941	27.260	9.8	30.201	-0.42	0.03
522551	61.84	0.561	14.07	0.27	< 0.01	0.04	0.06	0.758	0.01	2.00	0.033	2.12	97.77	30.3	1.219	29.262	4.0	30.481	-0.60	0.03
522552	49.65	0.451	20.68	0.02	< 0.01	0.04	0.02	0.448	0.01	1.40	0.021	4.95	98.29	30.1	3.494	26.380	11.6	29.874	0.82	0.03
522553														30.2	0.031	30.157	0.1	30.188	-0.01	
522554														30.2	0.039	30.366	0.1	30.405	-0.67	
522555														30.0	0.028	30.205	0.1	30.232	-0.62	
522556	74.19	0.278	8.81	0.04	< 0.01	0.03	0.03	0.663	0.01	2.89	0.043	-0.04	97.42	30.1	1.396	28.834	4.6	30.230	-0.52	0.03
522557	58.88	0.242	16.60	0.12	< 0.01	0.06	0.03	0.737	0.01	2.01	0.027	3.46	97.58	30.1	2.278	27.778	7.6	30.056	0.30	0.06
522558	63.86	0.225	13.89	0.09	< 0.01	0.01	0.01	1.21	< 0.01	2.21	0.026	1.56	97.96	30.3	1.837	28.189	6.1	30.026	0.76	0.04
522559	61.75	0.175	15.65	0.06	< 0.01	0.04	0.02	1.15	< 0.01	1.98	0.027	2.78	97.77	30.3	2.144	27.747	7.1	29.891	1.26	0.04
522560.1	12.16	0.172	4.89	7.88	2.50	2.85	1.13	0.237	0.45	1.05	0.060	0.82	99.46							
522560.2	13.41	0.125	32.38	2.45	0.07	0.14	0.13	1.45	0.03	0.20	0.012	10.78	100.0							6.24
522560.3	49.25	0.227	20.01	0.22	< 0.01	0.02	0.05	2.01	0.01	1.52	0.024	3.99	98.67	30.1	2.349	28.083	7.8	30.433	-1.27	0.13
522561	62.31	0.207	14.56	0.10	< 0.01	0.02	0.03	2.05	0.01	2.46	0.041	0.59	97.42	30.0	1.393	28.466	4.6	29.858	0.57	0.04
522562	63.34	0.208	14.10	0.09	< 0.01	0.02	0.03	1.94	0.01	2.91	0.039	0.38	97.29	30.1	1.654	26.743	5.5	28.397	5.71	0.02
522563	58.81	0.199	16.43	0.19	< 0.01	0.02	0.03	1.57	< 0.01	2.75	0.036	1.64	97.35	30.0	1.424	27.908	4.7	29.332	2.30	0.06
522564	65.85	0.183	13.79	0.09	< 0.01	0.02	0.03	1.08	0.01	2.28	0.029	2.05	97.94	30.1	1.833	28.233	6.1	30.066	0.01	0.04
522565	58.10	0.176	17.72	0.17	< 0.01	0.02	0.03	0.967	0.01	1.75	0.023	2.51	97.62	30.0	1.743	27.948	5.8	29.691	1.12	0.06
522566	59.78	0.306	15.26	0.29	< 0.01	0.02	0.03	1.50	0.01	2.52	0.033	2.01	97.12	30.2	1.404	30.335	4.7	31.739	-5.19	0.06
522567	40.77	0.185	24.55	0.19	< 0.01	0.02	0.02	0.970	0.01	1.27	0.020	8.92	98.65	30.0	2.887	27.125	9.6	30.012	0.07	0.04
522568	55.41	0.314	17.60	0.26	< 0.01	0.02	0.03	1.76	0.01	3.04	0.035	1.91	97.37	30.0	1.492	28.279	5.0	29.771	0.86	0.06
522569	54.66	0.279	18.56	0.25	< 0.01	0.02	0.03	1.23	0.01	2.16	0.030	3.27	97.41	30.3	1.697	28.051	5.6	29.748	1.83	0.08
522570	59.55	0.225	16.74	0.14	< 0.01	0.02	0.02	1.11	0.01	1.57	0.023	2.96	97.64	30.1	2.360	27.924	7.8	30.284	-0.49	0.04

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	Ni	P2O5	Cr	V2O5	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.003	0.01	0.01	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
Date Analyzed	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Nov 11 2011 12:05PM
Upper Limit													101.0							
Method Name	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Davis Tube	Davis Tube	Davis Tube	Davis Tube	Davis Tube	Davis Tube	IR Spectroscopy
Package Code	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	4F-S
522571	54.47	0.288	18.33	0.21	< 0.01	0.02	0.03	1.47	0.01	2.41	0.029	3.33	97.03	30.1	1.718	28.461	5.7	30.179	-0.20	0.09
522572	58.01	0.251	16.92	0.22	< 0.01	0.02	0.03	1.29	< 0.01	2.34	0.033	2.46	97.22	30.1	1.528	28.386	5.1	29.915	0.51	0.11
522573	54.99	0.133	19.77	0.04	0.02	0.02	0.02	0.944	0.01	1.79	0.022	3.68	98.35	30.1	2.026	27.818	6.7	29.843	1.00	0.07
522574	63.68	0.174	14.50	0.05	< 0.01	0.01	0.02	1.37	< 0.01	2.76	0.032	1.53	97.06	30.1	1.415	28.953	4.7	30.368	-1.03	0.08
522575	64.05	0.178	14.58	0.04	< 0.01	0.01	0.02	1.43	0.01	2.53	0.030	1.45	97.21	30.2	1.422	28.643	4.7	30.065	0.37	0.09
522576	61.79	0.187	14.71	0.04	< 0.01	0.02	0.02	1.55	0.01	2.60	0.029	1.30	97.83	30.2	1.312	28.635	4.3	29.947	0.72	0.07
522577	66.29	0.217	13.52	0.05	< 0.01	0.02	0.02	0.663	0.01	1.70	0.021	1.74	97.53	30.0	1.824	28.289	6.1	30.114	-0.22	0.04
522578	77.67	0.410	7.24	0.12	< 0.01	0.02	0.05	0.390	< 0.01	3.28	0.048	-0.50	97.58	30.1	1.125	28.816	3.7	29.940	0.37	0.02
522579	58.29	0.219	17.57	0.05	< 0.01	0.02	0.02	0.563	0.01	1.68	0.025	3.53	97.86	30.2	2.395	27.729	7.9	30.123	0.12	0.04
522580	0.66	0.004	0.15	0.05	0.01	0.01	0.02	< 0.003	0.06	0.01	< 0.003	0.18	99.17	23.0	0.459	22.296	2.0	22.755	0.92	0.02
522581	66.88	0.330	12.21	0.91	< 0.01	0.01	0.02	0.632	0.01	2.10	0.029	1.99	97.66	30.1	1.888	27.635	6.3	29.523	1.79	0.05
522582	67.75	0.316	13.03	0.08	< 0.01	0.02	0.03	0.526	0.01	2.08	0.032	1.65	97.51	30.1	2.038	27.893	6.8	29.931	0.67	0.03
522583	61.74	0.383	14.66	1.02	0.01	0.03	0.03	0.499	0.01	1.66	0.022	3.56	97.63	30.1	2.613	28.280	8.7	30.893	-2.67	0.03
522584	52.53	0.416	17.83	1.83	< 0.01	0.04	0.03	0.516	0.01	1.57	0.027	5.76	97.72	30.1	2.620	27.340	8.7	29.960	0.40	0.05
522585	54.58	0.273	17.44	1.32	< 0.01	0.02	0.02	0.284	0.01	1.87	0.028	5.17	97.89	30.1	2.229	27.150	7.4	29.379	2.44	< 0.01
522586	54.19	0.191	17.42	0.29	< 0.01	0.02	0.03	0.297	< 0.01	1.65	0.027	6.64	98.17	30.2	2.521	27.647	8.3	30.169	0.12	0.01
522587	60.65	0.354	15.00	0.76	< 0.01	0.01	0.03	0.325	< 0.01	2.38	0.033	3.13	97.97	30.1	1.549	28.399	5.1	29.948	0.46	0.01
522588	63.34	0.523	12.82	0.98	< 0.01	0.02	0.05	0.356	< 0.01	2.28	0.037	2.05	98.07	30.1	1.637	28.225	5.4	29.862	0.65	0.05
522589														30.1	0.005	30.037	0.0	30.043	0.26	
522590	78.06	0.331	8.27	0.02	< 0.01	0.02	0.03	0.321	< 0.01	2.14	0.046	-0.04	97.66	30.1	2.039	27.799	6.8	29.837	0.89	0.07
522591	70.77	0.309	10.90	0.04	< 0.01	0.01	0.04	0.896	< 0.01	2.22	0.040	1.10	97.31	30.1	2.190	27.592	7.3	29.782	0.94	0.09
522592														30.3	0.007	30.073	0.0	30.080	0.78	
522593	62.16	0.417	13.87	0.04	< 0.01	0.02	0.03	2.01	0.01	2.27	0.035	1.71	97.51	30.1	2.166	27.907	7.2	30.073	0.10	0.09
522594	42.40	0.351	20.29	0.05	< 0.01	0.06	0.12	0.475	0.02	4.16	0.055	5.05	97.03	30.2	0.153	28.872	0.5	29.025	3.80	
522595	66.30	0.437	10.46	0.04	< 0.01	< 0.01	0.11	0.167	0.03	6.63	0.084		96.29	30.1	0.139	29.888	0.5	30.027	0.38	
522596	81.18	0.273	7.11	0.05	< 0.01	0.01	0.05	0.423	0.01	2.60	0.056	-1.00	97.63	30.1	1.447	29.151	4.8	30.599	-1.68	0.02
522597	55.14	0.295	17.07	0.04	< 0.01	0.02	0.03	2.00	0.01	2.46	0.037	2.43	97.66	30.0	2.233	27.663	7.4	29.896	0.45	0.08
522598	71.51	0.350	7.80	0.45	< 0.01	0.02	0.36	1.11	0.02	3.83	0.088	-0.47	96.30	30.1	0.859	28.883	2.8	29.742	1.33	0.01
523455	67.26	0.310	12.73	0.28	< 0.01	0.02	0.05	0.372	< 0.01	1.70	0.027	1.85	98.41	30.1	1.616	28.445	5.4	30.061	0.10	< 0.01
523456	68.03	0.375	12.50	0.43	< 0.01	0.06	0.04	0.358	0.01	1.95	0.029	1.80	97.81	30.0	1.713	28.084	5.7	29.797	0.74	< 0.01
523457	66.10	0.443	13.19	0.13	< 0.01	0.03	0.04	0.460	0.01	1.86	0.026	2.11	97.32	30.2	1.799	27.932	6.0	29.732	1.40	0.01
523458	69.62	0.401	10.22	0.22	< 0.01	0.01	0.03	0.426	0.01	2.02	0.029	1.47	97.52	27.7	1.426	25.767	5.1	27.192	1.80	0.01
523459	72.98	0.332	10.94	0.05	< 0.01	0.03	0.04	0.282	0.01	1.87	0.027	1.07	97.81	30.1	1.663	28.205	5.5	29.868	0.65	< 0.01
523460	0.68	0.010	0.17	0.06	0.01	0.08	0.04	< 0.003	0.02	0.01	< 0.003	0.23	99.55							
523461	74.91	0.375	9.52	0.08	< 0.01	0.03	0.05	0.434	0.01	1.99	0.027	0.45	97.89	30.2	2.478	27.570	8.2	30.048	0.64	< 0.01
523462	62.65	0.266	15.82	0.08	< 0.01	0.04	0.04	0.489	0.01	1.46	0.026	2.69	99.40	30.2	2.532	27.205	8.4	29.737	1.63	< 0.01
523463	66.96	0.293	13.37	0.15	< 0.01	0.03	0.04	1.13	< 0.01	1.65	0.029	1.66	98.20	30.1	1.888	27.900	6.3	29.788	1.02	< 0.01
523464	65.88	0.298	13.52	0.10	< 0.01	0.03	0.03	1.17	< 0.01	1.79	0.026	1.45	97.52	30.7	2.342	27.942	7.6	30.284	1.42	
523465	65.26	0.309	12.86	0.10	< 0.01	0.01	0.03	1.68	0.01	1.85	0.023	1.37	97.29	30.3	1.706	28.114	5.6	29.819	1.68	0.02
523466	57.29	0.247	18.00	0.08	< 0.01	0.02	0.03	1.38	0.01	1.35	0.019	3.29	97.90	30.0	2.319	27.712	7.7	30.031	-0.03	0.01
523467	60.52	0.195	13.84	0.02	< 0.01	0.01	0.03	0.904	0.01	1.46	0.018	1.91	97.93	28.3	2.032	27.310	7.2	29.342	-3.73	0.03
523468	65.54	0.263	13.62	0.06	< 0.01	0.01	0.03	1.54	0.01	1.58	0.017	1.60	97.61	29.6	2.244	25.903	7.6	28.147	4.83	0.02
523469	63.85	0.261	14.20	0.09	< 0.01	0.02	0.02	1.32	0.01	1.98	0.026	1.87	97.96	30.1	2.160	27.878	7.2	30.038	0.34	0.02

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	Ni	P2O5	Cr	V2O5	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.003	0.01	0.01	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
Date Analyzed	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Nov 11 2011 12:05PM
Upper Limit													101.0							
Method Name	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Davis Tube	Davis Tube	Davis Tube	Davis Tube	Davis Tube	Davis Tube	IR Spectroscopy
Package Code	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	4F-S
523470	57.62	0.328	16.24	0.14	< 0.01	0.02	0.03	2.25	0.01	2.95	0.030	1.78	96.48	30.2	1.597	28.508	5.3	30.105	0.42	0.02
523471	52.14	0.136	20.36	0.04	< 0.01	0.01	0.02	1.09	0.01	0.02	0.013	4.40	96.39	30.1	2.989	26.878	9.9	29.867	0.63	0.03
523472	58.67	0.181	17.77	0.05	< 0.01	< 0.01	0.02	2.26	0.01	2.03	0.022		95.87	30.0	1.801	28.201	6.0	30.003	0.12	
523473	71.58	0.226	11.39	0.07	< 0.01	0.01	0.02	1.52	0.01	1.73	0.025	0.83	97.82	30.1	2.092	27.782	7.0	29.875	0.72	0.03
523474	63.23	0.219	14.96	0.14	< 0.01	0.03	0.02	2.57	0.01	1.66	0.022	1.21	97.69	30.1	1.576	28.125	5.2	29.701	1.42	0.04
523475	55.84	0.205	18.62	0.16	< 0.01	< 0.01	0.03	2.10	0.02	1.46	0.020	2.83	98.33	30.1	1.745	28.140	5.8	29.885	0.67	0.03
523476	58.84	0.219	16.99	0.17	< 0.01	0.04	0.03	2.29	0.01	1.88	0.020	2.15	97.73	30.1	1.705	30.048	5.7	31.753	-5.50	0.04
523477	58.28	0.163	18.03	0.10	< 0.01	< 0.01	0.02	1.55	0.01	1.23	0.020		95.90	30.7	2.211	28.345	7.2	30.556	0.36	
523478	64.44	0.215	14.67	0.18	< 0.01	< 0.01	0.04	1.99	0.01	1.93	0.022		96.75	30.2	1.972	28.042	6.5	30.015	0.73	
523479	58.95	0.243	15.45	0.20	< 0.01	< 0.01	0.03	2.57	0.01	2.05	0.023	1.92	97.17	29.9	1.563	27.193	5.2	28.756	3.79	0.04
523480.1	12.23	0.172	4.93	7.85	2.40	2.77	1.10	0.237	0.43	1.06	0.065	0.77	99.17							
523480.2	13.26	0.127	32.49	2.45	0.07	0.14	0.13	1.45	0.03	0.20	0.012	10.81	99.83							6.54
523480.3	49.84	0.234	20.01	0.22	< 0.01	0.02	0.03	1.96	0.01	1.48	0.025	4.27	99.03	30.1	2.239	27.479	7.4	29.719	1.16	0.11
523481	54.74	0.234	19.38	0.23	< 0.01	0.05	0.03	1.90	< 0.01	1.95	0.021	2.98	98.38	30.1	1.988	27.984	6.6	29.973	0.30	0.04
523482	60.21	0.202	16.49	0.16	< 0.01	0.02	0.02	2.35	0.01	1.75	0.021	1.83	97.36	30.1	1.925	27.989	6.4	29.913	0.66	0.04
523483	63.36	0.197	14.84	0.12	< 0.01	0.01	0.02	2.17	0.01	1.66	0.021	1.68	97.34	30.5	1.806	28.397	5.9	30.204	1.01	0.05
523484	67.30	0.318	11.29	0.44	< 0.01	0.01	0.02	3.40	0.01	3.10	0.035	-0.60	96.54	30.1	1.114	29.111	3.7	30.225	-0.56	0.09
523485	52.30	0.246	19.48	0.10	< 0.01	0.02	0.09	1.23	0.01	2.95	0.025	3.07	96.95	30.2	3.153	26.733	10.5	29.886	0.94	0.02
523486	63.78	0.216	14.07	0.22	< 0.01	0.01	0.04	3.19	0.01	2.26	0.025	0.34	96.59	30.0	1.310	28.714	4.4	30.023	-0.05	0.06
523487	58.36	0.224	17.25	0.06	< 0.01	0.01	0.03	2.34	< 0.01	2.00	0.025	2.15	97.54	30.0	1.883	28.035	6.3	29.917	0.37	0.03
523488	69.46	0.216	11.56	0.05	< 0.01	0.01	0.08	1.88	0.01	2.11	0.031	0.85	97.18	30.0	2.013	27.806	6.7	29.819	0.64	0.08
523489	56.12	0.220	18.92	0.07	< 0.01	0.01	0.04	2.01	0.01	1.56	0.023	3.06	98.55	30.0	2.373	27.580	7.9	29.953	0.18	0.03
523490	68.40	0.289	11.81	0.17	< 0.01	0.02	0.05	3.00	0.01	2.89	0.034	-0.14	96.84	30.1	1.114	28.473	3.7	29.587	1.69	0.05
523491	47.13	0.114	23.17	0.07	< 0.01	0.03	0.04	1.75	0.01	1.40	0.020	5.38	98.87	30.1	2.798	27.003	9.3	29.801	0.87	0.06
523492	64.77	0.361	11.02	0.09	< 0.01	0.01	0.09	3.19	0.01	5.17	0.042	-0.62	95.16	30.0	1.323	28.610	4.4	29.933	0.32	0.03
523493	58.05	0.206	16.95	0.07	< 0.01	0.03	0.07	2.10	0.01	2.53	0.023	2.09	96.87	30.1	1.577	28.524	5.2	30.100	-0.07	0.09
523494	67.37	0.198	12.93	0.07	< 0.01	0.01	0.04	2.23	0.01	2.00	0.030	0.70	97.73	30.1	1.619	28.227	5.4	29.846	0.92	0.13
523495	68.40	0.184	12.86	0.07	< 0.01	0.01	0.03	2.13	< 0.01	1.78	0.030	0.98	97.42	30.0	1.715	28.139	5.7	29.854	0.62	0.12
523496	69.79	0.195	10.99	0.08	< 0.01	0.02	0.10	2.60	< 0.01	2.25	0.037	0.34	97.04	30.1	1.476	28.400	4.9	29.876	0.76	0.08
523497	62.52	0.236	14.54	0.05	0.01	0.08	0.04	3.17	0.01	3.35	0.019	0.16	96.36	30.1	1.363	28.428	4.5	29.791	1.16	0.08
523498	65.67	0.276	13.45	0.04	< 0.01	0.03	0.04	2.21	0.01	2.07	0.027	1.22	98.16	30.1	2.185	27.897	7.3	30.082	0.13	0.03
523499	66.86	0.301	12.73	0.03	< 0.01	0.02	0.04	2.40	0.01	1.79	0.027	1.14	97.92	30.0	1.799	28.170	6.0	29.969	0.18	0.07
523500	0.73	0.015	0.16	0.05	0.04	0.09	0.05	< 0.003	0.01	0.01	0.004	0.14	99.44	22.5	0.048	21.872	0.2	21.920	2.69	
523251	61.08	0.312	15.11	0.04	< 0.01	0.01	0.03	2.15	0.01	1.63	0.027	2.45	97.73	29.5	2.231	27.148	7.6	29.379	0.28	0.03
523252	57.30	0.260	17.25	0.05	< 0.01	0.02	0.02	2.35	0.01	1.74	0.028	2.70	98.23	30.2	2.222	27.799	7.4	30.020	0.60	0.03
523253	63.13	0.261	14.71	0.08	< 0.01	< 0.01	0.02	1.62	0.02	2.05	0.032	2.31	97.83	30.2	2.510	27.489	8.3	29.999	0.69	0.11
523254	53.88	0.094	19.44	0.05	< 0.01	0.01	0.02	1.72	0.01	1.34	0.018	4.14	98.69	30.0	2.631	26.355	8.8	28.985	3.45	0.16
523255	66.29	0.094	13.55	0.04	< 0.01	0.01	0.02	1.72	0.01	1.42	0.019	1.76	97.35	30.2	2.111	28.119	7.0	30.230	-0.26	0.14
523256	67.55	0.225	10.56	0.05	< 0.01	0.01	0.04	2.23	< 0.01	1.98	0.029	0.76	96.99	21.5	1.250	20.110	5.8	21.361	0.55	0.06
523257	62.30	0.209	14.23	0.04	< 0.01	0.01	0.02	2.27	0.01	1.41	0.024	1.92	97.27	23.1	1.355	21.347	5.9	22.702	1.84	0.05
523258	71.52	0.303	10.16	0.03	< 0.01	0.05	0.03	1.60	0.01	2.32	0.035	0.45	96.96	30.5	1.938	27.743	6.4	29.682	2.64	0.13
523259	70.16	0.282	11.34	0.03	< 0.01	0.02	0.02	2.66	0.01	1.89	0.032	-0.35	96.78	24.7	1.396	22.680	5.6	24.077	2.62	0.06
523260.1	12.06	0.170	4.97	7.88	2.43	2.81	1.12	0.240	0.45	1.06	0.064	0.85	98.97							

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	Ni	P2O5	Cr	V2O5	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.003	0.01	0.01	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
Date Analyzed	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Nov 21 2011 11:14AM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Dec 2 2011 8:17PM	Nov 11 2011 12:05PM
Upper Limit													101.0							
Method Name	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Davis Tube	Davis Tube	Davis Tube	Davis Tube	Davis Tube	Davis Tube	IR Spectroscopy
Package Code	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	8-Davis Tube Magnetic Sep	4F-S
523260.2	13.17	0.131	32.50	2.35	0.10	0.15	0.15	1.44	0.03	0.23	0.012	10.95	100.1							4.60
523260.3	50.49	0.233	19.30	0.20	< 0.01	0.06	0.04	2.02	0.01	1.48	0.023	4.01	98.04	30.5	2.223	28.062	7.3	30.284	0.87	0.11
523261	60.74	0.219	12.49	0.04	< 0.01	0.01	0.03	2.01	0.01	4.93	0.026	0.78	95.96	30.3	1.625	28.052	5.4	29.677	2.13	0.03
523262	69.35	0.239	10.99	0.08	< 0.01	0.01	0.03	2.72	0.01	2.19	0.027	-0.14	96.93	30.3	1.681	28.355	5.5	30.036	1.02	0.03
523263	65.93	0.243	11.24	0.17	< 0.01	0.01	0.02	4.29	0.01	2.26	0.029	-0.43	96.31	30.1	0.973	28.728	3.2	29.702	1.47	0.10
523264	59.61	0.275	14.17	0.46	< 0.01	0.01	0.02	3.05	0.01	2.26	0.033	0.97	96.81	31.0	1.453	29.222	4.7	30.675	0.94	0.03
523265	60.51	0.225	14.88	0.36	< 0.01	0.01	0.02	2.41	< 0.01	1.98	0.032	1.24	97.11	30.3	1.867	28.114	6.2	29.982	1.04	0.03
521328	58.66	0.302	16.14	0.08	< 0.01	0.01	0.04	0.533	0.01	1.53	0.026	3.49	97.63	30.7	2.394	27.490	7.8	29.883	2.69	0.06
521329	65.09	0.353	13.32	0.26	< 0.01	0.01	0.05	0.728	0.01	2.00	0.032	2.05	98.42	30.7	1.476	28.153	4.8	29.629	3.42	0.05
521330	0.69	0.012	0.01	0.03	< 0.01	0.09	0.05	< 0.003	0.01	< 0.01	< 0.003	0.00	98.61	26.2	0.071	25.554	0.3	25.625	2.30	
522275	69.08	0.384	11.70	0.03	< 0.01	0.01	0.03	1.42	< 0.01	1.98	0.033	0.61	96.92	29.3	2.052	26.865	7.0	28.917	1.34	0.04
522320	0.75	0.015	0.16	0.03	0.04	0.09	0.05	< 0.003	0.01	0.01	0.004	0.10	99.70	26.9	0.051	26.313	0.2	26.364	1.97	
521350.2	13.10	0.128	32.50	2.42	0.07	0.14	0.14	1.45	0.03	0.23	0.010	10.85	99.65							4.40
521350.3	49.28	0.230	19.94	0.20	< 0.01	< 0.01	0.03	1.96	0.01	1.50	0.024	3.96	98.22	30.6	2.195	27.292	7.2	29.487	3.72	0.11

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
Date Analyzed	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27
Upper Limit												101.0												
Method Name	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / XRF	Fusion / XRF	Fusion / XRF
Package Code	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4C (1-10)	4C (1-10)	4C (1-10)
NIST 694 Meas	11.52	1.92	0.74	0.013	0.36	43.39	0.88	0.55	0.120	30.23									1674					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
DNC-1 Meas	46.87	18.50	9.76	0.146	10.13	11.33	1.88	0.23	0.480	0.06			104	142	16	31	34		154	0.031	0.029			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148.0	0.025	0.027			
GBW 07113 Meas	72.21	12.82	3.22	0.145	0.14	0.58	2.46	5.39	0.282	0.04			496	40	45	5	392	4	6					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
MICA-FE Meas																						34.29	19.55	25.83
MICA-FE Cert																						34.4	19.5	25.6
CHR-BKG Meas																						15.08	12.94	13.89
CHR-BKG Cert																						15.27	12.91	13.87
CHR-BKG Meas																						15.22	12.95	13.82
CHR-BKG Cert																						15.27	12.91	13.87
IF-G Meas																						41.23	0.12	55.77
IF-G Cert																						41.2	0.150	55.8
LKSD-4 Meas																								
LKSD-4 Cert																								
BaSO4 Meas																								
BaSO4 Cert																								
W-2a Meas	52.39	15.32	10.40	0.163	6.28	10.84	2.20	0.62	1.069	0.13			171	194	19	35	84	< 1	272	< 0.010	< 0.010			
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262	0.00700	0.00920			
OREAS 13P Meas																				0.228				
OREAS 13P Cert																				0.226				
OREAS 13P Meas																								
OREAS 13P Cert																								
OREAS 14P Meas																								
OREAS 14P Cert																								
OREAS 14P Meas																								
OREAS 14P Cert																								
SY-4 Meas	49.97	20.69	6.26	0.107	0.52	8.00	6.99	1.69	0.293	0.12			348	1205	117	< 1	537	3	7	< 0.010	< 0.010			
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0	0.000	0.001			
Oreas 73a (Fusion) Meas																						36.25	2.22	
Oreas 73a (Fusion) Cert																						36.4	2.38	
Oreas 74a (Fusion) Meas																						32.39	2.25	
Oreas 74a (Fusion) Cert																						32.4	2.21	
BIR-1a Meas	47.97	15.67	11.20	0.171	9.75	13.48	1.81	0.02	0.973	0.02			8	108	15	44	17	< 1	337	0.023	0.039			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310	0	0			
SCH-1 Meas																						8.68	0.88	86.40
SCH-1 Cert																						8.09	0.962	86.84
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
522544 Orig	32.77	0.94	6.10	0.057	33.26	0.35	0.02	< 0.01	0.009	< 0.01	26.93	100.4	4	2	< 1	7	3	< 1	32	0.177	0.197			
522544 Dup	32.83	0.93	6.11	0.058	33.00	0.35	0.02	< 0.01	0.009	< 0.01	26.93	100.2	4	2	< 1	7	2	< 1	31	0.176	0.197			
522549 Orig																								
522549 Dup																								

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
Date Analyzed	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27
Upper Limit												101.0												
Method Name	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / XRF	Fusion / XRF	Fusion / XRF
Package Code	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4C (1-10)	4C (1-10)	4C (1-10)
522552 Orig	38.86	0.88	8.57	0.120	39.32	0.06	0.01	< 0.01	0.006	< 0.01	12.71	100.5	< 2	< 2	< 1	9	2	< 1	40	0.212	0.273			
522552 Split	38.21	0.86	8.46	0.118	38.77	0.06	< 0.01	< 0.01	0.006	< 0.01	12.65	99.12	< 2	< 2	< 1	9	3	< 1	39	0.209	0.269			
522559 Orig																								
522559 Dup																								
522560.1 Orig	48.64	16.08	11.72	0.162	4.84	7.60	2.30	2.80	1.174	0.45	0.97	96.73	709	540	21	25	107	2	330	0.232	1.023			
522560.1 Dup	49.49	16.25	11.96	0.165	4.88	7.74	2.30	2.82	1.195	0.43	0.97	98.20	718	549	21	26	101	2	334	0.231	1.040			
522561 Orig	39.80	0.62	7.49	0.107	41.53	0.20	< 0.01	< 0.01	0.003	< 0.01	10.94	100.7	< 2	< 2	< 1	8	< 2	< 1	33	0.250	0.253			
522561 Dup	39.47	0.61	7.41	0.106	41.20	0.20	< 0.01	< 0.01	0.004	< 0.01	10.94	99.93	< 2	< 2	< 1	9	2	< 1	32	0.225	0.249			
522567 Orig																								
522567 Dup																								
522570 Orig	38.31	0.69	8.38	0.104	40.01	0.54	0.02	< 0.01	0.005	< 0.01	11.42	99.46	< 2	< 2	< 1	8	2	< 1	35	0.203	0.232			
522570 Split	38.71	0.68	8.17	0.105	40.58	0.57	< 0.01	< 0.01	0.005	< 0.01	11.30	100.1	< 2	< 2	< 1	7	9	< 1	35	0.217	0.240			
522575 Orig	37.73	0.51	7.63	0.108	42.09	0.06	0.02	< 0.01	0.003	< 0.01	11.30	99.44	< 2	< 2	< 1	5	2	< 1	23	0.234	0.254			
522575 Dup	38.11	0.51	7.64	0.109	42.46	0.06	0.02	0.01	0.003	0.01	11.30	100.2	< 2	< 2	< 1	6	3	< 1	24	0.232	0.258			
522577 Orig																								
522577 Dup																								
522581 Orig	37.47	0.61	8.12	0.110	40.15	0.52	0.02	< 0.01	0.003	< 0.01	12.75	99.76	< 2	< 2	< 1	7	3	< 1	28	0.215	0.232			
522581 Split	37.68	0.63	8.06	0.111	40.09	0.53	0.02	< 0.01	0.003	< 0.01	12.76	99.87	< 2	< 2	< 1	7	3	< 1	27	0.213	0.251			
522587 Orig																								
522587 Dup																								
522590 Orig	38.45	1.01	8.10	0.097	39.46	0.05	0.02	< 0.01	0.008	< 0.01	12.80	99.98	3	< 2	< 1	8	4	< 1	42	0.204	0.239			
522590 Dup	38.23	1.00	8.09	0.097	38.71	0.05	0.02	< 0.01	0.008	< 0.01	12.80	98.99	2	< 2	< 1	8	3	< 1	43	0.205	0.242			
522597 Orig																								
522597 Dup																								
523466 Orig	38.19	0.93	7.46	0.104	38.29	0.41	0.01	< 0.01	0.011	< 0.01	12.60	98.01	4	< 2	1	7	3	< 1	32	0.193	0.230			
523466 Split	38.32	0.92	7.62	0.113	39.04	0.43	0.01	< 0.01	0.012	< 0.01	12.61	99.08	3	< 2	< 1	8	2	< 1	31	0.193	0.217			
523473 Orig																								
523473 Dup																								
523476 Orig	37.97	0.98	7.74	0.102	39.06	0.70	< 0.01	< 0.01	0.010	< 0.01	11.58	98.15	3	< 2	< 1	9	3	< 1	38	0.227	0.263			
523476 Split	38.38	1.09	7.74	0.101	39.05	0.62	0.04	0.02	0.010	0.01	11.92	98.97	3	< 2	< 1	8	5	< 1	37	0.223	0.252			
523477 Orig	38.16	1.13	7.12	0.074	38.37	0.38	0.01	< 0.01	0.009	< 0.01	12.62	97.87	< 2	< 2	1	8	4	< 1	37	0.198	0.229			
523477 Dup	37.88	1.13	7.22	0.074	38.49	0.38	< 0.01	< 0.01	0.009	< 0.01	12.62	97.83	2	< 2	< 1	8	4	< 1	38	0.209	0.230			
523480.1 Orig	49.16	15.83	11.79	0.163	4.88	7.76	2.26	2.80	1.171	0.44	0.82	97.06	710	537	21	26	105	2	337	0.223	1.023			
523480.1 Dup	49.69	16.39	11.91	0.164	4.89	7.72	2.31	2.84	1.197	0.45	0.82	98.38	722	547	21	26	102	2	335	0.226	1.021			
523481 Orig																								
523481 Dup																								
523491 Orig																								
523491 Dup																								
523492 Orig	38.50	0.60	7.71	0.111	41.68	0.08	0.02	< 0.01	0.014	< 0.01	10.95	99.65	3	< 2	< 1	7	3	< 1	26	0.209	0.351			
523492 Dup	38.66	0.61	7.65	0.110	41.14	0.08	0.02	0.01	0.014	< 0.01	10.95	99.23	3	< 2	< 1	7	3	< 1	26	0.220	0.349			
523494 Orig	37.24	0.78	8.60	0.123	40.85	0.10	0.01	< 0.01	0.008	< 0.01	11.72	99.40	< 2	< 2	< 1	10	3	< 1	32	0.198	0.232			
523494 Split	37.12	0.80	8.42	0.121	39.36	0.09	< 0.01	< 0.01	0.008	< 0.01	11.86	97.81	< 2	< 2	< 1	10	3	< 1	32	0.191	0.229			
523251 Orig																								
523251 Dup																								
523259 Orig	39.19	0.98	7.36	0.097	39.03	0.05	0.01	< 0.01	0.006	< 0.01	12.59	99.29	2	< 2	< 1	9	3	< 1	44	0.203	0.234			
523259 Dup	39.13	0.97	7.41	0.098	38.69	0.05	0.01	< 0.01	0.006	< 0.01	12.59	98.93	2	< 2	< 1	9	3	< 1	43	0.219	0.235			
523260.1 Orig	49.78	16.43	11.91	0.167	4.99	7.80	2.29	2.92	1.203	0.43	0.76	98.67	725	552	22	26	104	2	343	0.224	1.046			
523260.1 Dup	49.46	16.09	11.80	0.165	4.93	7.72	2.28	2.92	1.172	0.46	0.76	97.76	721	546	21	26	105	2	332	0.231	1.037			
521330 Orig																						97.43	0.32	0.68
521330 Dup																						97.34	0.36	0.69
522275 Orig																								

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
Date Analyzed	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-08 09:09:07	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27
Upper Limit												101.0												
Method Name	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / ICP-OES	Fusion / XRF	Fusion / XRF	Fusion / XRF
Package Code	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4B (11+)	4C (1-10)	4C (1-10)	4C (1-10)
522275 Dup																								
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank	0.02	< 0.01	0.01	0.002	< 0.01	0.01	< 0.01	< 0.01	< 0.001	< 0.01			3	< 2	< 1	< 1	3	< 1	6	< 0.01	< 0.01			
Method Blank																						< 0.01	< 0.01	< 0.01

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	Ni	P2O5	Cr	V2O5	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.003	0.01	0.01	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
Date Analyzed	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-11 12:05:47
Upper Limit												101.0	
Method Name	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	IR Spectroscopy
Package Code	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4F-S
NIST 694 Meas													
NIST 694 Cert													
DNC-1 Meas													
DNC-1 Cert													
GBW 07113 Meas													
GBW 07113 Cert													
MICA-FE Meas	0.352	4.59	0.44	0.27	8.80	2.49	0.003	0.41	0.01	0.022			
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.00350	0.450	0.00900	0.024			
CHR-BKG Meas	0.132	23.27	0.06			0.14	0.196		199000				
CHR-BKG Cert	0.14	23.47	0.07			0.14	0.201		20				
CHR-BKG Meas	0.138	23.22	0.06			0.13	0.196		19.9				
CHR-BKG Cert	0.14	23.47	0.07			0.14	0.201		20				
IF-G Meas	0.039	1.91	1.58	0.02	0.01	0.01	0.004	0.07	0.01				
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.00225	0.0630	0.000400				
LKSD-4 Meas													0.91
LKSD-4 Cert													0.990
BaSO4 Meas													13.3
BaSO4 Cert													14.0
W-2a Meas													
W-2a Cert													
OREAS 13P Meas							0.230						
OREAS 13P Cert							0.226						
OREAS 13P Meas							0.229						
OREAS 13P Cert							0.226						
OREAS 14P Meas							2.10						
OREAS 14P Cert							2.10						
OREAS 14P Meas							2.10						
OREAS 14P Cert							2.10						
SY-4 Meas													
SY-4 Cert													
Oreas 73a (Fusion) Meas		32.36					1.44		0.21				
Oreas 73a (Fusion) Cert		32.5					1.44		0.20				
Oreas 74a (Fusion) Meas		27.58					3.24		0.17				
Oreas 74a (Fusion) Cert		27.9					3.24		0.18				
BIR-1a Meas													
BIR-1a Cert													
SCH-1 Meas	0.997	0.07		0.15	0.04	0.08		0.14					
SCH-1 Cert	1.003	0.033		0.026	0.031	0.052		0.124					
OREAS 13b (4-Acid) Meas													1.10
OREAS 13b (4-Acid) Cert													1.20
OREAS 13b (4-Acid) Meas													1.03
OREAS 13b (4-Acid) Cert													1.20
522544 Orig													
522544 Dup													
522549 Orig													0.02
522549 Dup													0.02

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	Ni	P2O5	Cr	V2O5	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.003	0.01	0.01	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
Date Analyzed	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-11 12:05:47
Upper Limit												101.0	
Method Name	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	IR Spectroscopy
Package Code	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4F-S
522552 Orig													
522552 Split													
522559 Orig													0.04
522559 Dup													0.04
522560.1 Orig													
522560.1 Dup													
522561 Orig													
522561 Dup													
522567 Orig													0.04
522567 Dup													0.04
522570 Orig													
522570 Split													
522575 Orig													
522575 Dup													
522577 Orig													0.04
522577 Dup													0.04
522581 Orig													
522581 Split													
522587 Orig													0.01
522587 Dup													0.01
522590 Orig													
522590 Dup													
522597 Orig													0.07
522597 Dup													0.09
523466 Orig													
523466 Split													
523473 Orig													0.03
523473 Dup													0.03
523476 Orig													
523476 Split													
523477 Orig													
523477 Dup													
523480.1 Orig													
523480.1 Dup													
523481 Orig													0.04
523481 Dup													0.04
523491 Orig													0.06
523491 Dup													0.06
523492 Orig													
523492 Dup													
523494 Orig													
523494 Split													
523251 Orig													0.03
523251 Dup													0.03
523259 Orig													
523259 Dup													
523260.1 Orig													
523260.1 Dup													
521330 Orig	0.011	0.02	0.03	< 0.01	0.09	0.04	< 0.003	0.01	< 0.01	< 0.003	0.00	98.63	
521330 Dup	0.012	0.01	0.03	< 0.01	0.09	0.05	< 0.003	0.01	< 0.01	< 0.003	0.00	98.60	

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	Ni	P2O5	Cr	V2O5	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.003	0.01	0.01	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
Date Analyzed	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-21 11:14:27	2011-11-11 12:05:47
Upper Limit												101.0	
Method Name	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	Fusion / XRF	IR Spectroscopy
Package Code	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4C (1-10)	4F-S
522275 Orig													0.04
522275 Dup													0.04
Method Blank													< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.01	< 0.01	< 0.003	-0.01	< 0.01	
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.01	< 0.01	< 0.003	-0.01	< 0.01	
Method Blank													
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.01	< 0.01	< 0.003	-0.01	< 0.01	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 11-Oct-11
Invoice No.: A11-11988
Invoice Date: 04-Dec-11
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road
Suite 2
Sudbury Ontario P3C 4Y9
Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

27 Pulp samples and 333 Rock samples were submitted for analysis.

The following analytical packages were requested:

Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID

REPORT **A11-11988**

Notes:
Total includes all elements in % oxide to the left of total.

Samples with no data were insufficient for analysis

CERTIFIED BY :

Eric Hoffman Ph.D.
President/General Manager

SCC Accredited LAB 265
LAB 266 Accrédité CCN

ACTIVATION LABORATORIES LTD.

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
549251	38.28	0.85	7.63	0.139	39.90	0.13	< 0.01	< 0.01	0.012	< 0.01	12.82	99.79	4	< 2	< 1	9	2	< 1	30	0.229	0.288	549251	16.54	0.48
549252	39.46	1.16	7.98	0.137	39.43	0.90	< 0.01	< 0.01	0.011	< 0.01	11.39	100.5	< 2	< 2	< 1	10	< 2	< 1	45	0.187	0.278	549252	22.33	0.59
549253	39.29	1.69	7.04	0.107	38.02	0.23	0.01	0.01	0.014	< 0.01	11.95	98.37	3	2	< 1	11	4	< 1	48	0.153	0.278	549253	26.25	0.95
549254	39.39	1.31	7.57	0.132	38.37	0.67	< 0.01	< 0.01	0.011	< 0.01	11.88	99.34	< 2	< 2	< 1	11	2	< 1	49	0.194	0.258	549254	25.91	0.90
549255	39.78	1.36	7.70	0.137	38.80	0.68	< 0.01	< 0.01	0.012	< 0.01	11.90	100.4	< 2	< 2	< 1	11	< 2	< 1	51	0.186	0.270	549255	25.22	0.96
549256	38.53	1.25	8.30	0.115	38.76	0.37	< 0.01	< 0.01	0.009	< 0.01	12.78	100.1	2	< 2	< 1	11	< 2	< 1	47	0.218	0.267	549256	24.47	0.73
549257	38.07	1.15	7.94	0.127	38.00	0.89	< 0.01	< 0.01	0.009	< 0.01	12.08	98.28	2	< 2	< 1	9	< 2	< 1	45	0.182	0.322	549257	25.13	0.92
549258	37.88	1.45	8.09	0.091	37.36	0.89	< 0.01	< 0.01	0.011	< 0.01	12.60	98.37	< 2	< 2	< 1	11	< 2	< 1	54	0.142	0.296	549258	18.85	0.59
549259	38.25	1.26	7.71	0.116	38.07	0.60	< 0.01	< 0.01	0.010	< 0.01	12.72	98.76	2	< 2	< 1	10	< 2	< 1	47	0.173	0.257	549259	20.23	0.64
549260.1	49.99	16.05	12.12	0.165	4.83	7.80	2.26	2.83	1.188	0.40	0.82	98.45	716	521	20	25	107	2	338	0.223	1.025	549260	49.12	16.18
549260.2																						549260	36.33	2.45
549260.3																						549260	18.89	0.71
549261	38.82	1.13	7.41	0.127	38.45	0.81	< 0.01	< 0.01	0.010	< 0.01	12.66	99.44	< 2	< 2	< 1	9	2	< 1	41	0.197	0.237	549261	21.85	0.65
549262	38.33	1.19	7.33	0.109	38.89	0.06	< 0.01	< 0.01	0.012	< 0.01	13.18	99.11	< 2	< 2	< 1	7	3	< 1	37	0.184	0.290	549262	24.06	0.70
549263	38.68	1.18	7.76	0.129	38.11	0.87	< 0.01	< 0.01	0.010	< 0.01	12.22	98.98	< 2	< 2	< 1	11	< 2	< 1	44	0.185	0.287	549263	27.02	0.62
549264	39.12	1.25	8.03	0.131	38.29	1.07	< 0.01	< 0.01	0.011	< 0.01	11.37	99.29	< 2	< 2	< 1	12	< 2	< 1	49	0.158	0.291	549264	23.75	0.70
549265	39.49	1.55	7.25	0.087	38.93	0.59	< 0.01	< 0.01	0.011	< 0.01	12.43	100.3	< 2	< 2	< 1	11	< 2	< 1	51	0.193	0.283	549265	24.32	0.91
549266	38.03	1.41	7.87	0.112	37.49	0.76	< 0.01	< 0.01	0.010	< 0.01	11.92	97.62	2	< 2	< 1	11	< 2	< 1	48	0.204	0.286	549266	22.55	0.86
549267	39.65	1.45	8.28	0.147	38.39	0.96	< 0.01	< 0.01	0.012	< 0.01	11.30	100.2	< 2	< 2	< 1	10	< 2	< 1	43	0.196	0.265	549267	25.80	1.06
549268	38.28	1.27	8.45	0.120	38.19	1.40	< 0.01	< 0.01	0.013	< 0.01	12.14	99.84	3	< 2	< 1	12	5	< 1	46	0.177	0.254	549268	20.97	0.66
549269	39.47	1.44	7.03	0.101	38.70	0.44	< 0.01	< 0.01	0.011	< 0.01	12.67	99.89	6	< 2	< 1	11	< 2	< 1	47	0.195	0.290	549269	23.54	0.70
549270	37.95	1.39	8.05	0.107	37.88	0.12	< 0.01	< 0.01	0.012	< 0.01	12.69	98.21	< 2	< 2	< 1	10	< 2	< 1	49	0.193	0.313	549270	23.99	0.85
549271	38.31	1.20	8.37	0.112	38.23	0.69	< 0.01	< 0.01	0.009	< 0.01	12.07	99.01	< 2	< 2	< 1	12	< 2	< 1	45	0.200	0.285	549271	21.06	0.57
549272	38.04	1.29	8.06	0.116	38.10	0.90	< 0.01	< 0.01	0.012	< 0.01	11.95	98.45	< 2	< 2	< 1	11	3	< 1	47	0.169	0.242	549272	19.98	0.77
549273	38.75	1.27	7.47	0.114	37.96	0.92	< 0.01	< 0.01	0.010	< 0.01	12.06	98.57	2	< 2	< 1	11	< 2	< 1	46	0.166	0.272	549273	24.35	0.76
549274	37.93	1.49	7.62	0.101	37.97	0.48	< 0.01	< 0.01	0.010	< 0.01	12.70	98.31	2	< 2	< 1	10	< 2	< 1	48	0.183	0.292	549274	22.78	0.86
549275	38.50	1.48	7.67	0.102	38.42	0.51	< 0.01	< 0.01	0.010	< 0.01	12.72	99.42	5	< 2	< 1	10	3	< 1	49	0.194	0.293	549275	20.53	0.74
549276	38.04	1.22	8.22	0.109	38.56	0.56	< 0.01	< 0.01	0.012	< 0.01	12.61	99.32	2	< 2	< 1	11	3	< 1	46	0.201	0.239	549276	18.29	0.68
549277	38.02	1.24	7.59	0.112	37.45	0.83	< 0.01	< 0.01	0.010	< 0.01	12.41	97.68	< 2	< 2	< 1	10	< 2	< 1	47	0.199	0.298	549277	18.08	0.58
549278	38.03	1.31	7.35	0.106	37.76	1.25	< 0.01	< 0.01	0.010	< 0.01	12.17	98.01	< 2	< 2	< 1	10	7	< 1	47	0.158	0.289	549278	19.99	0.57
549279	38.48	1.38	7.86	0.095	37.97	0.73	< 0.01	< 0.01	0.009	< 0.01	12.36	98.90	< 2	< 2	< 1	11	< 2	< 1	48	0.180	0.297	549279	19.91	0.65
549280	96.59	0.31	0.76	0.004	0.64	0.18	0.02	0.05	0.030	< 0.01	0.60	99.19	26	5	2	< 1	49	< 1	7	< 0.010	< 0.010	549280	97.85	0.35
549281	38.55	1.23	8.20	0.131	38.61	1.23	< 0.01	< 0.01	0.009	< 0.01	11.94	99.90	< 2	< 2	< 1	10	< 2	< 1	49	0.167	0.294	549281	21.22	0.55
549282	37.57	1.11	8.25	0.119	38.80	0.82	< 0.01	< 0.01	0.008	< 0.01	12.59	99.27	< 2	< 2	< 1	10	< 2	< 1	45	0.184	0.287	549282	23.64	0.49
549283	38.63	1.07	8.24	0.129	39.61	0.47	< 0.01	< 0.01	0.010	0.01	12.51	100.7	< 2	< 2	< 1	11	3	< 1	42	0.193	0.242	549283	25.02	0.65
549284	37.96	1.07	8.17	0.109	39.71	0.19	< 0.01	< 0.01	0.005	< 0.01	11.60	98.82	< 2	< 2	< 1	8	6	< 1	32	0.196	0.251	549284	23.95	0.65
549285	38.66	1.29	7.54	0.100	39.30	0.61	< 0.01	< 0.01	0.007	< 0.01	11.37	98.90	< 2	< 2	< 1	9	< 2	< 1	45	0.177	0.291	549285	24.59	0.83
549286	37.86	1.03	8.29	0.109	38.96	0.41	< 0.01	< 0.01	0.006	< 0.01	11.55	98.22	2	< 2	< 1	9	< 2	< 1	41	0.186	0.325	549286	22.91	0.62
549287	37.47	0.94	7.74	0.111	38.77	0.99	< 0.01	< 0.01	0.007	< 0.01	12.11	98.15	3	< 2	< 1	9	< 2	< 1	40	0.177	0.306	549287	24.24	0.60
549288	37.85	1.05	7.28	0.100	38.68	1.01	< 0.01	< 0.01	0.008	< 0.01	12.73	98.71	4	< 2	< 1	8	< 2	< 1	42	0.186	0.296	549288	21.62	0.52
549289	38.56	1.16	7.93	0.120	37.85	0.09	< 0.01	< 0.01	0.010	< 0.01	12.21	97.92	4	< 2	< 1	9	2	< 1	38	0.209	0.241	549289	27.11	0.80
549290	40.60	1.48	7.36	0.099	38.00	0.10	< 0.01	< 0.01	0.016	< 0.01	11.93	99.59	5	< 2	< 1	8	2	< 1	38	0.187	0.277	549290	24.72	0.68
549291	40.05	1.23	7.76	0.117	38.27	0.07	< 0.01	< 0.01	0.009	< 0.01	11.77	99.28	4	< 2	< 1	10	< 2	< 1	45	0.193	0.297	549291	22.67	0.77
549292	38.32	0.98	7.94	0.099	38.52	0.11	< 0.01	< 0.01	0.006	< 0.01	12.82	98.80	3	< 2	< 1	10	< 2	< 1	42	0.198	0.313	549292	14.75	0.58
549293	37.18	0.90	7.73	0.128	38.53	1.10	< 0.01	< 0.01	0.006	< 0.01	13.63	99.21	3	5	< 1	9	< 2	< 1	38	0.181	0.266	549293	19.97	0.45
549294	37.24	1.12	7.74	0.105	37.67	1.32	< 0.01	< 0.01	0.007	< 0.01	13.20	98.40	4	< 2	< 1	10	< 2	< 1	44	0.164	0.281	549294	21.95	0.57
549295	37.53	1.12	7.73	0.106	37.53	1.23	< 0.01	< 0.01	0.006	< 0.01	13.20	98.45	3	< 2	< 1	10	< 2	< 1	45	0.176	0.276	549295	23.75	0.56
549296	37.58	1.12	7.91	0.100	38.22	0.73	< 0.01	< 0.01	0.006	< 0.01	13.10	98.78	< 2	< 2	< 1	10	< 2	< 1	42	0.184	0.280	549296	20.07	0.48
549297	37.22	1.02	8.36	0.116	37.11	1.56	< 0.01	< 0.01	0.009	< 0.01	12.87	98.25	3	3	< 1	10	4	< 1	43	0.182	0.234	549297	19.89	0.50
549298	38.64	1.06	8.24	0.129	38.30	1.18	< 0.01	< 0.01	0.009	0.03	12.17	99.77	3	< 2	< 1	11	4	< 1	47	0.184	0.229	549298	30.36	0.63
549299	37.70	0.99	8.01	0.130	37.76	1.64	< 0.01	< 0.01	0.009	< 0.01	13.48	99.71	3	< 2	< 1	10	3	< 1	44	0.197	0.243	549299	25.63	0.54

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
549300.1	49.71	15.94	12.09	0.165	4.86	7.74	2.30	2.85	1.166	0.41	0.89	98.13	718	517	21	25	106	2	335	0.217	1.020	549300	48.77	16.12
549300.2																						549300	36.20	2.45
549300.3																						549300	19.09	0.77
549301	37.69	1.17	7.84	0.089	36.76	1.41	< 0.01	< 0.01	0.008	< 0.01	13.71	98.66	4	< 2	< 1	10	2	< 1	44	0.199	0.238	549301	19.42	0.56
549302	37.50	1.19	8.13	0.103	37.89	0.51	< 0.01	< 0.01	0.007	< 0.01	13.00	98.34	2	< 2	< 1	11	< 2	< 1	46	0.167	0.238	549302	21.90	0.54
549303	37.33	1.04	8.12	0.122	37.83	0.38	0.01	< 0.01	0.008	< 0.01	12.83	97.69	< 2	< 2	< 1	11	3	< 1	47	0.232	0.255	549303	21.19	0.48
549304	37.18	1.07	7.98	0.102	37.80	0.23	< 0.01	< 0.01	0.008	< 0.01	13.04	97.39	3	< 2	< 1	8	14	< 1	37	0.202	0.250	549304	22.41	0.66
549305	38.02	1.17	8.03	0.098	37.56	0.49	< 0.01	< 0.01	0.009	< 0.01	12.85	98.25	< 2	< 2	< 1	11	2	< 1	46	0.211	0.251	549305	19.34	0.52
549306	38.85	1.17	7.78	0.121	38.62	0.56	< 0.01	< 0.01	0.009	< 0.01	12.94	100.1	2	< 2	< 1	10	5	< 1	44	0.179	0.241	549306	21.69	0.48
549307	37.96	0.94	7.13	0.128	38.70	0.54	< 0.01	< 0.01	0.009	< 0.01	13.18	98.58	< 2	< 2	< 1	10	3	< 1	42	0.194	0.254	549307	20.43	0.36
549308	38.02	1.22	7.75	0.074	37.42	1.01	< 0.01	< 0.01	0.008	< 0.01	13.44	98.93	3	< 2	< 1	9	2	< 1	43	0.192	0.247	549308	20.64	0.58
549309	37.60	0.97	7.88	0.100	37.66	0.07	< 0.01	< 0.01	0.009	< 0.01	13.10	97.39	2	< 2	< 1	9	2	< 1	38	0.200	0.244	549309	19.94	0.46
549310	38.83	0.90	7.52	0.113	37.81	0.09	< 0.01	< 0.01	0.008	< 0.01	12.54	97.79	2	< 2	< 1	8	3	< 1	35	0.192	0.269	549310	23.97	0.73
549311	37.83	0.92	7.55	0.110	38.13	0.38	< 0.01	< 0.01	0.006	< 0.01	12.42	97.36	3	8	< 1	9	< 2	< 1	44	0.232	0.246	549311	30.58	0.90
549312	38.89	0.88	7.92	0.120	39.04	0.93	< 0.01	< 0.01	0.006	0.02	11.96	99.77	11	23	2	10	4	< 1	42	0.172	0.244	549312	26.83	0.71
549313	38.48	1.34	7.67	0.123	36.86	1.92	0.01	0.02	0.026	0.01	11.51	97.96	6	6	1	9	14	< 1	55	0.192	0.256	549313	26.34	1.07
549314	37.70	0.86	7.97	0.107	38.03	0.53	< 0.01	< 0.01	0.005	< 0.01	12.53	97.73	4	2	< 1	8	< 2	< 1	38	0.191	0.238	549314	24.73	0.82
549315	38.23	0.89	8.12	0.109	38.25	0.54	< 0.01	< 0.01	0.005	< 0.01	12.61	98.76	8	5	< 1	8	2	< 1	40	0.195	0.245	549315	20.81	0.73
549316	40.02	1.03	7.44	0.110	39.62	0.13	< 0.01	< 0.01	0.006	< 0.01	12.06	100.4	5	3	1	10	4	< 1	47	0.181	0.272	549316	25.85	0.71
549317	39.75	0.98	8.37	0.114	38.35	0.19	< 0.01	< 0.01	0.006	< 0.01	11.99	99.77	14	8	< 1	11	< 2	< 1	46	0.192	0.253	549317	24.62	0.57
549318	39.71	3.33	8.97	0.092	31.03	4.20	0.02	< 0.01	0.335	0.03	10.05	97.76	8	7	7	12	21	< 1	99	0.172	0.193	549318	13.04	1.90
549319	39.72	0.94	7.50	0.115	38.35	0.11	< 0.01	< 0.01	0.006	< 0.01	12.31	99.05	6	5	< 1	9	< 2	< 1	41	0.225	0.252	549319	16.64	0.67
549320	99.08	0.29	0.32	0.004	0.05	0.03	< 0.01	0.04	0.034	< 0.01	0.13	99.99	23	4	2	< 1	42	< 1	7	< 0.010	< 0.010	549320	97.98	0.28
549321	39.85	1.11	8.34	0.156	37.61	0.16	< 0.01	< 0.01	0.008	< 0.01	11.41	98.64	7	9	< 1	10	3	< 1	41	0.196	0.242	549321	19.95	0.83
549322	38.02	1.17	8.26	0.133	36.38	1.11	< 0.01	< 0.01	0.014	0.02	13.63	98.76	6	8	< 1	11	3	< 1	46	0.186	0.237	549322	25.49	0.74
549323	38.30	1.24	7.97	0.110	36.54	1.32	< 0.01	< 0.01	0.012	< 0.01	13.51	98.99	6	5	< 1	11	< 2	< 1	48	0.175	0.236	549323	27.23	0.82
549324	37.84	1.30	7.66	0.116	36.31	1.55	< 0.01	< 0.01	0.014	< 0.01	13.66	98.46	5	9	< 1	11	< 2	< 1	47	0.187	0.225	549324	28.37	0.68
549325	38.55	1.47	7.72	0.082	36.97	1.09	< 0.01	< 0.01	0.014	< 0.01	13.49	99.39	3	6	< 1	10	< 2	< 1	50	0.173	0.227	549325	28.66	0.78
549326	38.03	1.10	8.50	0.143	35.85	0.95	< 0.01	< 0.01	0.013	< 0.01	13.29	97.86	3	3	< 1	12	2	< 1	45	0.197	0.238	549326	31.34	0.68
549327	37.72	1.40	7.03	0.085	37.11	1.76	< 0.01	< 0.01	0.014	< 0.01	13.94	99.06	2	5	< 1	10	< 2	< 1	54	0.217	0.252	549327	27.32	0.72
549328	38.18	1.47	7.48	0.084	36.99	1.03	< 0.01	< 0.01	0.014	< 0.01	13.32	98.57	3	5	< 1	11	< 2	< 1	50	0.213	0.222	549328	24.60	0.65
549329	37.72	1.25	7.94	0.123	36.44	1.73	< 0.01	< 0.01	0.014	< 0.01	13.80	99.03	3	6	< 1	10	3	< 1	49	0.185	0.226	549329	30.87	0.78
549330	37.94	1.29	7.91	0.125	36.53	1.82	< 0.01	< 0.01	0.014	< 0.01	13.85	99.48	13	11	< 1	10	3	< 1	47	0.205	0.218	549330	29.16	0.79
549331	37.67	1.26	7.32	0.117	36.73	1.36	< 0.01	< 0.01	0.014	< 0.01	13.82	98.29	5	6	< 1	9	< 2	< 1	44	0.182	0.240	549331	28.53	0.81
549332	38.16	1.18	7.82	0.109	37.68	1.02	< 0.01	< 0.01	0.013	< 0.01	13.98	99.96	4	10	< 1	8	< 2	< 1	41	0.208	0.244	549332	29.13	0.72
549333	37.38	1.30	7.45	0.112	37.24	1.01	< 0.01	< 0.01	0.013	< 0.01	13.63	98.15	3	7	1	10	2	< 1	53	0.176	0.234	549333	29.02	0.76
549334	37.63	1.32	7.41	0.093	35.99	1.35	< 0.01	< 0.01	0.013	< 0.01	14.38	98.19	5	6	< 1	10	2	< 1	49	0.202	0.225	549334	28.55	0.69
549335	37.36	1.32	7.40	0.095	35.47	1.36	< 0.01	< 0.01	0.013	< 0.01	14.41	97.44	5	10	< 1	10	3	< 1	47	0.208	0.231	549335	29.49	0.71
549336	36.23	1.08	7.44	0.114	35.81	1.66	< 0.01	< 0.01	0.012	< 0.01	16.95	99.31	3	7	< 1	10	< 2	< 1	48	0.176	0.233	549336	25.23	0.62
549337	35.13	1.06	6.52	0.102	33.95	0.86	0.02	< 0.01	0.011	< 0.01	19.84	97.50	4	13	< 1	9	< 2	< 1	41	0.187	0.227	549337	22.53	0.99
549338	39.06	0.98	8.30	0.117	38.10	0.12	< 0.01	< 0.01	0.018	< 0.01	12.14	98.84	4	4	< 1	11	4	< 1	45	0.163	0.259	549338	25.72	0.80
549339	37.53	1.16	7.56	0.112	36.08	1.69	< 0.01	< 0.01	0.010	< 0.01	13.33	97.47	4	7	< 1	10	3	< 1	44	0.194	0.239	549339	34.58	1.00
549340.1	50.45	15.92	12.06	0.166	4.93	7.78	2.35	2.86	1.186	0.42	0.85	98.98	729	521	21	26	110	2	342	0.226	1.015	549340	49.15	15.96
549340.2																						549340	36.85	2.26
549340.3																						549340	18.56	0.80
549341	36.78	0.95	8.50	0.126	36.95	1.20	< 0.01	< 0.01	0.010	0.01	12.89	97.43	6	8	2	10	2	< 1	46	0.208	0.260	549341	31.55	0.88
549342	37.04	1.03	7.94	0.110	36.52	1.66	< 0.01	< 0.01	0.009	< 0.01	13.85	98.16	5	5	< 1	10	< 2	< 1	45	0.183	0.247	549342	25.18	0.65
549343	37.00	0.99	7.91	0.122	37.46	1.59	< 0.01	< 0.01	0.009	0.04	14.06	99.17	10	8	< 1	9	3	< 1	41	0.174	0.226	549343	29.24	0.79
549344	36.97	0.87	8.09	0.112	38.68	0.39	< 0.01	< 0.01	0.008	0.03	13.57	98.72	7	4	< 1	8	< 2	< 1	28	0.201	0.226	549344	23.12	0.51
549345	36.34	0.91	7.97	0.125	38.47	0.92	< 0.01	< 0.01	0.008	0.03	14.11	98.88	11	8	< 1	8	2	< 1	31	0.211	0.252	549345	24.18	0.52
549346	37.73	0.81	8.01	0.132	38.48	0.56	< 0.01	< 0.01	0.008	0.01	13.82	99.56	4	5	< 1	8	< 2	< 1	29	0.217	0.226	549346	29.14	0.62

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
549347	38.69	1.06	8.06	0.110	38.35	0.73	< 0.01	< 0.01	0.010	0.02	13.27	100.3	10	10	< 1	10	3	< 1	39	0.192	0.270	549347	27.61	0.60
549348	37.50	0.91	7.67	0.119	37.39	1.45	< 0.01	< 0.01	0.009	< 0.01	13.38	98.44	3	3	< 1	9	< 2	< 1	35	0.191	0.229	549348	26.92	0.51
549349	38.17	0.92	7.75	0.126	37.57	1.43	< 0.01	< 0.01	0.011	< 0.01	13.65	99.63	4	3	< 1	9	< 2	< 1	34	0.193	0.237	549349	28.46	0.59
549350	37.55	0.79	8.36	0.140	37.56	1.31	< 0.01	< 0.01	0.010	< 0.01	13.71	99.45	7	6	< 1	9	6	< 1	35	0.195	0.241	549350	28.50	0.53
549351	37.59	0.88	7.72	0.117	37.68	1.19	< 0.01	< 0.01	0.010	0.03	13.97	99.18	6	3	< 1	9	< 2	< 1	35	0.221	0.246	549351	29.82	0.61
549352	37.45	0.91	7.75	0.105	37.48	0.90	< 0.01	< 0.01	0.008	< 0.01	14.05	98.63	5	4	< 1	8	< 2	< 1	33	0.208	0.225	549352	26.70	0.61
549353	36.42	0.83	7.83	0.122	36.70	1.09	< 0.01	< 0.01	0.009	0.02	16.50	99.54	4	9	< 1	9	< 2	< 1	34	0.192	0.231	549353	19.08	0.49
549354	37.89	0.74	8.27	0.121	37.63	1.05	< 0.01	< 0.01	0.006	0.01	13.44	99.17	4	4	< 1	10	< 2	< 1	35	0.194	0.249	549354	29.29	0.42
549355	38.07	0.75	8.17	0.120	37.90	0.99	< 0.01	< 0.01	0.006	< 0.01	13.37	99.38	4	3	< 1	10	< 2	< 1	33	0.208	0.250	549355	28.65	0.47
549356	37.14	0.68	8.49	0.121	37.74	0.84	< 0.01	< 0.01	0.007	0.02	13.90	98.94	6	6	< 1	9	3	< 1	35	0.201	0.261	549356	25.95	0.52
549357	33.72	0.70	6.76	0.101	35.61	1.13	0.03	< 0.01	0.005	0.03	21.40	99.50	2	4	< 1	8	2	< 1	31	0.187	0.217	549357	24.78	0.79
549358	36.18	1.05	7.01	0.081	37.83	0.22	< 0.01	< 0.01	0.024	0.03	15.82	98.26	5	4	< 1	8	4	< 1	40	0.214	0.255	549358	25.52	0.92
549359	37.66	0.90	7.43	0.107	38.02	0.99	< 0.01	< 0.01	0.006	0.02	13.31	98.46	3	4	< 1	10	2	< 1	38	0.207	0.260	549359	27.93	0.57
549360	99.76	0.31	0.46	0.004	0.08	0.03	0.02	0.05	0.029	0.04	0.15	100.9	26	6	2	< 1	62	< 1	< 5	< 0.010	< 0.010	549360	98.15	0.25
549361	37.63	0.74	8.25	0.110	39.40	0.66	0.01	0.01	0.010	0.02	12.21	99.06	7	4	< 1	9	3	< 1	32	0.205	0.250	549361	23.18	0.52
549362	38.33	0.92	8.11	0.115	39.11	0.71	0.01	< 0.01	0.006	0.02	12.26	99.60	4	2	< 1	9	2	< 1	38	0.230	0.251	549362	24.83	0.55
549363	37.61	1.02	7.20	0.081	39.54	0.28	< 0.01	< 0.01	0.007	0.04	13.08	98.86	3	2	< 1	7	2	< 1	34	0.221	0.244	549363	23.41	0.62
549364	38.13	1.20	7.77	0.082	39.21	0.28	< 0.01	< 0.01	0.016	0.03	12.90	99.62	< 2	< 2	< 1	10	3	< 1	38	0.208	0.234	549364	28.68	0.89
549365	36.66	0.95	8.07	0.107	36.44	1.63	0.02	< 0.01	0.009	0.03	13.81	97.73	2	< 2	< 1	10	2	< 1	38	0.200	0.287	549365	23.05	0.71
549366	38.25	0.85	7.75	0.122	37.61	1.27	0.02	0.02	0.012	0.03	13.09	99.02	27	2	< 1	9	4	< 1	35	0.207	0.258	549366	28.57	0.59
549367	37.57	0.88	7.84	0.099	38.16	0.40	< 0.01	< 0.01	0.006	0.02	12.70	97.67	< 2	< 2	< 1	8	3	< 1	33	0.202	0.242	549367	20.63	0.66
549368	38.13	0.97	7.31	0.108	37.57	0.71	0.02	< 0.01	0.007	0.03	13.21	98.07	2	7	< 1	8	3	< 1	34	0.191	0.219	549368	23.29	0.60
549369	37.43	0.99	7.92	0.110	37.31	0.67	< 0.01	< 0.01	0.007	0.03	13.36	97.85	< 2	< 2	< 1	9	3	< 1	36	0.190	0.239	549369	26.45	0.61
549370	38.38	1.05	7.96	0.140	36.80	1.30	0.01	< 0.01	0.007	0.04	13.25	98.94	2	3	< 1	9	< 2	< 1	34	0.216	0.247	549370	26.41	0.63
549371	37.17	0.83	8.02	0.110	37.28	0.69	< 0.01	< 0.01	0.005	0.02	13.83	97.96	< 2	2	< 1	10	3	< 1	34	0.197	0.258	549371	20.89	0.44
549372	38.64	1.01	7.89	0.095	37.34	0.33	0.03	0.01	0.007	0.02	13.54	98.92	< 2	< 2	< 1	9	2	< 1	37	0.206	0.246	549372	20.81	0.42
549373	37.89	0.82	7.13	0.100	38.64	0.67	< 0.01	< 0.01	0.006	0.03	12.92	98.22	< 2	< 2	< 1	8	3	< 1	34	0.215	0.205	549373	23.88	0.50
549374	38.83	1.10	7.52	0.123	38.25	0.96	< 0.01	< 0.01	0.014	0.02	12.62	99.45	< 2	< 2	< 1	9	3	< 1	37	0.203	0.225	549374	28.43	0.73
549375	38.61	1.09	7.49	0.125	38.90	0.92	< 0.01	< 0.01	0.013	0.04	12.62	99.82	< 2	< 2	< 1	9	3	< 1	35	0.203	0.214	549375	31.17	0.75
549376	37.60	1.01	7.58	0.081	38.64	0.29	< 0.01	< 0.01	0.007	0.03	13.54	98.79	2	< 2	< 1	9	2	< 1	38	0.184	0.237	549376	23.86	0.60
549377	38.03	0.90	7.86	0.133	38.98	0.08	< 0.01	< 0.01	0.006	0.03	14.20	100.2	< 2	< 2	< 1	8	2	< 1	34	0.179	0.244	549377	27.78	0.55
549378	38.65	0.90	8.14	0.113	37.97	0.18	< 0.01	0.01	0.007	< 0.01	13.47	99.46	8	< 2	1	11	3	< 1	40	0.210	0.264	549378	21.80	0.61
549379	38.55	0.83	7.86	0.107	38.82	0.45	< 0.01	< 0.01	0.005	0.02	13.05	99.69	< 2	< 2	< 1	9	2	< 1	40	0.186	0.242	549379	28.34	0.57
549380.1	50.37	16.28	12.01	0.165	4.93	7.67	2.37	2.89	1.202	0.42	0.80	99.11	733	530	22	26	100	2	338	0.214	1.008	549380	49.12	15.95
549380.2																						549380	36.13	2.43
549380.3																						549380	18.41	0.71
549381	36.51	1.02	9.23	0.096	37.46	1.01	< 0.01	< 0.01	0.006	0.02	13.06	98.42	< 2	< 2	< 1	10	2	< 1	49	0.205	0.282	549381	19.82	0.41
549382	38.12	0.97	7.72	0.108	37.37	1.16	0.01	< 0.01	0.005	0.02	13.32	98.80	5	< 2	< 1	10	3	< 1	46	0.197	0.250	549382	25.83	0.63
549383	38.16	0.88	8.14	0.104	38.37	0.99	< 0.01	< 0.01	0.006	0.03	13.36	100.0	< 2	< 2	< 1	10	2	< 1	42	0.184	0.251	549383	24.25	0.52
549384	36.86	0.84	7.80	0.113	38.19	0.95	0.03	< 0.01	0.006	0.03	14.10	98.92	< 2	< 2	< 1	9	3	< 1	40	0.201	0.264	549384	24.27	0.37
549385	38.65	1.37	8.22	0.146	35.69	3.46	0.03	< 0.01	0.020	0.03	12.06	99.67	12	18	< 1	14	3	< 1	64	0.198	0.266	549385	24.27	0.84
549386	37.55	1.31	7.98	0.128	36.07	2.24	0.02	< 0.01	0.017	0.02	12.59	97.93	2	2	< 1	11	3	< 1	50	0.188	0.246	549386	21.41	0.71
549387	37.72	1.65	7.96	0.097	37.59	1.58	0.02	< 0.01	0.019	0.03	12.16	98.81	< 2	< 2	1	13	11	< 1	63	0.173	0.338	549387	26.79	0.99
549388	37.40	0.78	8.58	0.157	39.73	0.42	0.01	< 0.01	0.008	0.05	12.48	99.63	< 2	< 2	< 1	9	3	< 1	31	0.203	0.244	549388	20.90	0.73
549389	36.91	1.14	7.65	0.097	38.56	0.59	0.01	< 0.01	0.013	0.01	12.83	97.83	3	< 2	< 1	9	2	< 1	37	0.217	0.214	549389	28.87	0.78
549390	37.70	1.37	7.77	0.113	37.76	1.31	0.02	< 0.01	0.018	< 0.01	13.00	99.06	2	< 2	< 1	10	< 2	< 1	47	0.189	0.227	549390	24.18	0.66
549391	37.99	1.46	8.06	0.118	37.93	1.20	0.01	< 0.01	0.016	< 0.01	12.63	99.41	< 2	< 2	< 1	9	< 2	< 1	46	0.196	0.223	549391	28.95	0.89
549392	38.28	1.53	8.25	0.121	37.10	1.81	0.01	< 0.01	0.020	< 0.01	12.45	99.58	2	< 2	1	12	2	< 1	59	0.174	0.231	549392	23.55	0.85
549393	37.77	0.77	8.60	0.152	40.30	1.02	0.04	0.01	0.012	0.03	12.06	100.8	14	24	4	9	5	< 1	36	0.214	0.230	549393	23.31	0.64
549394	38.18	1.33	8.48	0.151	36.79	2.07	0.02	< 0.01	0.019	< 0.01	12.52	99.55	< 2	< 2	1	12	2	< 1	51	0.182	0.229	549394	22.25	1.03
549395	38.33	1.30	8.59	0.155	37.02	2.08	0.02	< 0.01	0.019	< 0.01	12.33	99.83	< 2	< 2	< 1	12	3	< 1	52	0.185	0.233	549395	24.69	1.01

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
549396	38.25	1.70	8.28	0.109	37.92	1.46	0.02	< 0.01	0.020	0.01	12.30	100.1	< 2	< 2	< 1	11	2	< 1	55	0.199	0.228	549396	27.69	1.19
549397	37.97	1.41	8.03	0.118	37.00	1.46	0.01	< 0.01	0.020	< 0.01	12.23	98.26	< 2	< 2	1	12	< 2	< 1	47	0.191	0.214	549397	22.42	0.87
549398	38.67	1.28	7.80	0.126	38.18	1.12	0.01	< 0.01	0.015	< 0.01	11.63	98.83	< 2	< 2	< 1	11	< 2	< 1	44	0.199	0.236	549398	27.29	0.93
549399	38.60	1.62	8.62	0.106	38.60	1.04	0.02	< 0.01	0.021	< 0.01	12.12	100.7	< 2	< 2	< 1	12	3	< 1	52	0.185	0.229	549399	29.13	1.07
549400	96.58	0.36	1.21	0.012	1.61	0.18	0.03	0.04	0.030	0.01	0.81	100.9	32	21	1	< 1	52	< 1	8	0.016	0.011	549400	97.89	0.21
549401	39.96	1.68	8.57	0.127	37.82	1.74	0.03	< 0.01	0.023	0.01	10.31	100.3	18	< 2	< 1	13	< 2	< 1	58	0.195	0.235	549401	30.37	1.36
549402	40.91	1.58	7.74	0.105	38.54	0.11	< 0.01	< 0.01	0.020	< 0.01	11.78	100.8	26	< 2	< 1	9	3	< 1	41	0.206	0.218	549402	18.47	0.95
549403	39.82	1.68	8.03	0.143	37.84	1.44	0.02	< 0.01	0.018	< 0.01	10.68	99.68	9	< 2	< 1	11	< 2	< 1	53	0.180	0.226	549403	33.21	1.61
549404	38.55	1.84	7.67	0.096	37.08	1.07	0.02	< 0.01	0.018	0.01	11.84	98.20	6	< 2	< 1	11	< 2	< 1	51	0.179	0.212	549404	27.48	1.45
549405	38.87	1.65	7.86	0.107	36.58	2.03	0.02	< 0.01	0.021	< 0.01	11.69	98.83	7	< 2	1	13	16	< 1	60	0.176	0.234	549405	26.30	1.21
549406	38.64	1.50	8.07	0.133	36.83	1.79	0.02	< 0.01	0.020	< 0.01	11.12	98.13	6	< 2	1	12	2	< 1	55	0.164	0.232	549406	30.76	1.37
549407	38.39	1.57	8.08	0.119	36.36	1.50	0.01	< 0.01	0.021	< 0.01	11.70	97.76	7	< 2	< 1	12	< 2	< 1	56	0.172	0.228	549407	25.95	1.14
549408	37.96	1.83	7.52	0.073	37.80	0.17	< 0.01	< 0.01	0.019	0.01	12.66	98.05	20	< 2	1	11	< 2	< 1	52	0.184	0.222	549408	24.00	1.02
549409	37.95	1.60	7.77	0.110	37.49	0.50	< 0.01	< 0.01	0.019	< 0.01	12.61	98.05	12	< 2	< 1	12	< 2	< 1	54	0.176	0.232	549409	21.63	0.72
549410	37.90	1.65	7.96	0.105	37.06	0.99	0.01	< 0.01	0.020	< 0.01	12.58	98.27	4	< 2	< 1	12	< 2	< 1	56	0.206	0.236	549410	28.63	0.94
549411	37.49	1.82	7.82	0.082	37.44	0.10	< 0.01	< 0.01	0.019	0.02	12.92	97.71	7	< 2	< 1	10	< 2	< 1	55	0.195	0.220	549411	18.96	0.76
549412	38.18	1.29	8.74	0.148	37.55	0.83	< 0.01	< 0.01	0.017	< 0.01	12.48	99.25	6	< 2	< 1	11	< 2	< 1	52	0.197	0.234	549412	23.27	0.68
549413	37.77	1.29	7.22	0.085	38.79	0.08	0.01	< 0.01	0.014	< 0.01	13.40	98.65	4	< 2	< 1	9	< 2	< 1	37	0.187	0.226	549413	28.34	0.98
549414	38.49	1.30	8.64	0.138	36.68	1.68	0.04	0.02	0.018	< 0.01	11.82	98.82	4	< 2	1	13	< 2	< 1	55	0.173	0.242	549414	18.94	0.52
549415	38.99	1.39	8.10	0.132	36.65	1.54	0.05	0.02	0.018	0.01	11.83	98.73	4	< 2	< 1	12	3	< 1	53	0.184	0.221	549415	18.22	0.53
549416	37.55	1.10	8.61	0.148	38.70	0.64	0.04	0.02	0.013	0.01	12.59	99.43	6	< 2	< 1	10	2	< 1	41	0.187	0.221	549416	24.65	0.51
549417	37.65	1.09	8.84	0.090	38.15	0.17	0.02	0.04	0.033	0.02	13.26	99.36	9	3	< 1	10	6	< 1	40	0.220	0.250	549417	10.47	0.38
549418	37.00	0.91	9.70	0.085	38.43	0.26	0.02	< 0.01	0.024	< 0.01	13.02	99.54	8	< 2	< 1	10	4	< 1	43	0.185	0.240	549418	9.19	0.30
549419	37.97	0.71	8.18	0.141	39.82	0.74	< 0.01	< 0.01	0.022	< 0.01	11.96	99.55	4	< 2	< 1	9	3	< 1	32	0.198	0.215	549419	11.61	0.40
549420.1	50.24	16.11	12.24	0.165	4.91	7.74	2.33	2.92	1.188	0.43	0.79	99.07	732	526	20	26	113	2	340	0.224	1.013	549420	49.02	16.17
549420.2																						549420	36.31	2.39
549420.3																						549420	19.33	0.63
549421	39.94	1.13	7.05	0.073	38.52	0.08	0.02	< 0.01	0.014	< 0.01	12.10	98.93	16	< 2	< 1	9	3	< 1	38	0.182	0.230	549421	9.74	0.97
549422	38.74	0.86	7.76	0.138	39.93	0.11	0.04	0.02	0.011	0.01	12.03	99.65	5	< 2	< 1	8	2	< 1	31	0.195	0.225	549422	11.77	0.49
549423	37.29	0.88	7.64	0.107	39.10	0.36	0.02	< 0.01	0.012	0.02	12.89	98.32	22	< 2	< 1	8	3	< 1	35	0.192	0.219	549423	18.44	0.40
549424	38.06	1.24	8.07	0.084	39.70	0.46	0.04	0.02	0.024	0.01	13.07	100.8	4	< 2	< 1	9	3	< 1	42	0.196	0.239	549424	13.57	0.41
549425	37.73	1.11	8.04	0.100	39.00	0.64	< 0.01	< 0.01	0.014	< 0.01	12.63	99.28	3	< 2	< 1	9	3	< 1	40	0.177	0.221	549425	20.80	0.50
549426	38.44	1.23	8.34	0.147	38.38	1.63	0.03	< 0.01	0.015	0.01	10.60	98.83	4	< 2	< 1	11	2	< 1	50	0.186	0.224	549426	21.23	0.51
549427	38.42	1.24	7.93	0.147	37.99	1.66	0.04	0.01	0.014	< 0.01	11.42	98.88	5	< 2	< 1	10	2	< 1	48	0.199	0.229	549427	17.37	0.59
549428	38.24	1.31	8.30	0.143	37.07	1.15	0.01	< 0.01	0.016	< 0.01	12.04	98.30	3	< 2	< 1	11	2	< 1	48	0.187	0.227	549428	14.89	0.64
549429	37.97	1.18	7.73	0.124	37.48	1.31	0.02	< 0.01	0.014	0.01	11.97	97.82	3	< 2	< 1	10	3	< 1	44	0.176	0.221	549429	11.20	0.47
549430	37.59	1.17	8.08	0.106	38.39	0.73	0.03	0.01	0.013	0.01	12.42	98.55	3	< 2	< 1	10	2	< 1	42	0.187	0.230	549430	14.27	0.56
549431	38.42	0.99	8.32	0.151	39.29	1.20	0.01	< 0.01	0.012	< 0.01	11.56	99.96	4	< 2	< 1	10	< 2	< 1	42	0.198	0.226	549431	16.52	0.55
549432	37.56	1.37	7.96	0.108	38.03	0.74	0.03	0.01	0.016	0.02	12.52	98.37	11	< 2	< 1	11	< 2	< 1	46	0.182	0.201	549432	20.53	0.60
549433	38.48	1.30	8.31	0.150	37.06	1.79	0.02	< 0.01	0.018	< 0.01	11.76	98.90	8	< 2	< 1	11	4	< 1	47	0.162	0.214	549433	21.80	0.65
549434	39.09	1.56	7.99	0.100	36.73	1.47	< 0.01	< 0.01	0.019	< 0.01	12.21	99.18	7	< 2	< 1	12	3	< 1	57	0.191	0.247	549434	18.59	0.65
549435	39.94	1.61	7.93	0.103	36.19	1.62	0.03	< 0.01	0.023	0.01	12.21	99.67	7	< 2	3	12	4	< 1	57	0.190	0.243	549435	17.04	0.64
549436	38.94	1.07	8.11	0.164	36.31	2.06	0.01	< 0.01	0.017	< 0.01	11.85	98.55	10	< 2	< 1	11	3	< 1	43	0.167	0.234	549436	20.42	0.60
549437	38.60	0.69	7.06	0.120	40.85	0.12	0.01	< 0.01	0.009	< 0.01	12.28	99.76	46	< 2	< 1	3	3	< 1	13	0.212	0.206	549437	16.57	0.93
549438	39.81	1.51	7.22	0.093	36.78	0.93	0.02	0.01	0.019	< 0.01	12.47	98.87	10	< 2	< 1	9	3	< 1	49	0.200	0.236	549438	22.01	0.85
549439	39.40	1.46	7.82	0.113	35.89	1.19	0.01	< 0.01	0.020	< 0.01	11.95	97.86	58	2	< 1	12	3	< 1	51	0.201	0.241	549439	14.63	0.65
549440	97.38	0.34	0.99	0.010	0.13	0.04	0.04	0.05	0.031	< 0.01	0.09	99.10	24	5	1	< 1	50	< 1	6	< 0.010	< 0.010	549440	98.23	0.19
549441	39.51	1.60	7.69	0.109	36.58	1.01	0.02	< 0.01	0.019	< 0.01	12.07	98.61	9	< 2	< 1	10	3	< 1	49	0.163	0.231	549441	24.75	0.99
549442	38.67	1.54	7.35	0.108	36.83	0.78	< 0.01	< 0.01	0.016	< 0.01	12.62	97.92	43	< 2	< 1	11	2	< 1	45	0.192	0.238	549442	14.39	0.64
549443	38.58	1.06	7.72	0.102	37.32	0.24	< 0.01	< 0.01	0.012	< 0.01	12.77	97.82	4	< 2	< 1	7	2	< 1	32	0.178	0.263	549443	19.35	0.55
549444	39.76	1.23	7.93	0.147	36.30	1.93	0.03	< 0.01	0.018	0.01	12.34	99.71	90	5	< 1	10	3	< 1	47	0.180	0.231	549444	17.87	0.46

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
549445	39.41	1.40	7.70	0.086	35.82	0.81	0.01	< 0.01	0.009	0.01	12.41	97.67	7	6	< 1	11	3	< 1	50	0.207	0.236	549445	19.25	0.91
549446	38.74	0.99	8.71	0.142	38.67	0.45	< 0.01	< 0.01	0.008	< 0.01	12.76	100.5	24	< 2	< 1	9	15	< 1	46	0.253	0.250	549446	22.52	0.62
549447	39.89	1.48	7.68	0.080	37.08	0.53	0.02	< 0.01	0.016	0.01	12.37	99.18	9	< 2	< 1	10	2	< 1	50	0.212	0.238	549447	20.17	0.90
549448	39.04	1.44	7.58	0.096	36.94	0.54	0.01	< 0.01	0.017	0.01	12.11	97.79	30	< 2	< 1	8	3	< 1	46	0.183	0.230	549448	22.31	1.04
549449	40.90	1.81	7.18	0.117	35.95	2.86	0.03	< 0.01	0.025	0.02	9.81	98.71	19	< 2	< 1	12	4	< 1	60	0.169	0.230	549449	22.42	1.69
549450	38.00	1.92	8.06	0.098	36.32	0.92	0.03	< 0.01	0.019	0.01	12.10	97.49	59	< 2	< 1	12	3	< 1	59	0.209	0.228	549450	18.01	1.08
549451	38.98	0.89	9.09	0.206	37.85	1.14	0.02	< 0.01	0.013	0.02	10.83	99.05	7	< 2	< 1	10	4	< 1	38	0.188	0.225	549451	21.46	0.65
549452	41.20	1.46	7.86	0.148	36.39	3.60	0.04	< 0.01	0.019	0.01	8.02	98.76	47	< 2	< 1	11	3	< 1	54	0.177	0.227	549452	22.70	1.59
549453	38.40	1.54	7.45	0.104	37.49	0.72	0.01	< 0.01	0.025	< 0.01	12.71	98.46	8	< 2	< 1	9	3	< 1	46	0.166	0.230	549453	19.18	0.88
549454	38.33	1.70	7.31	0.101	37.05	0.98	0.02	< 0.01	0.020	< 0.01	12.71	98.24	25	< 2	< 1	10	3	< 1	46	0.189	0.229	549454	18.94	1.04
549455	38.83	1.68	7.34	0.102	37.25	1.00	0.01	< 0.01	0.020	< 0.01	12.61	98.83	25	< 2	< 1	10	2	< 1	45	0.181	0.229	549455	21.28	1.08
549456	38.20	1.26	7.99	0.139	36.95	1.32	0.02	< 0.01	0.018	0.01	12.77	98.67	4	< 2	< 1	10	2	< 1	41	0.191	0.222	549456	18.00	0.75
549457	37.78	0.70	8.52	0.148	39.36	0.77	0.03	0.02	0.006	< 0.01	12.55	99.89	85	5	< 1	9	4	< 1	33	0.195	0.250	549457	13.02	0.45
549458	38.58	0.65	8.55	0.120	40.62	0.29	0.01	< 0.01	0.003	< 0.01	11.51	100.3	3	< 2	< 1	10	3	< 1	35	0.202	0.251	549458	14.27	0.68
549459	37.50	0.65	8.11	0.102	39.86	0.92	0.02	0.01	0.003	< 0.01	13.58	100.8	39	< 2	< 1	9	3	< 1	36	0.219	0.248	549459	13.96	0.50
549460.1	49.04	15.74	11.82	0.163	4.85	7.67	2.22	2.79	1.198	0.41	0.81	96.72	711	519	21	25	101	2	334	0.207	0.996	549460	48.91	16.05
549460.2																						549460	36.18	2.44
549460.3																						549460	18.55	0.46
549461	38.72	0.64	8.19	0.127	40.92	0.33	< 0.01	< 0.01	0.005	< 0.01	11.90	100.8	4	< 2	< 1	9	9	< 1	47	0.218	0.263	549461	16.75	0.49
549462	38.89	0.65	7.14	0.089	38.96	0.74	0.01	< 0.01	0.004	< 0.01	13.48	99.97	20	< 2	< 1	8	7	< 1	45	0.223	0.188	549462	16.81	0.25
549463	37.70	0.66	7.96	0.110	38.47	0.49	0.01	< 0.01	0.004	0.01	13.10	98.53	7	< 2	< 1	9	< 2	< 1	35	0.175	0.260	549463	16.21	0.63
549464	38.69	1.02	8.33	0.097	37.28	1.96	< 0.01	< 0.01	0.006	< 0.01	13.26	100.6	33	< 2	< 1	12	7	< 1	63	0.167	0.291	549464	11.19	0.41
549465	39.01	0.81	7.97	0.135	37.73	0.90	< 0.01	< 0.01	0.005	< 0.01	13.38	99.93	7	< 2	1	9	7	< 1	49	0.227	0.277	549465	18.67	0.59
549466	38.47	0.55	7.92	0.157	39.36	1.07	< 0.01	< 0.01	0.003	< 0.01	12.37	99.91	22	3	< 1	9	3	< 1	35	0.172	0.233	549466	23.38	0.59
549467	38.11	0.64	7.37	0.095	38.75	0.36	< 0.01	< 0.01	0.005	0.01	13.14	98.50	8	5	< 1	7	2	< 1	32	0.214	0.230	549467	24.21	0.53
549468	37.86	0.58	7.41	0.123	37.93	0.87	< 0.01	< 0.01	0.004	0.03	13.21	98.03	37	3	< 1	8	3	< 1	34	0.166	0.237	549468	23.62	0.51
549469	37.58	0.58	7.73	0.125	38.27	0.56	< 0.01	< 0.01	0.004	< 0.01	13.52	98.37	4	3	< 1	8	2	< 1	32	0.180	0.218	549469	26.86	0.34
549470	37.92	0.72	7.10	0.089	38.74	0.47	< 0.01	< 0.01	0.006	< 0.01	12.79	97.85	24	2	< 1	8	3	< 1	31	0.187	0.253	549470	21.76	0.61
549471	38.41	0.75	7.34	0.083	38.29	0.96	< 0.01	< 0.01	0.004	< 0.01	12.29	98.12	4	2	< 1	9	3	< 1	36	0.198	0.214	549471	25.59	0.56
549472	38.03	0.70	7.45	0.085	38.06	1.03	< 0.01	< 0.01	0.005	< 0.01	13.23	98.60	43	3	< 1	7	9	< 1	33	0.175	0.221	549472	25.16	0.54
549473	37.46	0.34	7.44	0.109	38.85	0.82	< 0.01	< 0.01	0.003	0.01	13.66	98.68	4	< 2	< 1	8	3	< 1	33	0.189	0.240	549473	26.55	0.86
549474	38.11	0.57	7.41	0.119	38.87	0.49	< 0.01	< 0.01	0.004	< 0.01	12.15	97.72	7	< 2	< 1	9	3	< 1	34	0.175	0.227	549474	17.43	0.70
549475	38.36	0.57	7.55	0.123	39.31	0.52	< 0.01	< 0.01	0.004	< 0.01	12.03	98.48	6	2	< 1	9	8	< 1	32	0.177	0.236	549475	22.01	0.68
549476	38.29	0.57	7.13	0.090	39.03	0.54	< 0.01	< 0.01	0.007	0.01	12.31	98.00	6	2	< 1	6	5	< 1	27	0.188	0.195	549476	25.49	0.61
549477	38.38	0.68	7.14	0.088	38.13	0.89	< 0.01	< 0.01	0.004	0.03	12.64	97.98	3	< 2	< 1	6	3	< 1	35	0.201	0.288	549477	19.56	1.26
549478	39.11	0.75	7.63	0.114	38.30	1.37	< 0.01	< 0.01	0.007	< 0.01	11.56	98.86	5	< 2	< 1	10	3	< 1	42	0.195	0.268	549478	27.19	0.61
549479	37.85	0.73	7.76	0.103	37.98	0.54	< 0.01	< 0.01	0.006	< 0.01	12.60	97.57	5	2	< 1	8	3	< 1	34	0.184	0.234	549479	21.45	0.44
549480	97.61	0.28	0.68	0.005	0.11	0.02	0.01	0.04	0.029	0.01	0.08	98.88	26	5	< 1	< 1	52	< 1	5	< 0.010	0.011	549480	97.98	0.23
549481	37.31	0.64	7.93	0.088	38.33	0.48	< 0.01	< 0.01	0.002	< 0.01	13.04	97.82	6	< 2	< 1	10	3	< 1	35	0.193	0.282	549481	24.36	0.60
549482	38.66	0.56	8.05	0.138	38.55	1.23	< 0.01	< 0.01	0.003	< 0.01	10.68	97.87	4	< 2	< 1	10	3	< 1	37	0.177	0.282	549482	27.57	0.52
549483	38.54	0.75	7.64	0.098	38.65	0.65	< 0.01	< 0.01	0.003	< 0.01	11.85	98.18	4	< 2	< 1	8	2	< 1	35	0.168	0.272	549483	20.83	0.72
549484	38.99	0.70	8.25	0.104	38.77	0.57	< 0.01	< 0.01	0.003	< 0.01	11.98	99.37	3	< 2	1	9	3	< 1	38	0.226	0.252	549484	25.81	0.73
549485	38.61	0.64	8.20	0.138	38.77	0.48	< 0.01	< 0.01	0.002	< 0.01	11.64	98.47	4	< 2	< 1	9	2	< 1	38	0.196	0.282	549485	27.69	0.72
549486	40.13	0.62	7.94	0.123	39.30	1.09	< 0.01	< 0.01	0.002	< 0.01	10.02	99.24	4	< 2	< 1	10	3	< 1	41	0.183	0.294	549486	26.53	1.02
549487	38.79	0.79	7.32	0.120	38.53	1.05	< 0.01	< 0.01	0.003	< 0.01	11.52	98.14	5	< 2	1	10	3	< 1	41	0.176	0.317	549487	28.69	0.84
549488	39.85	0.57	7.46	0.112	39.43	0.63	< 0.01	< 0.01	0.002	< 0.01	10.47	98.53	12	< 2	< 1	9	4	< 1	36	0.189	0.283	549488	30.72	0.78
549489	39.46	0.66	8.04	0.118	39.87	0.82	< 0.01	< 0.01	0.002	< 0.01	9.51	98.50	4	< 2	< 1	9	3	< 1	39	0.210	0.291	549489	22.59	0.65
549490	40.51	0.73	7.89	0.116	39.85	1.08	< 0.01	< 0.01	0.003	< 0.01	8.95	99.14	7	< 2	< 1	10	3	< 1	41	0.203	0.292	549490	26.86	0.94
549491	40.37	0.63	8.15	0.116	40.82	0.44	< 0.01	< 0.01	0.003	< 0.01	8.38	98.93	10	< 2	< 1	9	2	< 1	34	0.223	0.286	549491	24.61	0.65
549492	38.29	0.64	8.36	0.110	38.37	1.09	< 0.01	< 0.01	0.002	< 0.01	11.37	98.23	5	< 2	< 1	9	2	< 1	38	0.198	0.258	549492	21.01	0.66
549493	38.89	0.72	8.03	0.117	39.47	0.44	< 0.01	< 0.01	0.002	< 0.01	11.26	98.94	10	< 2	< 1	9	9	< 1	36	0.204	0.273	549493	19.46	0.41

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
549494	40.38	0.65	7.97	0.119	39.95	1.05	< 0.01	< 0.01	0.002	< 0.01	7.37	97.50	8	5	< 1	9	3	< 1	36	0.200	0.281	549494	35.04	0.65
549495	40.89	0.65	8.42	0.121	40.86	1.00	< 0.01	< 0.01	0.002	< 0.01	7.33	99.29	5	< 2	< 1	10	7	< 1	37	0.215	0.283	549495	31.70	0.87
549496	40.46	0.71	8.07	0.118	40.39	0.98	< 0.01	< 0.01	0.003	< 0.01	8.11	98.84	5	< 2	< 1	10	3	< 1	41	0.218	0.299	549496	29.59	0.94
549497	40.52	0.69	8.21	0.119	41.01	0.78	< 0.01	< 0.01	0.002	< 0.01	7.87	99.19	3	< 2	< 1	10	2	< 1	39	0.214	0.324	549497	31.31	1.05
549498	39.79	0.62	7.95	0.113	41.10	0.69	< 0.01	< 0.01	0.003	< 0.01	7.73	98.00	3	< 2	< 1	8	2	< 1	31	0.209	0.294	549498	25.06	1.16
549499	39.96	0.74	8.15	0.117	39.56	0.67	< 0.01	< 0.01	0.002	< 0.01	8.88	98.08	4	< 2	< 1	10	2	< 1	39	0.207	0.288	549499	25.73	1.50
549500.1	50.04	15.93	12.17	0.167	4.90	7.89	2.29	2.81	1.189	0.42	0.76	98.56	723	523	22	26	106	2	340	0.219	1.032	549500	49.33	15.98
549500.2																						549500	36.47	2.36
549500.3																						549500	18.82	0.51
549501	40.19	0.71	8.20	0.117	40.96	0.75	< 0.01	< 0.01	0.003	< 0.01	7.91	98.82	3	< 2	< 1	9	2	< 1	37	0.218	0.260	549501	28.18	1.06
549502	40.40	0.71	8.06	0.112	39.94	0.86	< 0.01	< 0.01	0.002	< 0.01	8.64	98.73	3	< 2	< 1	9	2	< 1	38	0.216	0.289	549502	30.11	1.03
549503	39.20	0.61	7.98	0.114	39.35	0.85	< 0.01	< 0.01	0.002	< 0.01	10.27	98.38	3	< 2	< 1	8	2	< 1	32	0.218	0.288	549503	23.09	1.42
549504	39.44	0.61	7.82	0.108	41.64	0.65	< 0.01	< 0.01	0.002	< 0.01	8.77	99.05	4	< 2	< 1	8	< 2	< 1	31	0.215	0.279	549504	22.45	1.84
549505	39.41	0.69	8.03	0.115	41.12	1.01	< 0.01	< 0.01	0.003	< 0.01	7.52	97.91	3	< 2	< 1	9	3	< 1	37	0.213	0.297	549505	29.43	1.61
549506	37.86	0.72	7.82	0.090	38.74	0.45	< 0.01	< 0.01	0.003	< 0.01	12.53	98.22	3	< 2	< 1	9	< 2	< 1	36	0.200	0.269	549506	22.61	0.44
549507	37.86	0.68	7.88	0.106	38.75	0.51	< 0.01	< 0.01	0.003	< 0.01	12.69	98.47	3	< 2	< 1	9	2	< 1	34	0.189	0.307	549507	24.49	0.52
549508	38.38	0.74	7.45	0.090	39.37	0.44	< 0.01	< 0.01	0.003	< 0.01	12.42	98.88	3	< 2	< 1	8	4	< 1	33	0.193	0.270	549508	22.74	0.38
549509	38.13	0.68	7.85	0.120	38.66	0.63	< 0.01	< 0.01	0.003	< 0.01	12.29	98.37	2	< 2	< 1	9	< 2	< 1	35	0.178	0.296	549509	22.39	0.55
549510	38.58	0.71	7.30	0.113	38.69	0.78	< 0.01	< 0.01	0.003	< 0.01	12.25	98.44	4	< 2	< 1	8	3	< 1	34	0.183	0.260	549510	22.42	0.59
549511	38.11	0.86	7.85	0.107	37.55	0.84	< 0.01	< 0.01	0.007	< 0.01	12.59	97.92	3	< 2	< 1	9	3	< 1	35	0.197	0.281	549511	19.11	0.55
549512	37.93	0.56	8.58	0.155	38.95	0.87	< 0.01	< 0.01	0.002	< 0.01	11.69	98.74	2	< 2	< 1	9	< 2	< 1	32	0.207	0.303	549512	18.91	0.67
549513	37.73	0.68	7.62	0.097	38.68	0.42	< 0.01	< 0.01	0.002	< 0.01	12.62	97.84	2	< 2	< 1	8	2	< 1	31	0.219	0.259	549513	22.71	0.68
549514	38.00	0.68	8.12	0.112	38.53	0.66	< 0.01	< 0.01	0.002	< 0.01	12.23	98.34	2	< 2	< 1	9	3	< 1	34	0.195	0.291	549514	20.65	0.45
549515	37.76	0.66	8.28	0.115	38.49	0.66	< 0.01	< 0.01	0.002	< 0.01	12.10	98.07	2	< 2	< 1	9	3	< 1	34	0.191	0.284	549515	18.11	0.51
549516	37.60	0.70	7.51	0.098	38.95	0.43	< 0.01	< 0.01	0.003	< 0.01	12.24	97.52	2	< 2	1	8	3	< 1	34	0.181	0.296	549516	14.62	0.48
549517	38.81	0.64	8.07	0.122	40.24	0.73	< 0.01	< 0.01	0.002	< 0.01	11.34	99.96	< 2	< 2	< 1	10	< 2	< 1	32	0.194	0.303	549517	15.22	0.68
549518	38.49	0.72	7.82	0.105	39.90	0.77	< 0.01	< 0.01	0.002	< 0.01	12.09	99.92	< 2	< 2	< 1	9	< 2	< 1	35	0.212	0.299	549518	13.20	0.59
549519	38.52	0.59	7.65	0.125	40.34	0.78	< 0.01	< 0.01	0.002	< 0.01	11.55	99.56	< 2	< 2	< 1	8	< 2	< 1	30	0.198	0.212	549519	22.01	0.37
549520	97.56	0.27	0.59	0.010	0.04	0.03	0.01	0.03	0.032	0.02	0.16	98.76	46	13	2	< 1	57	< 1	< 5	< 0.010	< 0.010	549520	97.55	0.22
549521	39.01	0.59	7.75	0.129	40.77	0.82	< 0.01	< 0.01	0.002	< 0.01	11.03	100.1	2	< 2	< 1	9	< 2	< 1	32	0.199	0.240	549521	19.14	0.39
549522	38.65	0.66	7.90	0.113	39.37	1.13	< 0.01	< 0.01	0.002	< 0.01	12.71	100.5	2	< 2	< 1	10	2	< 1	34	0.189	0.297	549522	13.81	0.43
549523	39.30	0.65	8.12	0.127	40.10	0.78	< 0.01	< 0.01	0.003	< 0.01	11.16	100.3	2	< 2	< 1	9	< 2	< 1	34	0.197	0.303	549523	13.87	0.54
549524	39.02	0.75	7.60	0.095	40.24	0.48	< 0.01	< 0.01	0.002	< 0.01	12.43	100.6	2	< 2	< 1	10	< 2	< 1	37	0.210	0.279	549524	21.59	0.52
549525	37.79	0.76	6.55	0.112	39.32	0.80	0.01	< 0.01	0.002	< 0.01	12.21	97.57	2	< 2	< 1	10	3	< 1	36	0.153	0.303	549525	13.06	0.62
549526	38.21	0.65	8.76	0.146	40.45	0.80	< 0.01	< 0.01	0.002	< 0.01	10.83	99.83	< 2	< 2	< 1	10	< 2	< 1	35	0.198	0.295	549526	17.18	0.63
549527	36.59	0.85	8.34	0.092	40.73	0.18	< 0.01	< 0.01	0.005	< 0.01	13.46	100.3	2	< 2	< 1	8	3	< 1	42	0.219	0.723	549527	16.02	1.13
549528	37.64	0.63	7.10	0.126	40.13	0.60	< 0.01	< 0.01	0.004	< 0.01	12.13	98.38	2	< 2	< 1	9	< 2	< 1	33	0.169	0.253	549528	19.98	0.39
549529	37.36	0.65	7.68	0.116	38.25	1.21	0.01	< 0.01	0.004	< 0.01	13.20	98.50	3	< 2	< 1	9	2	< 1	37	0.193	0.283	549529	16.81	0.29
549530	38.60	0.79	7.38	0.098	39.26	0.59	< 0.01	< 0.01	0.004	< 0.01	13.59	100.3	< 2	< 2	< 1	9	3	< 1	39	0.251	0.297	549530	15.57	0.48
549531	38.37	0.69	7.27	0.109	40.03	0.58	< 0.01	< 0.01	0.004	< 0.01	13.40	100.5	3	< 2	1	8	3	< 1	35	0.206	0.260	549531	14.79	0.49
549532	37.90	0.63	8.08	0.129	38.79	1.35	< 0.01	< 0.01	0.004	< 0.01	12.56	99.46	< 2	< 2	< 1	9	3	< 1	38	0.198	0.277	549532	13.92	0.56
549533	37.93	0.76	7.29	0.098	39.49	0.61	< 0.01	< 0.01	0.004	< 0.01	13.12	99.32	< 2	< 2	< 1	9	3	< 1	39	0.185	0.285	549533	15.37	0.62
549534	38.29	0.72	7.69	0.096	40.36	0.44	< 0.01	< 0.01	0.005	< 0.01	12.67	100.3	< 2	< 2	< 1	8	3	< 1	33	0.197	0.274	549534	12.59	0.46
549535	37.63	0.72	7.65	0.094	39.69	0.44	< 0.01	< 0.01	0.005	< 0.01	12.53	98.76	6	< 2	< 1	8	3	< 1	36	0.210	0.284	549535	17.45	0.67
549536	37.60	0.56	7.73	0.118	39.88	0.51	< 0.01	< 0.01	0.003	< 0.01	13.43	99.84	< 2	< 2	< 1	9	3	< 1	32	0.182	0.271	549536	16.06	0.36
549537	38.25	0.58	8.13	0.131	38.91	1.65	< 0.01	< 0.01	0.004	< 0.01	12.33	99.99	< 2	< 2	< 1	10	3	< 1	38	0.213	0.270	549537	18.45	0.53
549538	37.79	0.78	7.82	0.091	39.65	0.42	< 0.01	< 0.01	0.003	< 0.01	13.31	99.89	< 2	< 2	< 1	9	2	< 1	41	0.212	0.272	549538	13.08	0.50
549539	38.51	0.61	7.67	0.112	40.90	0.46	< 0.01	< 0.01	0.004	< 0.01	12.26	100.5	< 2	< 2	< 1	9	2	< 1	34	0.193	0.274	549539	17.89	0.66
549540.1	49.44	15.90	12.00	0.165	4.89	7.79	2.24	2.84	1.200	0.44	0.70	97.58	716	522	21	25	114	2	339	0.218	1.021	549540	49.31	16.04
549540.2																						549540	36.16	2.47
549540.3																						549540	19.08	0.56

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
549541	38.43	0.62	7.81	0.116	39.82	0.78	< 0.01	< 0.01	0.004	< 0.01	12.11	99.70	< 2	< 2	< 1	9	2	< 1	33	0.194	0.258	549541	15.41	0.52
549542	38.86	0.69	7.80	0.128	39.79	0.94	0.01	< 0.01	0.005	< 0.01	12.21	100.4	< 2	< 2	< 1	10	2	< 1	39	0.173	0.344	549542	14.50	0.72
549543	38.03	0.67	8.56	0.096	38.42	0.28	0.01	< 0.01	0.004	< 0.01	13.12	99.20	5	3	< 1	8	3	< 1	37	0.230	0.241	549543	7.74	0.33
549544	38.30	0.56	7.62	0.116	40.28	0.37	< 0.01	< 0.01	0.003	< 0.01	11.41	98.66	2	< 2	< 1	6	2	< 1	32	0.199	0.318	549544	22.08	0.65
549545	38.76	0.75	7.87	0.091	40.09	0.36	< 0.01	< 0.01	0.005	< 0.01	12.34	100.3	< 2	< 2	< 1	8	3	< 1	34	0.197	0.253	549545	12.65	0.33
549546	38.33	0.67	8.22	0.123	40.04	0.63	< 0.01	< 0.01	0.005	< 0.01	11.78	99.82	< 2	< 2	< 1	8	3	< 1	34	0.218	0.300	549546	15.34	0.51
549547	37.46	0.70	8.41	0.108	39.74	0.60	< 0.01	< 0.01	0.004	< 0.01	12.87	99.92	6	5	< 1	9	2	< 1	37	0.194	0.307	549547	15.21	0.43
549548	38.72	0.74	7.62	0.097	38.80	1.28	0.01	< 0.01	0.004	< 0.01	13.24	100.5	< 2	< 2	< 1	8	3	< 1	39	0.190	0.298	549548	8.32	0.27
549549	38.93	0.68	8.41	0.112	39.84	0.75	< 0.01	< 0.01	0.003	< 0.01	11.70	100.4	< 2	< 2	1	8	2	< 1	39	0.211	0.264	549549	14.25	0.61
549550	38.65	0.60	8.42	0.135	39.06	1.55	0.01	< 0.01	0.003	< 0.01	11.45	99.89	< 2	< 2	< 1	9	2	< 1	40	0.187	0.293	549550	11.78	0.73
549551	39.00	0.65	7.73	0.119	40.50	0.61	< 0.01	< 0.01	0.003	< 0.01	12.24	100.9	< 2	< 2	1	10	< 2	< 1	33	0.182	0.290	549551	20.37	0.69
549552	37.93	0.85	8.10	0.065	38.23	1.39	< 0.01	< 0.01	0.004	< 0.01	13.05	99.64	< 2	< 2	< 1	8	3	< 1	43	0.193	0.249	549552	17.83	0.56
549553	37.84	0.54	9.27	0.152	39.73	1.00	< 0.01	< 0.01	0.003	< 0.01	12.03	100.6	< 2	< 2	< 1	10	2	< 1	35	0.197	0.310	549553	16.91	0.55
549554	37.85	0.74	8.19	0.087	38.38	1.18	< 0.01	< 0.01	0.007	< 0.01	12.78	99.23	< 2	< 2	< 1	10	2	< 1	43	0.158	0.284	549554	15.08	0.62
549555	38.29	0.73	8.25	0.088	38.59	1.30	< 0.01	< 0.01	0.003	< 0.01	12.84	100.1	< 2	< 2	< 1	10	< 2	< 1	44	0.205	0.241	549555	17.68	0.65
549556	39.86	0.65	7.36	0.104	40.34	0.53	< 0.01	< 0.01	0.004	< 0.01	11.67	100.5	< 2	< 2	< 1	8	3	< 1	37	0.197	0.242	549556	13.45	0.63
549557	39.03	0.60	6.68	0.127	39.78	0.84	< 0.01	< 0.01	0.003	< 0.01	10.94	98.02	< 2	< 2	< 1	9	3	< 1	35	0.174	0.266	549557	20.81	0.61
549558	38.02	0.68	8.09	0.121	38.99	0.63	0.02	< 0.01	0.003	< 0.01	12.72	99.28	< 2	< 2	< 1	9	3	< 1	37	0.203	0.297	549558	14.86	0.47
549559	37.69	0.66	6.63	0.103	39.43	0.46	< 0.01	< 0.01	0.003	0.04	12.50	97.52	< 2	< 2	< 1	9	< 2	< 1	33	0.192	0.251	549559	20.47	0.51
549560	99.58	0.28	0.50	0.005	0.07	0.01	0.02	0.04	0.029	< 0.01	-0.27	100.3	22	4	< 1	< 1	52	< 1	6	< 0.010	< 0.010	549560	97.23	0.23
549561	37.77	0.67	8.07	0.111	38.37	0.57	< 0.01	< 0.01	0.004	< 0.01	12.89	98.47	< 2	< 2	< 1	9	3	< 1	38	0.184	0.313	549561	19.48	0.46
549562	37.70	0.62	7.78	0.099	38.53	0.32	< 0.01	< 0.01	0.004	< 0.01	12.44	97.51	< 2	< 2	< 1	8	< 2	< 1	35	0.214	0.291	549562	18.47	0.35
549563	37.99	0.69	7.25	0.084	38.21	0.52	< 0.01	< 0.01	0.003	< 0.01	12.82	97.57	< 2	< 2	< 1	8	2	< 1	42	0.231	0.263	549563	18.35	0.57
549564	38.65	0.72	7.48	0.107	39.02	0.89	< 0.01	< 0.01	0.004	< 0.01	13.08	99.95	< 2	< 2	< 1	9	3	< 1	37	0.206	0.288	549564	17.54	0.42
549565	37.63	0.75	7.73	0.085	38.32	0.58	0.01	< 0.01	0.004	< 0.01	13.04	98.14	< 2	< 2	< 1	8	3	< 1	36	0.198	0.292	549565	15.83	0.44
549566	37.89	0.83	8.46	0.085	37.69	1.69	< 0.01	< 0.01	0.004	< 0.01	13.21	99.86	< 2	< 2	< 1	7	2	< 1	42	0.195	0.255	549566	11.80	0.35
549567	38.65	0.70	7.39	0.107	40.05	0.51	< 0.01	< 0.01	0.005	< 0.01	12.93	100.4	< 2	< 2	< 1	8	6	< 1	35	0.179	0.294	549567	19.79	0.59
549568	37.78	0.60	7.96	0.129	39.88	0.33	< 0.01	< 0.01	0.004	< 0.01	13.15	99.82	< 2	< 2	< 1	9	3	< 1	35	0.200	0.296	549568	16.66	0.38
549569	37.56	0.61	8.12	0.130	39.68	0.42	< 0.01	< 0.01	0.004	< 0.01	13.00	99.54	< 2	< 2	< 1	9	3	< 1	36	0.206	0.271	549569	19.46	0.54
549570	38.31	0.63	7.48	0.115	39.97	0.54	< 0.01	< 0.01	0.004	< 0.01	12.47	99.54	2	< 2	1	8	4	< 1	37	0.194	0.257	549570	20.59	0.55
549571	37.90	0.51	7.50	0.136	40.77	0.41	< 0.01	< 0.01	0.007	< 0.01	12.94	100.2	< 2	< 2	< 1	8	2	< 1	34	0.217	0.281	549571	22.30	0.80
549572	37.99	0.20	6.89	0.111	42.90	0.03	< 0.01	< 0.01	0.002	< 0.01	11.88	100.0	< 2	< 2	< 1	4	2	< 1	14	0.217	0.245	549572	21.87	0.57
549573	37.40	0.52	7.97	0.087	39.20	0.37	< 0.01	< 0.01	0.004	< 0.01	13.19	98.75	< 2	< 2	2	8	< 2	< 1	38	0.203	0.317	549573	21.52	0.57
549574	37.05	0.56	7.41	0.075	38.48	0.72	< 0.01	< 0.01	0.004	< 0.01	13.34	97.63	< 2	< 2	< 1	8	< 2	< 1	35	0.184	0.251	549574	27.57	0.35
549575	37.43	0.55	7.19	0.073	38.12	0.74	< 0.01	< 0.01	0.003	< 0.01	13.38	97.50	< 2	< 2	1	9	3	< 1	31	0.199	0.242	549575	27.60	0.37
549576	37.04	0.57	7.88	0.122	38.31	0.37	< 0.01	< 0.01	0.003	< 0.01	13.69	98.01	< 2	< 2	< 1	8	3	< 1	30	0.183	0.306	549576	27.02	0.46
549577	38.28	0.31	6.19	0.088	40.30	0.04	< 0.01	< 0.01	0.002	< 0.01	12.71	97.92	< 2	< 2	< 1	4	< 2	< 1	14	0.245	0.243	549577	27.13	0.77
549578	36.47	0.21	7.46	0.097	41.01	0.06	< 0.01	< 0.01	0.002	< 0.01	12.43	97.74	< 2	< 2	< 1	4	< 2	< 1	15	0.222	0.332	549578	24.09	0.51
549579	39.13	1.30	8.20	0.118	36.76	0.81	< 0.01	< 0.01	0.030	< 0.01	12.37	98.71	3	< 2	< 1	10	4	< 1	50	0.232	0.288	549579	27.39	0.88
549580.1	49.60	15.80	11.82	0.166	4.86	7.82	2.24	2.79	1.195	0.41	0.92	97.62	715	520	21	25	123	2	335	0.206	1.015	549580	48.56	16.14
549580.2																						549580	36.26	2.47
549580.3																						549580	19.03	0.54
549581	39.06	0.94	8.83	0.079	37.82	0.15	< 0.01	< 0.01	0.012	< 0.01	13.05	99.96	< 2	< 2	< 1	8	3	< 1	39	0.153	0.257	549581	17.56	0.62
549582	38.21	1.04	7.37	0.075	37.83	0.10	< 0.01	< 0.01	0.011	< 0.01	13.15	97.80	2	< 2	< 1	9	3	< 1	38	0.202	0.242	549582	26.36	0.68
549583	38.14	0.93	8.57	0.108	37.52	0.18	< 0.01	< 0.01	0.008	< 0.01	13.01	98.47	< 2	< 2	< 1	9	< 2	< 1	42	0.190	0.318	549583	19.54	0.41
549584	37.69	0.84	7.98	0.104	38.71	0.64	< 0.01	< 0.01	0.006	< 0.01	12.74	98.72	< 2	< 2	< 1	9	< 2	< 1	40	0.209	0.273	549584	25.21	0.43
549585	36.79	0.86	8.50	0.099	37.70	0.51	< 0.01	< 0.01	0.006	0.01	13.03	97.52	< 2	< 2	< 1	9	3	< 1	34	0.188	0.305	549585	21.64	0.41
549586	38.37	0.74	8.26	0.119	38.87	0.51	< 0.01	< 0.01	0.006	< 0.01	11.68	98.58	< 2	< 2	< 1	10	< 2	< 1	32	0.209	0.291	549586	23.24	0.37
549587	37.88	0.58	8.70	0.149	38.66	0.98	< 0.01	< 0.01	0.006	< 0.01	11.40	98.37	< 2	< 2	< 1	9	2	< 1	31	0.208	0.262	549587	19.80	0.41
549588	37.36	0.72	6.66	0.104	39.41	0.43	< 0.01	< 0.01	0.005	< 0.01	12.81	97.52	< 2	< 2	< 1	10	< 2	< 1	33	0.204	0.310	549588	26.49	0.29
549589	38.15	1.18	5.80	0.071	39.96	0.08	< 0.01	0.01	0.011	< 0.01	12.64	97.91	< 2	< 2	< 1	2	6	< 1	15	0.247	0.225	549589	22.45	0.49

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
549590	38.25	0.97	7.87	0.104	38.43	0.23	< 0.01	< 0.01	0.007	< 0.01	13.14	99.01	< 2	< 2	1	8	5	< 1	38	0.212	0.274	549590	22.75	0.78
549591	39.56	1.25	7.07	0.091	38.23	0.08	< 0.01	< 0.01	0.021	< 0.01	13.00	99.32	< 2	< 2	< 1	7	3	< 1	37	0.202	0.302	549591	30.07	1.02
549592	40.87	1.42	6.71	0.094	37.00	0.43	< 0.01	< 0.01	0.013	< 0.01	11.86	98.41	< 2	< 2	< 1	8	3	< 1	36	0.180	0.290	549592	4.24	0.86

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
549251	53.38	0.298	18.07	0.08	< 0.01	0.03	0.05	< 0.01	2.35	0.029	3.12	2.83	97.20	30.2	1.601	28.522	5.3	30.124	0.17	0.12
549252	43.90	0.251	23.48	0.45	< 0.01	0.05	0.04	0.01	1.58	0.022	2.33	3.88	98.85	30.2	1.956	28.284	6.5	30.240	-0.12	0.08
549253	36.99	0.169	25.99	0.11	< 0.01	0.03	0.04	0.01	1.10	0.022	1.39	6.21	99.24	30.0	3.024	26.931	10.1	29.955	0.15	0.03
549254	36.59	0.209	25.89	0.29	< 0.01	0.02	0.04	0.01	1.08	0.019	1.54	6.24	98.71	30.1	2.530	27.563	8.4	30.093	0.12	0.02
549255	37.81	0.213	25.12	0.28	< 0.01	0.03	0.03	0.01	1.15	0.021	1.65	5.95	98.40	30.2	2.492	27.592	8.2	30.084	0.49	0.02
549256	39.56	0.161	25.30	0.21	< 0.01	0.03	0.03	< 0.01	0.79	0.018	1.29	6.94	99.48	30.2	3.507	26.824	11.6	30.332	-0.54	0.05
549257	36.29	0.192	26.67	0.44	< 0.01	0.02	0.04	0.01	1.16	0.019	1.39	6.83	99.06	30.0	3.398	26.544	11.3	29.942	0.23	0.05
549258	51.38	0.136	19.98	0.41	< 0.01	< 0.01	0.04	0.01	0.79	0.021	1.59	4.61	98.99	30.2	2.874	27.123	9.5	29.998	0.66	0.05
549259	48.88	0.196	20.84	0.28	< 0.01	0.02	0.04	0.01	1.06	0.023	1.87	4.91	98.95	30.2	2.688	27.417	8.9	30.105	0.22	0.03
549260.1	11.95	0.170	4.94	7.67	2.42	2.76	1.07	0.42	1.03	0.063	0.234	0.82	98.85							
549260.2	13.06	0.130	32.39	2.05	0.07	0.14	0.13	0.02	0.20	0.006	1.44	10.96	99.38							
549260.3	52.45	0.241	18.15	0.20	< 0.01	0.03	0.04	0.01	1.56	0.026	2.01	3.13	97.40	28.2	2.028	25.241	7.2	27.269	3.30	
549261	46.04	0.204	22.46	0.43	< 0.01	0.02	0.04	0.01	0.93	0.017	1.69	5.27	99.59	30.2	2.515	27.563	8.3	30.078	0.25	0.04
549262	38.88	0.195	25.86	0.05	< 0.01	0.02	0.04	0.01	1.03	0.017	1.10	7.51	99.46	30.3	3.531	26.603	11.6	30.135	0.64	0.04
549263	34.39	0.209	27.95	0.50	< 0.01	0.03	0.03	0.01	0.83	0.016	0.990	7.42	100.00	30.1	3.662	25.697	12.1	29.359	2.61	0.03
549264	40.83	0.206	24.87	0.61	< 0.01	0.05	0.03	0.01	1.11	0.019	1.45	5.02	98.59	30.2	2.726	27.268	9.0	29.994	0.72	0.05
549265	39.30	0.142	25.32	0.37	< 0.01	0.03	0.04	0.01	0.88	0.018	1.58	6.29	99.19	30.1	2.764	27.486	9.2	30.250	-0.58	0.05
549266	44.18	0.182	22.99	0.36	< 0.01	0.04	0.02	< 0.01	1.11	0.023	1.37	5.31	98.99	30.0	2.772	27.427	9.2	30.198	-0.58	0.03
549267	36.75	0.204	26.36	0.49	< 0.01	0.03	0.03	0.01	0.93	0.017	1.09	6.25	98.98	30.1	3.224	26.757	10.7	29.981	0.42	0.02
549268	46.69	0.172	22.75	0.36	< 0.01	0.04	0.03	< 0.01	0.82	0.018	0.990	5.87	99.36	30.3	3.134	27.141	10.3	30.275	0.06	0.04
549269	41.49	0.188	24.47	0.21	< 0.01	0.02	0.04	0.01	1.06	0.019	1.30	6.43	99.46	30.1	2.891	27.203	9.6	30.094	0.16	0.03
549270	40.35	0.187	24.72	0.14	< 0.01	0.04	0.04	0.01	1.09	0.018	1.33	6.52	99.28	30.1	3.675	26.342	12.2	30.017	0.44	0.02
549271	47.22	0.172	22.41	0.29	< 0.01	0.02	0.03	0.01	1.05	0.019	1.39	5.06	99.29	30.2	2.981	27.302	9.9	30.283	-0.31	0.02
549272	49.48	0.186	21.05	0.39	< 0.01	< 0.01	0.04	0.01	1.11	0.024	1.81	4.45	99.26	30.1	2.290	27.564	7.6	29.854	0.74	0.06
549273	39.86	0.171	25.03	0.42	< 0.01	0.03	0.03	< 0.01	0.90	0.014	1.58	6.04	99.15	30.2	2.596	27.465	8.6	30.061	0.45	0.04
549274	41.88	0.169	24.15	0.31	< 0.01	0.06	0.03	0.01	0.96	0.020	1.33	6.28	98.82	30.1	3.039	27.213	10.1	30.252	-0.53	0.04
549275	48.05	0.176	21.55	0.29	< 0.01	0.02	0.04	0.01	1.09	0.022	1.39	4.98	98.83	30.2	2.658	27.441	8.8	30.099	0.26	0.04
549276	53.07	0.167	19.14	0.17	< 0.01	0.02	0.03	0.01	1.11	0.020	1.83	3.90	98.39	30.1	2.578	27.508	8.6	30.086	0.15	0.03
549277	52.29	0.203	19.83	0.27	< 0.01	0.03	0.04	0.01	1.27	0.023	1.94	3.99	98.52	30.1	2.361	27.322	7.8	29.683	1.39	0.05
549278	46.84	0.196	22.54	0.37	< 0.01	0.02	0.04	0.01	1.20	0.020	2.05	4.59	98.39	30.1	2.143	28.018	7.1	30.161	-0.23	0.04
549279	50.15	0.166	20.91	0.24	< 0.01	0.01	0.04	0.01	1.17	0.023	1.62	4.19	99.06	30.2	2.447	27.752	8.1	30.199	0.02	0.04
549280	0.98	0.005	0.03	0.02	0.01	0.07	0.05	0.01	< 0.01	< 0.003	< 0.003	0.14	99.51	30.3	0.040	30.029	0.1	30.069	0.73	
549281	45.18	0.208	23.15	0.40	< 0.01	0.03	0.03	0.01	1.22	0.023	1.84	5.09	98.92	30.1	2.236	27.899	7.4	30.135	-0.26	0.06
549282	40.36	0.185	26.26	0.28	< 0.01	0.03	0.03	0.01	1.03	0.018	1.27	6.53	100.1	30.0	2.966	27.179	9.9	30.145	-0.37	0.05
549283	37.75	0.187	26.38	0.27	< 0.01	0.03	0.04	0.01	0.90	0.019	0.956	7.25	99.43	30.1	3.821	26.298	12.7	30.119	-0.02	0.03
549284	39.12	0.152	26.24	0.10	< 0.01	0.03	0.04	0.01	1.16	0.013	1.34	6.06	98.81	30.1	2.815	27.233	9.4	30.048	0.11	0.08
549285	37.89	0.166	25.59	0.31	< 0.01	0.04	0.03	< 0.01	1.31	0.020	1.81	5.84	98.37	30.1	2.170	27.948	7.2	30.118	-0.01	0.06
549286	40.88	0.203	24.78	0.19	< 0.01	0.04	0.03	0.01	1.76	0.021	1.47	5.63	98.48	30.0	2.871	27.159	9.6	30.030	0.04	0.04
549287	38.11	0.184	26.25	0.27	< 0.01	0.02	0.03	0.01	1.22	0.019	1.73	6.36	98.99	30.1	2.568	27.566	8.5	30.135	-0.06	0.08
549288	42.42	0.192	23.47	1.08	< 0.01	0.05	0.03	< 0.01	1.29	0.016	1.75	6.02	98.39	30.2	2.276	27.904	7.5	30.180	-0.04	0.15
549289	35.10	0.201	26.73	0.06	< 0.01	0.03	0.04	0.01	0.93	0.019	0.864	7.17	99.03	30.0	4.186	25.937	13.9	30.123	-0.29	0.04
549290	40.68	0.231	23.42	0.04	< 0.01	< 0.01	0.07	< 0.01	1.46	0.027	0.412	5.62	97.93	30.1	2.624	27.441	8.7	30.065	-0.04	0.04
549291	45.45	0.312	21.94	0.03	< 0.01	0.06	0.04	0.01	1.55	0.028	0.886	4.80	98.51	30.2	2.862	27.379	9.5	30.240	-0.25	0.05
549292	60.01	0.384	15.58	0.06	< 0.01	0.03	0.03	0.01	2.00	0.033	0.953	3.00	97.37	30.2	2.267	27.771	7.5	30.039	0.47	0.06
549293	41.15	0.255	21.50	0.40	< 0.01	< 0.01	0.03	0.01	1.33	0.017	0.472	7.54	99.09	30.2	2.094	28.189	6.9	30.283	-0.24	0.06
549294	44.71	0.157	22.71	0.40	< 0.01	0.04	0.03	0.01	1.00	0.018	1.29	5.84	98.70	30.2	2.782	27.362	9.2	30.143	0.06	0.06
549295	40.88	0.163	24.45	0.39	< 0.01	0.07	0.03	0.01	0.96	0.015	1.17	6.82	99.25	30.2	3.163	26.995	10.5	30.158	0.20	0.03
549296	49.31	0.165	21.25	0.11	< 0.01	0.04	0.03	0.01	1.12	0.022	1.41	5.26	99.26	30.2	2.805	27.345	9.3	30.150	0.02	0.04
549297	50.49	0.180	20.40	0.15	< 0.01	0.03	0.03	0.01	1.16	0.021	1.42	4.71	98.96	30.2	2.468	27.667	8.2	30.135	0.10	0.07
549298	26.71	0.188	31.85	0.37	< 0.01	0.02	0.03	0.01	0.68	0.013	1.10	8.24	100.2	30.1	4.161	25.487	13.8	29.648	1.45	0.03
549299	36.26	0.204	26.95	0.23	< 0.01	0.01	0.03	0.01	1.07	0.018	1.61	7.03	99.57	30.1	2.709	27.373	9.0	30.082	0.14	0.07

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
549300.1	12.01	0.167	4.97	7.79	2.38	2.80	1.09	0.43	1.05	0.064	0.232	0.73	98.60							
549300.2	13.10	0.126	32.16	2.07	0.10	0.14	0.13	0.02	0.20	0.005	1.44	10.92	99.06							
549300.3	52.92	0.235	18.41	0.20	< 0.01	0.05	0.04	< 0.01	1.54	0.026	2.02	3.76	99.06	25.1	2.089	22.364	8.3	24.453	2.62	
549301	51.95	0.146	19.39	0.22	< 0.01	0.04	0.04	0.01	1.05	0.018	1.29	4.68	98.79	30.0	2.818	27.100	9.4	29.918	0.33	0.17
549302	45.33	0.141	22.86	0.10	< 0.01	0.03	0.03	< 0.01	0.93	0.017	1.66	5.39	98.88	30.1	2.724	27.362	9.1	30.086	0.02	0.05
549303	46.52	0.204	21.86	0.11	< 0.01	0.04	0.03	0.01	1.40	0.020	1.72	5.52	99.05	30.1	2.434	27.742	8.1	30.176	-0.15	0.04
549304	41.89	0.159	24.45	0.11	< 0.01	0.03	0.03	0.01	1.18	0.020	1.38	6.43	98.70	30.1	3.186	26.812	10.6	29.998	0.26	0.05
549305	51.17	0.169	19.79	0.09	< 0.01	0.06	0.04	< 0.01	1.33	0.020	1.91	4.21	98.64	30.2	2.390	27.901	7.9	30.291	-0.22	0.04
549306	45.37	0.199	22.95	0.18	< 0.01	0.04	0.04	0.01	1.24	0.020	1.75	4.90	98.85	30.0	2.432	27.537	8.1	29.969	0.24	0.05
549307	45.38	0.231	22.63	0.15	< 0.01	0.05	0.03	0.01	1.50	0.021	2.05	5.66	98.47	30.2	2.307	27.878	7.6	30.185	0.12	0.07
549308	48.47	0.111	20.97	0.19	< 0.01	0.04	0.03	0.01	1.05	0.018	1.54	5.07	98.71	30.2	2.704	27.359	9.0	30.063	0.31	0.06
549309	50.70	0.156	20.11	0.05	< 0.01	0.04	0.04	0.01	1.23	0.021	1.69	4.51	98.94	30.2	2.803	27.356	9.3	30.159	0.10	0.11
549310	39.79	0.209	23.99	0.10	< 0.01	0.03	0.04	0.01	0.03	0.024	1.73	5.73	96.32	30.1	2.799	27.231	9.3	30.030	0.14	0.14
549311	25.32	0.157	30.69	0.07	< 0.01	0.07	0.03	0.01	0.95	0.022	1.04	8.27	98.07	30.2	5.114	24.822	17.0	29.936	0.76	0.04
549312	33.19	0.175	28.07	0.23	< 0.01	0.04	0.02	0.01	1.18	0.020	1.45	6.88	98.75	30.2	3.192	26.959	10.6	30.151	0.14	0.06
549313	32.81	0.192	26.51	0.65	< 0.01	< 0.01	0.06	0.01	1.24	0.025	1.31	6.33	98.81	30.2	3.697	26.477	12.2	30.173	0.17	0.03
549314	38.00	0.159	26.20	0.10	< 0.01	0.04	0.03	0.01	1.27	0.023	1.16	6.59	99.12	30.1	3.611	26.476	12.0	30.087	0.01	0.09
549315	46.77	0.158	22.01	0.08	< 0.01	0.03	0.02	0.01	1.45	0.026	1.44	5.10	98.59	30.2	2.764	27.365	9.2	30.129	0.24	0.10
549316	37.18	0.216	25.88	0.10	< 0.01	0.04	0.04	0.01	1.44	0.028	1.57	5.87	98.90	30.1	3.079	26.998	10.2	30.076	0.04	0.10
549317	41.11	0.179	24.70	0.09	< 0.01	0.04	0.03	< 0.01	1.15	0.026	1.31	5.86	99.64	30.1	3.548	26.494	11.8	30.042	0.12	0.13
549318	66.73	0.198	10.13	2.37	< 0.01	0.07	0.40	0.04	2.01	0.058	0.592	0.72	98.24	30.2	1.717	27.451	5.7	29.168	3.57	0.06
549319	55.25	0.273	17.09	0.04	< 0.01	0.05	0.03	0.01	1.94	0.030	1.95	3.15	97.07	30.1	2.179	27.704	7.2	29.883	0.74	0.17
549320	0.88	0.005	0.03	0.04	< 0.01	0.06	0.04	0.01	0.01	< 0.003	< 0.003	0.12	99.42	30.0	0.100	29.598	0.3	29.698	1.10	
549321	50.27	0.306	19.73	0.05	< 0.01	0.05	0.03	0.01	1.64	0.031	1.85	3.16	97.87	29.9	2.691	27.182	9.0	29.873	-0.01	0.04
549322	37.66	0.180	25.20	0.15	< 0.01	0.03	0.04	0.02	0.78	0.015	1.01	7.53	98.81	30.1	3.451	26.542	11.4	29.993	0.52	0.04
549323	33.78	0.148	27.21	0.28	< 0.01	0.04	0.04	0.01	0.72	0.014	0.820	8.12	99.19	30.1	4.106	25.905	13.6	30.011	0.36	0.03
549324	30.95	0.155	28.19	0.56	< 0.01	0.05	0.04	0.01	0.62	0.012	0.633	9.09	99.36	30.3	4.225	25.978	14.0	30.203	0.24	0.02
549325	30.63	0.117	28.33	1.02	< 0.01	0.05	0.03	0.01	0.59	0.012	0.479	9.10	99.77	30.1	4.573	25.558	15.2	30.132	-0.06	0.05
549326	25.31	0.201	30.56	0.39	< 0.01	0.04	0.04	0.01	0.60	0.009	0.401	10.09	99.63	30.1	5.027	25.001	16.7	30.028	0.12	0.04
549327	32.58	0.133	27.07	1.05	< 0.01	0.05	0.04	0.01	0.90	0.016	0.651	8.69	99.18	30.1	3.419	26.478	11.4	29.897	0.56	0.10
549328	39.80	0.119	24.19	1.19	< 0.01	0.04	0.03	0.01	0.62	0.018	0.872	7.41	99.52	30.2	3.316	26.685	11.0	30.001	0.69	0.13
549329	23.70	0.155	30.24	1.67	< 0.01	0.06	0.04	0.01	0.36	0.010	0.574	11.07	99.50	30.0	6.503	23.386	21.7	29.889	0.38	0.08
549330	29.41	0.160	28.37	0.79	0.01	0.03	0.04	0.01	0.44	0.011	0.674	9.23	99.13	30.1	4.821	25.148	16.0	29.969	0.40	0.07
549331	29.25	0.186	28.43	1.35	< 0.01	0.04	0.04	< 0.01	0.64	0.012	0.614	9.78	99.60	30.1	4.491	25.604	14.9	30.095	0.13	
549332	26.33	0.183	29.83	1.30	< 0.01	0.05	0.03	0.01	0.58	0.013	0.740	10.60	99.48	30.1	5.659	24.382	18.8	30.041	0.26	0.07
549333	27.99	0.171	28.97	1.36	< 0.01	0.04	0.03	0.01	0.53	0.014	0.537	10.13	99.54	30.2	5.141	24.926	17.1	30.068	0.28	0.05
549334	29.86	0.196	27.68	1.11	< 0.01	0.04	0.04	0.01	0.69	0.012	0.305	10.08	99.23	30.0	3.237	26.414	10.8	29.651	1.20	0.07
549335	28.52	0.189	28.58	1.10	< 0.01	0.02	0.04	< 0.01	0.70	0.010	0.319	9.97	99.62	30.2	3.613	26.403	12.0	30.016	0.65	0.07
549336	30.81	0.170	26.89	1.35	< 0.01	0.02	0.03	0.01	0.94	0.016	0.323	13.13	99.52	30.2	2.535	27.443	8.4	29.978	0.57	0.09
549337	37.34	0.109	22.15	0.24	0.03	0.10	0.06	0.01	2.63	0.031	0.232	11.95	98.41	30.2	0.780	29.094	2.6	29.874	1.03	
549338	37.97	0.214	25.58	0.07	< 0.01	0.05	0.06	0.01	1.25	0.027	1.07	6.61	99.42	30.1	4.076	25.824	13.5	29.900	0.67	0.07
549339	17.89	0.150	33.56	1.05	< 0.01	0.03	0.04	0.01	0.54	0.009	0.404	10.60	99.84	30.2	7.116	22.714	23.6	29.830	1.15	0.06
549340.1	12.12	0.170	4.99	7.91	2.44	2.78	1.10	0.43	1.05	0.064	0.233	0.80	99.20							
549340.2	13.14	0.126	31.97	2.06	0.08	0.14	0.12	0.02	0.20	0.006	1.44	10.91	99.32							
549340.3	52.43	0.237	18.67	0.22	< 0.01	0.03	0.05	0.01	1.53	0.026	2.02	3.39	97.98	26.7	1.851	25.374	6.9	27.225	-1.82	
549341	23.33	0.170	31.51	0.48	< 0.01	0.03	0.03	0.01	0.64	0.011	0.563	9.89	99.07	30.1	6.164	23.807	20.5	29.972	0.34	0.08
549342	37.60	0.185	25.10	0.52	< 0.01	0.04	0.03	< 0.01	0.77	0.014	1.10	7.68	98.81	30.1	4.151	25.792	13.8	29.943	0.39	0.19
549343	27.38	0.191	29.74	0.48	< 0.01	0.03	0.03	0.01	0.02	0.012	0.835	9.99	98.74	30.2	5.473	24.387	18.1	29.859	1.10	0.06
549344	41.12	0.214	24.83	0.06	< 0.01	0.03	0.03	0.01	0.90	0.009	1.21	7.31	99.33	30.1	3.401	26.292	11.3	29.693	1.23	0.08
549345	28.55	0.185	25.91	0.07	< 0.01	0.04	0.03	0.01	0.83	0.008	0.774	18.60	99.69	30.0	3.800	25.978	12.7	29.779	0.77	0.03
549346	25.99	0.196	32.19	0.11	< 0.01	< 0.01	0.02	0.01	0.72	0.010	0.833	10.33	100.1	30.0	5.161	24.565	17.2	29.726	1.02	0.03

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
549347	32.16	0.179	28.80	0.11	< 0.01	0.03	0.06	0.02	0.83	0.009	0.808	8.01	99.17	30.1	4.251	25.703	14.1	29.954	0.46	0.04
549348	34.02	0.177	28.00	0.20	< 0.01	0.04	0.02	< 0.01	0.87	0.013	1.23	5.98	97.97	30.1	3.070	26.707	10.2	29.777	1.06	0.04
549349	28.97	0.182	29.46	0.68	< 0.01	0.05	0.03	< 0.01	0.67	0.014	0.924	9.29	99.28	30.1	4.029	25.785	13.4	29.814	0.85	0.07
549350	27.73	0.181	29.83	1.33	< 0.01	0.02	0.03	0.01	0.57	0.010	0.717	10.16	99.57	30.2	5.746	24.176	19.0	29.922	0.83	0.06
549351	23.63	0.162	31.15	1.67	< 0.01	0.02	0.03	0.01	0.51	0.006	0.636	11.60	99.82	30.1	6.229	23.084	20.7	29.314	2.53	0.07
549352	33.09	0.146	27.64	0.90	< 0.01	0.02	0.03	< 0.01	0.68	0.010	0.723	9.39	99.92	30.0	4.692	25.042	15.6	29.734	1.05	0.05
549353	43.31	0.403	21.05	0.50	< 0.01	< 0.01	0.05	0.01	1.72	0.019	0.424	9.02	98.03	30.2	1.552	28.290	5.1	29.842	1.05	0.07
549354	27.30	0.177	30.21	0.98	< 0.01	0.02	0.02	0.01	0.78	0.012	0.688	10.12	99.98	30.1	5.120	24.365	17.0	29.485	2.17	0.07
549355	28.11	0.176	29.58	0.99	< 0.01	0.05	0.02	0.01	0.79	0.013	0.754	9.96	99.52	30.1	4.665	25.130	15.5	29.795	0.99	0.07
549356	32.97	0.217	27.27	0.89	< 0.01	0.04	0.02	< 0.01	1.07	0.014	0.640	9.76	99.31	30.0	4.008	25.826	13.4	29.833	0.60	0.11
549357	28.19	0.152	24.52	0.50	< 0.01	0.01	0.04	0.01	3.65	0.038	0.289	12.32	97.32	30.1	0.392	29.479	1.3	29.871	0.66	0.05
549358	25.11	0.146	26.73	0.08	< 0.01	< 0.01	0.05	0.01	1.24	0.021	0.289	12.30	99.37	30.0	3.076	26.572	10.2	29.647	1.24	0.03
549359	29.09	0.190	28.96	1.09	< 0.01	0.09	0.03	0.01	1.08	0.017	0.838	9.65	99.50	30.1	3.861	26.089	12.8	29.949	0.38	0.06
549360	0.90	0.007	0.03	0.04	< 0.01	0.06	0.04	0.01	0.01	< 0.003	< 0.003	0.15	99.61	30.2	0.067	29.925	0.2	29.992	0.74	
549361	39.40	0.162	25.32	0.84	< 0.01	0.03	0.03	0.01	1.29	0.021	1.14	7.30	99.22	30.0	3.197	26.709	10.6	29.906	0.42	0.10
549362	38.12	0.167	25.66	0.72	< 0.01	0.03	0.03	0.01	1.08	0.023	1.08	7.36	99.60	30.1	3.446	26.318	11.5	29.764	1.09	0.02
549363	40.20	0.129	25.53	0.19	< 0.01	0.02	0.03	0.01	1.09	0.020	1.16	7.10	99.48	30.1	3.133	26.670	10.4	29.803	1.04	0.07
549364	28.69	0.106	30.49	0.20	< 0.01	0.07	0.03	0.01	0.65	0.014	0.785	9.10	99.66	30.1	5.193	24.415	17.2	29.609	1.73	0.04
549365	42.03	0.150	23.36	0.81	< 0.01	0.02	0.03	0.01	1.09	0.019	0.952	6.94	99.12	30.1	3.859	26.073	12.8	29.933	0.50	0.09
549366	28.03	0.186	29.24	1.64	< 0.01	0.04	0.03	0.01	0.90	0.013	0.858	9.72	99.76	30.2	4.701	25.253	15.6	29.954	0.74	0.03
549367	44.97	0.163	22.92	0.42	< 0.01	0.03	0.02	0.01	1.27	0.018	1.39	6.00	98.46	30.2	2.905	26.890	9.6	29.795	1.25	0.04
549368	39.65	0.192	23.91	0.85	< 0.01	0.04	0.03	0.01	1.08	0.016	1.41	7.43	98.46	30.2	2.923	26.431	9.7	29.354	2.65	0.05
549369	34.14	0.154	27.59	0.58	< 0.01	0.02	0.03	0.01	0.83	0.014	0.915	8.16	99.48	30.2	4.114	25.783	13.6	29.897	1.01	0.07
549370	35.43	0.202	25.98	1.03	< 0.01	0.02	0.03	0.01	0.98	0.014	1.09	7.91	99.73	30.3	4.049	25.941	13.4	29.991	0.99	0.07
549371	45.68	0.200	21.26	0.41	< 0.01	0.04	0.03	0.01	1.33	0.019	1.35	6.70	98.31	30.0	3.086	26.695	10.3	29.781	0.81	0.08
549372	48.51	0.229	20.79	0.34	< 0.01	0.08	0.03	0.01	1.60	0.022	0.448	6.13	99.39	30.1	2.551	26.257	8.5	28.807	4.17	0.04
549373	38.93	0.152	24.86	0.21	< 0.01	0.03	0.03	< 0.01	1.05	0.016	1.81	6.99	98.41	30.2	2.621	27.132	8.7	29.753	1.39	0.03
549374	30.89	0.172	28.67	0.46	< 0.01	0.02	0.04	0.01	0.88	0.013	1.28	8.04	99.55	30.2	3.672	26.291	12.2	29.964	0.74	0.02
549375	24.66	0.165	31.40	0.48	< 0.01	0.01	0.03	0.01	0.68	0.010	0.863	9.46	99.66	30.1	4.595	25.150	15.3	29.745	1.16	0.02
549376	39.50	0.142	25.00	0.35	< 0.01	0.04	0.02	< 0.01	1.01	0.016	1.16	7.50	99.15	30.1	3.602	26.340	12.0	29.941	0.58	0.13
549377	28.12	0.213	30.13	0.04	< 0.01	0.05	0.02	0.01	0.83	0.015	0.605	11.02	99.37	30.2	5.010	25.108	16.6	30.118	0.20	0.08
549378	45.09	0.310	21.35	0.17	< 0.01	0.04	0.04	0.01	2.11	0.027	0.865	6.26	98.62	30.0	2.079	27.646	6.9	29.725	0.95	0.02
549379	28.90	0.189	29.00	0.68	< 0.01	0.02	0.02	< 0.01	0.92	0.015	0.939	9.78	99.31	30.1	4.989	24.850	16.6	29.839	0.92	0.01
549380.1	12.16	0.167	4.98	7.86	2.42	2.81	1.11	0.43	1.06	0.063	0.235	0.81	99.18							
549380.2	13.12	0.122	32.06	2.07	0.12	0.13	0.13	0.02	0.20	0.009	1.44	10.80	98.78							
549380.3	52.54	0.233	18.65	0.19	< 0.01	0.04	0.04	0.01	1.60	0.027	2.02	3.98	98.45	28.6	1.967	25.722	6.9	27.689	3.21	
549381	49.84	0.162	19.77	1.70	< 0.01	0.03	0.03	0.01	1.09	0.024	0.883	6.08	99.84	30.1	3.960	25.975	13.1	29.935	0.63	0.06
549382	34.64	0.163	25.87	1.59	< 0.01	0.02	0.02	0.01	0.84	0.017	0.856	8.80	99.28	30.1	4.377	25.693	14.6	30.070	-0.02	0.03
549383	38.09	0.163	24.40	1.64	< 0.01	0.07	0.02	< 0.01	0.85	0.015	0.820	8.69	99.47	30.1	4.069	25.564	13.5	29.633	1.71	0.02
549384	34.58	0.179	25.68	1.01	< 0.01	< 0.01	0.02	0.01	1.14	0.016	0.490	9.84	100.2	30.1	3.570	26.357	11.9	29.927	0.48	0.01
549385	37.66	0.184	24.60	1.05	< 0.01	0.04	0.04	0.01	0.88	0.023	1.42	7.54	98.53	30.2	2.553	27.453	8.5	30.006	0.53	0.07
549386	45.10	0.192	22.18	0.62	< 0.01	0.04	0.05	0.01	1.25	0.019	1.33	6.12	99.02	30.2	2.560	27.308	8.5	29.868	1.02	0.04
549387	33.25	0.151	27.72	0.49	< 0.01	0.04	0.04	0.01	1.11	0.022	1.14	8.05	99.77	30.0	3.434	26.432	11.4	29.867	0.50	0.03
549388	43.73	0.208	23.81	0.15	< 0.01	0.16	0.03	0.01	1.77	0.024	1.70	6.08	99.28	30.1	2.305	27.756	7.6	30.061	0.29	0.06
549389	25.77	0.143	32.18	0.43	< 0.01	0.03	0.04	0.01	0.78	0.013	0.886	10.26	100.2	30.0	4.664	25.398	15.5	30.062	-0.09	0.02
549390	36.47	0.157	26.83	0.37	< 0.01	0.03	0.05	0.01	0.83	0.016	1.55	8.03	99.12	30.1	2.494	29.028	8.3	31.522	-4.55	0.04
549391	27.45	0.174	31.36	0.41	< 0.01	0.03	0.04	0.01	0.61	0.013	0.970	9.34	100.2	30.1	3.574	26.464	11.9	30.038	0.34	0.03
549392	40.27	0.164	24.68	0.40	< 0.01	0.05	0.06	0.01	0.97	0.025	1.29	7.25	99.54	30.2	2.552	27.496	8.5	30.048	0.44	0.02
549393	36.68	0.226	26.52	0.36	< 0.01	0.04	0.04	< 0.01	1.94	0.025	2.02	6.85	98.58	30.1	1.887	28.147	6.3	30.034	0.19	0.10
549394	42.20	0.172	22.92	0.60	< 0.01	0.03	0.04	0.01	1.22	0.024	1.85	6.22	98.49	30.2	1.930	28.137	6.4	30.067	0.47	0.04
549395	36.95	0.173	24.62	0.58	< 0.01	0.05	0.04	< 0.01	1.13	0.019	1.59	7.33	98.14	30.2	2.203	27.944	7.3	30.147	0.05	0.04

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
549396	30.97	0.136	28.52	0.52	< 0.01	0.05	0.04	0.01	0.70	0.016	1.09	8.33	99.25	30.0	3.534	26.210	11.8	29.744	1.00	0.04
549397	43.09	0.164	22.72	0.51	< 0.01	0.04	0.04	0.01	1.14	0.022	1.80	5.75	98.55	30.2	2.388	27.740	7.9	30.128	0.40	0.04
549398	32.75	0.218	27.90	0.46	< 0.01	0.02	0.04	0.01	1.49	0.023	1.54	6.15	98.77	30.1	2.808	27.091	9.3	29.899	0.52	0.04
549399	29.32	0.129	29.49	0.45	< 0.01	0.02	0.04	0.01	0.69	0.016	1.10	8.40	99.83	30.0	4.004	25.887	13.3	29.891	0.50	0.08
549400	0.92	0.005	0.03	0.04	< 0.01	0.04	0.04	0.01	0.01	< 0.003	< 0.003	0.10	99.26	27.3	0.162	26.952	0.6	27.114	0.76	
549401	29.30	0.183	28.95	1.26	< 0.01	0.04	0.04	0.01	0.88	0.018	0.976	6.38	99.77	30.0	4.083	25.722	13.6	29.805	0.65	0.03
549402	54.77	0.294	17.80	0.10	< 0.01	< 0.01	0.13	0.02	2.00	0.030	1.19	3.30	98.99	30.1	1.874	27.927	6.2	29.801	1.13	0.02
549403	22.09	0.205	31.94	1.01	< 0.01	0.02	0.04	0.01	0.75	0.014	0.770	7.79	99.43	30.1	5.050	24.581	16.8	29.631	1.44	0.01
549404	34.08	0.132	26.24	0.65	< 0.01	0.02	0.05	0.01	0.92	0.019	1.41	6.56	99.00	30.1	3.097	26.917	10.3	30.014	0.27	0.06
549405	35.04	0.136	25.91	0.81	< 0.01	0.03	0.05	0.01	0.91	0.018	1.34	7.00	98.71	30.1	2.966	27.043	9.9	30.009	0.19	0.03
549406	24.93	0.162	30.19	1.18	< 0.01	0.04	0.04	0.01	0.82	0.016	1.23	8.27	98.97	30.0	3.549	26.406	11.8	29.956	0.24	0.02
549407	35.31	0.165	25.96	0.44	< 0.01	0.03	0.04	0.01	1.07	0.022	1.42	6.64	98.15	30.0	2.895	26.817	9.6	29.712	1.10	0.03
549408	41.77	0.126	23.50	0.29	< 0.01	0.02	0.05	0.01	0.94	0.028	1.66	6.06	99.45	30.1	3.195	26.409	10.6	29.605	1.74	0.08
549409	46.16	0.150	21.64	0.21	< 0.01	0.01	0.05	0.01	0.83	0.028	1.97	5.12	98.53	30.3	2.427	26.477	8.0	28.904	4.53	0.06
549410	31.42	0.136	28.62	0.51	< 0.01	0.01	0.04	0.01	0.55	0.016	1.45	7.64	99.96	30.2	3.835	26.362	12.7	30.197	0.17	0.04
549411	54.08	0.102	18.68	0.08	< 0.01	0.02	0.06	0.01	0.75	0.028	1.96	3.62	99.10	30.1	2.606	27.258	8.6	29.864	0.94	0.05
549412	41.04	0.183	23.75	0.24	< 0.01	0.01	0.04	0.01	0.82	0.022	1.53	6.11	97.67	30.1	3.099	26.952	10.3	30.050	0.17	0.10
549413	30.30	0.101	29.40	0.07	< 0.01	0.01	0.04	0.01	0.62	0.014	1.08	8.87	99.82	30.0	4.628	25.188	15.4	29.816	0.65	0.03
549414	51.34	0.195	18.94	0.55	< 0.01	0.02	0.05	0.01	1.24	0.028	1.72	3.94	97.46	30.1	2.572	27.424	8.5	29.997	0.48	0.08
549415	53.80	0.198	18.15	0.51	< 0.01	0.02	0.06	< 0.01	1.36	0.028	1.76	3.38	97.97	30.1	2.428	27.626	8.1	30.054	0.07	0.09
549416	36.58	0.214	27.79	0.30	< 0.01	0.01	0.04	0.01	0.98	0.020	1.38	7.14	99.59	30.2	3.630	26.545	12.0	30.175	0.06	0.08
549417	69.38	0.177	11.84	0.07	< 0.01	0.01	0.05	0.01	1.59	0.029	2.20	1.11	97.29	28.6	2.103	26.216	7.4	28.320	1.00	0.03
549418	72.81	0.168	10.29	0.05	< 0.01	< 0.01	0.04	0.01	1.53	0.030	2.25	0.56	97.34	30.0	2.627	27.451	8.7	30.078	-0.13	0.03
549419	64.01	0.272	13.44	0.19	< 0.01	0.02	0.05	0.01	2.45	0.032	3.13	1.00	96.56	30.1	1.539	28.637	5.1	30.176	-0.19	0.11
549420.1	12.04	0.168	4.93	7.78	2.44	2.79	1.08	0.43	1.05	0.061	0.233	0.78	98.97							
549420.2	13.11	0.126	32.17	2.07	0.11	0.13	0.13	0.02	0.20	0.006	1.44	10.85	99.07							
549420.3	52.77	0.236	18.16	0.19	< 0.01	0.03	0.03	0.01	1.56	0.022	2.03	3.24	98.21	16.9	1.276	15.333	7.6	16.608	1.67	
549421	72.48	0.233	8.76	0.03	< 0.01	0.02	0.05	0.01	2.41	0.048	2.80	-0.74	96.77	30.1	1.638	28.506	5.4	30.145	-0.15	0.02
549422	65.42	0.282	12.82	0.07	< 0.01	0.02	0.03	0.01	2.48	0.039	2.96	0.35	96.67	30.2	1.595	28.721	5.3	30.316	-0.52	0.04
549423	48.26	0.205	21.89	0.18	< 0.01	0.02	0.04	0.01	1.56	0.025	2.35	5.05	98.35	30.0	2.222	27.542	7.4	29.764	0.94	0.06
549424	59.34	0.163	16.72	0.12	< 0.01	0.02	0.06	0.01	1.51	0.026	2.49	3.14	97.57	30.2	2.137	28.012	7.1	30.149	0.14	0.04
549425	44.37	0.170	23.93	0.29	< 0.01	0.02	0.04	0.01	1.27	0.022	1.93	5.90	99.21	30.1	2.563	28.387	8.5	30.950	-2.66	0.06
549426	44.49	0.254	22.58	0.64	< 0.01	0.02	0.04	0.01	1.61	0.027	2.30	4.45	98.12	30.2	1.927	28.268	6.4	30.195	0.14	0.06
549427	51.69	0.295	18.58	0.61	< 0.01	0.02	0.04	0.01	2.13	0.030	3.12	2.32	96.72	30.0	1.536	28.581	5.1	30.117	-0.34	0.09
549428	59.41	0.230	15.24	0.37	< 0.01	0.02	0.05	0.01	1.63	0.033	2.43	2.29	97.20	30.1	2.013	27.924	6.7	29.938	0.41	0.06
549429	66.11	0.247	12.22	0.31	< 0.01	0.02	0.05	0.01	2.15	0.036	3.35	0.50	96.63	30.0	1.456	28.526	4.9	29.982	0.09	0.07
549430	59.59	0.190	15.78	0.25	< 0.01	0.02	0.04	0.01	1.65	0.028	2.52	2.33	97.21	30.1	1.961	28.138	6.5	30.099	0.10	0.07
549431	53.97	0.257	17.87	0.47	< 0.01	0.02	0.04	0.01	2.18	0.032	3.07	2.29	97.26	30.1	1.405	28.251	4.7	29.655	1.58	0.14
549432	46.89	0.145	22.99	0.29	< 0.01	0.02	0.05	0.01	0.77	0.021	2.15	4.55	99.00	30.0	2.488	27.783	8.3	30.271	-0.83	0.06
549433	44.33	0.208	23.23	0.72	< 0.01	0.02	0.05	0.01	1.18	0.020	1.93	4.94	99.06	30.1	2.260	27.297	7.5	29.556	1.83	0.05
549434	53.61	0.143	18.52	0.61	< 0.01	0.02	0.05	0.01	1.09	0.026	2.00	3.88	99.17	30.1	2.256	27.756	7.5	30.012	0.42	0.04
549435	57.00	0.149	17.28	0.62	< 0.01	< 0.01	0.06	0.01	1.13	0.029	2.08	3.14	99.11	30.1	2.117	27.941	7.0	30.058	0.13	0.04
549436	46.35	0.253	21.87	1.14	< 0.01	< 0.01	0.04	0.02	1.53	0.025	2.27	4.50	98.94	30.1	1.928	28.071	6.4	29.999	0.22	0.08
549437	46.93	0.174	21.32	0.07	< 0.01	0.02	0.05	0.01	2.61	0.020	5.10	2.38	96.11	30.1	1.122	28.989	3.7	30.111	0.01	0.18
549438	43.30	0.143	22.61	0.45	< 0.01	0.02	0.05	0.01	0.93	0.017	2.09	5.11	97.55	30.2	1.896	27.483	6.3	29.380	2.71	0.03
549439	61.51	0.173	14.28	0.46	< 0.01	0.02	0.06	0.01	1.44	0.033	2.50	1.48	97.23	15.3	0.845	13.972	5.5	14.817	2.92	0.04
549440	0.95	0.004	0.03	0.04	< 0.01	0.04	0.04	0.01	0.01	< 0.003	< 0.003	0.12	99.63	30.0	0.141	29.618	0.5	29.758	0.83	
549441	38.96	0.143	24.85	0.48	< 0.01	0.07	0.05	0.01	0.85	0.016	1.64	6.14	98.88	30.2	2.646	27.616	8.8	30.262	-0.35	0.03
549442	59.19	0.159	15.49	0.30	< 0.01	0.05	0.06	0.01	1.40	0.026	3.32	2.35	97.33	30.1	1.425	28.666	4.7	30.090	0.13	0.02
549443	47.77	0.210	21.55	0.14	< 0.01	0.09	0.04	0.01	1.80	0.020	2.08	4.98	98.53	30.1	2.353	27.816	7.8	30.169	-0.29	0.03
549444	49.84	0.232	18.51	1.18	< 0.01	0.02	0.05	0.01	1.82	0.022	3.49	3.10	96.59	30.1	1.293	28.697	4.3	29.990	0.52	0.07

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
549445	50.94	0.143	18.91	0.33	< 0.01	0.04	0.03	0.01	1.35	0.023	1.34	4.25	97.50	30.1	2.194	27.824	7.3	30.017	0.42	0.02
549446	39.70	0.208	24.73	0.26	< 0.01	0.06	0.02	0.01	1.51	0.018	1.46	6.79	97.90	30.1	2.156	27.855	7.2	30.012	0.34	0.07
549447	48.55	0.153	20.39	0.16	< 0.01	0.06	0.04	0.01	1.48	0.026	1.65	4.49	98.06	30.0	2.574	27.462	8.6	30.036	0.02	0.05
549448	42.80	0.175	22.18	0.20	< 0.01	0.07	0.05	0.01	1.42	0.025	1.62	5.68	97.56	30.2	2.382	27.452	7.9	29.834	1.24	0.03
549449	43.91	0.244	20.30	2.25	< 0.01	0.04	0.09	0.01	1.83	0.030	1.80	2.99	97.57	30.1	1.418	28.408	4.7	29.827	0.83	0.02
549450	52.42	0.162	18.10	0.28	< 0.01	0.08	0.05	0.01	1.30	0.029	1.89	3.93	97.34	30.0	2.019	27.846	6.7	29.865	0.60	0.03
549451	41.91	0.370	22.14	0.84	0.01	0.02	0.06	0.01	2.95	0.034	2.84	3.48	96.78	30.1	1.178	28.816	3.9	29.994	0.35	0.04
549452	42.06	0.272	20.93	2.07	< 0.01	0.06	0.08	0.01	2.72	0.039	2.55	2.06	97.14	30.1	0.772	29.330	2.6	30.101	0.06	0.02
549453	48.23	0.174	20.53	0.29	< 0.01	0.04	0.07	0.01	1.60	0.021	2.60	4.66	98.28	30.0	1.492	28.481	5.0	29.972	0.24	0.04
549454	48.22	0.179	19.82	0.35	< 0.01	0.03	0.06	0.01	1.82	0.023	2.30	4.32	97.10	30.2	1.477	28.851	4.9	30.328	-0.29	0.03
549455	44.57	0.171	21.07	0.41	< 0.01	0.08	0.07	0.01	1.66	0.023	2.10	5.10	97.60	30.1	1.576	28.190	5.2	29.766	1.05	0.03
549456	48.45	0.214	19.98	0.48	< 0.01	0.05	0.05	< 0.01	1.96	0.019	2.47	4.54	96.95	30.2	1.422	28.905	4.7	30.326	-0.34	0.06
549457	63.18	0.254	14.63	0.11	< 0.01	0.01	0.02	0.01	2.14	0.023	1.88	1.88	97.56	30.0	1.727	28.368	5.8	30.096	-0.28	0.06
549458	59.07	0.177	16.70	0.06	< 0.01	0.03	0.01	0.01	2.14	0.025	1.77	2.22	97.13	30.1	1.946	28.115	6.5	30.061	0.05	0.02
549459	60.77	0.169	15.71	0.07	< 0.01	0.03	0.01	0.01	1.90	0.026	1.68	2.55	97.37	30.2	2.006	28.212	6.6	30.218	-0.15	0.04
549460.1	11.94	0.161	4.93	7.72	2.45	2.78	1.09	0.43	1.04	0.063	0.233	0.77	98.57							
549460.2	13.16	0.122	32.22	2.05	0.09	0.14	0.12	0.02	0.19	0.009	1.44	10.89	99.07							
549460.3	53.59	0.259	18.29	0.17	< 0.01	0.04	0.05	< 0.01	1.74	0.029	2.02	2.64	97.81	27.3	1.846	24.999	6.8	26.844	1.70	
549461	53.24	0.230	18.82	0.09	< 0.01	0.04	0.02	0.01	2.43	0.025	1.90	3.16	97.20	30.2	1.762	28.451	5.8	30.213	-0.16	0.01
549462	56.23	0.163	18.02	0.06	< 0.01	0.02	0.01	0.01	1.37	0.020	1.66	3.49	98.10	30.2	2.176	27.875	7.2	30.051	0.44	0.02
549463	55.08	0.198	18.33	0.10	< 0.01	0.04	0.01	0.01	2.07	0.027	1.40	3.64	97.75	30.2	2.347	27.490	7.8	29.837	1.12	0.02
549464	70.94	0.202	10.80	0.11	< 0.01	0.03	0.02	< 0.01	2.06	0.034	1.76	0.22	97.75	30.0	1.938	27.883	6.5	29.821	0.75	0.03
549465	48.55	0.234	20.69	0.23	< 0.01	0.03	0.02	0.01	2.09	0.024	1.27	5.13	97.52	30.2	2.323	27.416	7.7	29.739	1.47	0.03
549466	36.89	0.218	26.66	0.58	< 0.01	0.03	0.01	0.01	1.76	0.021	1.22	7.11	98.47	30.1	2.349	27.664	7.8	30.013	0.22	0.02
549467	36.51	0.121	27.29	0.09	< 0.01	0.02	0.02	< 0.01	1.29	0.017	1.12	7.48	98.67	30.1	3.029	26.895	10.0	29.924	0.71	0.03
549468	34.14	0.217	27.62	0.39	< 0.01	0.06	0.01	< 0.01	1.79	0.020	1.27	8.01	97.64	30.1	2.324	27.766	7.7	30.090	0.18	0.03
549469	28.32	0.204	31.21	0.45	< 0.01	0.03	0.01	0.01	1.22	0.013	0.962	9.51	99.12	30.2	3.343	26.654	11.1	29.997	0.69	0.04
549470	40.40	0.165	24.83	0.15	0.01	0.07	0.02	0.01	2.18	0.024	1.49	6.37	98.09	30.1	2.008	27.435	6.7	29.442	2.34	0.02
549471	35.09	0.123	26.99	0.30	< 0.01	0.06	0.01	0.01	1.24	0.018	1.01	6.91	97.91	30.1	2.707	26.840	9.0	29.548	1.95	0.03
549472	35.94	0.121	27.53	0.16	< 0.01	0.04	0.02	0.01	1.27	0.016	0.949	7.61	99.37	30.1	3.012	26.651	10.0	29.664	1.47	0.03
549473	29.41	0.114	29.70	0.18	< 0.01	0.02	0.01	0.01	1.70	0.026	1.13	8.62	98.33	30.1	2.426	27.168	8.1	29.594	1.63	0.03
549474	49.63	0.228	19.39	0.17	< 0.01	0.04	0.02	0.01	3.21	0.035	2.41	3.59	96.85	30.1	1.065	28.953	3.5	30.017	0.20	0.04
549475	37.71	0.221	25.76	0.25	< 0.01	0.10	0.02	0.01	2.63	0.032	1.89	6.32	97.62	30.0	1.500	28.484	5.0	29.984	0.21	0.03
549476	32.53	0.145	29.19	0.16	< 0.01	0.03	0.02	0.01	1.59	0.018	1.35	7.30	98.43	30.0	2.056	27.972	6.8	30.028	0.01	0.04
549477	45.93	0.181	21.00	0.12	< 0.01	0.03	0.02	< 0.01	2.89	0.036	1.44	4.48	96.94	30.1	2.053	27.932	6.8	29.985	0.26	0.04
549478	30.73	0.161	29.74	0.46	< 0.01	0.05	0.01	0.01	1.33	0.019	0.962	7.52	98.77	30.2	3.279	26.824	10.9	30.102	0.21	0.03
549479	43.99	0.151	23.92	0.21	< 0.01	0.03	0.03	0.01	1.55	0.019	1.23	5.70	98.68	30.1	2.663	27.450	8.9	30.112	-0.15	0.07
549480	0.88	0.006	0.03	0.03	< 0.01	0.04	0.04	0.01	0.01	< 0.003	< 0.003	0.18	99.39	30.2	0.065	29.501	0.2	29.566	2.08	
549481	38.78	0.104	26.24	0.13	< 0.01	0.04	0.02	0.01	1.15	0.020	1.20	6.79	99.38	30.1	3.695	26.081	12.3	29.776	0.94	0.05
549482	30.61	0.170	29.26	0.74	< 0.01	0.03	0.03	< 0.01	1.65	0.026	1.49	6.79	98.82	30.2	2.074	27.685	6.9	29.759	1.32	0.04
549483	45.51	0.153	21.94	0.17	< 0.01	0.06	0.03	0.01	1.98	0.028	1.92	4.27	97.57	30.1	1.732	28.115	5.8	29.847	0.77	0.02
549484	35.88	0.129	26.89	0.17	< 0.01	0.04	0.03	0.01	1.18	0.018	1.04	6.77	98.65	30.2	3.069	27.048	10.2	30.117	0.20	0.03
549485	31.20	0.161	29.30	0.22	< 0.01	0.05	0.02	0.01	1.29	0.020	1.04	7.18	98.84	30.2	3.242	26.835	10.7	30.077	0.40	0.02
549486	34.09	0.221	25.98	2.20	< 0.01	0.09	0.03	0.01	2.22	0.033	1.38	4.07	97.83	30.1	1.753	28.192	5.8	29.945	0.46	0.01
549487	29.09	0.173	29.52	0.55	< 0.01	0.07	0.03	0.01	1.55	0.026	1.14	7.20	98.85	30.1	2.624	27.392	8.7	30.017	0.28	0.03
549488	25.87	0.216	31.99	1.19	< 0.01	0.06	0.02	< 0.01	1.82	0.028	0.866	5.03	98.55	30.1	2.354	27.643	7.8	29.997	0.34	< 0.01
549489	36.46	0.304	24.17	1.78	< 0.01	< 0.01	0.03	< 0.01	2.91	0.036	1.09	2.39	98.25	30.1	1.675	28.453	5.6	30.128	-0.14	0.02
549490	29.56	0.259	27.86	2.01	< 0.01	< 0.01	0.04	0.01	3.12	0.038	0.819	2.65	98.09	30.1	1.482	28.503	4.9	29.986	0.45	0.02
549491	30.60	0.294	28.24	0.45	< 0.01	< 0.01	0.04	0.01	3.32	0.036	0.805	1.76	98.02	30.2	1.352	27.697	4.5	29.050	3.68	< 0.01
549492	41.33	0.212	22.28	1.16	< 0.01	< 0.01	0.03	0.01	1.84	0.031	0.776	4.72	98.19	30.0	2.560	27.489	8.5	30.049	-0.01	0.03
549493	45.78	0.300	21.80	0.47	< 0.01	< 0.01	0.03	< 0.01	2.18	0.029	1.09	4.12	97.69	30.0	2.018	27.993	6.7	30.011	0.12	0.03

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
549494	19.72	0.224	35.95	0.65	< 0.01	< 0.01	0.02	0.01	1.06	0.016	0.293	2.74	97.82	30.1	4.503	25.452	15.0	29.955	0.34	< 0.01
549495	21.69	0.233	36.06	0.54	< 0.01	< 0.01	0.02	0.01	1.20	0.019	0.380	2.26	99.54	30.2	3.818	25.706	12.6	29.524	2.22	< 0.01
549496	28.28	0.282	32.62	0.43	< 0.01	< 0.01	0.02	< 0.01	1.55	0.027	0.671	1.65	98.01	30.1	2.529	27.291	8.4	29.820	1.01	< 0.01
549497	22.66	0.251	35.89	0.11	< 0.01	< 0.01	0.03	0.01	1.42	0.024	0.438	2.62	99.13	30.2	3.301	26.640	10.9	29.941	0.81	< 0.01
549498	34.63	0.332	29.60	0.12	< 0.01	< 0.01	0.05	0.02	3.94	0.048	1.13	0.90	96.94	30.1	0.988	28.704	3.3	29.692	1.48	< 0.01
549499	34.74	0.211	27.18	0.22	< 0.01	< 0.01	0.04	0.02	2.71	0.041	2.43	3.08	97.85	30.1	3.363	26.359	11.2	29.722	1.26	< 0.01
549500.1	12.10	0.171	4.95	7.91	2.43	2.84	1.10	0.44	1.06	0.060	0.234	0.78	99.38							
549500.2	13.24	0.125	32.43	2.09	0.11	0.15	0.13	0.02	0.20	0.009	1.44	10.71	99.48							
549500.3	53.73	0.240	18.16	0.19	0.01	0.08	0.04	0.01	1.60	0.027	1.99	3.15	98.56	28.4	2.043	26.458	7.2	28.501	-0.27	
549501	32.06	0.283	32.23	0.26	< 0.01	< 0.01	0.04	0.02	2.17	0.032	1.15	1.57	99.00	30.1	1.859	27.963	6.2	29.822	1.02	0.01
549502	26.86	0.256	34.71	0.36	< 0.01	< 0.01	0.03	0.01	1.59	0.025	0.772	3.60	99.28	30.2	2.989	26.430	9.9	29.419	2.44	< 0.01
549503	41.50	0.253	25.50	0.58	< 0.01	< 0.01	0.03	0.02	2.13	0.029	1.15	3.21	98.86	30.3	2.168	27.840	7.2	30.008	0.96	0.03
549504	40.66	0.234	23.38	0.86	< 0.01	< 0.01	0.03	0.02	3.18	0.036	2.01	4.17	98.79	30.3	1.588	28.216	5.2	29.804	1.48	0.01
549505	27.16	0.260	31.93	1.40	< 0.01	< 0.01	0.03	0.02	2.79	0.037	1.17	2.76	98.55	30.4	1.550	28.712	5.1	30.262	0.60	0.03
549506	42.41	0.138	25.60	0.13	< 0.01	< 0.01	0.02	0.02	1.09	0.021	1.09	6.26	99.75	30.2	3.250	26.430	10.8	29.681	1.61	0.02
549507	38.38	0.155	27.29	0.16	< 0.01	0.07	0.02	0.01	1.31	0.017	0.998	6.70	100.1	30.1	3.432	26.532	11.4	29.964	0.31	0.01
549508	42.01	0.147	25.43	0.18	< 0.01	0.06	0.02	0.01	1.29	0.019	1.28	6.14	99.66	30.1	2.761	27.530	9.2	30.292	-0.48	0.02
549509	41.87	0.184	25.41	0.23	< 0.01	0.03	0.02	0.01	1.49	0.021	1.14	5.93	99.21	30.0	2.679	26.965	8.9	29.644	1.30	0.02
549510	39.72	0.219	25.97	0.45	< 0.01	0.04	0.03	0.01	1.81	0.020	1.81	5.57	98.61	30.2	2.025	27.711	6.7	29.736	1.38	0.03
549511	49.23	0.188	20.86	0.27	< 0.01	0.15	0.02	0.01	1.87	0.023	1.28	4.82	98.37	30.0	2.418	27.575	8.1	29.993	0.13	0.02
549512	47.03	0.274	22.46	0.41	< 0.01	0.14	0.03	0.01	2.40	0.026	1.98	3.75	98.04	30.1	1.850	28.063	6.2	29.913	0.48	0.03
549513	41.06	0.129	25.73	0.16	< 0.01	0.04	0.02	0.01	1.30	0.019	1.32	6.21	99.32	30.3	2.795	27.457	9.2	30.252	0.02	0.02
549514	46.07	0.163	23.39	0.22	< 0.01	0.04	0.02	< 0.01	1.50	0.021	1.28	5.60	99.38	30.0	2.732	27.093	9.1	29.824	0.65	0.02
549515	52.15	0.165	20.54	0.22	< 0.01	0.05	0.02	0.01	1.61	0.022	1.49	3.72	98.59	30.1	2.298	27.702	7.6	30.000	0.17	0.02
549516	59.24	0.193	16.50	0.15	< 0.01	0.03	0.03	< 0.01	2.20	0.023	1.92	2.10	97.41	30.1	1.865	28.218	6.2	30.082	0.01	0.01
549517	55.80	0.210	17.42	0.23	< 0.01	0.09	0.03	< 0.01	2.65	0.031	2.21	2.17	96.69	30.1	1.308	28.633	4.3	29.940	0.55	0.01
549518	61.07	0.199	14.93	0.26	< 0.01	0.05	0.02	0.01	2.67	0.033	2.40	1.22	96.57	30.2	1.346	28.842	4.5	30.188	-0.09	0.01
549519	41.10	0.190	25.78	0.59	< 0.01	0.03	0.03	0.01	1.57	0.019	2.26	4.72	98.63	30.1	1.507	28.445	5.0	29.953	0.49	0.02
549520	0.85	0.004	0.03	0.03	< 0.01	0.04	0.04	0.01	0.01	0.003	< 0.003	0.12	98.87	30.2	0.044	29.314	0.1	29.358	2.79	
549521	46.83	0.223	22.28	0.56	< 0.01	0.06	0.02	0.01	2.35	0.028	2.76	3.07	97.67	30.1	1.185	28.883	3.9	30.069	0.20	0.03
549522	52.24	0.222	17.38	0.44	< 0.01	< 0.01	0.02	< 0.01	2.46	0.031	2.35	3.78	97.58	30.2	0.665	28.688	2.2	29.353	2.73	0.02
549523	58.53	0.258	15.21	0.35	< 0.01	0.02	0.03	< 0.01	3.67	0.043	2.33	1.31	96.08	30.2	1.186	29.020	3.9	30.206	-0.13	0.01
549524	43.58	0.146	24.19	0.19	< 0.01	0.02	0.02	0.01	1.57	0.022	1.41	5.68	98.87	30.0	2.318	27.432	7.7	29.750	0.95	0.01
549525	61.69	0.176	14.98	0.21	< 0.01	0.05	0.02	0.01	2.39	0.036	1.90	1.98	97.08	30.1	1.555	28.099	5.2	29.654	1.36	0.01
549526	51.25	0.215	20.46	0.33	< 0.01	0.04	0.03	0.01	2.56	0.032	1.84	3.41	97.94	30.1	1.529	28.389	5.1	29.917	0.52	0.02
549527	46.86	0.301	20.25	0.09	< 0.01	0.02	0.04	0.01	5.75	0.045	1.38	4.74	96.54	30.1	2.532	27.602	8.4	30.134	0.04	0.02
549528	46.53	0.189	23.14	0.25	< 0.01	0.03	0.03	0.01	2.02	0.024	1.44	4.82	98.82	30.1	1.870	28.074	6.2	29.944	0.55	< 0.01
549529	51.06	0.197	20.72	0.38	0.01	0.04	0.02	0.01	1.89	0.025	1.76	5.04	98.25	30.1	1.887	27.988	6.3	29.874	0.80	0.02
549530	57.89	0.166	17.06	0.16	< 0.01	0.04	0.03	0.01	2.15	0.029	2.00	3.08	98.62	30.1	1.609	28.077	5.3	29.686	1.34	0.02
549531	56.54	0.197	17.28	0.18	< 0.01	0.02	0.03	< 0.01	2.41	0.032	2.07	3.41	97.42	30.1	1.500	28.301	5.0	29.801	0.88	0.01
549532	57.74	0.243	15.70	0.41	< 0.01	0.02	0.03	0.01	3.03	0.039	2.55	2.21	96.42	30.2	1.195	28.366	4.0	29.561	1.96	0.01
549533	55.08	0.174	18.55	0.22	< 0.01	0.03	0.02	0.01	2.06	0.028	1.93	3.67	97.71	30.1	1.508	28.208	5.0	29.716	1.17	0.03
549534	63.13	0.178	13.60	0.10	< 0.01	0.03	0.03	< 0.01	2.65	0.032	2.72	1.74	97.19	30.1	1.273	28.573	4.2	29.846	0.86	0.02
549535	50.42	0.168	20.96	0.17	< 0.01	0.07	0.03	< 0.01	1.90	0.027	1.46	5.09	98.36	30.0	1.895	27.686	6.3	29.581	1.48	0.02
549536	54.09	0.174	19.14	0.13	< 0.01	0.04	0.02	< 0.01	2.35	0.029	2.02	3.66	98.02	30.1	1.619	28.025	5.4	29.644	1.38	0.02
549537	47.42	0.232	21.45	0.75	< 0.01	0.03	0.03	0.01	2.18	0.032	1.76	4.87	97.70	30.0	1.645	28.148	5.5	29.793	0.78	0.03
549538	62.46	0.165	15.18	0.11	< 0.01	0.02	0.03	< 0.01	1.96	0.032	1.91	2.34	97.74	30.1	1.954	28.049	6.5	30.003	0.35	0.02
549539	49.79	0.177	21.08	0.19	< 0.01	0.03	0.02	0.01	1.92	0.029	1.93	4.17	97.85	30.1	1.982	27.902	6.6	29.884	0.59	0.01
549540.1	12.11	0.165	5.01	7.87	2.44	2.81	1.11	0.44	1.05	0.065	0.232	0.79	99.45							
549540.2	13.19	0.124	32.18	2.05	0.08	0.14	0.12	0.03	0.20	0.007	1.44	10.84	99.03							
549540.3	53.10	0.230	18.38	0.19	< 0.01	0.05	0.05	0.01	1.61	0.025	2.02	3.20	98.51	19.9	1.393	18.039	7.0	19.433	2.57	

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
549541	55.66	0.175	18.01	0.25	< 0.01	0.05	0.03	0.02	2.15	0.029	2.09	2.92	97.26	30.1	1.669	28.370	5.5	30.039	0.22	0.02
549542	57.29	0.244	16.46	0.25	< 0.01	0.06	0.03	0.01	3.02	0.035	2.06	2.19	96.83	30.1	1.538	28.213	5.1	29.751	1.02	0.01
549543	78.45	0.136	8.25	0.05	< 0.01	0.05	0.02	0.01	1.57	0.027	1.86	1.10	99.60	21.9	1.244	20.456	5.7	21.700	0.71	0.01
549544	41.57	0.205	25.10	0.19	< 0.01	0.04	0.03	0.01	2.31	0.025	1.60	5.17	98.92	30.1	2.196	27.282	7.3	29.478	2.11	0.01
549545	66.49	0.158	13.64	0.12	< 0.01	0.06	0.03	0.01	1.89	0.031	2.11	0.96	98.45	30.1	1.697	28.243	5.6	29.940	0.51	< 0.01
549546	54.90	0.227	18.20	0.22	< 0.01	0.02	0.02	0.01	2.65	0.029	1.97	2.82	96.89	30.1	1.787	28.041	5.9	29.828	0.89	< 0.01
549547	56.65	0.171	18.36	0.21	< 0.01	0.03	0.01	0.01	1.80	0.024	1.78	3.56	98.22	23.0	1.646	21.149	7.1	22.795	1.06	0.01
549548	72.33	0.212	10.36	0.24	< 0.01	0.05	0.02	0.01	2.38	0.027	2.74	0.06	97.02	23.6	1.120	21.900	4.8	23.021	2.28	0.01
549549	60.99	0.158	15.98	0.24	< 0.01	0.03	0.02	< 0.01	2.02	0.029	1.78	1.79	97.90	26.7	1.564	25.154	5.8	26.718	0.10	< 0.01
549550	65.57	0.217	12.32	0.32	< 0.01	0.02	0.02	0.01	2.78	0.036	2.28	0.57	96.65	23.8	1.046	22.490	4.4	23.536	0.94	< 0.01
549551	43.38	0.186	22.73	0.27	< 0.01	0.06	0.01	< 0.01	2.14	0.029	1.69	6.70	98.23	30.1	1.974	27.843	6.6	29.817	0.85	< 0.01
549552	56.28	0.113	17.83	0.18	0.17	0.11	0.02	0.01	1.37	0.022	1.53	3.34	99.36	24.9	2.151	22.464	8.6	24.615	1.04	0.02
549553	50.80	0.189	20.75	0.34	< 0.01	0.06	0.01	0.01	1.86	0.023	1.36	4.70	97.54	30.1	1.489	27.511	5.0	29.000	3.56	0.01
549554	59.17	0.138	16.64	0.14	< 0.01	0.03	0.01	< 0.01	1.61	0.028	1.60	2.24	97.28	29.9	1.739	26.734	5.8	28.473	4.91	0.02
549555	52.47	0.127	19.47	0.17	< 0.01	0.06	0.01	0.01	1.37	0.025	1.45	4.20	97.68	30.0	2.552	26.890	8.5	29.442	1.98	0.01
549556	60.32	0.180	15.15	0.14	< 0.01	0.03	0.02	0.01	2.42	0.029	2.82	1.50	96.67	29.9	1.199	28.038	4.0	29.237	2.26	0.01
549557	41.92	0.186	24.20	0.41	< 0.01	0.02	0.01	0.01	2.13	0.025	1.89	5.09	97.30	30.1	1.487	27.948	4.9	29.435	2.21	0.01
549558	57.28	0.201	17.23	0.14	< 0.01	0.06	0.01	0.01	2.20	0.023	1.80	2.97	97.25	29.1	1.746	26.915	6.0	28.662	1.42	0.01
549559	44.75	0.149	23.47	0.15	< 0.01	0.02	0.01	0.01	1.47	0.020	1.54	5.42	97.97	30.1	2.310	27.548	7.7	29.858	0.93	< 0.01
549560	0.86	0.003	0.02	0.03	< 0.01	0.04	0.04	0.01	0.01	< 0.003	< 0.003	0.12	98.55	30.5	0.026	29.547	0.1	29.573	3.05	
549561	47.95	0.179	22.23	0.14	< 0.01	0.02	0.01	0.01	1.74	0.020	1.43	5.08	98.72	30.3	2.419	27.283	8.0	29.703	1.83	0.02
549562	50.86	0.167	20.90	0.08	< 0.01	0.09	0.02	0.01	1.81	0.022	1.51	4.39	98.66	28.9	2.382	26.319	8.2	28.701	0.78	0.02
549563	51.65	0.145	19.83	0.14	< 0.01	0.05	0.02	0.01	1.82	0.022	1.84	4.03	98.47	30.0	2.294	27.658	7.6	29.952	0.30	0.01
549564	54.39	0.186	18.78	0.11	< 0.01	0.04	0.01	0.01	1.62	0.023	1.58	3.68	98.37	24.4	2.023	22.272	8.3	24.295	0.61	0.02
549565	57.84	0.149	17.33	0.06	< 0.01	< 0.01	0.01	0.01	1.63	0.022	1.69	3.24	98.23	30.3	2.437	27.388	8.0	29.824	1.59	
549566	68.37	0.145	12.32	0.20	< 0.01	0.08	0.01	0.01	1.56	0.020	1.80	1.22	97.88	30.0	2.397	27.533	8.0	29.930	0.36	0.05
549567	46.42	0.185	22.18	0.16	< 0.01	0.04	0.02	< 0.01	1.76	0.017	1.57	5.24	97.96	30.1	2.290	27.292	7.6	29.583	1.56	0.02
549568	53.05	0.201	19.58	0.06	< 0.01	< 0.01	0.01	< 0.01	1.86	0.019	1.76	4.19	97.75	30.3	2.470	27.261	8.1	29.732	1.91	
549569	46.69	0.207	21.96	0.14	< 0.01	0.08	0.02	0.01	1.67	0.019	1.29	5.36	97.43	25.1	2.213	22.558	8.8	24.771	1.30	0.02
549570	44.92	0.185	23.08	0.12	< 0.01	0.04	0.01	0.01	1.46	0.020	1.53	4.93	97.44	30.2	2.255	27.385	7.5	29.640	1.73	0.01
549571	39.21	0.158	26.15	0.06	< 0.01	0.03	0.01	0.01	1.48	0.018	1.19	6.81	98.19	30.0	2.787	26.133	9.3	28.920	3.62	0.02
549572	38.03	0.185	26.96	0.02	0.01	0.13	0.02	0.01	2.68	0.017	1.61	5.66	97.77	30.0	1.798	27.933	6.0	29.731	1.03	0.04
549573	40.96	0.129	25.86	0.06	< 0.01	0.05	0.02	0.01	1.35	0.018	1.07	6.86	98.46	30.0	3.356	26.217	11.2	29.573	1.50	0.03
549574	27.93	0.116	32.12	0.07	< 0.01	0.06	0.01	0.01	0.83	0.012	0.564	9.86	99.49	30.2	5.176	24.464	17.2	29.641	1.77	0.07
549575	29.05	0.117	31.74	0.10	< 0.01	0.02	0.01	0.01	0.90	0.012	0.609	9.71	100.2	30.1	5.379	24.103	17.9	29.482	2.05	0.06
549576	30.56	0.173	30.52	0.11	< 0.01	0.05	0.01	0.01	0.96	0.014	0.954	8.80	99.64	30.0	3.898	25.639	13.0	29.538	1.70	0.01
549577	28.38	0.125	31.33	0.03	0.01	0.05	0.01	0.01	1.84	0.013	0.974	7.91	98.58	30.1	2.382	27.227	7.9	29.609	1.67	0.03
549578	32.56	0.153	30.52	0.04	0.01	0.03	0.01	0.01	1.97	0.015	0.600	7.90	98.41	30.1	2.374	27.198	7.9	29.572	1.62	0.10
549579	32.67	0.164	27.60	0.42	< 0.01	0.03	0.05	0.01	0.70	0.018	1.23	7.44	98.60	30.1	3.668	26.026	12.2	29.693	1.49	0.05
549580.1	12.04	0.170	4.98	7.73	2.42	2.88	1.09	0.44	1.05	0.064	0.233	0.79	98.59							
549580.2	13.11	0.127	32.31	2.07	0.11	0.14	0.13	0.02	0.20	0.008	1.44	10.84	99.23							
549580.3	53.07	0.230	18.58	0.20	< 0.01	0.02	0.04	0.01	1.57	0.027	2.02	3.02	98.35	27.2	1.903	24.354	7.0	26.258	3.43	
549581	56.44	0.134	17.62	0.08	< 0.01	0.05	0.04	0.01	1.05	0.022	1.14	3.33	98.10	30.1	2.773	26.581	9.2	29.354	2.48	0.22
549582	35.28	0.128	27.81	0.08	< 0.01	0.06	0.02	0.01	0.74	0.014	0.581	7.43	99.19	30.1	4.694	25.209	15.6	29.903	0.63	0.11
549583	50.12	0.211	20.57	0.36	< 0.01	0.02	0.02	0.01	1.20	0.017	1.26	4.83	98.56	30.2	3.207	26.730	10.6	29.937	0.80	0.08
549584	32.77	0.180	30.24	0.34	0.01	0.02	0.02	0.01	0.97	0.014	1.30	8.08	99.59	30.0	3.680	25.807	12.2	29.487	1.86	0.07
549585	41.15	0.173	26.22	0.22	< 0.01	0.01	0.02	0.01	1.11	0.018	1.38	6.83	99.19	30.1	2.674	26.447	8.9	29.121	3.14	0.07
549586	38.16	0.185	27.53	0.23	0.01	0.04	0.02	0.01	1.27	0.017	1.50	5.97	98.55	30.1	2.720	27.665	9.0	30.384	-0.88	0.07
549587	45.66	0.211	23.94	0.37	< 0.01	0.04	0.02	0.01	1.84	0.023	1.65	4.37	98.34	30.1	2.357	27.552	7.8	29.910	0.57	0.09
549588	29.71	0.174	32.41	0.26	< 0.01	0.03	0.02	0.01	1.03	0.016	1.40	7.89	99.73	30.1	3.883	25.960	12.9	29.843	0.86	0.07
549589	33.85	0.103	29.56	0.06	< 0.01	0.02	0.02	0.01	1.32	0.006	4.24	6.24	98.37	30.2	0.632	28.341	2.1	28.973	4.03	0.32

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
549590	37.99	0.180	26.66	0.13	< 0.01	0.04	0.02	0.01	1.20	0.017	1.45	7.16	98.38	27.4	3.058	24.185	11.2	27.243	0.48	0.06
549591	25.91	0.168	30.82	0.08	0.02	0.05	0.04	0.01	0.90	0.015	1.15	8.45	98.70	30.2	4.299	24.528	14.3	28.827	4.44	0.03
549592	80.86	0.382	4.61	0.12	< 0.01	0.04	0.12	0.02	2.94	0.050	1.54	2.06	97.74	22.5	1.036	21.196	4.6	22.233	1.03	0.03

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
NIST 694 Meas	11.31	1.92	0.75	0.012	0.35	44.15	0.88	0.56	0.118	30.19									1676					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
DNC-1 Meas	46.75	18.30	9.80	0.147	9.88	11.05	1.91	0.23	0.476	0.08			106	140	17	31	34		153	0.030	0.028			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148.0	0.025	0.027			
GBW 07113 Meas	72.29	12.88	3.18	0.138	0.14	0.56	2.47	5.38	0.277	0.04			500	40	43	5	382	4	6					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
MICA-FE Meas																						34.66	19.32	25.93
MICA-FE Cert																						34.4	19.5	25.6
CHR-BKG Meas																						15.20	12.84	13.75
CHR-BKG Cert																						15.27	12.91	13.87
IF-G Meas																						41.15	0.08	55.90
IF-G Cert																						41.2	0.150	55.8
W-2a Meas	52.66	15.44	10.84	0.167	6.25	10.82	2.19	0.62	1.078	0.13			175	194	19	36	88	< 1	279	0.013	< 0.010			
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262	0.00700	0.00920			
OREAS 13P Meas																				0.225				
OREAS 13P Cert																				0.226				
OREAS 14P Meas																								
OREAS 14P Cert																								
SY-4 Meas	49.86	20.81	6.15	0.107	0.50	7.93	6.98	1.67	0.290	0.12			348	1217	115	< 1	545	3	5	< 0.010	< 0.010			
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0	0.000	0.001			
Oreas 73a (Fusion) Meas																						36.02	2.10	
Oreas 73a (Fusion) Cert																						36.4	2.38	
Oreas 74a (Fusion) Meas																						32.44	2.20	
Oreas 74a (Fusion) Cert																						32.4	2.21	
Oreas 75a (Fusion) Meas																						27.20	1.88	
Oreas 75a (Fusion) Cert																						27.3	1.99	
Oreas 75a (Fusion) Meas																						27.20	1.88	
Oreas 75a (Fusion) Cert																						27.3	1.99	
BIR-1a Meas	47.57	15.44	11.30	0.173	9.45	13.24	1.78	0.02	0.948	0.02			8	105	14	44	16	< 1	336	0.021	0.039			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310	0	0			
549265 Orig	39.71	1.56	7.29	0.088	39.10	0.60	< 0.01	< 0.01	0.011	< 0.01	12.43	100.8	< 2	< 2	< 1	11	2	< 1	51	0.199	0.286			
549265 Dup	39.27	1.53	7.20	0.087	38.76	0.57	< 0.01	< 0.01	0.011	< 0.01	12.43	99.88	< 2	< 2	< 1	10	< 2	< 1	50	0.187	0.280			
549268 Orig																								
549268 Dup																								
549278 Orig																								
549278 Dup																								
549282 Orig	37.45	1.12	8.19	0.119	38.87	0.82	< 0.01	< 0.01	0.008	< 0.01	12.59	99.17	< 2	< 2	< 1	10	< 2	< 1	44	0.168	0.292			
549282 Dup	37.68	1.10	8.32	0.119	38.73	0.82	< 0.01	< 0.01	0.008	< 0.01	12.59	99.38	< 2	< 2	< 1	10	< 2	< 1	45	0.201	0.283			
549288 Orig																								
549288 Dup																								
549296 Orig	37.41	1.11	7.84	0.100	38.14	0.74	< 0.01	< 0.01	0.006	< 0.01	13.10	98.45	< 2	< 2	< 1	10	< 2	< 1	42	0.178	0.276			
549296 Dup	37.76	1.13	7.98	0.101	38.30	0.73	< 0.01	< 0.01	0.007	< 0.01	13.10	99.11	< 2	< 2	< 1	10	< 2	< 1	43	0.190	0.284			
549298 Orig																								
549298 Dup																								
549306 Orig																								
549306 Dup																								
549311 Dup	37.83	0.92	7.55	0.110	38.13	0.38	< 0.01	< 0.01	0.006	< 0.01	12.42	97.36	3	8	< 1	9	< 2	< 1	44	0.232	0.246			
549316 Orig																								
549316 Dup																								
549326 Orig																								
549326 Dup																								
549328 Orig	37.87	1.47	7.43	0.084	36.80	1.02	< 0.01	< 0.01	0.014	< 0.01	13.32	98.00	3	6	< 1	11	< 2	< 1	48	0.191	0.224			
549328 Dup	38.49	1.48	7.53	0.084	37.18	1.03	< 0.01	< 0.01	0.014	< 0.01	13.32	99.14	3	5	< 1	11	< 2	< 1	51	0.235	0.220			
549336 Orig																								

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
549336 Dup																								
549342 Orig	37.04	1.03	7.94	0.110	36.52	1.66	< 0.01	< 0.01	0.009	< 0.01	13.85	98.16	5	5	< 1	10	< 2	< 1	45	0.183	0.247			
549344 Orig																								
549344 Dup																								
549354 Orig																								
549354 Dup																								
549357 Orig	33.89	0.71	6.74	0.101	35.79	1.14	0.03	< 0.01	0.005	0.03	21.40	99.84	2	4	< 1	8	3	< 1	30	0.187	0.218			
549357 Dup	33.54	0.70	6.78	0.101	35.44	1.13	0.03	< 0.01	0.005	0.03	21.40	99.17	2	4	< 1	8	2	< 1	31	0.187	0.217			
549364 Orig																								
549364 Dup																								
549374 Orig	39.21	1.11	7.59	0.125	38.07	0.97	< 0.01	< 0.01	0.014	0.02	12.62	99.74	< 2	< 2	< 1	9	2	< 1	36	0.217	0.229			
549374 Dup	38.45	1.08	7.46	0.122	38.43	0.95	0.01	< 0.01	0.014	0.02	12.62	99.16	< 2	< 2	1	9	3	< 1	38	0.190	0.221			
549382 Orig																								
549382 Dup																								
549388 Orig	37.18	0.77	8.56	0.158	39.60	0.43	0.01	< 0.01	0.008	0.04	12.48	99.25	< 2	< 2	< 1	9	3	< 1	32	0.196	0.245			
549388 Dup	37.62	0.79	8.60	0.157	39.86	0.42	0.01	< 0.01	0.008	0.06	12.48	100.0	< 2	< 2	< 1	9	3	< 1	30	0.210	0.243			
549392 Orig																								
549392 Dup																								
549402 Orig																								
549402 Dup																								
549403 Orig	40.03	1.68	7.97	0.142	37.92	1.43	0.02	< 0.01	0.018	< 0.01	10.68	99.89	9	< 2	< 1	11	2	< 1	54	0.175	0.221			
549403 Dup	39.61	1.68	8.09	0.143	37.75	1.45	0.02	< 0.01	0.018	< 0.01	10.68	99.46	8	< 2	< 1	11	< 2	< 1	53	0.185	0.231			
549412 Orig																								
549412 Dup																								
549420.1 Orig	50.24	16.11	12.24	0.165	4.91	7.74	2.33	2.92	1.188	0.43	0.79	99.07	732	526	20	26	113	2	340	0.224	1.013			
549430 Orig																								
549430 Dup																								
549434 Orig	39.00	1.58	7.98	0.100	36.56	1.48	< 0.01	< 0.01	0.019	< 0.01	12.21	98.93	7	< 2	< 1	12	3	< 1	57	0.188	0.248			
549434 Dup	39.18	1.55	7.99	0.100	36.90	1.46	< 0.01	< 0.01	0.019	< 0.01	12.21	99.42	6	< 2	< 1	12	2	< 1	56	0.195	0.246			
549449 Orig	40.92	1.81	7.21	0.117	36.01	2.86	0.03	< 0.01	0.025	0.01	9.81	98.80	19	< 2	< 1	12	4	< 1	58	0.169	0.231			
549449 Dup	40.88	1.81	7.16	0.116	35.89	2.85	0.03	< 0.01	0.026	0.02	9.81	98.61	19	2	< 1	12	4	< 1	61	0.169	0.229			
549450 Orig																								
549450 Dup																								
549466 Dup	38.47	0.55	7.92	0.157	39.36	1.07	< 0.01	< 0.01	0.003	< 0.01	12.37	99.91	22	3	< 1	9	3	< 1	35	0.172	0.233			
549468 Orig																								
549468 Dup																								
549478 Orig																								
549478 Dup																								
549480 Orig	97.84	0.28	0.68	0.005	0.11	0.02	0.01	0.04	0.030	0.01	0.08	99.12	26	5	2	< 1	53	< 1	5	< 0.010	0.011			
549480 Dup	97.38	0.28	0.68	0.005	0.11	0.02	0.01	0.04	0.029	0.01	0.08	98.65	26	4	< 1	< 1	51	< 1	6	< 0.010	0.011			
549488 Orig																								
549488 Dup																								
549495 Orig	40.98	0.65	8.45	0.121	41.08	1.02	< 0.01	< 0.01	0.002	< 0.01	7.33	99.65	5	< 2	< 1	10	3	< 1	37	0.218	0.290			
549495 Dup	40.79	0.64	8.39	0.120	40.64	0.99	< 0.01	< 0.01	0.002	< 0.01	7.33	98.92	5	< 2	1	10	10	< 1	37	0.213	0.277			
549498 Orig																								
549506 Orig																								
549506 Dup																								
549512 Dup	37.93	0.56	8.58	0.155	38.95	0.87	< 0.01	< 0.01	0.002	< 0.01	11.69	98.74	2	< 2	< 1	9	< 2	< 1	32	0.207	0.303			
549516 Orig																								
549516 Dup																								
549526 Orig	37.57	0.65	8.66	0.144	40.25	0.79	< 0.01	< 0.01	0.002	< 0.01	10.83	98.88	< 2	< 2	< 1	10	< 2	< 1	35	0.214	0.292			
549526 Dup	38.84	0.66	8.86	0.148	40.65	0.81	< 0.01	< 0.01	0.002	< 0.01	10.83	100.8	< 2	< 2	1	10	< 2	< 1	34	0.183	0.298			
549536 Orig																								
549536 Dup																								
549541 Orig	38.41	0.62	7.79	0.116	39.79	0.77	< 0.01	< 0.01	0.004	< 0.01	12.11	99.63	< 2	< 2	< 1	9	3	< 1	33	0.215	0.248			
549541 Dup	38.44	0.62	7.82	0.116	39.86	0.79	< 0.01	< 0.01	0.004	< 0.01	12.11	99.77	< 2	< 2	< 1	9	2	< 1	34	0.173	0.268			
549544 Orig																								

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
549544 Dup																								
549554 Orig																								
549554 Dup																								
549558 Orig	37.98	0.68	8.02	0.121	38.80	0.63	0.02	< 0.01	0.003	< 0.01	12.72	98.98	< 2	< 2	< 1	9	3	< 1	36	0.214	0.287			
549558 Dup	38.06	0.68	8.16	0.122	39.18	0.64	0.02	< 0.01	0.003	< 0.01	12.72	99.59	< 2	< 2	< 1	9	4	< 1	37	0.193	0.307			
549564 Orig																								
549564 Dup																								
549572 Orig	37.70	0.20	6.83	0.110	42.62	0.03	< 0.01	< 0.01	0.002	< 0.01	11.88	99.39	< 2	< 2	< 1	4	2	< 1	14	0.217	0.223			
549572 Dup	38.27	0.21	6.95	0.113	43.18	0.03	< 0.01	< 0.01	0.002	< 0.01	11.88	100.7	< 2	< 2	< 1	4	2	< 1	15	0.217	0.267			
549574 Orig																								
549574 Dup																								
549582 Orig																								
549582 Dup																								
549587 Orig	37.88	0.58	8.70	0.149	38.66	0.98	< 0.01	< 0.01	0.006	< 0.01	11.40	98.37	< 2	< 2	< 1	9	2	< 1	31	0.208	0.262			
549592 Orig																								
549592 Dup																								
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank																						< 0.01	< 0.01	< 0.01

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
NIST 694 Meas													
NIST 694 Cert													
DNC-1 Meas													
DNC-1 Cert													
GBW 07113 Meas													
GBW 07113 Cert													
MICA-FE Meas	0.348	4.64	0.42	0.27	8.75	2.51	0.41	0.01	0.020	0.003			
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350			
CHR-BKG Meas	0.136	23.15	0.06			0.14		19.7		0.199			
CHR-BKG Cert	0.14	23.47	0.07			0.14		20		0.201			
IF-G Meas	0.037	1.90	1.54	< 0.01	0.01	0.01	0.07	0.01		0.004			
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225			
W-2a Meas													
W-2a Cert													
OREAS 13P Meas										0.226			
OREAS 13P Cert										0.226			
OREAS 14P Meas										2.08			
OREAS 14P Cert										2.10			
SY-4 Meas													
SY-4 Cert													
Oreas 73a (Fusion) Meas		32.29						0.21		1.44			
Oreas 73a (Fusion) Cert		32.5						0.20		1.44			
Oreas 74a (Fusion) Meas		28.06						0.18		3.24			
Oreas 74a (Fusion) Cert		27.9						0.18		3.24			
Oreas 75a (Fusion) Meas		22.33						0.16		5.25			
Oreas 75a (Fusion) Cert		22.3						0.16		5.25			
Oreas 75a (Fusion) Meas		22.33						0.16		5.25			
Oreas 75a (Fusion) Cert		22.3						0.16		5.25			
BIR-1a Meas													
BIR-1a Cert													
549265 Orig													
549265 Dup													
549268 Orig													0.04
549268 Dup													0.04
549278 Orig													0.04
549278 Dup													0.04
549282 Orig													
549282 Dup													
549288 Orig													0.14
549288 Dup													0.16
549296 Orig													
549296 Dup													
549298 Orig													0.03
549298 Dup													0.03
549306 Orig													0.06
549306 Dup													0.05
549311 Dup													
549316 Orig													0.10
549316 Dup													0.10
549326 Orig													0.04
549326 Dup													0.03
549328 Orig													
549328 Dup													
549336 Orig													0.08

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
549336 Dup													0.09
549342 Orig													
549344 Orig													0.08
549344 Dup													0.07
549354 Orig													0.07
549354 Dup													0.07
549357 Orig													
549357 Dup													
549364 Orig													0.04
549364 Dup													0.04
549374 Orig													0.02
549374 Dup													0.02
549382 Orig													0.03
549382 Dup													0.03
549388 Orig													
549388 Dup													
549392 Orig													0.02
549392 Dup													0.02
549402 Orig													0.02
549402 Dup													0.02
549403 Orig													
549403 Dup													
549412 Orig													0.10
549412 Dup													0.10
549420.1 Orig													
549430 Orig													0.06
549430 Dup													0.07
549434 Orig													
549434 Dup													
549449 Orig													
549449 Dup													
549450 Orig													0.03
549450 Dup													0.03
549466 Dup													
549468 Orig													0.03
549468 Dup													0.03
549478 Orig													0.03
549478 Dup													0.03
549480 Orig													
549480 Dup													
549488 Orig													0.01
549488 Dup													< 0.01
549495 Orig													
549495 Dup													
549498 Orig													< 0.01
549506 Orig													0.02
549506 Dup													0.02
549512 Dup													
549516 Orig													0.01
549516 Dup													0.01
549526 Orig													0.02
549526 Dup													0.02
549536 Orig													0.02
549536 Dup													0.02
549541 Orig													
549541 Dup													
549544 Orig													0.01

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
549544 Dup													0.01
549554 Orig													0.02
549554 Dup													0.03
549558 Orig													
549558 Dup													
549564 Orig													0.02
549564 Dup													0.01
549572 Orig													
549572 Dup													
549574 Orig													0.06
549574 Dup													0.08
549582 Orig													0.10
549582 Dup													0.11
549587 Orig													
549592 Orig													0.03
549592 Dup													0.03
Method Blank													< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 11-Oct-11
Invoice No.: A11-11760
Invoice Date: 14-Dec-11
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road
Suite 2
Sudbury Ontario P3C 4Y9
Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

27 Pulp samples and 348 Rock samples were submitted for analysis.

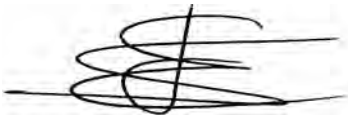
The following analytical packages were requested:

REPORT **A11-11760**

Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID
Code Specific Gravity Core - Core

Notes:
Total includes all elements in % oxide to the left of total.

CERTIFIED BY :



Emmanuel Eseme , Ph.D.
Quality Control

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E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
521373	37.86	0.94	8.16	0.106	37.63	1.18	< 0.01	< 0.01	0.007	< 0.01	13.27	99.15	3	2	< 1	12	3	< 1	46	0.194	0.270	16.99	0.30	57.81
521374	38.82	0.90	7.82	0.087	39.02	0.54	< 0.01	< 0.01	0.006	< 0.01	13.15	100.3	4	< 2	< 1	10	3	< 1	40	0.217	0.272	15.68	0.32	60.22
521375	39.24	0.40	8.81	0.211	40.72	0.18	< 0.01	< 0.01	0.005	< 0.01	11.22	100.8	4	3	< 1	6	2	< 1	19	0.225	0.206	16.86	0.44	55.30
521376	38.34	0.60	7.68	0.137	39.16	1.21	< 0.01	< 0.01	0.006	< 0.01	11.53	98.68	2	2	< 1	8	2	< 1	29	0.191	0.239	15.48	0.27	57.34
521377	38.10	0.72	8.17	0.112	40.39	0.32	< 0.01	< 0.01	0.005	< 0.01	12.12	99.94	3	2	< 1	9	2	< 1	32	0.205	0.240	24.27	0.57	40.62
521378	38.94	0.75	7.98	0.119	40.03	1.06	< 0.01	< 0.01	0.006	< 0.01	11.42	100.3	< 2	< 2	< 1	9	2	< 1	36	0.207	0.236	16.83	0.45	55.02
521379	37.82	0.83	7.86	0.111	39.58	0.94	< 0.01	< 0.01	0.006	< 0.01	12.10	99.25	2	< 2	< 1	9	3	< 1	36	0.223	0.216	22.25	0.51	44.37
521380	38.26	0.82	8.24	0.126	38.88	0.86	< 0.01	< 0.01	0.005	< 0.01	12.61	99.80	6	3	< 1	10	< 2	< 1	39	0.224	0.257	20.72	0.63	49.01
521381	37.93	0.94	8.00	0.101	39.16	0.15	< 0.01	< 0.01	0.014	< 0.01	13.25	99.54	< 2	< 2	< 1	9	3	< 1	38	0.211	0.257	26.33	0.73	34.48
521382	38.04	0.94	7.10	0.072	37.35	1.79	< 0.01	< 0.01	0.005	< 0.01	13.78	99.07	< 2	3	< 1	8	< 2	< 1	43	0.192	0.236	18.24	0.70	53.15
521383	39.00	0.65	8.79	0.155	40.25	1.08	< 0.01	< 0.01	0.005	< 0.01	10.83	100.8	< 2	< 2	< 1	10	< 2	< 1	34	0.222	0.218	24.67	0.59	39.98
521384	37.26	0.75	8.00	0.116	38.40	0.57	< 0.01	< 0.01	0.005	< 0.01	12.46	97.55	3	< 2	< 1	9	7	< 1	38	0.203	0.280	20.84	0.43	45.07
521385	36.90	0.75	7.75	0.115	39.06	0.68	< 0.01	< 0.01	0.006	< 0.01	12.70	97.97	< 2	< 2	< 1	9	< 2	< 1	39	0.195	0.232	22.12	0.41	46.39
521386	37.50	0.90	7.47	0.093	39.50	0.16	< 0.01	< 0.01	0.005	< 0.01	12.65	98.28	2	2	< 1	8	2	< 1	39	0.192	0.240	23.99	0.56	43.21
521387	38.25	1.20	9.20	0.105	37.61	0.22	< 0.01	< 0.01	0.024	< 0.01	12.14	98.74	< 2	2	< 1	10	3	< 1	41	0.217	0.200	25.88	0.77	38.52
521388	38.51	0.91	8.03	0.111	39.08	0.41	< 0.01	< 0.01	0.007	< 0.01	12.73	99.78	< 2	3	< 1	9	< 2	< 1	34	0.220	0.207	23.33	0.61	40.37
521389	39.29	1.08	7.51	0.092	39.27	0.58	< 0.01	< 0.01	0.011	< 0.01	12.78	100.6	< 2	2	< 1	9	3	< 1	38	0.221	0.235	18.95	0.69	52.44
521390.1	49.39	16.14	12.11	0.165	4.97	7.91	2.22	2.74	1.213	0.45	0.88	98.19	709	544	22	26	110	2	338	0.237	1.066	48.73	16.02	12.15
521390.2																						36.41	2.43	13.27
521390.3																						17.91	0.44	54.47
521391	39.02	0.86	8.18	0.161	39.23	0.43	< 0.01	< 0.01	0.017	< 0.01	11.94	99.83	4	3	< 1	9	3	< 1	32	0.201	0.256	22.41	0.46	43.20
521392	39.04	1.24	8.01	0.115	39.28	0.07	< 0.01	< 0.01	0.016	< 0.01	12.40	100.2	< 2	< 2	< 1	8	3	< 1	35	0.223	0.216	19.95	0.71	49.99
521393	38.41	1.98	8.16	0.082	36.85	0.40	< 0.01	< 0.01	0.058	0.01	12.36	98.32	< 2	< 2	< 1	9	5	< 1	46	0.207	0.235	20.98	1.06	54.67
521394	39.09	1.29	8.66	0.118	36.81	0.27	< 0.01	< 0.01	0.015	< 0.01	11.68	97.93	< 2	< 2	< 1	12	< 2	< 1	50	0.189	0.245	18.80	0.74	55.50
521395	41.45	4.10	8.84	0.150	31.13	4.17	0.13	< 0.01	0.406	0.02	9.90	100.3	2	13	8	18	21	< 1	131	0.148	0.182			
521396	40.04	1.85	8.02	0.100	38.46	0.45	< 0.01	< 0.01	0.016	< 0.01	11.73	100.7	< 2	< 2	< 1	11	2	< 1	53	0.204	0.242	22.70	0.97	47.95
521397	39.12	1.58	8.22	0.110	37.45	1.09	< 0.01	< 0.01	0.017	< 0.01	11.98	99.57	2	< 2	< 1	12	< 2	< 1	56	0.210	0.238	21.97	0.94	48.65
521398	38.72	1.59	8.35	0.110	37.22	1.33	< 0.01	< 0.01	0.016	< 0.01	11.69	99.04	< 2	< 2	< 1	12	< 2	< 1	54	0.178	0.237	23.79	0.54	50.26
521399	39.19	1.42	8.23	0.140	36.30	2.16	< 0.01	< 0.01	0.016	< 0.01	11.02	98.48	< 2	< 2	< 1	12	< 2	< 1	53	0.188	0.239	22.27	0.92	44.47
521400	39.07	1.61	8.21	0.109	37.50	1.09	< 0.01	< 0.01	0.016	0.03	12.53	100.2	6	20	3	10	2	< 1	54	0.225	0.230	20.21	0.79	50.44
521401	38.76	1.25	7.86	0.117	37.84	1.46	< 0.01	< 0.01	0.014	< 0.01	12.49	99.79	3	8	1	11	2	< 1	50	0.180	0.245	20.54	0.70	50.34
521402	39.27	1.33	7.71	0.102	38.47	1.11	< 0.01	< 0.01	0.012	< 0.01	12.73	100.8	3	5	< 1	9	< 2	< 1	45	0.217	0.225	18.74	0.66	50.90
521403	38.59	1.39	7.76	0.092	39.23	0.58	< 0.01	< 0.01	0.011	< 0.01	12.52	100.2	2	7	< 1	11	3	< 1	48	0.194	0.257	19.10	0.80	50.53
521404	38.53	1.35	8.12	0.119	37.60	1.63	< 0.01	< 0.01	0.015	< 0.01	12.42	99.80	2	4	< 1	11	< 2	< 1	53	0.196	0.239	17.09	0.50	54.95
521405	38.93	1.35	7.94	0.145	37.03	2.69	0.02	< 0.01	0.016	< 0.01	10.77	98.90	2	4	1	12	2	< 1	51	0.182	0.237	23.18	0.65	41.18
521406	38.63	1.54	7.96	0.122	37.04	2.35	0.01	< 0.01	0.017	< 0.01	11.96	99.63	2	4	< 1	12	< 2	< 1	55	0.200	0.236	17.04	0.49	54.49
521407	39.07	1.33	7.89	0.151	36.28	3.09	0.02	< 0.01	0.017	0.01	10.26	98.13	2	4	1	11	2	< 1	53	0.198	0.228	22.74	0.77	40.68
521408	38.83	1.38	7.92	0.146	36.80	2.82	0.01	< 0.01	0.016	< 0.01	11.00	98.93	2	4	2	11	2	< 1	53	0.175	0.234	20.66	0.86	47.71
521409	38.29	1.36	8.22	0.113	38.44	1.32	< 0.01	< 0.01	0.014	0.01	11.80	99.57	3	4	< 1	11	< 2	< 1	48	0.195	0.249	20.35	0.55	47.55
521410	38.55	0.82	8.13	0.095	41.01	0.36	< 0.01	< 0.01	0.008	< 0.01	11.69	100.7	2	3	< 1	9	< 2	< 1	39	0.189	0.257	24.08	0.67	37.32
521411	38.25	0.88	8.62	0.146	39.28	1.74	< 0.01	< 0.01	0.012	< 0.01	10.44	99.39	2	2	< 1	11	2	< 1	41	0.217	0.228	25.69	0.73	35.38
521412	39.10	1.36	7.93	0.111	38.46	1.87	0.01	< 0.01	0.015	< 0.01	11.43	100.3	< 2	2	< 1	11	2	< 1	45	0.189	0.227	17.42	0.73	53.78
521413	39.09	1.23	8.47	0.139	37.71	1.92	< 0.01	< 0.01	0.014	< 0.01	11.46	100.1	< 2	3	< 1	12	2	< 1	46	0.185	0.245	20.88	0.58	46.73
521414	39.22	1.43	8.13	0.111	37.65	1.68	< 0.01	< 0.01	0.015	< 0.01	11.59	99.83	3	3	< 1	12	2	< 1	49	0.169	0.240	19.51	0.67	49.76
521415	39.11	1.38	8.34	0.125	38.67	1.82	< 0.01	< 0.01	0.015	< 0.01	11.25	100.7	< 2	2	1	12	2	< 1	50	0.197	0.230	22.94	0.69	42.37
521416	38.24	1.41	7.70	0.100	38.00	1.29	< 0.01	< 0.01	0.017	< 0.01	12.58	99.36	< 2	3	1	9	2	< 1	46	0.212	0.218	23.39	0.55	39.25
521417	38.58	1.21	8.19	0.131	38.46	1.37	< 0.01	< 0.01	0.016	< 0.01	11.56	99.54	< 2	2	< 1	10	2	< 1	39	0.187	0.234	23.94	0.58	40.94
521418	38.81	1.26	8.05	0.115	38.36	1.38	< 0.01	< 0.01	0.015	< 0.01	11.84	99.84	< 2	2	< 1	11	< 2	< 1	43	0.181	0.240	24.09	0.58	39.97
521419	38.49	1.36	7.35	0.104	38.80	0.70	< 0.01	< 0.01	0.014	0.01	12.71	99.53	< 2	2	< 1	8	3	< 1	39	0.245	0.230	23.98	0.70	39.89
521420	38.05	1.38	8.48	0.121	37.80	1.29	< 0.01	< 0.01	0.014	< 0.01	12.47	99.61	< 2	2	< 1	10	< 2	< 1	50	0.218	0.235	20.96	0.68	45.33
521421	37.81	1.34	8.25	0.138	37.60	1.37	< 0.01	< 0.01	0.013	0.02	12.24	98.80	8	< 2	< 1	10	< 2	< 1	48	0.204	0.245	16.05	0.58	56.68
521422	38.54	1.37	7.60	0.130	38.53	0.95	< 0.01	< 0.01	0.013	< 0.01	12.60	99.73	4	< 2	< 1	9	< 2	< 1	46	0.219	0.241	20.79	0.74	44.14

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
521423	38.26	1.52	8.00	0.103	37.24	1.32	< 0.01	< 0.01	0.014	< 0.01	12.65	99.11	6	< 2	< 1	11	< 2	< 1	52	0.246	0.231	16.31	0.63	55.37
521424	38.66	2.24	7.84	0.111	36.92	2.00	< 0.01	< 0.01	0.020	< 0.01	12.01	99.82	4	3	2	12	< 2	< 1	55	0.200	0.245	17.73	0.93	54.07
521425	37.85	1.44	8.09	0.090	37.89	1.18	< 0.01	< 0.01	0.014	< 0.01	12.78	99.34	4	2	< 1	11	< 2	< 1	49	0.252	0.236	14.00	0.47	64.07
521426	38.18	1.55	7.39	0.075	38.13	0.60	< 0.01	< 0.01	0.018	0.02	13.20	99.16	2	2	< 1	10	< 2	< 1	48	0.201	0.234	18.82	0.87	51.73
521427	38.08	0.98	8.07	0.121	38.21	1.09	< 0.01	< 0.01	0.009	0.02	12.07	98.66	< 2	< 2	1	10	< 2	< 1	39	0.226	0.244	20.02	0.53	49.43
521428	38.13	1.23	8.20	0.123	37.97	1.48	< 0.01	< 0.01	0.013	0.01	13.02	100.2	4	< 2	< 1	11	< 2	< 1	50	0.216	0.241	18.45	0.56	52.98
521429	38.92	1.23	7.25	0.104	37.80	1.03	< 0.01	< 0.01	0.011	< 0.01	12.70	99.08	2	< 2	< 1	10	2	< 1	48	0.225	0.227	18.00	0.63	54.40
521430	38.16	1.33	7.85	0.121	36.74	1.84	0.01	< 0.01	0.013	< 0.01	12.11	98.19	10	2	< 1	11	< 2	< 1	49	0.220	0.241	20.36	0.50	48.05
521431	38.15	1.17	8.68	0.145	37.47	1.44	< 0.01	< 0.01	0.012	< 0.01	12.41	99.49	3	3	< 1	11	2	< 1	47	0.228	0.254	16.60	0.53	56.70
521432	38.36	1.38	8.06	0.112	38.11	1.47	< 0.01	< 0.01	0.013	0.02	12.86	100.4	6	4	< 1	11	< 2	< 1	51	0.213	0.229	19.24	0.67	51.67
521433	36.58	1.21	7.75	0.134	36.79	1.13	0.02	< 0.01	0.013	< 0.01	14.91	98.56	3	17	< 1	10	< 2	< 1	44	0.215	0.232	18.15	1.32	48.13
521434	37.80	1.30	7.75	0.104	37.27	1.00	< 0.01	< 0.01	0.013	< 0.01	13.57	98.81	2	10	< 1	10	3	< 1	43	0.205	0.237	15.54	0.52	59.00
521435	38.65	1.34	8.03	0.093	38.06	0.83	< 0.01	< 0.01	0.013	< 0.01	13.57	100.6	< 2	10	< 1	11	< 2	< 1	46	0.241	0.247	11.67	0.48	70.20
521436	38.51	1.32	7.68	0.107	38.38	0.22	< 0.01	< 0.01	0.014	< 0.01	12.58	98.81	2	< 2	< 1	10	< 2	< 1	46	0.231	0.251	16.21	0.64	59.26
521437	41.29	1.04	7.08	0.101	37.44	0.05	< 0.01	< 0.01	0.008	< 0.01	11.73	98.75	6	< 2	< 1	9	< 2	< 1	40	0.223	0.240	16.46	0.65	54.28
521438	36.79	5.42	10.69	0.201	30.27	3.04	0.03	< 0.01	0.624	0.10	10.62	97.78	5	17	11	19	35	< 1	167	0.170	0.191	10.22	1.81	71.80
521439	41.02	1.14	7.62	0.120	38.50	0.37	< 0.01	< 0.01	0.012	< 0.01	11.89	100.7	3	< 2	< 1	9	< 2	< 1	43	0.237	0.253	13.02	0.83	64.30
521440.1	49.41	16.18	11.89	0.163	4.91	7.77	2.27	2.74	1.194	0.44	0.88	97.84	709	541	21	26	102	2	334	0.235	1.039	49.48	16.22	12.11
521440.2																						36.46	2.49	13.15
521440.3																						17.98	0.46	54.68
521441	38.08	1.24	8.20	0.126	38.59	1.49	< 0.01	< 0.01	0.011	< 0.01	12.62	100.4	2	3	< 1	10	< 2	< 1	51	0.201	0.243	18.08	0.39	54.37
521442	37.36	1.29	8.21	0.112	37.82	1.53	< 0.01	< 0.01	0.012	0.02	12.43	98.80	2	< 2	< 1	11	21	< 1	53	0.232	0.263	15.90	0.44	57.40
521443	37.74	1.23	8.21	0.123	38.03	1.13	< 0.01	< 0.01	0.011	0.02	12.22	98.71	4	< 2	< 1	10	< 2	< 1	50	0.250	0.240	18.19	0.64	52.58
521444	37.68	1.17	8.02	0.120	38.40	1.37	< 0.01	< 0.01	0.011	< 0.01	12.22	98.98	2	< 2	< 1	11	3	< 1	49	0.210	0.262	15.71	0.47	58.18
521445	37.77	1.19	8.28	0.127	37.66	1.32	< 0.01	< 0.01	0.011	< 0.01	12.03	98.40	2	< 2	< 1	10	< 2	< 1	49	0.211	0.237	16.99	0.60	55.10
521446	37.66	1.27	7.88	0.117	38.15	1.50	< 0.01	< 0.01	0.010	< 0.01	12.29	98.89	2	< 2	< 1	10	< 2	< 1	47	0.233	0.212	15.45	0.48	57.94
521447	38.35	1.27	7.88	0.110	38.48	1.48	< 0.01	< 0.01	0.010	0.02	11.78	99.38	< 2	< 2	< 1	10	< 2	< 1	49	0.242	0.230	17.64	0.56	52.46
521448	38.21	1.21	8.18	0.116	38.82	1.31	< 0.01	< 0.01	0.011	< 0.01	11.84	99.70	< 2	< 2	< 1	10	< 2	< 1	47	0.218	0.242	15.41	0.62	57.18
521449	38.02	1.31	8.19	0.108	38.86	1.10	< 0.01	< 0.01	0.010	< 0.01	12.09	99.68	2	< 2	< 1	9	2	< 1	46	0.222	0.255	16.98	0.60	53.67
521450	38.54	0.99	8.42	0.158	38.11	1.85	< 0.01	< 0.01	0.011	< 0.01	11.31	99.42	< 2	< 2	< 1	11	< 2	< 1	45	0.221	0.238	13.22	0.43	61.63
521451	38.15	0.94	7.66	0.106	40.12	0.58	< 0.01	< 0.01	0.010	0.02	11.91	99.49	3	< 2	< 1	7	< 2	< 1	30	0.237	0.247	15.34	0.47	54.76
521452	38.47	0.96	7.74	0.104	40.40	0.52	< 0.01	< 0.01	0.010	0.01	12.44	100.7	2	< 2	< 1	7	4	< 1	29	0.246	0.226	15.04	0.53	56.23
521453	38.16	0.95	7.93	0.114	40.00	0.73	< 0.01	< 0.01	0.011	< 0.01	12.22	100.1	< 2	< 2	< 1	8	< 2	< 1	33	0.238	0.228	17.37	0.45	50.94
521454	38.05	0.99	8.26	0.113	38.42	1.11	< 0.01	< 0.01	0.011	0.01	12.28	99.25	3	< 2	< 1	10	< 2	< 1	37	0.212	0.223	13.44	0.29	62.77
521455	37.97	1.04	7.96	0.111	38.52	0.96	< 0.01	< 0.01	0.011	< 0.01	12.39	98.97	2	< 2	< 1	10	< 2	< 1	39	0.251	0.231	15.45	0.35	57.26
521456	37.55	0.85	7.82	0.141	39.12	1.45	< 0.01	< 0.01	0.009	< 0.01	11.79	98.73	< 2	< 2	< 1	9	< 2	< 1	35	0.200	0.238	14.35	0.52	56.69
521457	37.75	1.10	8.17	0.103	39.03	0.98	0.01	< 0.01	0.011	0.01	12.86	100.0	< 2	< 2	< 1	10	2	< 1	43	0.215	0.232	16.87	0.37	54.48
521458	37.87	1.09	8.18	0.120	38.63	1.19	0.01	< 0.01	0.012	< 0.01	12.78	99.88	2	< 2	< 1	9	< 2	< 1	44	0.243	0.252	15.27	0.37	57.95
521459	38.05	1.09	8.58	0.120	38.87	0.98	< 0.01	< 0.01	0.011	0.01	12.97	100.7	6	< 2	< 1	11	2	< 1	46	0.236	0.271	18.37	0.40	53.47
521460	98.41	0.30	0.71	< 0.001	0.03	0.02	0.02	0.04	0.033	< 0.01	0.12	99.70	24	4	2	< 1	47	< 1	7	< 0.010	< 0.010	98.55	0.27	0.54
521461	38.12	1.16	8.10	0.122	38.55	1.59	< 0.01	< 0.01	0.010	< 0.01	12.92	100.6	2	< 2	< 1	11	< 2	< 1	48	0.243	0.237	19.50	0.64	47.46
521462	37.86	1.23	7.63	0.107	38.72	1.35	< 0.01	< 0.01	0.010	< 0.01	13.82	100.7	< 2	< 2	< 1	9	< 2	< 1	46	0.244	0.207	15.79	0.55	57.18
521463	37.31	1.13	8.29	0.108	39.09	0.91	< 0.01	< 0.01	0.010	< 0.01	13.45	100.3	< 2	< 2	< 1	10	< 2	< 1	41	0.235	0.247	16.14	0.59	56.03
521464	37.25	1.13	7.85	0.120	37.89	1.93	< 0.01	< 0.01	0.011	< 0.01	13.50	99.68	< 2	< 2	< 1	10	< 2	< 1	48	0.224	0.247	18.00	0.62	50.64
521465	37.27	1.11	8.11	0.119	37.60	1.65	< 0.01	< 0.01	0.010	< 0.01	13.04	98.91	< 2	< 2	< 1	10	2	< 1	47	0.186	0.275	19.02	0.60	50.60
521466	37.74	1.15	7.58	0.112	37.19	1.93	< 0.01	< 0.01	0.011	< 0.01	13.24	98.96	< 2	< 2	< 1	10	3	< 1	53	0.199	0.268	18.16	0.57	52.46
521467	38.31	1.18	8.69	0.110	37.63	0.89	0.01	< 0.01	0.010	< 0.01	12.80	99.63	3	< 2	< 1	11	5	< 1	45	0.199	0.248	14.23	0.54	63.96
521468	37.12	0.96	8.53	0.141	37.77	1.27	< 0.01	< 0.01	0.009	< 0.01	13.79	99.60	< 2	< 2	< 1	10	2	< 1	45	0.196	0.269	15.59	0.48	58.13
521469	38.25	0.91	8.02	0.107	38.46	1.18	< 0.01	< 0.01	0.006	< 0.01	13.51	100.4	< 2	< 2	< 1	9	3	< 1	45	0.211	0.258	13.85	0.44	62.32
521470	37.44	0.74	7.69	0.101	38.46	0.85	0.01	< 0.01	0.005	< 0.01	13.82	99.13	< 2	3	< 1	8	3	< 1	36	0.190	0.264	11.52	0.40	69.07
521471	38.27	0.69	7.39	0.103	40.58	0.25	0.01	< 0.01	0.003	< 0.01	13.34	100.7	< 2	< 2	< 1	7	2	< 1	36	0.215	0.272	15.43	0.82	53.23
521472	37.23	0.75	8.39	0.117	39.51	0.45	0.01	< 0.01	0.005	< 0.01	13.66	100.1	< 2	< 2	< 1	9	2	< 1	37	0.218	0.253	14.48	0.31	58.61

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
521473	37.08	0.64	8.38	0.119	39.74	0.27	0.01	< 0.01	0.007	< 0.01	13.46	99.71	2	< 2	< 1	10	4	< 1	35	0.215	0.314	14.27	0.46	59.11
521474	37.48	0.67	7.84	0.104	38.63	0.74	0.01	< 0.01	0.006	< 0.01	13.38	98.86	2	< 2	< 1	8	4	< 1	34	0.207	0.288	13.93	0.54	62.76
521475	36.93	0.67	7.93	0.113	38.15	0.89	0.01	< 0.01	0.008	< 0.01	13.56	98.26	< 2	2	< 1	9	3	< 1	34	0.200	0.273	17.36	0.48	56.76
521476	37.53	0.58	8.00	0.099	40.10	0.27	< 0.01	< 0.01	0.005	< 0.01	13.58	100.2	< 2	< 2	< 1	7	3	< 1	30	0.225	0.285	14.64	0.49	58.53
521477	36.80	0.57	7.84	0.095	40.36	0.18	< 0.01	< 0.01	0.006	< 0.01	13.80	99.66	< 2	< 2	< 1	6	3	< 1	27	0.232	0.312	12.05	0.61	62.96
521478	39.05	0.60	8.05	0.135	39.95	0.52	< 0.01	< 0.01	0.005	< 0.01	12.42	100.7	< 2	< 2	1	8	4	< 1	30	0.221	0.254	19.16	0.46	47.31
521479	49.88	15.05	11.15	0.177	6.95	9.79	4.42	0.16	1.467	0.11	1.45	> 101.0	18	163	30	38	91	< 1	332	0.011	0.023			
521480.1	49.32	16.23	11.91	0.163	4.92	7.80	2.33	2.74	1.202	0.44	0.84	97.90	711	545	21	26	98	2	331	0.230	1.044	49.01	16.18	12.10
521480.2																						36.36	2.42	13.20
521480.3																						17.87	0.41	54.44
521481	49.40	11.61	11.98	0.184	11.22	7.77	3.79	0.19	1.625	0.11	2.87	100.7	15	88	33	34	93	< 1	358	0.044	0.040			
521482	39.45	2.50	6.87	0.161	28.77	4.48	0.05	0.02	0.216	0.03	15.04	97.59	2	12	5	9	14	< 1	74	1664.469	2026.155			
521483	39.90	1.09	8.01	0.116	37.52	0.23	0.02	< 0.01	0.012	< 0.01	11.92	98.83	< 2	< 2	< 1	9	< 2	< 1	35	0.210	0.232	15.43	0.70	61.28
521484	38.94	1.08	7.06	0.087	37.07	0.63	0.03	< 0.01	0.009	0.02	15.64	100.6	< 2	4	< 1	8	< 2	< 1	39	0.204	0.219	19.49	1.06	46.91
521485	37.30	1.53	6.93	0.090	35.13	0.63	0.04	0.02	0.014	< 0.01	18.16	99.85	6	5	< 1	8	3	< 1	37	0.190	0.241	11.11	1.17	66.22
521486	38.96	0.83	7.79	0.130	38.22	0.98	0.01	< 0.01	0.006	< 0.01	13.07	99.98	< 2	2	< 1	10	3	< 1	38	0.209	0.288	17.20	0.51	50.58
521487	37.86	0.82	7.40	0.090	38.05	0.95	0.01	< 0.01	0.005	< 0.01	14.01	99.20	< 2	< 2	< 1	9	< 2	< 1	39	0.199	0.265	16.74	0.67	54.15
521488	38.58	0.93	7.61	0.078	38.93	0.66	< 0.01	< 0.01	0.004	< 0.01	13.82	100.6	< 2	< 2	< 1	9	2	< 1	42	0.186	0.240	15.68	0.61	59.68
521489	36.67	0.66	7.26	0.110	38.23	0.32	< 0.01	< 0.01	0.010	< 0.01	14.29	97.57	< 2	< 2	< 1	5	2	< 1	28	0.202	0.242	12.46	0.60	58.13
521490	38.21	0.82	7.59	0.097	38.90	0.70	< 0.01	< 0.01	0.006	< 0.01	13.35	99.69	< 2	< 2	< 1	9	2	< 1	37	0.206	0.279	14.42	0.44	56.57
521491	36.62	0.62	6.77	0.116	37.77	0.79	0.01	< 0.01	0.005	< 0.01	16.50	99.22	< 2	2	< 1	6	4	< 1	27	0.200	0.224	11.35	0.37	62.69
521492	36.30	0.74	8.18	0.114	37.78	1.03	< 0.01	< 0.01	0.005	< 0.01	13.53	97.69	< 2	< 2	< 1	8	< 2	< 1	37	0.213	0.281	14.99	0.36	54.68
521493	37.32	0.73	8.08	0.118	39.41	0.70	< 0.01	< 0.01	0.004	< 0.01	12.30	98.68	< 2	< 2	< 1	9	2	< 1	37	0.210	0.260	13.20	0.35	60.76
521494	38.01	0.75	7.48	0.099	39.17	0.66	< 0.01	< 0.01	0.005	< 0.01	12.73	98.92	< 2	< 2	< 1	8	4	< 1	39	0.217	0.276	15.27	0.31	54.51
521495	38.28	0.75	7.53	0.101	39.49	0.67	< 0.01	< 0.01	0.005	< 0.01	12.57	99.41	< 2	< 2	< 1	9	2	< 1	36	0.195	0.270	16.05	0.26	52.87
521496	38.22	0.72	7.58	0.118	39.52	0.69	0.01	< 0.01	0.005	< 0.01	13.22	100.1	< 2	< 2	< 1	7	3	< 1	36	0.221	0.272	16.38	0.29	51.45
521497	37.74	0.80	8.83	0.099	39.11	0.48	< 0.01	< 0.01	0.005	< 0.01	13.32	100.4	< 2	< 2	< 1	9	3	< 1	42	0.216	0.307	11.50	0.38	65.49
521498	38.46	0.80	8.32	0.117	39.61	0.55	0.01	< 0.01	0.004	< 0.01	13.02	100.9	< 2	< 2	< 1	9	2	< 1	41	0.210	0.264	15.98	0.22	55.21
521499	38.20	0.68	8.06	0.128	39.34	0.79	0.01	< 0.01	0.004	< 0.01	13.03	100.2	< 2	< 2	< 1	9	2	< 1	36	0.162	0.267	15.43	0.27	55.11
521500	97.50	0.30	0.59	0.006	0.05	< 0.01	0.01	0.05	0.031	< 0.01	0.14	98.70	26	4	2	< 1	54	< 1	6	< 0.010	< 0.010	98.47	0.26	0.60
521501	37.82	0.74	8.05	0.114	38.90	1.29	0.01	< 0.01	0.005	< 0.01	13.94	100.9	3	< 2	< 1	8	2	< 1	38	0.211	0.275	14.09	0.18	60.23
521502	38.15	0.79	7.19	0.099	38.96	1.04	0.01	< 0.01	0.004	< 0.01	13.53	99.77	< 2	< 2	< 1	8	< 2	< 1	39	0.196	0.287	16.01	0.66	55.34
521503	37.60	0.67	7.86	0.116	38.77	0.69	< 0.01	< 0.01	0.004	< 0.01	13.43	99.14	< 2	< 2	< 1	9	2	< 1	36	0.177	0.262	20.04	0.44	50.82
521504	38.09	0.78	8.18	0.111	38.90	0.67	< 0.01	< 0.01	0.005	< 0.01	12.58	99.33	< 2	< 2	< 1	9	2	< 1	41	0.202	0.245	17.54	0.48	52.25
521505	38.10	0.70	8.28	0.124	38.75	0.77	0.01	< 0.01	0.005	< 0.01	12.18	98.94	< 2	< 2	< 1	9	4	< 1	38	0.195	0.282	17.01	0.65	52.97
521506	37.65	0.75	7.73	0.112	38.51	0.61	0.01	< 0.01	0.004	< 0.01	12.80	98.20	< 2	< 2	< 1	9	2	< 1	38	0.198	0.285	15.85	0.99	55.78
521507	37.79	0.62	8.41	0.145	38.61	0.84	0.01	< 0.01	0.005	< 0.01	12.00	98.43	< 2	< 2	1	9	3	< 1	34	0.209	0.299	12.76	0.30	61.44
521508	37.84	0.83	7.63	0.110	38.32	0.58	< 0.01	< 0.01	0.005	< 0.01	12.77	98.10	< 2	< 2	< 1	10	2	< 1	41	0.193	0.288	14.32	0.57	58.50
521509	38.25	0.78	7.62	0.100	38.39	0.79	0.01	< 0.01	0.005	< 0.01	12.66	98.61	< 2	< 2	< 1	8	3	< 1	40	0.195	0.242	12.39	0.48	66.77
521510	38.08	0.72	7.63	0.112	39.05	0.79	0.01	< 0.01	0.005	< 0.01	13.20	99.59	< 2	< 2	< 1	8	2	< 1	36	0.188	0.266	12.93	0.45	62.21
521511	38.54	0.83	8.12	0.110	39.02	0.53	0.04	0.02	0.005	0.02	12.93	100.2	< 2	< 2	< 1	9	2	< 1	41	0.183	0.254	15.91	0.47	56.27
521512	38.45	0.74	8.83	0.135	36.75	1.51	0.01	< 0.01	0.007	< 0.01	12.81	99.23	5	< 2	1	10	15	< 1	55	0.183	0.274	15.29	0.41	59.93
521513	37.84	0.88	7.75	0.094	37.30	1.31	< 0.01	< 0.01	0.005	0.01	13.46	98.66	< 2	< 2	< 1	9	2	< 1	43	0.208	0.243	13.67	0.33	63.05
521514	37.31	0.66	8.27	0.133	37.65	0.93	0.01	< 0.01	0.004	< 0.01	13.40	98.36	< 2	< 2	< 1	9	2	< 1	39	0.192	0.237	14.69	0.14	59.72
521515	37.09	0.62	8.62	0.133	37.60	0.54	< 0.01	< 0.01	0.004	0.01	13.21	97.84	< 2	< 2	< 1	9	2	< 1	39	0.190	0.231	16.02	0.14	56.58
521516	37.19	0.62	8.17	0.128	37.52	0.60	0.01	< 0.01	0.004	< 0.01	13.29	97.54	< 2	< 2	< 1	8	3	< 1	38	0.182	0.241	13.99	0.18	60.08
521517	39.83	0.71	7.72	0.116	39.47	0.38	< 0.01	< 0.01	0.005	< 0.01	12.51	100.7	4	< 2	< 1	10	8	< 1	51	0.183	0.268	12.44	0.27	64.74
521518	37.31	0.66	8.42	0.122	37.02	1.31	< 0.01	0.01	0.005	< 0.01	13.08	97.96	3	2	< 1	8	5	< 1	32	0.192	0.208	16.62	0.18	56.62
521519	37.49	0.84	7.06	0.104	36.89	1.56	< 0.01	< 0.01	0.007	0.01	13.63	97.60	< 2	< 2	< 1	9	< 2	< 1	43	0.169	0.225	13.77	0.40	62.32
521520.1	49.04	16.02	11.82	0.165	4.87	7.77	2.26	2.76	1.187	0.44	0.79	97.12	707	533	21	25	102	2	330	0.226	1.032	48.84	15.96	12.06
521520.2																						36.58	2.47	13.26
521520.3																						18.11	0.55	54.92

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
521521	36.91	0.78	8.01	0.110	38.03	1.07	< 0.01	< 0.01	0.005	< 0.01	13.57	98.49	< 2	< 2	< 1	9	3	< 1	41	0.204	0.255	14.98	0.44	57.07
521522	37.54	0.81	7.33	0.104	37.47	1.09	0.01	< 0.01	0.004	< 0.01	13.64	98.01	< 2	< 2	< 1	8	2	< 1	38	0.188	0.218	17.08	0.33	51.04
521523	37.62	0.85	7.18	0.102	37.45	0.89	< 0.01	< 0.01	0.004	< 0.01	13.73	97.84	4	< 2	< 1	9	< 2	< 1	40	0.181	0.226	15.12	0.49	56.42
521524	39.42	0.67	7.75	0.119	39.96	1.05	0.01	< 0.01	0.005	0.01	8.53	97.53	9	< 2	< 1	9	2	< 1	39	0.180	0.233	21.80	0.56	41.44
521525	39.60	0.76	7.45	0.112	39.18	1.25	< 0.01	< 0.01	0.005	0.01	9.05	97.43	4	< 2	< 1	10	< 2	< 1	43	0.187	0.250	18.32	0.52	48.77
521526	39.95	0.90	8.25	0.118	40.01	0.56	< 0.01	< 0.01	0.006	< 0.01	10.80	100.6	6	< 2	< 1	10	6	< 1	59	0.207	0.253	15.75	0.54	54.52
521527	39.52	0.68	8.09	0.116	39.71	0.82	< 0.01	< 0.01	0.005	< 0.01	9.78	98.74	2	< 2	< 1	9	5	< 1	38	0.177	0.251	15.31	0.48	55.10
521528	40.01	0.78	8.32	0.126	40.38	0.46	< 0.01	< 0.01	0.005	< 0.01	9.83	99.88	5	< 2	< 1	10	7	< 1	56	0.223	0.259	18.64	0.47	49.20
521529	40.63	0.70	8.25	0.125	40.67	0.96	< 0.01	< 0.01	0.005	< 0.01	8.43	99.78	5	< 2	< 1	10	4	< 1	58	0.226	0.252	15.04	0.12	55.15
521530	41.88	0.75	8.16	0.125	41.38	1.35	0.01	< 0.01	0.005	< 0.01	6.59	100.3	7	< 2	2	10	8	< 1	62	0.235	0.256	27.44	0.31	30.07
521531	40.22	0.80	8.36	0.121	41.35	1.05	< 0.01	< 0.01	0.005	< 0.01	6.95	98.86	9	< 2	< 1	10	< 2	< 1	43	0.223	0.280	26.95	0.57	31.21
521532	39.86	0.67	7.76	0.115	39.94	0.93	< 0.01	< 0.01	0.004	< 0.01	8.41	97.70	2	< 2	< 1	9	3	< 1	37	0.207	0.237	24.49	0.02	37.92
521533	38.62	1.10	7.63	0.101	38.72	0.20	< 0.01	< 0.01	0.006	< 0.01	11.84	98.19	3	< 2	< 1	9	8	< 1	55	0.248	0.250	14.01	0.28	59.65
521534	40.41	0.74	7.74	0.114	40.52	1.05	0.01	< 0.01	0.004	0.01	6.94	97.55	3	< 2	< 1	10	< 2	< 1	39	0.215	0.240	28.88	0.58	29.05
521535	39.43	0.72	7.74	0.108	41.06	0.48	< 0.01	< 0.01	0.005	< 0.01	8.09	97.63	2	< 2	< 1	7	< 2	< 1	30	0.209	0.208	21.29	0.55	41.09
521536	40.40	0.68	7.55	0.110	40.58	0.54	< 0.01	< 0.01	0.005	0.01	7.87	97.76	2	< 2	< 1	8	< 2	< 1	30	0.219	0.212	28.23	0.34	31.51
521537	40.21	1.35	7.62	0.121	36.97	0.33	< 0.01	< 0.01	0.012	< 0.01	11.98	98.57	4	< 2	2	9	11	< 1	61	0.208	0.261	12.66	0.55	66.10
522400	96.67	0.30	0.93	0.009	0.02	0.05	0.01	0.04	0.030	< 0.01	-0.03	98.05	23	7	1	< 1	51	< 1	7	< 0.010	< 0.010	98.49	0.32	0.61
522401	38.11	0.80	9.14	0.126	38.96	0.07	< 0.01	< 0.01	0.005	< 0.01	11.70	98.93	< 2	< 2	< 1	8	< 2	< 1	32	0.212	0.249	14.19	0.63	61.01
522402	39.62	0.59	8.13	0.130	40.82	0.11	< 0.01	< 0.01	0.006	< 0.01	10.87	100.3	4	< 2	2	5	7	< 1	45	0.241	0.471	10.79	0.28	62.45
522403	38.18	0.65	8.45	0.133	39.79	0.53	< 0.01	< 0.01	0.005	< 0.01	10.87	98.61	< 2	< 2	< 1	8	< 2	< 1	34	0.217	0.249	13.19	0.47	61.26
522404	38.02	0.75	8.69	0.102	39.54	0.58	< 0.01	< 0.01	0.004	0.02	12.97	100.7	< 2	< 2	< 1	9	14	< 1	50	0.247	0.268	14.50	0.61	61.83
522405	38.83	0.69	8.06	0.117	40.11	0.76	< 0.01	< 0.01	0.003	0.03	12.09	100.7	< 2	< 2	< 1	8	11	< 1	47	0.251	0.253	14.86	0.70	59.95
522406	39.37	0.65	8.01	0.125	40.75	0.45	0.01	< 0.01	0.004	< 0.01	11.32	100.7	4	< 2	< 1	7	7	< 1	47	0.190	0.243	16.51	0.67	55.20
522407	38.34	0.72	7.94	0.115	39.50	1.04	< 0.01	< 0.01	0.003	0.05	12.16	99.88	< 2	< 2	2	9	11	< 1	48	0.221	0.241	14.32	0.51	58.58
522408	38.04	0.64	8.08	0.112	40.20	0.53	< 0.01	< 0.01	0.003	< 0.01	12.43	100.1	< 2	< 2	< 1	8	16	< 1	32	0.221	0.253	15.64	0.54	55.54
522409	39.14	0.68	7.66	0.112	39.82	0.20	< 0.01	< 0.01	0.003	0.01	11.43	99.06	< 2	< 2	< 1	7	< 2	< 1	28	0.201	0.236	12.86	0.66	63.74
522410	35.54	1.08	9.16	0.122	34.47	3.48	< 0.01	< 0.01	0.428	0.03	13.69	98.02	< 2	3	8	16	22	< 1	105	0.171	0.223	9.43	0.74	72.75
522411	37.17	0.73	8.31	0.101	38.57	0.65	< 0.01	< 0.01	0.005	< 0.01	12.44	97.97	< 2	< 2	< 1	9	2	< 1	36	0.217	0.261	14.45	0.37	62.43
522412	38.40	0.63	7.78	0.132	38.60	0.72	< 0.01	< 0.01	0.004	0.02	11.36	97.64	3	< 2	< 1	9	< 2	< 1	34	0.200	0.239	20.72	0.34	44.22
522413	38.35	0.76	7.81	0.095	38.66	0.24	< 0.01	< 0.01	0.004	< 0.01	11.96	97.88	< 2	< 2	< 1	9	< 2	< 1	35	0.208	0.248	14.20	0.43	60.48
522451	38.90	1.49	7.99	0.141	36.55	1.54	0.01	< 0.01	0.019	< 0.01	11.33	97.98	3	2	< 1	10	< 2	< 1	50	0.166	0.238	19.77	0.95	50.53
522452	39.40	1.72	7.86	0.115	35.65	1.93	0.02	< 0.01	0.020	< 0.01	10.89	97.61	3	< 2	< 1	13	2	< 1	57	0.192	0.249	14.72	0.82	59.12
522453	39.91	1.63	7.84	0.154	37.44	1.89	0.02	< 0.01	0.019	< 0.01	10.20	99.10	2	< 2	1	14	< 2	< 1	56	0.205	0.253	16.18	1.00	55.47
522454	39.33	1.89	7.62	0.105	36.52	1.11	0.01	< 0.01	0.018	< 0.01	11.22	97.83	3	< 2	< 1	11	< 2	< 1	57	0.194	0.242	19.61	1.13	49.78
522455	41.32	3.98	7.69	0.117	29.02	6.72	0.06	< 0.01	0.199	0.03	8.67	97.81	4	7	4	12	9	< 1	82	0.152	0.176	12.03	1.83	68.77
522456	38.30	0.97	9.77	0.163	37.67	0.12	< 0.01	< 0.01	0.010	< 0.01	11.71	98.71	2	< 2	< 1	9	2	< 1	37	0.244	0.263	17.35	0.55	52.82
522457	38.51	0.88	7.31	0.114	38.33	0.28	< 0.01	< 0.01	0.006	< 0.01	11.96	97.40	2	< 2	< 1	7	3	< 1	32	0.235	0.247	17.40	0.56	50.89
522458	37.85	0.81	8.17	0.122	37.77	0.23	< 0.01	< 0.01	0.006	< 0.01	12.36	97.32	< 2	< 2	1	9	2	< 1	37	0.247	0.284	15.68	0.34	56.08
522459	39.02	1.13	7.77	0.098	38.23	0.12	< 0.01	< 0.01	0.006	< 0.01	11.12	97.49	2	< 2	1	10	3	< 1	42	0.272	0.252	21.21	0.50	46.21
522460.1	49.31	16.39	11.91	0.166	4.89	7.76	2.26	2.80	1.197	0.44	0.53	97.64	714	537	20	25	103	2	331	0.228	1.041	49.34	16.07	12.08
522460.2																						36.51	2.42	13.18
522460.3																						18.17	0.54	54.97
522461	39.57	0.84	8.02	0.136	39.83	0.04	< 0.01	< 0.01	0.006	< 0.01	10.63	99.10	4	< 2	< 1	9	< 2	< 1	32	0.216	0.259	16.31	0.42	57.14
522462	41.42	1.76	7.19	0.105	35.08	0.68	< 0.01	< 0.01	0.005	< 0.01	11.16	97.40	3	< 2	< 1	9	3	< 1	38	0.226	0.239	16.05	0.82	53.41
522463	38.86	1.04	8.03	0.120	37.44	0.06	< 0.01	< 0.01	0.010	< 0.01	11.99	97.55	3	< 2	< 1	9	3	< 1	42	0.238	0.270	14.23	0.64	63.48
522464	39.57	1.65	8.69	0.104	35.86	0.12	< 0.01	< 0.01	0.155	0.02	11.80	97.96	2	< 2	2	12	6	< 1	70	0.237	0.209	9.82	0.76	73.26
522465	39.21	1.01	8.09	0.126	37.12	0.06	< 0.01	< 0.01	0.007	< 0.01	11.88	97.50	2	< 2	< 1	10	2	< 1	42	0.263	0.256	13.90	0.36	62.75
522466	39.99	2.76	10.22	0.158	29.96	4.22	0.05	< 0.01	0.558	0.10	9.77	97.79	3	13	11	22	30	< 1	147	0.189	0.192	19.13	0.68	50.95
522467	40.19	1.30	6.87	0.067	36.82	0.08	< 0.01	< 0.01	0.012	< 0.01	12.23	97.58	2	< 2	1	7	3	< 1	31	0.255	0.234	12.71	0.69	65.71
522468	39.08	1.33	7.73	0.090	36.57	0.09	< 0.01	< 0.01	0.014	< 0.01	12.45	97.37	2	< 2	1	9	3	< 1	37	0.246	0.253	16.13	0.42	59.10
522469	40.82	1.18	6.87	0.078	36.95	0.05	< 0.01	< 0.01	0.012	< 0.01	12.03	98.00	3	< 2	1	9	3	< 1	39	0.247	0.251	12.46	0.50	64.00

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
522470	50.25	13.68	10.56	0.177	6.65	11.40	4.46	0.21	1.284	0.10	0.58	99.35	35	438	29	40	98	< 1	294	0.013	0.020			
522471	38.52	0.85	8.27	0.122	38.32	0.05	< 0.01	< 0.01	0.008	< 0.01	11.80	97.95	2	< 2	< 1	8	4	< 1	32	0.234	0.245	16.11	0.36	57.40
522472	39.57	1.05	7.81	0.103	37.04	0.06	< 0.01	< 0.01	0.006	< 0.01	11.72	97.37	< 2	< 2	< 1	9	30	< 1	41	0.242	0.262	16.59	0.54	58.38
522473	42.15	0.86	6.91	0.098	35.27	0.12	< 0.01	< 0.01	0.007	< 0.01	11.97	97.38	2	< 2	< 1	6	3	< 1	24	0.241	0.219			
522474	37.13	7.04	9.82	0.137	28.66	2.86	0.04	< 0.01	0.662	0.03	10.73	97.11	< 2	11	14	23	38	< 1	167	1270.656	1707.463			
522475	38.06	8.31	10.82	0.148	28.65	2.90	0.05	< 0.01	0.825	0.02	10.52	100.3	2	10	15	27	47	< 1	193	1254.284	1594.945			
522476	39.58	0.93	8.08	0.123	39.46	0.10	< 0.01	< 0.01	0.008	< 0.01	12.41	100.7	< 2	< 2	< 1	9	< 2	< 1	36	0.268	0.253	15.50	0.37	58.46
522477	38.77	0.78	8.37	0.143	38.23	0.85	< 0.01	< 0.01	0.005	< 0.01	11.56	98.71	< 2	< 2	< 1	10	3	< 1	43	0.233	0.283	13.23	0.28	61.17
522478	37.12	0.76	8.58	0.111	38.37	0.28	< 0.01	< 0.01	0.006	< 0.01	12.67	97.91	8	< 2	< 1	10	3	< 1	37	0.274	0.243	19.02	0.37	48.67
522479	37.16	0.77	7.49	0.074	39.13	0.13	< 0.01	< 0.01	0.005	< 0.01	13.53	98.30	2	< 2	< 1	8	3	< 1	35	0.240	0.243	14.94	0.40	56.38
522480	98.33	0.29	1.03	0.009	0.02	0.02	0.02	0.04	0.029	< 0.01	0.23	100.0	25	3	3	< 1	52	< 1	5	< 0.010	< 0.010	98.38	0.36	0.62
522481	36.69	0.71	8.79	0.129	38.06	0.87	< 0.01	< 0.01	0.006	< 0.01	12.07	97.34	< 2	< 2	< 1	11	2	< 1	37	0.231	0.287	15.43	0.43	57.73
522482	37.65	0.66	9.01	0.163	38.20	1.37	< 0.01	< 0.01	0.006	< 0.01	10.71	97.78	< 2	< 2	< 1	10	2	< 1	36	0.258	0.250	16.12	0.37	54.84
522483	37.96	0.74	8.17	0.141	38.20	1.20	< 0.01	< 0.01	0.006	< 0.01	11.58	98.00	< 2	< 2	< 1	9	2	< 1	38	0.246	0.260	22.47	0.33	40.05
522484	37.89	0.78	7.68	0.102	38.67	0.29	< 0.01	< 0.01	0.006	< 0.01	13.46	98.87	2	< 2	< 1	9	2	< 1	38	0.242	0.281	18.23	0.47	48.75
522485	38.32	0.62	8.90	0.160	38.65	1.63	< 0.01	< 0.01	0.005	< 0.01	11.48	99.77	< 2	< 2	< 1	10	< 2	< 1	34	0.248	0.232	18.09	0.47	49.48
522486	37.77	0.81	8.92	0.113	37.42	0.76	< 0.01	< 0.01	0.005	< 0.01	12.06	97.87	< 2	< 2	< 1	9	2	< 1	39	0.252	0.254	22.32	0.57	41.71
522487	37.93	0.87	8.74	0.132	38.05	0.73	< 0.01	< 0.01	0.006	< 0.01	12.08	98.53	< 2	< 2	< 1	11	3	< 1	40	0.245	0.276	17.37	0.60	51.96
522488	38.10	0.85	8.79	0.124	39.40	0.38	< 0.01	< 0.01	0.005	< 0.01	11.96	99.61	< 2	< 2	< 1	10	< 2	< 1	41	0.219	0.270	21.55	0.68	44.08
522489	37.94	0.82	8.20	0.120	38.09	0.24	< 0.01	< 0.01	0.005	< 0.01	12.11	97.53	2	< 2	< 1	10	4	< 1	41	0.254	0.262	22.03	0.68	41.65
522490	37.22	3.18	8.13	0.088	36.04	1.39	< 0.01	< 0.01	0.057	< 0.01	11.67	97.79	< 2	< 2	1	10	4	< 1	59	0.188	0.231	7.68	1.36	76.71
522491	37.64	0.60	9.49	0.227	37.83	0.55	< 0.01	< 0.01	0.007	< 0.01	11.56	97.90	5	< 2	< 1	11	2	< 1	33	0.254	0.260	15.70	0.48	57.01
522492	38.79	1.27	8.25	0.098	36.98	0.09	< 0.01	< 0.01	0.017	< 0.01	12.62	98.11	< 2	< 2	< 1	8	3	< 1	42	0.252	0.255	18.45	0.74	53.56
522493	38.90	1.53	8.31	0.092	36.79	0.07	< 0.01	< 0.01	0.021	< 0.01	12.13	97.84	2	< 2	1	9	3	< 1	39	0.250	0.256	21.76	1.04	45.51
522494	40.08	4.92	6.92	0.097	33.23	2.21	0.04	< 0.01	0.035	< 0.01	11.17	98.70	3	5	2	8	3	< 1	41	0.199	0.218	24.60	1.16	47.16
522495	39.86	3.98	7.22	0.096	33.84	1.28	0.02	< 0.01	0.023	< 0.01	11.55	97.88	8	4	2	8	3	< 1	35	0.244	0.227	21.62	0.66	55.15
522496	43.37	12.20	13.27	0.209	6.58	15.09	2.71	0.42	1.821	0.02	2.22	97.92	80	728	42	41	115	< 1	380	0.014	0.015			
522497	39.45	1.32	8.26	0.096	36.37	0.08	0.01	< 0.01	0.016	< 0.01	11.75	97.35	2	< 2	< 1	10	3	< 1	51	0.244	0.261	13.82	0.81	63.76
522498	39.85	1.49	8.61	0.125	37.42	1.10	< 0.01	< 0.01	0.013	< 0.01	11.21	99.82	< 2	< 2	< 1	12	< 2	< 1	49	0.187	0.262	19.91	0.82	50.92
522499	38.25	1.39	8.06	0.115	36.96	0.34	< 0.01	< 0.01	0.013	< 0.01	12.27	97.40	3	< 2	< 1	11	2	< 1	49	0.242	0.260	18.86	0.82	51.22
522500.1	49.29	16.07	11.89	0.165	4.81	7.83	2.25	2.79	1.190	0.43	0.82	97.53	711	537	20	25	97	2	334	0.229	1.041	49.02	16.24	12.05
522500.2																						36.29	2.36	13.16
522500.3																						18.24	0.61	54.25
522501	39.80	1.33	7.93	0.114	38.50	1.08	0.01	< 0.01	0.015	< 0.01	11.90	100.7	2	< 2	1	11	3	< 1	50	0.257	0.251	14.61	0.66	61.10
522502	39.35	1.33	8.39	0.120	38.14	0.48	< 0.01	< 0.01	0.012	< 0.01	12.41	100.2	< 2	< 2	< 1	11	2	< 1	43	0.218	0.241	24.65	0.85	36.91
522503	39.86	1.35	8.44	0.103	37.76	0.47	< 0.01	< 0.01	0.012	0.02	11.96	99.96	< 2	< 2	< 1	11	2	< 1	47	0.196	0.252	17.76	0.78	54.51
522504	39.90	1.25	8.16	0.157	38.47	0.54	0.01	< 0.01	0.013	< 0.01	12.15	100.7	< 2	< 2	< 1	10	< 2	< 1	46	0.173	0.252	21.13	0.84	44.62
522505	39.32	1.32	8.89	0.101	37.87	0.21	< 0.01	< 0.01	0.013	< 0.01	12.35	100.1	< 2	< 2	< 1	10	2	< 1	44	0.184	0.261	11.61	0.59	68.30
522506	39.29	1.15	9.54	0.140	37.52	0.68	< 0.01	< 0.01	0.014	< 0.01	11.69	100.0	< 2	< 2	< 1	11	4	< 1	38	0.181	0.228	20.64	0.86	47.29
522507	40.11	1.98	7.83	0.108	36.94	1.03	0.03	< 0.01	0.018	< 0.01	11.91	99.96	< 2	< 2	< 1	11	< 2	< 1	50	0.184	0.250	23.26	0.97	42.62
522508	39.10	1.09	7.79	0.142	38.24	0.99	< 0.01	< 0.01	0.014	0.02	12.03	99.42	< 2	< 2	< 1	8	< 2	< 1	34	0.187	0.238	22.79	0.63	38.45
522509	39.09	1.30	7.97	0.115	37.48	1.85	0.01	< 0.01	0.015	0.01	11.87	99.71	< 2	< 2	< 1	10	< 2	< 1	46	0.185	0.240	17.17	0.52	51.83
522510	39.31	1.26	7.63	0.103	38.95	0.55	< 0.01	< 0.01	0.010	< 0.01	12.52	100.3	< 2	< 2	< 1	8	3	< 1	36	0.200	0.261	20.73	0.83	43.72
522511	39.33	1.33	8.33	0.121	37.90	1.47	< 0.01	< 0.01	0.016	< 0.01	11.38	99.88	< 2	< 2	1	10	2	< 1	48	0.201	0.245	17.53	0.60	53.26
522512	39.21	1.73	7.86	0.097	37.99	1.22	< 0.01	< 0.01	0.017	< 0.01	12.04	100.2	< 2	< 2	< 1	10	2	< 1	49	0.192	0.256	15.71	0.81	58.31
522513	39.37	1.34	7.75	0.102	38.70	0.79	0.03	< 0.01	0.012	< 0.01	12.38	100.5	< 2	< 2	< 1	8	< 2	< 1	37	0.194	0.259	22.58	0.71	41.78
522514	39.78	1.69	8.37	0.100	37.51	0.64	0.06	0.02	0.018	0.02	12.31	100.5	< 2	< 2	< 1	11	2	< 1	54	0.197	0.249	15.61	0.63	60.81
522515	39.73	1.54	8.57	0.101	37.69	0.79	< 0.01	< 0.01	0.017	< 0.01	12.21	100.7	< 2	< 2	< 1	12	2	< 1	53	0.190	0.251	25.47	1.02	38.23
522516	39.57	1.41	7.85	0.129	37.74	1.77	0.01	< 0.01	0.017	< 0.01	12.28	100.8	< 2	< 2	< 1	10	< 2	< 1	48	0.179	0.257	23.86	0.98	36.72
522517	39.59	1.59	8.30	0.107	37.57	1.26	0.01	< 0.01	0.017	0.01	12.00	100.5	< 2	< 2	< 1	10	3	< 1	54	0.178	0.243	20.13	0.94	48.79
522518	39.79	1.64	7.68	0.088	38.47	0.67	< 0.01	< 0.01	0.019	0.02	12.42	100.8	< 2	< 2	< 1	9	< 2	< 1	44	0.204	0.242	16.78	0.92	54.33
522519	40.22	1.50	7.90	0.126	37.45	2.01	0.02	< 0.01	0.018	0.03	11.05	100.3	< 2	< 2	< 1	10	< 2	< 1	55	0.167	0.250	24.93	0.94	37.20

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
522520.1	49.36	16.11	12.01	0.166	4.87	7.82	2.25	2.80	1.173	0.43	0.85	97.84	714	537	20	25	102	2	331	0.232	1.047	49.06	16.18	12.09
522520.2																						36.43	2.38	13.16
522520.3																						17.85	0.47	54.54
522521	39.31	1.27	8.11	0.139	36.86	1.91	0.01	< 0.01	0.016	0.02	11.15	98.80	< 2	< 2	< 1	11	< 2	< 1	44	0.191	0.258	21.81	0.86	43.44
522522	39.16	1.41	7.54	0.102	37.33	1.09	0.01	< 0.01	0.017	< 0.01	12.14	98.80	< 2	< 2	< 1	10	< 2	< 1	42	0.188	0.229	24.31	0.91	37.83
522523	39.32	1.66	8.27	0.097	37.23	1.20	< 0.01	< 0.01	0.017	< 0.01	11.86	99.68	< 2	< 2	< 1	12	< 2	< 1	51	0.194	0.248	23.45	1.05	41.58
522524	39.43	1.63	7.05	0.098	37.33	0.94	< 0.01	< 0.01	0.016	< 0.01	12.05	98.55	< 2	< 2	< 1	11	< 2	< 1	48	0.177	0.245	22.81	1.03	42.68
522525	39.26	1.49	7.83	0.098	37.29	1.35	< 0.01	< 0.01	0.016	0.01	11.52	98.87	< 2	< 2	< 1	11	< 2	< 1	46	0.186	0.240	16.14	0.72	56.14
522526	39.80	1.51	7.95	0.132	36.29	2.09	< 0.01	< 0.01	0.017	< 0.01	10.94	98.75	< 2	< 2	< 1	13	< 2	< 1	51	0.179	0.249	26.84	1.13	33.88
522527	40.36	1.64	8.13	0.112	36.31	2.43	0.01	< 0.01	0.018	0.01	10.88	99.90	< 2	< 2	< 1	13	3	< 1	52	0.165	0.250	17.48	0.63	55.25
522528	39.41	1.74	8.23	0.102	36.52	1.51	< 0.01	< 0.01	0.017	0.01	11.48	99.03	< 2	< 2	< 1	11	2	< 1	53	0.186	0.244	24.45	0.98	40.27
522529	40.37	1.44	8.01	0.146	35.70	3.36	0.02	< 0.01	0.020	0.01	10.69	99.78	< 2	< 2	< 1	12	7	< 1	53	0.201	0.240	17.98	0.62	53.92
523301	39.09	1.17	8.05	0.137	37.97	0.95	< 0.01	< 0.01	0.018	0.01	11.79	99.19	< 2	< 2	< 1	8	2	< 1	35	0.212	0.226	22.76	0.67	41.96
523302	39.32	1.25	8.21	0.123	37.78	1.31	< 0.01	< 0.01	0.018	< 0.01	11.75	99.78	< 2	< 2	< 1	10	2	< 1	41	0.202	0.268	16.93	0.81	54.46
523303	39.34	1.28	8.25	0.116	37.91	1.10	< 0.01	< 0.01	0.016	0.01	11.42	99.46	< 2	< 2	< 1	9	4	< 1	43	0.188	0.245	15.52	0.71	56.74
523304	39.96	1.21	8.31	0.129	37.02	2.55	0.01	< 0.01	0.017	< 0.01	11.00	100.2	< 2	< 2	< 1	10	< 2	< 1	47	0.186	0.250	16.94	0.71	50.88
523305	39.08	1.08	7.84	0.105	38.41	1.14	0.01	< 0.01	0.012	0.03	11.93	99.64	< 2	< 2	< 1	8	< 2	< 1	35	0.200	0.257	19.98	0.64	44.42
523306	39.40	0.92	8.48	0.153	39.57	0.71	< 0.01	< 0.01	0.015	< 0.01	10.96	100.2	< 2	< 2	< 1	8	< 2	< 1	26	0.190	0.239	19.68	0.77	47.88
523307	39.46	1.25	8.06	0.139	38.30	1.12	0.05	0.02	0.015	< 0.01	11.66	100.1	< 2	< 2	< 1	9	2	< 1	37	0.203	0.234	20.65	0.65	44.57
523308	40.26	1.81	8.09	0.153	36.99	1.98	0.29	0.15	0.015	< 0.01	10.59	100.3	< 2	2	< 1	9	2	< 1	44	0.193	0.220	21.48	0.54	45.18
523309	38.66	0.85	8.12	0.164	39.97	0.33	< 0.01	< 0.01	0.009	0.01	11.58	99.70	< 2	< 2	< 1	7	4	< 1	25	0.199	0.333	19.75	0.98	42.50
523310	39.27	1.28	7.03	0.094	38.66	0.42	0.03	0.02	0.015	0.01	12.93	99.76	< 2	< 2	< 1	7	< 2	< 1	32	0.227	0.257	18.08	0.80	50.59
523311	39.37	1.08	7.77	0.124	38.46	0.95	< 0.01	< 0.01	0.013	< 0.01	12.26	100.0	< 2	< 2	< 1	8	2	< 1	38	0.184	0.259	15.05	0.61	56.67
523312	39.16	1.14	8.40	0.133	38.09	1.06	< 0.01	< 0.01	0.016	0.02	12.20	100.2	< 2	< 2	< 1	11	4	< 1	42	0.204	0.250	15.46	0.62	56.01
523313	39.27	0.90	7.66	0.136	39.68	0.68	< 0.01	< 0.01	0.015	0.02	12.27	100.6	< 2	< 2	< 1	7	< 2	< 1	25	0.210	0.237	17.46	0.57	49.57
523314	39.52	1.19	7.92	0.127	37.72	1.85	0.01	< 0.01	0.017	< 0.01	11.56	99.91	< 2	< 2	1	10	2	< 1	43	0.192	0.251	12.54	0.48	64.72
523315	39.55	1.23	7.85	0.121	37.61	1.67	< 0.01	< 0.01	0.017	< 0.01	11.73	99.79	< 2	< 2	< 1	10	< 2	< 1	44	0.202	0.256	16.29	0.61	54.21
523316	39.06	1.39	8.44	0.081	38.13	0.21	< 0.01	< 0.01	0.012	0.01	12.66	100.0	< 2	< 2	< 1	9	< 2	< 1	41	0.195	0.251	13.34	0.65	65.52
523317	39.85	1.44	7.53	0.104	38.15	1.02	< 0.01	< 0.01	0.015	< 0.01	12.17	100.3	< 2	< 2	< 1	10	4	< 1	43	0.177	0.240	13.53	0.57	60.97
523318	39.57	1.39	8.41	0.134	36.10	2.24	0.01	< 0.01	0.017	< 0.01	12.09	99.97	< 2	< 2	< 1	12	< 2	< 1	52	0.186	0.239	14.80	0.64	59.29
523319	38.47	1.38	7.71	0.127	35.81	1.98	0.01	< 0.01	0.018	0.02	12.07	97.60	< 2	< 2	< 1	12	2	< 1	50	0.160	0.223	14.62	0.55	59.09
523320.1	49.35	16.02	11.83	0.165	4.85	7.76	2.25	2.84	1.178	0.43	1.04	97.71	714	537	20	25	98	2	327	0.230	1.029	48.90	16.12	12.08
523320.2																						36.61	2.39	13.19
523320.3																						18.26	0.60	54.60
523321	38.93	1.29	8.45	0.165	36.04	2.31	0.01	< 0.01	0.017	< 0.01	12.30	99.52	< 2	< 2	< 1	12	4	< 1	49	0.180	0.223	16.67	0.56	52.38
523322	38.02	1.22	7.43	0.129	37.36	1.22	0.01	< 0.01	0.017	< 0.01	12.95	98.36	< 2	< 2	< 1	8	2	< 1	42	0.187	0.225	18.58	0.44	48.79
523323	38.53	1.43	7.56	0.081	37.93	0.78	< 0.01	< 0.01	0.015	< 0.01	12.80	99.14	< 2	< 2	< 1	12	2	< 1	47	0.192	0.237	9.97	0.33	71.67
523324	37.61	1.21	7.63	0.107	37.56	1.12	0.01	< 0.01	0.015	< 0.01	12.60	97.87	< 2	< 2	< 1	10	3	< 1	41	0.193	0.227	15.48	0.44	56.53
523325	37.72	0.66	7.68	0.106	40.39	0.11	< 0.01	< 0.01	0.005	< 0.01	12.07	98.75	< 2	< 2	< 1	6	< 2	< 1	25	0.167	0.230	14.38	0.66	57.02
523326	38.37	1.21	8.76	0.122	37.17	1.38	< 0.01	< 0.01	0.015	< 0.01	12.10	99.13	< 2	< 2	< 1	12	3	< 1	51	0.188	0.223	11.54	0.47	68.19
523327	38.20	1.38	7.98	0.103	37.39	1.08	< 0.01	< 0.01	0.015	0.01	12.09	98.26	< 2	< 2	< 1	11	2	< 1	51	0.204	0.225	9.20	0.55	72.69
523328	38.08	1.38	8.21	0.085	37.31	0.74	< 0.01	< 0.01	0.016	< 0.01	12.59	98.42	< 2	< 2	< 1	11	2	< 1	50	0.182	0.222	13.70	0.59	62.99
523329	38.52	1.48	7.71	0.098	38.38	0.44	< 0.01	< 0.01	0.013	< 0.01	12.67	99.32	< 2	< 2	< 1	10	< 2	< 1	51	0.207	0.241	13.29	0.80	63.93
523330	38.29	1.56	7.99	0.103	37.71	0.93	< 0.01	< 0.01	0.013	< 0.01	12.15	98.76	< 2	< 2	< 1	12	< 2	< 1	54	0.164	0.232	16.68	0.80	56.05
523331	38.28	1.21	8.60	0.140	37.52	1.42	< 0.01	< 0.01	0.015	0.01	12.03	99.24	< 2	< 2	< 1	12	3	< 1	51	0.210	0.234	12.90	0.51	63.70
523332	39.03	1.62	7.91	0.111	37.69	0.65	< 0.01	< 0.01	0.018	0.02	12.61	99.67	< 2	< 2	< 1	11	2	< 1	49	0.187	0.232	15.10	0.98	61.68
523333	38.48	1.36	8.23	0.102	37.52	0.48	< 0.01	< 0.01	0.013	< 0.01	12.74	98.93	< 2	< 2	< 1	11	2	< 1	46	0.191	0.228	16.20	0.48	59.29
523334	38.23	0.97	7.90	0.161	37.34	1.28	< 0.01	< 0.01	0.011	0.02	11.69	97.62	< 2	< 2	< 1	11	2	< 1	41	0.186	0.236	14.89	0.40	57.70
523335	38.44	0.97	8.42	0.161	37.27	1.23	< 0.01	< 0.01	0.011	0.02	11.72	98.26	< 2	< 2	< 1	11	3	< 1	42	0.186	0.246	11.97	0.59	63.89
523336	38.65	1.08	8.32	0.139	37.37	0.84	< 0.01	< 0.01	0.011	< 0.01	12.32	98.73	< 2	< 2	< 1	11	2	< 1	44	0.177	0.238	17.00	0.53	54.65
523337	38.69	1.18	8.04	0.121	38.15	0.94	< 0.01	< 0.01	0.011	< 0.01	11.90	99.04	< 2	< 2	< 1	11	< 2	< 1	44	0.195	0.226	14.61	0.59	58.60
523338	38.43	1.13	8.49	0.123	38.07	0.51	< 0.01	< 0.01	0.012	< 0.01	12.02	98.79	< 2	< 2	< 1	11	2	< 1	43	0.183	0.232	12.18	0.53	66.19

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
523339	38.80	0.97	8.19	0.143	38.87	0.27	< 0.01	< 0.01	0.008	< 0.01	11.78	99.05	< 2	< 2	< 1	8	< 2	< 1	33	0.211	0.226	16.19	0.67	55.47
523340	98.30	0.28	0.57	0.005	0.08	0.02	0.01	0.04	0.028	0.02	0.20	99.54	23	4	< 1	< 1	49	< 1	< 5	< 0.010	< 0.010	98.98	0.29	0.57
523341	38.15	0.86	9.00	0.182	37.62	1.15	< 0.01	< 0.01	0.010	< 0.01	12.36	99.36	< 2	< 2	< 1	11	4	< 1	39	0.181	0.246	14.21	0.38	62.91
523342	38.47	0.85	8.41	0.147	38.64	0.35	< 0.01	< 0.01	0.008	< 0.01	12.10	98.98	< 2	< 2	< 1	8	3	< 1	35	0.189	0.282	16.40	0.84	55.03
523343	38.81	0.90	7.91	0.106	38.34	0.82	< 0.01	< 0.01	0.007	0.01	12.31	99.20	< 2	< 2	< 1	9	2	< 1	39	0.200	0.241	13.90	0.54	60.70
523344	38.54	0.91	7.96	0.115	39.23	0.66	< 0.01	< 0.01	0.006	0.03	11.34	98.81	< 2	< 2	< 1	10	< 2	< 1	40	0.206	0.242	16.64	0.60	54.35
523345	38.73	0.99	7.87	0.102	38.83	0.66	< 0.01	< 0.01	0.008	< 0.01	11.96	99.16	2	4	< 1	10	3	< 1	45	0.184	0.249	15.79	0.70	55.51
523346	38.59	0.96	8.18	0.091	38.23	0.38	< 0.01	< 0.01	0.007	0.02	12.33	98.79	< 2	2	< 1	8	2	< 1	40	0.190	0.232	14.57	0.53	59.87
523347	38.56	0.90	7.68	0.108	38.39	1.23	< 0.01	< 0.01	0.006	< 0.01	11.96	98.86	2	3	< 1	9	< 2	< 1	44	0.183	0.234	19.26	0.51	46.72
523348	38.50	0.87	7.99	0.112	38.65	0.79	< 0.01	< 0.01	0.006	< 0.01	11.85	98.78	2	3	< 1	10	3	< 1	41	0.200	0.233	13.72	0.37	60.23
523349	38.49	0.85	7.84	0.117	38.92	0.94	< 0.01	< 0.01	0.005	0.01	11.79	98.97	2	3	< 1	10	3	< 1	39	0.197	0.241	18.38	0.29	50.09
523350	38.73	0.76	8.01	0.136	39.09	0.79	< 0.01	< 0.01	0.007	< 0.01	12.27	99.79	4	< 2	< 1	9	5	< 1	43	0.200	0.247	18.98	0.28	46.27
523351	38.61	0.95	7.10	0.098	39.61	0.21	< 0.01	< 0.01	0.007	< 0.01	12.75	99.35	2	3	< 1	9	2	< 1	37	0.205	0.261	17.78	0.63	48.12
523352	39.01	0.88	7.21	0.102	39.72	0.45	< 0.01	< 0.01	0.007	0.01	12.39	99.79	< 2	< 2	< 1	8	< 2	< 1	35	0.212	0.233	14.74	0.48	56.83
523353	39.14	0.82	7.58	0.102	40.26	0.22	< 0.01	< 0.01	0.008	< 0.01	11.75	99.90	< 2	3	< 1	7	2	< 1	32	0.223	0.205	19.93	0.61	46.39
523354	38.64	0.84	7.11	0.110	39.12	0.29	< 0.01	< 0.01	0.007	< 0.01	13.05	99.18	< 2	3	< 1	9	2	< 1	35	0.171	0.217	19.72	0.52	46.81
523355	38.54	0.84	7.44	0.111	39.32	0.30	< 0.01	< 0.01	0.006	0.02	12.98	99.56	< 2	< 2	< 1	9	< 2	< 1	36	0.194	0.237	20.69	0.55	45.20
523356	38.66	0.75	7.69	0.121	39.59	0.38	< 0.01	< 0.01	0.010	< 0.01	10.87	98.07	< 2	3	< 1	7	2	< 1	27	0.193	0.184	21.67	0.44	42.45
523357	39.30	0.74	7.46	0.128	39.49	0.25	< 0.01	< 0.01	0.007	< 0.01	11.24	98.63	< 2	< 2	< 1	8	< 2	< 1	31	0.198	0.264	20.07	0.51	46.28
523358	46.58	12.50	14.46	0.222	6.05	11.83	3.83	0.22	2.088	0.13	0.80	98.72	17	134	31	42	81	< 1	496	0.014	< 0.010			
523359	42.13	2.27	6.97	0.096	33.91	1.58	0.06	0.01	0.032	0.02	11.64	98.71	2	14	< 1	8	3	< 1	37	0.174	0.203			
523360.1	48.72	15.97	11.74	0.162	4.83	7.61	2.25	2.80	1.163	0.44	0.85	96.55	709	535	21	25	104	2	332	0.227	1.013	48.87	16.25	12.05
523360.2																						36.51	2.37	13.09
523360.3																						18.06	0.42	54.54
523361	43.86	10.33	11.50	0.186	10.27	14.73	2.17	0.11	1.478	0.15	3.71	98.50	14	77	28	31	81	< 1	340	0.037	0.040			
523362	39.13	0.80	7.51	0.146	38.36	0.83	0.02	< 0.01	0.017	< 0.01	11.31	98.13	< 2	3	< 1	9	3	< 1	38	0.179	0.241	21.97	0.55	42.37
523363	39.06	1.02	8.00	0.074	37.67	0.15	< 0.01	< 0.01	0.012	< 0.01	12.62	98.62	< 2	2	< 1	8	3	< 1	37	0.187	0.226	16.06	0.49	58.26
523364	43.66	9.29	11.29	0.170	16.17	9.23	2.31	0.16	1.251	0.12	5.07	98.70	9	56	23	29	67	< 1	299	0.070	0.074	21.44	2.07	49.83
523365	39.31	0.97	7.46	0.124	39.04	0.66	0.02	< 0.01	0.018	0.03	11.59	99.23	< 2	4	< 1	10	< 2	< 1	38	0.189	0.233	26.60	0.95	33.63
523366	38.72	0.88	7.58	0.099	40.26	0.43	< 0.01	< 0.01	0.011	0.01	11.57	99.58	< 2	2	< 1	8	< 2	< 1	32	0.201	0.220	24.35	0.69	37.63
523367	38.46	0.86	8.04	0.119	39.78	0.72	0.01	< 0.01	0.010	0.02	11.16	99.18	< 2	< 2	< 1	8	< 2	< 1	32	0.205	0.233	11.12	0.48	61.32
523368	38.76	0.97	7.48	0.112	39.30	1.14	< 0.01	< 0.01	0.007	0.01	11.50	99.29	< 2	2	< 1	10	< 2	< 1	40	0.199	0.241	19.09	0.55	47.55
523369	38.07	0.68	8.52	0.110	40.31	0.16	< 0.01	< 0.01	0.011	0.02	11.07	98.95	< 2	2	< 1	7	< 2	< 1	29	0.212	0.178	25.05	0.68	37.70
523370	40.69	1.09	7.24	0.094	40.54	0.10	< 0.01	< 0.01	0.012	0.02	10.92	100.7	< 2	< 2	1	5	< 2	< 1	18	0.209	0.085	21.45	0.74	46.58
523371	41.83	11.88	10.85	0.158	13.84	12.54	1.99	0.10	1.119	0.09	5.11	99.49	11	49	24	33	65	< 1	272	0.060	0.075	5.27	0.45	84.39
523372	37.91	1.06	8.41	0.110	39.92	0.34	0.01	< 0.01	0.010	0.02	12.34	100.1	< 2	< 2	< 1	10	< 2	< 1	42	0.198	0.255	17.83	0.63	52.51
523373	37.18	0.88	8.11	0.109	39.09	0.64	< 0.01	< 0.01	0.007	< 0.01	12.31	98.35	8	< 2	1	8	5	< 1	37	0.275	0.240	20.00	0.60	46.45
523374	38.56	0.74	7.68	0.117	39.73	0.46	< 0.01	< 0.01	0.007	< 0.01	11.80	99.10	< 2	< 2	< 1	8	< 2	< 1	30	0.197	0.250	23.46	0.81	39.07
523375	38.70	0.70	7.35	0.114	39.59	0.52	< 0.01	< 0.01	0.006	< 0.01	11.57	98.55	< 2	< 2	< 1	8	< 2	< 1	29	0.211	0.240	25.10	1.18	39.36
523376	38.93	0.82	7.67	0.118	38.98	1.30	< 0.01	< 0.01	0.007	< 0.01	10.96	98.81	< 2	< 2	< 1	9	< 2	< 1	37	0.191	0.266	14.07	1.04	56.88
523377	38.89	0.74	7.67	0.129	38.57	0.62	< 0.01	< 0.01	0.006	0.01	12.28	98.93	< 2	< 2	< 1	9	< 2	< 1	34	0.194	0.242	22.22	0.74	43.60
523378	39.46	0.62	7.96	0.114	40.40	0.67	< 0.01	< 0.01	0.005	< 0.01	9.02	98.27	< 2	< 2	< 1	9	< 2	< 1	37	0.200	0.240	22.21	1.06	41.10
523379	38.86	0.85	7.79	0.119	38.78	1.08	< 0.01	< 0.01	0.006	< 0.01	11.17	98.67	< 2	< 2	< 1	10	< 2	< 1	38	0.187	0.247	13.24	0.79	59.48
523380	98.87	0.28	0.53	0.006	0.05	0.02	0.01	0.04	0.031	0.02	0.03	99.90	23	4	1	< 1	57	< 1	6	< 0.010	< 0.010	98.29	0.37	0.51
523381	38.76	0.79	7.51	0.109	39.93	0.76	0.02	0.03	0.008	< 0.01	10.19	98.10	18	< 2	< 1	7	< 2	< 1	32	0.196	0.257	9.73	0.76	61.15
521292	46.73	14.24	13.37	0.223	7.69	7.86	3.12	0.57	1.753	0.20	4.16	99.90	365	380	34	42	106	< 1	349	0.029	0.049			
521293	43.20	10.06	10.31	0.193	19.51	6.82	0.53	0.06	0.888	0.13	7.21	98.92	38	30	17	28	51	< 1	205	0.096	0.124			
521294	47.62	12.36	9.51	0.173	14.30	7.27	2.03	0.80	0.901	0.14	4.62	99.73	697	209	15	29	73	< 1	215	0.032	0.075			
521295	45.35	7.28	8.68	0.158	22.09	7.98	0.05	0.02	0.713	0.12	7.08	99.52	7	35	13	21	47	< 1	146	0.107	0.123			
521296	42.80	6.40	8.02	0.150	19.99	8.52	0.06	0.03	0.517	0.07	12.54	99.09	18	125	10	20	35	< 1	138	0.098	0.111			
521297	49.60	11.72	10.46	0.180	10.62	6.24	3.55	0.17	1.217	0.20	4.19	98.15	55	90	26	35	95	< 1	224	0.041	0.067			
521298	44.74	15.27	11.08	0.165	11.28	4.05	3.77	0.63	1.387	0.13	5.94	98.45	222	95	28	42	71	< 1	306	0.015	0.028			

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
521299	47.33	7.03	7.30	0.147	12.75	10.50	0.63	0.64	0.639	0.14	12.61	99.73	86	267	15	21	50	< 1	150	0.058	0.069			
521300	47.40	14.66	8.50	0.186	7.18	7.24	3.40	2.21	1.314	0.25	6.47	98.82	1286	152	23	34	100	2	234	0.015	0.024			
521301	49.39	18.25	10.70	0.152	2.43	6.37	4.69	1.58	1.831	0.41	2.60	98.40	387	1034	32	36	170	< 1	235	0.014	0.028			
521302	49.04	17.49	11.59	0.190	3.96	6.15	4.50	1.34	1.532	0.16	2.76	98.72	276	177	33	44	81	< 1	302	0.015	0.030			
521303	51.72	13.25	10.25	0.222	4.82	8.65	3.00	0.88	1.463	0.17	4.64	99.06	284	120	28	34	91	< 1	264	0.016	0.021			
521304	49.38	15.27	10.92	0.171	5.82	10.26	2.88	0.39	1.500	0.13	2.60	99.32	103	101	29	40	87	< 1	343	< 0.010	0.016			
521305	49.64	15.34	10.91	0.170	5.74	10.12	2.89	0.37	1.477	0.13	2.52	99.32	101	91	29	40	85	< 1	346	< 0.010	0.014			
521306	50.57	14.50	11.17	0.176	5.34	9.97	2.54	0.17	1.566	0.14	2.73	98.88	41	163	29	39	83	< 1	374	< 0.010	< 0.010			
521307	49.39	15.25	10.69	0.176	6.08	10.65	2.68	0.45	1.430	0.13	2.25	99.17	120	104	28	39	82	< 1	332	0.011	0.016			
521308	49.08	15.26	10.57	0.176	6.00	10.72	2.67	0.50	1.458	0.13	2.77	99.34	142	86	28	39	83	< 1	334	0.012	0.015			
521309	48.84	15.84	10.32	0.163	5.45	10.51	3.03	0.39	1.468	0.13	2.77	98.91	133	109	28	39	86	< 1	334	0.011	0.014			

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	Client ID (Davis Tube)	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S	Spec Grav Core
Unit Symbol	%	%	%	%	%	%	%	%	%	%	-	%	%	g	g	g	%	g	%	%	-
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003			0.01							0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	Client ID	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR	GRAV
521373	0.184	16.44	0.18	0.04	0.03	0.04	0.01	1.63	0.029	1.73	521373	2.86	98.27	30.1	1.877	28.063	6.2	29.940	0.62		2.74
521374	0.198	15.65	0.14	< 0.01	0.03	0.04	0.01	1.83	0.029	1.38	521374	2.80	98.28	30.1	2.215	27.958	7.3	30.174	-0.09		2.66
521375	0.204	18.07	0.09	0.01	0.04	0.03	0.01	2.18	0.023	2.40	521375	1.84	97.49	30.1	1.153	28.845	3.8	29.998	0.46		2.80
521376	0.247	16.94	0.19	< 0.01	0.01	0.03	0.01	2.51	0.028	2.41	521376	2.42	97.87	30.2	1.383	28.816	4.6	30.198	-0.03		2.64
521377	0.152	23.86	0.11	< 0.01	0.01	0.02	0.01	1.44	0.020	1.55	521377	6.23	98.85	30.2	2.622	27.578	8.7	30.200	-0.09		2.58
521378	0.220	17.85	0.22	< 0.01	0.02	0.07	0.02	2.29	0.031	2.79	521378	2.95	98.68	30.2	1.371	28.654	4.5	30.025	0.64		2.70
521379	0.181	22.14	0.16	< 0.01	0.03	0.02	0.01	1.57	0.021	2.12	521379	5.12	98.49	30.3	1.907	28.383	6.3	30.290	-0.05		2.68
521380	0.194	20.14	0.12	< 0.01	0.02	0.02	0.01	1.68	0.024	1.73	521380	4.81	99.11	30.3	2.267	27.940	7.5	30.207	0.17		2.70
521381	0.156	27.79	0.06	< 0.01	0.01	0.03	0.01	0.99	0.016	0.770	521381	8.08	99.43	30.1	4.020	26.044	13.3	30.064	0.22		2.61
521382	0.142	19.48	0.10	< 0.01	0.02	0.02	0.01	1.33	0.025	0.987	521382	4.37	98.56	30.1	2.211	27.749	7.3	29.960	0.59		2.61
521383	0.221	24.72	0.40	< 0.01	0.03	0.02	0.01	1.40	0.020	1.34	521383	5.72	99.11	30.1	2.654	27.342	8.8	29.996	0.44		2.74
521384	0.206	22.44	0.10	< 0.01	< 0.01	0.02	0.01	1.50	0.019	1.63	521384	5.22	97.46	30.1	2.628	27.388	8.7	30.016	0.22		2.69
521385	0.200	20.81	0.13	0.01	0.01	0.02	0.01	1.40	0.022	1.71	521385	5.42	98.66	30.1	2.541	27.530	8.5	30.071	-0.06		2.75
521386	0.169	21.62	0.06	< 0.01	0.02	0.02	0.01	1.32	0.021	1.56	521386	5.95	98.49	30.1	2.933	26.981	9.7	29.914	0.57		2.61
521387	0.154	25.98	0.06	< 0.01	0.04	0.05	0.01	0.85	0.020	0.899	521387	6.33	99.55	30.1	4.743	25.220	15.7	29.962	0.55		2.61
521388	0.175	24.72	0.07	< 0.01	0.01	0.02	0.01	1.24	0.019	1.52	521388	5.99	98.05	30.2	3.088	27.009	10.2	30.097	0.38		2.69
521389	0.169	18.97	0.12	< 0.01	0.02	0.05	0.01	1.50	0.032	2.36	521389	3.88	99.16	30.2	2.077	27.986	6.9	30.063	0.36		2.69
521390.1	0.173	4.94	7.80	2.43	2.77	1.10	0.44	1.06	0.065	0.234	521390	0.80	98.71								
521390.2	0.125	32.21	2.09	0.10	0.12	0.12	0.02	0.20	0.008	1.44	521390	10.95	99.49								
521390.3	0.245	17.50	0.15	< 0.01	0.01	0.03	0.01	1.60	0.025	2.01	521390	3.29	97.67	30.7	2.124	28.215	6.9	30.339	1.14	0.11	
521391	0.252	23.82	0.12	< 0.01	0.04	0.05	0.01	1.70	0.022	1.96	521391	4.77	98.81	30.3	2.483	27.682	8.2	30.164	0.32		2.69
521392	0.252	20.82	0.06	< 0.01	0.04	0.05	0.01	1.67	0.025	1.93	521392	3.89	99.38	30.3	2.685	27.522	8.9	30.207	0.20		2.69
521393	0.255	18.19	0.08	< 0.01	0.05	0.20	0.01	1.98	0.039	1.45	521393	0.70	99.64	30.2	2.177	28.392	7.2	30.569	-1.27		2.66
521394	0.225	17.73	0.13	< 0.01	0.02	0.06	0.01	1.29	0.029	1.83	521394	2.80	99.16	30.3	2.651	27.518	8.8	30.169	0.30	0.04	2.71
521395											521395			30.4	0.075	28.940	0.2	29.015	4.52		2.67
521396	0.186	19.44	0.26	< 0.01	0.03	0.05	0.01	1.29	0.028	1.63	521396	3.06	97.59	30.2	2.260	28.026	7.5	30.286	-0.22	0.08	2.77
521397	0.167	19.12	0.35	< 0.01	0.05	0.03	0.01	0.98	0.021	1.58	521397	4.92	98.79	30.2	3.005	27.035	9.9	30.039	0.58	0.09	2.67
521398	0.189	17.99	0.31	< 0.01	0.02	0.04	0.01	1.42	0.029	1.80	521398	1.06	97.44	30.3	1.965	28.400	6.5	30.365	-0.12	0.09	2.70
521399	0.206	22.80	0.67	< 0.01	0.03	0.03	0.01	1.08	0.018	1.82	521399	4.99	99.31	30.2	2.782	27.394	9.2	30.176	-0.05	0.05	2.69
521400	0.172	19.96	0.31	< 0.01	0.02	0.03	0.01	1.02	0.022	1.69	521400	4.37	99.02	30.2	2.632	27.367	8.7	29.999	0.52	0.09	2.64
521401	0.183	19.94	0.32	< 0.01	0.02	0.03	0.01	1.05	0.022	1.85	521401	4.72	99.69	30.3	2.535	27.831	8.4	30.365	-0.25	0.07	2.68
521402	0.186	20.69	0.32	< 0.01	0.01	0.03	0.01	1.26	0.021	2.07	521402	4.26	99.14	30.3	2.229	27.992	7.4	30.222	0.27	0.10	2.60
521403	0.187	20.51	0.20	< 0.01	0.02	0.04	0.01	1.60	0.024	1.95	521403	3.79	98.75	30.1	2.341	27.271	7.8	29.612	1.76	0.09	2.66
521404	0.201	18.71	0.29	< 0.01	0.03	0.03	0.01	1.44	0.022	2.15	521404	3.52	98.94	30.2	2.176	28.174	7.2	30.350	-0.55	0.06	2.66
521405	0.231	23.87	2.32	0.01	0.03	0.04	0.01	1.53	0.017	2.10	521405	4.39	99.56	30.3	1.816	28.582	6.0	30.398	-0.16	0.05	2.82
521406	0.176	18.89	0.68	< 0.01	0.01	0.04	0.01	1.16	0.019	2.07	521406	3.96	99.02	30.2	1.949	28.225	6.5	30.174	-0.06	0.06	2.72
521407	0.230	23.41	2.95	0.01	0.01	0.04	0.01	1.55	0.022	2.35	521407	4.10	98.87	30.2	1.482	28.704	4.9	30.185	-0.07	0.04	2.76
521408	0.214	21.15	1.30	< 0.01	0.02	0.07	0.01	1.33	0.019	1.87	521408	4.20	99.40	30.2	1.813	28.210	6.0	30.023	0.68	0.06	2.66
521409	0.178	21.80	0.49	< 0.01	0.01	0.04	0.01	1.30	0.023	1.89	521409	4.54	98.72	30.2	2.411	27.803	8.0	30.215	-0.02	0.06	2.70
521410	0.126	27.80	0.24	< 0.01	0.02	0.02	< 0.01	1.20	0.019	1.66	521410	6.64	99.79	30.2	2.961	27.121	9.8	30.081	0.25	0.05	2.85
521411	0.207	28.26	0.63	< 0.01	0.02	0.03	0.01	1.35	0.022	1.55	521411	5.83	99.70	30.3	2.554	27.675	8.4	30.229	0.10	0.11	2.85
521412	0.168	18.75	0.41	0.05	0.02	0.04	0.01	1.41	0.022	2.56	521412	3.34	98.71	30.2	1.649	28.537	5.5	30.186	0.17	0.05	2.62
521413	0.205	21.77	0.55	< 0.01	0.02	0.03	0.01	1.34	0.017	2.03	521413	4.30	98.47	30.2	1.906	28.054	6.3	29.960	0.94	0.08	2.73
521414	0.138	20.19	0.43	0.02	0.05	0.02	0.01	1.27	0.014	1.56	521414	5.66	99.30	30.1	2.452	27.607	8.1	30.059	0.16	0.04	2.77
521415	0.190	25.09	0.59	< 0.01	0.02	0.03	0.01	1.17	0.019	1.71	521415	5.00	99.83	30.1	2.291	27.692	7.6	29.984	0.49	0.04	2.76
521416	0.142	24.82	0.35	0.20	0.33	0.03	0.01	0.73	0.015	1.69	521416	6.68	98.20	30.3	2.498	27.684	8.3	30.181	0.23	0.04	2.69
521417	0.194	23.58	0.40	< 0.01	0.01	0.03	0.01	1.26	0.014	1.96	521417	5.53	98.44	30.3	2.163	28.617	7.1	30.780	-1.72	0.06	2.67
521418	0.160	24.49	0.30	< 0.01	0.05	0.03	0.01	1.21	0.016	1.89	521418	4.84	97.63	30.1	2.076	28.004	6.9	30.080	0.17	0.05	2.64
521419	0.193	24.13	0.25	< 0.01	0.01	0.03	0.01	1.20	0.013	1.82	521419	5.92	98.12	30.3	2.544	27.717	8.4	30.261	0.09	0.07	2.62
521420	0.190	23.33	0.40	< 0.01	0.02	0.03	0.01	1.13	0.020	1.77	521420	5.47	99.32	30.2	2.903	26.577	9.6	29.480	2.44	0.07	2.59
521421	0.232	16.47	0.31	< 0.01	0.03	0.03	0.01	1.76	0.024	2.73	521421	2.58	97.49	30.2	1.577	28.597	5.2	30.175	0.09	0.07	2.60

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	Client ID (Davis Tube)	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S	Spec Grav Core
Unit Symbol	%	%	%	%	%	%	%	%	%	%	-	%	%	g	g	g	%	g	%	%	-
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003			0.01							0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	Client ID	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR	GRAV
521422	0.218	22.33	0.33	< 0.01	0.02	0.03	0.01	1.40	0.016	2.61	521422	4.96	97.57	30.2	1.664	28.467	5.5	30.132	0.15	0.11	2.79
521423	0.198	17.51	0.26	< 0.01	0.03	0.04	0.01	1.42	0.022	2.21	521423	3.30	97.30	30.2	2.129	28.089	7.1	30.218	-0.20	0.09	2.67
521424	0.197	17.68	0.60	< 0.01	0.03	0.06	0.01	1.38	0.027	2.27	521424	3.06	98.02	30.3	1.855	28.657	6.1	30.513	-0.75	0.10	2.66
521425	0.151	14.43	0.16	< 0.01	0.01	0.04	0.01	1.25	0.023	2.27	521425	1.78	98.62	30.2	1.833	29.463	6.1	31.295	-3.75	0.10	2.64
521426	0.125	19.50	0.12	< 0.01	0.02	0.04	0.01	0.98	0.022	1.20	521426	4.41	97.82	30.2	2.285	27.945	7.6	30.230	-0.01	0.19	2.66
521427	0.193	20.10	0.29	< 0.01	0.02	0.03	0.01	1.45	0.020	1.92	521427	4.05	98.04	30.2	2.043	28.218	6.8	30.262	-0.20	0.13	2.73
521428	0.195	18.11	0.22	< 0.01	0.04	0.03	0.01	1.35	0.020	2.66	521428	3.47	98.08	30.2	1.833	28.312	6.1	30.144	0.17	0.10	2.67
521429	0.223	17.24	0.30	< 0.01	0.02	0.04	< 0.01	1.70	0.028	2.19	521429	3.15	97.91	30.1	1.724	28.440	5.7	30.164	-0.16	0.13	2.64
521430	0.186	19.85	1.32	< 0.01	0.02	0.03	0.01	1.09	0.019	1.95	521430	4.56	97.93	30.2	2.098	28.225	6.9	30.323	-0.36	0.08	2.65
521431	0.223	16.83	0.52	< 0.01	0.01	0.04	< 0.01	1.55	0.026	2.09	521431	3.03	98.10	30.1	2.008	28.166	6.7	30.174	-0.27	0.10	2.71
521432	0.183	19.33	0.46	< 0.01	0.04	0.04	0.01	1.13	0.021	1.47	521432	4.33	98.56	30.2	2.064	28.327	6.8	30.391	-0.52	0.11	2.62
521433	0.399	18.80	0.45	0.19	0.12	0.22	0.09	2.87	0.030	1.34	521433	6.48	98.59	30.1	0.504	29.663	1.7	30.167	-0.12		2.54
521434	0.313	15.47	0.53	< 0.01	0.06	0.06	0.01	0.03	0.030	0.760	521434	3.69	95.99	30.1	1.319	28.710	4.4	30.029	0.09	0.20	2.60
521435	0.331	11.44	0.43	0.03	0.02	0.08	0.02	1.91	0.034	0.868	521435	1.81	99.32	30.1	1.472	29.071	4.9	30.543	-1.47	0.23	2.58
521436	0.236	15.92	0.08	< 0.01	0.08	0.07	0.01	1.40	0.030	1.57	521436	2.83	98.32	30.2	2.176	27.595	7.2	29.771	1.28	0.21	2.68
521437	0.340	14.68	0.05	< 0.01	< 0.01	0.13	0.01	3.47	0.054	0.651	521437	2.47	97.15	30.1	0.651	29.420	2.2	30.071	0.03		2.67
521438	0.321	8.81	0.60	0.02	0.02	0.70	0.03	2.26	0.098	1.70	521438	0.06	98.45	30.1	0.918	28.950	3.1	29.868	0.62	0.08	2.68
521439	0.402	12.08	0.16	< 0.01	0.02	0.16	0.01	3.65	0.047	2.52	521439	0.78	97.94	30.1	0.765	29.294	2.5	30.058	0.07		2.71
521440.1	0.174	4.97	7.78	2.44	2.83	1.10	0.44	1.06	0.061	0.233	521440	0.77	99.67								
521440.2	0.127	32.35	2.07	0.08	0.11	0.13	0.02	0.20	0.005	1.44	521440	10.93	99.57								
521440.3	0.239	17.55	0.16	< 0.01	0.01	0.04	0.01	1.61	0.025	2.03	521440	3.33	98.11	30.1	2.077	27.848	6.9	29.925	0.68	0.11	
521441	0.204	17.62	0.24	< 0.01	0.01	0.03	< 0.01	1.38	0.020	2.35	521441	3.03	97.70	30.2	1.989	28.257	6.6	30.246	-0.21	0.09	2.73
521442	0.203	16.18	0.32	< 0.01	0.01	0.03	0.01	1.54	0.022	2.58	521442	2.50	97.10	30.1	1.892	28.059	6.3	29.951	0.39	0.10	2.72
521443	0.198	18.76	0.27	< 0.01	0.02	0.03	0.01	1.41	0.023	2.18	521443	3.23	97.51	30.1	2.069	27.837	6.9	29.906	0.54	0.07	2.66
521444	0.207	15.92	0.51	< 0.01	0.02	0.04	0.01	1.77	0.027	2.53	521444	2.47	97.86	30.0	1.855	28.232	6.2	30.087	-0.16	0.05	2.73
521445	0.179	17.96	0.39	< 0.01	0.02	0.04	0.01	1.29	0.023	2.04	521445	3.15	97.78	30.2	2.190	28.124	7.2	30.315	-0.23	0.06	2.74
521446	0.192	16.54	0.35	< 0.01	0.03	0.04	0.01	1.49	0.025	2.73	521446	2.43	97.69	30.1	1.792	28.346	5.9	30.138	-0.02	0.04	2.71
521447	0.179	19.38	0.43	< 0.01	0.03	0.04	0.01	1.38	0.022	2.45	521447	3.47	98.02	30.1	1.927	28.219	6.4	30.147	-0.21	0.04	2.73
521448	0.181	17.25	0.34	< 0.01	0.03	0.04	0.01	1.46	0.024	2.63	521448	2.56	97.69	30.2	1.867	28.193	6.2	30.060	0.38	0.04	2.71
521449	0.171	18.98	0.33	< 0.01	0.08	0.04	0.01	1.35	0.020	2.25	521449	3.48	97.95	30.2	2.105	28.062	7.0	30.167	-0.00	0.03	2.73
521450	0.241	14.42	0.47	< 0.01	0.02	0.04	0.01	2.18	0.030	3.20	521450	1.05	96.89	30.2	1.309	28.971	4.3	30.280	-0.38	0.05	2.74
521451	0.204	18.41	0.20	< 0.01	0.01	0.05	0.01	2.14	0.023	3.19	521451	2.80	97.56	30.1	1.366	28.795	4.5	30.161	-0.18	0.03	2.76
521452	0.205	16.92	0.18	< 0.01	0.04	0.05	< 0.01	2.21	0.023	3.46	521452	2.46	97.32	30.1	1.383	28.354	4.6	29.737	1.26	0.03	2.70
521453	0.185	20.37	0.20	< 0.01	0.05	0.04	0.01	1.73	0.021	2.56	521453	4.09	97.97	30.1	1.623	28.591	5.4	30.214	-0.37	0.03	2.72
521454	0.161	15.13	0.19	< 0.01	0.02	0.04	0.01	1.57	0.027	2.74	521454	1.90	98.27	30.2	1.660	28.644	5.5	30.304	-0.44	0.04	2.72
521455	0.173	17.66	0.20	< 0.01	0.02	0.05	0.01	1.57	0.022	2.60	521455	2.89	98.23	30.4	1.691	28.682	5.6	30.373	0.04	0.04	2.67
521456	0.232	16.48	0.22	< 0.01	0.03	0.04	< 0.01	2.28	0.028	3.46	521456	2.27	96.57	30.1	1.250	29.045	4.2	30.295	-0.62	0.05	2.76
521457	0.153	18.99	0.17	< 0.01	0.04	0.04	< 0.01	1.05	0.018	2.25	521457	3.83	98.26	30.4	2.089	28.481	6.9	30.570	-0.68	0.03	2.62
521458	0.193	16.20	0.15	< 0.01	0.03	0.04	0.01	1.63	0.023	2.89	521458	2.60	97.33	30.1	1.769	28.239	5.9	30.008	0.14	0.03	2.67
521459	0.168	19.58	0.14	< 0.01	0.05	0.04	0.01	1.24	0.020	1.94	521459	4.39	99.81	30.3	2.455	28.079	8.1	30.534	-0.72	0.02	2.68
521460	0.008	< 0.01	0.02	0.01	0.08	0.05	0.01	< 0.01	< 0.003	< 0.003	521460	0.12	99.66	30.1	0.103	29.365	0.3	29.468	2.08		2.72
521461	0.190	21.71	0.29	< 0.01	0.11	0.03	0.01	1.33	0.019	2.09	521461	5.06	98.41	30.3	1.999	28.660	6.6	30.659	-1.14	0.02	2.63
521462	0.149	16.61	0.20	< 0.01	0.01	0.03	0.01	1.14	0.021	2.96	521462	2.81	97.42	30.1	1.643	28.484	5.5	30.127	0.02	0.04	2.60
521463	0.164	17.50	0.28	< 0.01	0.03	0.04	0.01	1.44	0.023	2.19	521463	3.24	97.66	30.1	2.068	28.158	6.9	30.226	-0.35	0.05	2.57
521464	0.206	19.22	0.31	< 0.01	0.02	0.04	0.01	1.61	0.025	2.96	521464	3.86	97.49	30.2	1.704	28.477	5.6	30.181	0.09	0.04	2.63
521465	0.189	19.82	0.25	< 0.01	0.02	0.04	0.01	1.37	0.024	2.18	521465	4.15	98.23	30.2	2.251	27.967	7.5	30.218	-0.10	0.04	2.67
521466	0.155	18.93	0.24	< 0.01	0.04	0.03	0.01	0.02	0.024	2.67	521466	3.64	96.89	30.2	1.855	28.171	6.1	30.026	0.53	0.05	2.70
521467	0.159	13.76	0.11	< 0.01	0.02	0.03	0.01	1.43	0.025	2.26	521467	1.52	98.00	30.2	2.039	28.245	6.7	30.284	-0.19	0.03	2.67
521468	0.224	16.55	0.12	< 0.01	0.01	0.03	< 0.01	1.38	0.022	1.97	521468	3.13	97.62	30.3	2.280	27.999	7.5	30.279	0.02	0.08	2.59
521469	0.238	13.99	0.19	< 0.01	0.02	0.02	< 0.01	1.74	0.026	1.95	521469	2.46	97.21	30.1	2.142	27.806	7.1	29.947	0.50	0.28	2.61
521470	0.325	10.86	0.23	< 0.01	0.01	0.03	0.01	2.12	0.028	2.22	521470	0.92	97.71	30.3	1.627	27.698	5.4	29.325	3.14	0.20	2.49

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	Client ID (Davis Tube)	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S	Spec Grav Core
Unit Symbol	%	%	%	%	%	%	%	%	%	%	-	%	%	g	g	g	%	g	%	%	-
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003			0.01							0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	Client ID	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR	GRAV
521471	0.243	17.57	0.14	< 0.01	0.06	0.02	< 0.01	2.35	0.031	3.19	521471	3.54	96.56	30.3	1.457	29.015	4.8	30.471	-0.57	0.23	2.71
521472	0.306	15.38	0.19	< 0.01	0.02	0.03	< 0.01	2.19	0.025	2.65	521472	2.72	96.83	30.3	1.893	28.429	6.3	30.322	-0.16	0.05	2.61
521473	0.260	15.93	0.06	< 0.01	0.05	0.03	0.01	2.72	0.031	2.47	521473	2.51	97.86	30.3	1.681	28.645	5.5	30.326	-0.10	0.05	2.63
521474	0.260	14.15	0.20	< 0.01	0.02	0.03	0.01	1.95	0.029	1.44	521474	2.28	97.55	30.0	2.048	27.891	6.8	29.939	0.25	0.04	2.55
521475	0.262	17.89	0.24	< 0.01	0.02	0.03	0.01	1.70	0.025	1.21	521475	3.72	99.70	30.3	2.374	27.700	7.8	30.074	0.79	0.04	2.54
521476	0.251	17.23	0.06	< 0.01	0.04	0.03	0.01	1.71	0.021	1.41	521476	3.73	98.11	30.2	2.312	27.948	7.7	30.260	-0.16	0.05	2.60
521477	0.215	15.22	0.17	< 0.01	0.02	0.03	0.01	2.47	0.020	0.869	521477	3.59	98.21	30.2	1.791	28.451	5.9	30.242	-0.17	0.09	2.60
521478	0.270	20.53	0.40	< 0.01	0.03	0.03	0.01	2.33	0.023	1.70	521478	5.31	97.49	30.3	1.726	28.564	5.7	30.290	0.07	0.13	2.68
521479											521479			30.1	0.009	30.164	0.0	30.173	-0.15		3.07
521480.1	0.173	4.97	7.76	2.45	2.79	1.10	0.44	1.06	0.063	0.237	521480	0.77	99.10								
521480.2	0.125	32.37	2.08	0.08	0.13	0.12	0.02	0.20	0.005	1.44	521480	11.10	99.65								
521480.3	0.246	17.75	0.15	< 0.01	0.01	0.03	0.01	1.67	0.024	2.01	521480	3.11	97.70	30.0	1.947	27.815	6.5	29.761	0.90	0.12	
521481											521481			30.2	0.011	30.021	0.0	30.032	0.46		3.20
521482											521482			30.2	0.014	29.876	0.0	29.890	0.88		2.80
521483	0.274	14.45	0.04	< 0.01	0.03	0.06	0.01	2.56	0.040	0.907	521483	1.90	97.62	30.2	1.571	28.632	5.2	30.204	0.06	0.03	2.77
521484	0.291	19.11	0.09	< 0.01	0.05	0.04	0.01	3.68	0.054	0.240	521484	5.86	96.82	30.1	0.682	29.568	2.3	30.250	-0.53	0.02	2.78
521485	0.094	9.87	0.16	< 0.01	0.02	0.17	0.01	5.21	0.068	0.315	521485	3.74	98.09	30.1	0.442	29.549	1.5	29.991	0.49	0.02	2.72
521486	0.339	18.79	0.60	< 0.01	0.03	0.03	< 0.01	2.52	0.032	1.03	521486	5.94	97.54	30.1	1.478	28.816	4.9	30.295	-0.53	0.04	2.60
521487	0.222	16.58	1.13	0.11	0.20	0.04	0.02	1.67	0.022	1.22	521487	4.70	97.47	30.1	2.229	27.823	7.4	30.052	0.12	0.07	2.65
521488	0.203	13.78	1.53	0.24	0.18	0.04	0.05	1.50	0.024	0.713	521488	3.56	97.78	30.2	2.118	28.042	7.0	30.161	0.18	0.10	2.60
521489	0.241	15.61	0.55	0.10	0.10	0.06	0.01	1.82	0.017	2.37	521489	5.03	97.10	30.2	1.625	28.546	5.4	30.171	0.11	0.12	2.71
521490	0.224	16.31	1.06	0.02	0.03	0.02	0.01	1.73	0.023	1.79	521490	4.67	97.32	30.2	1.905	28.370	6.3	30.275	-0.27	0.06	2.80
521491	0.463	11.93	0.32	< 0.01	0.02	0.06	0.01	4.60	0.038	1.65	521491	3.66	97.10	30.1	0.336	29.793	1.1	30.129	-0.09	0.03	2.75
521492	0.263	16.93	1.51	0.01	0.02	0.02	0.01	1.58	0.020	1.41	521492	5.87	97.68	30.1	2.666	27.417	8.9	30.082	-0.04	0.06	2.80
521493	0.233	15.30	0.95	< 0.01	0.01	0.02	0.02	1.85	0.024	1.62	521493	3.03	97.36	30.3	1.998	28.112	6.6	30.110	0.64	0.05	2.75
521494	0.215	17.46	1.39	0.05	0.01	0.02	0.02	1.77	0.021	1.96	521494	4.17	97.18	30.4	2.036	28.280	6.7	30.316	0.11	0.02	2.67
521495	0.249	18.49	1.47	< 0.01	0.01	0.02	0.02	1.76	0.021	1.86	521495	4.47	97.52	30.2	2.119	28.069	7.0	30.188	-0.10	0.03	2.65
521496	0.223	19.42	1.21	< 0.01	0.02	0.02	0.04	1.62	0.020	2.11	521496	4.85	97.65	30.3	2.235	28.045	7.4	30.280	-0.01	0.03	2.67
521497	0.144	13.59	1.00	0.07	0.01	0.02	0.15	1.43	0.022	1.68	521497	2.21	97.69	30.1	2.397	27.797	8.0	30.194	-0.17	0.03	2.65
521498	0.190	18.30	0.25	< 0.01	0.01	0.02	0.01	1.63	0.021	2.04	521498	4.20	98.06	30.1	2.204	27.873	7.3	30.078	0.19	0.01	2.69
521499	0.194	17.48	0.95	< 0.01	0.04	0.03	0.08	1.64	0.018	2.20	521499	3.77	97.21	30.1	1.731	28.427	5.8	30.158	-0.17	< 0.01	2.63
521500	0.010	0.01	0.02	0.01	0.07	0.05	0.01	< 0.01	< 0.003	< 0.003	521500	0.14	99.65	30.3	0.036	29.959	0.1	29.994	1.06		2.75
521501	0.206	15.83	0.21	0.12	0.05	0.02	0.01	1.69	0.020	1.94	521501	3.24	97.83	30.3	2.082	28.288	6.9	30.369	-0.18	0.03	2.63
521502	0.212	16.91	0.74	0.24	0.16	0.06	0.07	1.66	0.021	1.69	521502	3.61	97.38	30.2	2.132	28.101	7.1	30.233	-0.07	0.04	2.63
521503	0.195	18.11	0.11	0.05	0.04	0.02	0.01	1.44	0.020	1.75	521503	4.34	97.38	30.4	2.313	28.094	7.6	30.406	0.02	0.02	2.64
521504	0.194	19.16	0.44	0.02	0.03	0.02	0.02	1.46	0.023	1.63	521504	4.11	97.38	30.2	2.422	27.837	8.0	30.260	-0.03		2.64
521505	0.214	18.53	0.35	0.07	0.09	0.04	0.01	1.91	0.028	1.98	521505	3.76	97.61	30.3	2.158	28.080	7.1	30.238	0.31	0.04	2.64
521506	0.208	16.08	0.59	0.23	0.27	0.07	0.01	1.80	0.025	2.19	521506	2.91	97.01	30.2	1.801	28.485	6.0	30.285	-0.15	0.07	2.62
521507	0.245	14.57	0.28	0.05	0.02	0.03	0.01	2.58	0.025	2.29	521507	2.03	96.62	30.2	1.639	28.582	5.4	30.221	-0.09	0.04	2.62
521508	0.223	15.74	0.11	< 0.01	0.01	0.02	0.01	2.47	0.029	2.23	521508	2.65	96.86	30.3	1.991	28.449	6.6	30.441	-0.57	0.03	2.63
521509	0.205	12.61	0.14	< 0.01	0.02	0.02	< 0.01	1.89	0.027	1.76	521509	1.30	97.60	30.2	1.791	28.215	5.9	30.005	0.68	0.08	2.73
521510	0.223	14.34	0.14	< 0.01	0.01	0.02	0.01	2.16	0.022	2.80	521510	2.11	97.39	30.3	1.800	28.307	5.9	30.107	0.58	0.03	2.66
521511	0.213	17.39	0.13	< 0.01	0.04	0.02	0.01	1.98	0.026	1.79	521511	3.52	97.75	30.3	2.474	27.673	8.2	30.146	0.38	0.05	2.65
521512	0.194	15.89	0.25	0.05	0.01	0.02	0.01	1.48	0.021	1.06	521512	3.06	97.68	30.3	2.535	27.620	8.4	30.155	0.48	0.04	2.59
521513	0.187	14.44	0.15	< 0.01	0.02	0.02	0.01	1.61	0.026	1.94	521513	2.05	97.49	30.2	2.180	27.851	7.2	30.031	0.40	0.08	2.61
521514	0.210	16.63	0.19	< 0.01	0.01	0.02	< 0.01	1.70	0.022	1.67	521514	3.31	98.30	30.1	2.244	28.097	7.5	30.341	-0.73	0.03	2.64
521515	0.196	18.19	0.18	< 0.01	0.01	0.02	0.01	1.40	0.019	1.52	521515	3.97	98.23	30.2	2.540	27.689	8.4	30.229	0.02	0.02	2.62
521516	0.214	16.08	0.47	< 0.01	0.02	0.02	0.01	1.70	0.019	1.99	521516	3.13	97.88	30.2	2.446	27.823	8.1	30.269	-0.21	0.04	2.62
521517	0.228	13.87	0.17	0.03	0.02	0.02	0.01	2.20	0.030	2.13	521517	1.62	97.78	30.2	1.796	28.348	5.9	30.144	0.25	0.04	2.67
521518	0.200	18.31	0.20	< 0.01	0.01	0.02	0.01	1.24	0.015	1.45	521518	4.01	98.85	30.2	2.655	27.374	8.8	30.029	0.57	0.04	2.63
521519	0.205	13.78	0.18	0.29	0.02	0.03	0.01	1.68	0.025	2.59	521519	1.85	97.15	30.2	1.828	28.396	6.1	30.224	-0.15	0.04	2.63

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	Client ID (Davis Tube)	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S	Spec Grav Core
Unit Symbol	%	%	%	%	%	%	%	%	%	%	-	%	%	g	g	g	%	g	%	%	-
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003			0.01							0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	Client ID	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR	GRAV
521520.1	0.168	4.95	7.75	2.41	2.79	1.09	0.44	1.06	0.063	0.235	521520	0.82	98.63								
521520.2	0.128	32.31	2.09	0.08	0.15	0.13	0.02	0.20	0.008	1.44	521520	11.07	99.94								
521520.3	0.238	17.94	0.17	< 0.01	0.02	0.03	< 0.01	1.54	0.021	2.00	521520	3.54	99.06	30.0	2.130	27.125	7.1	29.255	2.61	0.11	
521521	0.172	17.05	0.72	0.08	0.01	0.03	< 0.01	1.47	0.020	1.73	521521	4.32	98.09	30.1	2.504	27.327	8.3	29.831	0.83	0.05	2.62
521522	0.174	19.56	1.04	0.07	0.01	0.02	< 0.01	1.25	0.018	2.09	521522	5.39	98.08	30.2	2.448	27.920	8.1	30.368	-0.57	0.05	2.62
521523	0.196	16.98	0.80	< 0.01	0.02	0.02	0.01	1.66	0.024	1.58	521523	4.17	97.49	30.2	2.076	28.119	6.9	30.196	-0.03	0.07	2.60
521524	0.259	23.83	0.64	0.07	0.05	0.03	< 0.01	2.80	0.037	2.64	521524	2.52	96.67	30.1	0.948	29.117	3.2	30.065	-0.01	< 0.01	2.90
521525	0.279	19.82	0.89	0.05	0.02	0.04	0.01	3.21	0.041	2.47	521525	1.84	96.28	30.1	0.949	29.265	3.2	30.214	-0.37	0.01	2.82
521526	0.215	18.40	0.36	0.28	0.03	0.03	< 0.01	2.24	0.031	2.07	521526	2.57	97.04	30.0	1.518	28.518	5.1	30.036	-0.09	0.03	2.73
521527	0.277	17.07	0.73	0.03	0.02	0.04	0.01	3.34	0.039	2.70	521527	1.59	96.73	30.2	1.045	28.739	3.5	29.784	1.22	0.02	2.73
521528	0.234	21.30	0.43	0.10	0.01	0.03	0.01	2.48	0.034	2.06	521528	2.06	97.06	30.2	1.366	28.378	4.5	29.744	1.56	0.01	2.74
521529	0.278	17.51	0.34	< 0.01	< 0.01	0.03	0.01	3.48	0.045	2.18	521529	0.35	96.48	30.2	1.010	28.787	3.3	29.797	1.31	0.01	2.85
521530	0.256	31.03	0.64	< 0.01	< 0.01	0.02	0.01	2.04	0.029	0.889	521530	1.38	97.47	30.2	1.654	28.095	5.5	29.749	1.45	< 0.01	2.99
521531	0.274	30.96	0.27	< 0.01	< 0.01	0.02	0.01	2.17	0.032	0.970	521531	1.41	97.42	30.1	1.375	28.748	4.6	30.124	-0.12	< 0.01	2.99
521532	0.285	27.03	0.90	< 0.01	< 0.01	0.03	0.01	2.43	0.031	1.52	521532	1.23	97.78	30.2	1.562	28.151	5.2	29.713	1.52	< 0.01	2.78
521533	0.254	16.03	0.11	< 0.01	< 0.01	0.03	0.01	2.42	0.030	2.25	521533	1.37	96.85	30.2	1.642	28.654	5.4	30.296	-0.35	0.07	2.91
521534	0.254	32.27	0.34	< 0.01	0.01	0.02	0.01	1.94	0.024	1.08	521534	1.66	98.78	30.1	1.434	28.241	4.8	29.675	1.34	< 0.01	3.03
521535	0.278	25.32	0.15	< 0.01	< 0.01	0.04	0.01	2.74	0.029	1.74	521535	1.93	97.86	30.1	0.897	28.352	3.0	29.249	2.96	0.02	2.94
521536	0.280	31.79	0.38	< 0.01	< 0.01	0.03	0.01	2.35	0.023	1.07	521536	1.87	98.00	30.1	1.350	28.066	4.5	29.416	2.28	0.02	3.01
521537	0.316	12.38	0.08	< 0.01	0.03	0.07	0.01	2.26	0.039	2.10	521537	0.96	97.55	30.1	1.444	28.242	4.8	29.687	1.32	0.12	2.70
522400	0.011	0.02	0.03	0.01	0.07	0.04	0.01	< 0.01	0.004	< 0.003	522400	0.09	99.71	23.1	0.054	22.395	0.2	22.449	2.72		2.73
522401	0.230	15.29	0.04	0.02	0.02	0.02	0.01	1.97	0.025	1.88	522401	1.68	97.01	30.1	2.270	27.480	7.5	29.750	1.26	0.06	2.68
522402	0.427	12.18	0.04	< 0.01	0.01	0.03	0.01	5.88	0.048	2.70	522402	0.24	95.06	30.2	1.703	28.496	5.6	30.199	-0.10	0.05	2.72
522403	0.235	14.66	0.16	0.01	0.01	0.02	< 0.01	2.59	0.031	3.20	522403	0.84	96.67	30.2	1.390	28.451	4.6	29.840	1.08	0.05	2.67
522404	0.149	15.04	0.07	0.17	0.02	0.01	< 0.01	1.66	0.019	1.66	522404	2.32	98.05	30.2	2.248	27.886	7.4	30.134	0.34	0.08	2.65
522405	0.193	15.29	0.10	< 0.01	0.01	0.01	0.01	2.28	0.027	2.36	522405	1.90	97.68	30.2	1.588	28.712	5.3	30.300	-0.36	0.07	2.69
522406	0.193	17.38	0.11	0.03	0.02	0.01	0.01	2.26	0.027	2.62	522406	2.22	97.26	30.1	1.488	28.245	4.9	29.733	1.33	0.03	2.74
522407	0.213	15.92	0.10	0.02	0.02	0.02	< 0.01	2.52	0.028	2.74	522407	2.22	97.21	30.2	1.516	27.970	5.0	29.486	2.34	0.07	2.70
522408	0.204	17.36	0.08	0.02	0.01	0.01	0.01	2.28	0.026	2.32	522408	3.38	97.42	30.1	1.666	28.028	5.5	29.694	1.24	0.07	2.62
522409	0.227	12.97	0.07	0.01	0.01	0.02	0.01	2.62	0.030	2.92	522409	0.75	96.90	30.2	1.343	28.805	4.4	30.148	0.27	0.03	2.65
522410	0.257	8.55	0.79	0.08	0.07	0.74	0.06	1.68	0.124	1.23	522410	1.87	98.37	30.1	2.104	28.061	7.0	30.166	-0.12		2.68
522411	0.205	14.80	0.13	< 0.01	0.01	0.02	0.01	2.03	0.025	1.67	522411	1.79	97.94	30.1	2.005	28.197	6.7	30.202	-0.41	0.16	2.74
522412	0.223	22.56	0.41	0.03	0.02	0.02	0.01	2.18	0.023	1.90	522412	5.33	97.98	30.1	1.656	28.535	5.5	30.191	-0.25	0.14	2.74
522413	0.212	15.49	0.16	< 0.01	0.02	0.02	0.01	2.08	0.030	1.82	522413	2.69	97.65	30.1	2.018	27.983	6.7	30.001	0.34	0.09	2.74
522451	0.212	19.11	0.60	< 0.01	0.01	0.05	0.01	1.44	0.025	1.87	522451	4.14	98.70	30.2	2.181	28.798	7.2	30.979	-2.58	0.03	2.73
522452	0.232	14.80	0.40	0.02	0.02	0.05	0.01	1.89	0.026	2.48	522452	2.41	97.00	30.2	1.407	28.093	4.7	29.500	2.47	0.03	2.78
522453	0.270	15.97	0.47	0.05	0.01	0.05	0.01	2.02	0.029	2.87	522453	2.51	96.92	30.1	1.275	28.851	4.2	30.126	-0.02	0.03	2.78
522454	0.212	18.89	0.58	0.04	0.01	0.05	0.01	1.37	0.027	1.92	522454	3.77	97.40	30.1	2.043	28.275	6.8	30.319	-0.56		2.69
522455	0.232	8.85	1.47	0.03	0.04	0.15	0.01	2.14	0.037	1.60	522455	0.25	97.44	30.3	0.821	29.384	2.7	30.205	0.20	0.02	2.75
522456	0.273	18.18	0.09	0.01	0.05	0.04	0.01	2.11	0.029	2.45	522456	3.28	97.24	30.2	1.794	28.094	5.9	29.888	0.96	0.11	2.79
522457	0.206	19.40	0.11	0.14	0.02	0.02	0.01	1.90	0.021	2.53	522457	3.79	97.00	30.2	1.943	28.308	6.4	30.251	-0.01	0.07	2.93
522458	0.223	17.51	0.09	< 0.01	0.01	0.03	< 0.01	2.23	0.030	2.30	522458	3.02	97.53	30.1	1.936	28.270	6.4	30.207	-0.23	0.08	2.69
522459	0.168	22.50	0.08	< 0.01	0.01	0.02	0.01	1.45	0.026	1.88	522459	3.87	97.93	30.6	2.419	27.991	7.9	30.410	0.56	0.02	2.75
522460.1	0.165	4.90	7.75	2.45	2.84	1.08	0.43	1.04	0.065	0.233	522460	0.83	99.28								
522460.2	0.128	32.27	2.06	0.01	0.15	0.13	0.02	0.19	0.005	1.44	522460	10.99	99.51								
522460.3	0.237	17.77	0.15	< 0.01	0.04	0.03	0.01	1.61	0.024	2.00	522460	3.18	98.72	30.3	2.021	27.606	6.7	29.627	2.26	0.11	
522461	0.328	17.04	0.07	0.02	0.02	0.04	0.01	2.46	0.028	2.55	522461	1.67	98.11	30.3	1.814	28.632	6.0	30.446	-0.52	0.02	2.71
522462	0.318	13.67	0.96	< 0.01	< 0.01	0.10	0.01	4.45	0.043	3.13	522462	1.55	96.75	30.1	0.479	29.496	1.6	29.975	0.30	0.02	2.67
522463	0.286	14.18	0.09	0.10	0.03	0.06	0.01	2.05	0.030	2.25	522463	1.60	99.03	30.3	1.977	28.468	6.5	30.445	-0.57	0.02	2.81
522464	0.245	9.84	0.07	0.01	0.02	0.40	0.02	1.70	0.074	1.35	522464	0.09	97.65	30.2	1.835	27.941	6.1	29.776	1.51	0.02	2.69
522465	0.292	14.33	0.06	0.01	0.02	0.03	< 0.01	1.85	0.036	2.06	522465	1.59	97.28	28.8	2.031	26.813	7.1	28.844	-0.29	0.03	2.73

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	Client ID (Davis Tube)	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S	Spec Grav Core
Unit Symbol	%	%	%	%	%	%	%	%	%	%	-	%	%	g	g	g	%	g	%	%	-
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003			0.01							0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	Client ID	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR	GRAV
522466	0.246	17.98	0.20	< 0.01	< 0.01	0.07	0.01	1.50	0.029	0.857	522466	1.54	98.13	30.2	1.909	28.415	6.3	30.324	-0.31	0.03	2.93
522467	0.252	12.56	0.04	0.01	0.02	0.06	0.01	2.46	0.035	1.58	522467	0.87	96.99	25.1	1.238	23.706	4.9	24.944	0.52	0.15	2.68
522468	0.253	15.98	0.07	0.04	0.05	0.05	0.01	1.67	0.030	1.60	522468	2.70	98.10	30.2	2.404	27.648	8.0	30.052	0.41	0.16	2.69
522469	0.287	12.24	0.02	< 0.01	< 0.01	0.09	0.01	2.39	0.046	1.32	522469	1.54	97.07	30.2	1.427	28.566	4.7	29.993	0.53	0.10	2.66
522470											522470			30.2	0.028	29.813	0.1	29.841	1.25		3.08
522471	0.234	16.52	0.05	< 0.01	0.07	0.04	0.01	2.00	0.026	2.42	522471	2.31	97.50	30.2	1.945	28.280	6.4	30.225	-0.17	0.08	2.80
522472	0.251	16.41	0.06	0.04	0.01	0.03	0.01	1.76	0.030	1.72	522472	2.49	98.33	19.4	1.528	17.771	7.9	19.299	0.62		2.75
522473											522473			21.6	0.029	21.427	0.1	21.456	0.61		2.66
522474											522474			30.2	0.055	29.821	0.2	29.876	0.96		2.67
522475											522475			30.4	0.025	30.222	0.1	30.247	0.38		2.66
522476	0.256	16.07	0.16	< 0.01	0.03	0.04	0.02	1.83	0.035	2.09	522476	2.65	97.46	30.2	1.968	28.144	6.5	30.112	0.39	0.04	2.61
522477	0.261	15.26	0.27	< 0.01	0.05	0.03	0.01	2.38	0.039	2.82	522477	2.11	97.87	30.2	1.601	28.675	5.3	30.275	-0.12	0.06	2.58
522478	0.182	22.32	0.14	< 0.01	0.01	0.02	0.01	1.49	0.024	1.65	522478	4.84	98.75	30.4	2.519	27.024	8.3	29.544	2.72	0.06	2.71
522479	0.155	18.67	0.08	< 0.01	0.03	0.03	0.01	1.72	0.029	2.47	522479	3.76	98.63	30.3	1.954	27.820	6.5	29.774	1.63	0.07	2.73
522480	0.010	0.01	0.04	< 0.01	0.06	0.05	0.01	< 0.01	< 0.003	< 0.003	522480	0.19	99.73	10.3	0.063	9.987	0.6	10.050	2.55		2.73
522481	0.220	17.68	0.21	< 0.01	0.05	0.04	< 0.01	2.26	0.033	1.86	522481	3.14	99.05	30.3	2.035	28.161	6.7	30.196	0.43	0.04	2.57
522482	0.271	18.56	0.42	0.01	< 0.01	0.03	0.01	2.44	0.030	2.06	522482	2.46	97.62	30.3	1.739	28.600	5.7	30.338	-0.10	0.04	2.81
522483	0.231	26.03	0.58	< 0.01	0.03	0.03	0.01	1.46	0.020	1.77	522483	6.12	99.09	30.1	2.585	27.272	8.6	29.856	0.94	0.06	2.62
522484	0.194	21.84	0.15	< 0.01	0.04	0.03	0.01	1.59	0.024	1.74	522484	5.70	98.71	30.0	2.486	27.333	8.3	29.819	0.72	0.07	2.71
522485	0.221	21.16	0.59	< 0.01	0.05	0.03	0.01	1.54	0.028	1.80	522485	4.62	98.07	30.2	2.407	27.911	8.0	30.317	-0.31	0.07	2.66
522486	0.164	24.97	0.41	< 0.01	0.03	0.03	0.01	1.05	0.020	1.20	522486	6.67	99.12	30.4	3.736	26.528	12.3	30.265	0.28	0.05	2.72
522487	0.231	19.68	0.25	< 0.01	0.04	0.04	0.01	1.66	0.029	1.74	522487	4.30	97.88	30.2	2.535	27.731	8.4	30.266	-0.34	0.04	2.76
522488	0.204	23.54	0.20	< 0.01	0.04	0.02	0.01	1.42	0.025	1.47	522488	5.44	98.65	30.3	3.187	26.943	10.5	30.130	0.43	0.03	2.58
522489	0.206	24.64	0.16	< 0.01	0.03	0.03	0.01	1.40	0.026	1.70	522489	6.02	98.56	30.1	3.164	26.804	10.5	29.968	0.40	0.05	2.64
522490	0.215	7.48	0.39	< 0.01	0.02	0.27	0.01	1.96	0.070	2.21	522490	-0.86	97.48	30.3	1.683	28.514	5.6	30.197	0.29	0.06	3.16
522491	0.308	16.87	0.16	< 0.01	0.02	0.05	0.01	2.00	0.034	1.90	522491	2.61	97.07	30.2	2.189	27.986	7.2	30.175	0.18	0.09	2.85
522492	0.204	17.70	0.07	< 0.01	0.05	0.06	0.01	1.40	0.029	1.89	522492	3.60	97.71	30.1	2.766	27.005	9.2	29.771	0.94	0.12	2.60
522493	0.182	21.23	0.07	< 0.01	0.04	0.07	0.01	1.12	0.023	1.85	522493	5.05	97.96	30.2	3.095	27.016	10.3	30.111	0.27	0.04	2.73
522494	0.201	20.40	0.02	< 0.01	< 0.01	0.09	0.01	1.48	0.029	1.76	522494		96.92	30.1	0.212	30.022	0.7	30.234	-0.56	0.05	2.67
522495	0.271	12.39	0.02	< 0.01	< 0.01	0.09	0.01	1.41	0.033	1.37	522495	2.99	98.19	30.2	0.370	29.829	1.2	30.199	-0.12		2.65
522496											522496			30.3	0.008	29.855	0.0	29.863	1.38		3.14
522497	0.285	13.01	0.05	< 0.01	0.05	0.07	0.01	1.97	0.043	1.83	522497	1.53	97.24	30.0	1.972	28.004	6.6	29.976	0.21		2.68
522498	0.263	18.66	0.51	< 0.01	0.05	0.05	0.01	1.61	0.030	1.84	522498	3.45	98.09	30.1	2.524	27.850	8.4	30.374	-0.95	0.04	2.74
522499	0.216	18.58	0.14	< 0.01	0.03	0.04	0.01	1.43	0.025	2.26	522499	3.97	97.57	30.1	2.328	26.988	7.7	29.316	2.59	0.08	2.66
522500.1	0.167	4.95	7.71	2.41	2.79	1.10	0.44	1.05	0.065	0.232	522500	0.88	99.10								
522500.2	0.129	32.35	2.06	0.08	0.13	0.12	0.02	0.20	0.007	1.44	522500	10.88	99.23								
522500.3	0.239	17.75	0.15	< 0.01	0.03	0.04	0.01	1.59	0.024	2.02	522500	3.31	98.25	30.5	2.081	28.056	6.8	30.137	1.05	0.11	
522501	0.214	14.20	0.25	< 0.01	0.03	0.04	0.01	1.75	0.032	3.33	522501	1.48	97.67	30.1	1.516	28.528	5.0	30.045	0.05	0.12	2.74
522502	0.184	26.12	0.25	< 0.01	0.06	0.04	0.01	0.88	0.021	1.56	522502	6.97	98.44	30.1	3.403	26.721	11.3	30.124	-0.10	0.08	2.66
522503	0.188	17.41	0.30	< 0.01	0.05	0.04	0.01	1.37	0.026	2.06	522503	3.11	97.60	30.2	2.532	27.623	8.4	30.155	0.31	0.09	2.79
522504	0.240	22.50	0.21	< 0.01	0.05	0.04	0.01	1.35	0.026	2.20	522504	4.99	98.20	30.1	2.180	27.775	7.2	29.955	0.53	0.11	2.73
522505	0.163	11.62	0.07	< 0.01	0.04	0.06	0.01	1.56	0.036	2.22	522505	1.16	97.44	30.1	2.170	27.700	7.2	29.870	0.66	0.13	2.71
522506	0.171	21.51	0.22	< 0.01	0.08	0.05	0.01	0.93	0.020	1.37	522506	5.26	98.41	30.1	3.181	26.741	10.6	29.922	0.55	0.08	2.73
522507	0.138	22.84	0.52	< 0.01	0.03	0.04	0.01	0.81	0.018	1.86	522507	5.45	98.53	30.1	2.570	27.546	8.5	30.116	0.07	0.05	2.78
522508	0.248	25.08	0.49	< 0.01	0.05	0.04	< 0.01	1.55	0.022	2.96	522508	5.23	97.48	30.0	1.619	28.323	5.4	29.942	0.31	0.10	2.74
522509	0.178	19.27	0.60	0.02	0.05	0.04	0.01	1.29	0.022	2.64	522509	3.99	97.62	30.2	1.766	28.369	5.9	30.135	0.16	0.03	2.67
522510	0.178	23.35	0.18	< 0.01	0.05	0.03	0.01	1.37	0.021	2.26	522510	5.82	98.51	30.0	2.076	28.018	6.9	30.094	-0.15	0.03	2.67
522511	0.181	18.44	0.50	< 0.01	0.02	0.04	0.01	1.28	0.024	2.16	522511	3.41	97.44	30.1	2.044	27.809	6.8	29.853	0.85	0.04	2.72
522512	0.149	16.50	0.42	< 0.01	0.05	0.05	0.01	1.37	0.031	2.63	522512	2.59	98.62	30.0	1.941	27.595	6.5	29.536	1.66	0.04	2.64
522513	0.176	24.60	0.39	< 0.01	0.02	0.04	0.01	1.31	0.019	2.17	522513	5.51	99.29	30.0	2.403	27.820	8.0	30.222	-0.63	0.03	2.62
522514	0.143	15.14	0.25	< 0.01	0.01	0.05	0.01	1.18	0.025	2.28	522514	2.47	98.57	30.1	2.311	27.799	7.7	30.110	0.03	0.03	2.69

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	Client ID (Davis Tube)	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S	Spec Grav Core
Unit Symbol	%	%	%	%	%	%	%	%	%	%	-	%	%	g	g	g	%	g	%	%	-
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003			0.01							0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	Client ID	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR	GRAV
522515	0.140	25.40	0.33	0.01	0.02	0.04	0.01	0.86	0.014	1.29	522515	6.82	99.66	30.3	3.826	26.348	12.6	30.174	0.36	0.03	2.63
522516	0.204	24.87	1.28	< 0.01	0.02	0.04	0.01	1.27	0.016	1.97	522516	6.75	97.95	30.0	2.332	27.549	7.8	29.881	0.49	0.05	2.69
522517	0.146	20.33	0.50	< 0.01	0.02	0.04	0.01	0.98	0.023	2.05	522517	4.34	98.26	30.1	2.544	27.507	8.5	30.051	0.12	0.04	2.78
522518	0.153	17.63	0.30	< 0.01	0.02	0.06	0.01	1.42	0.024	2.53	522518	3.23	97.37	30.1	1.870	28.207	6.2	30.076	0.08	0.03	2.67
522519	0.205	24.93	1.63	< 0.01	0.02	0.04	0.01	1.33	0.021	1.80	522519	5.25	98.28	30.0	2.263	27.668	7.5	29.931	0.37	0.03	2.67
522520.1	0.168	4.95	7.79	2.43	2.79	1.10	0.44	1.05	0.063	0.233	522520	0.77	99.11								
522520.2	0.128	32.30	2.08	0.08	0.13	0.12	0.02	0.20	0.007	1.44	522520	10.99	99.47								
522520.3	0.245	17.67	0.14	< 0.01	0.02	0.03	0.01	1.65	0.024	2.02	522520	2.94	97.60	30.1	1.955	27.842	6.5	29.797	0.98	0.11	
522521	0.228	22.11	1.51	< 0.01	0.01	0.05	0.01	1.55	0.023	2.03	522521	4.47	98.07	30.2	2.289	28.000	7.6	30.289	-0.32	0.04	2.66
522522	0.150	25.82	0.71	< 0.01	0.02	0.04	0.01	0.91	0.016	1.82	522522	6.33	98.84	30.1	2.622	27.343	8.7	29.965	0.55	0.04	2.74
522523	0.142	24.05	0.55	< 0.01	0.03	0.05	0.01	0.91	0.021	1.49	522523	5.81	99.11	30.2	3.029	27.164	10.0	30.193	0.16	0.03	2.75
522524	0.150	23.27	0.36	< 0.01	0.02	0.04	0.01	1.00	0.020	1.80	522524	5.74	98.92	30.1	2.718	27.285	9.0	30.003	0.31	0.04	2.72
522525	0.151	17.35	0.37	< 0.01	0.02	0.04	0.01	1.33	0.026	2.38	522525	2.86	97.50	30.1	1.901	28.121	6.3	30.022	0.37	0.03	2.71
522526	0.206	26.98	0.93	< 0.01	0.02	0.04	0.01	1.27	0.021	1.47	522526	6.24	99.00	30.1	2.653	27.372	8.8	30.024	0.14	0.02	2.80
522527	0.173	17.55	0.96	0.01	0.01	0.08	0.02	1.50	0.023	2.43	522527	2.76	98.87	30.1	1.937	28.183	6.4	30.120	-0.09	0.02	2.85
522528	0.141	24.80	0.71	< 0.01	0.02	0.04	0.01	1.01	0.022	1.54	522528	5.99	99.95	30.3	3.078	27.034	10.2	30.111	0.47	0.03	2.73
522529	0.182	17.77	1.09	0.01	0.03	0.05	0.01	1.33	0.028	2.44	522529	3.23	98.70	30.1	1.647	28.372	5.5	30.019	0.17	0.03	2.70
523301	0.210	24.43	0.37	< 0.01	0.02	0.05	0.01	1.35	0.018	1.78	523301	5.44	99.03	30.1	2.136	27.835	7.1	29.972	0.44	0.03	2.63
523302	0.198	18.43	0.53	< 0.01	0.13	0.06	0.01	1.55	0.027	1.85	523302	3.17	98.16	30.1	1.983	29.042	6.6	31.024	-2.95	0.03	2.72
523303	0.182	16.33	0.39	< 0.01	0.03	0.06	0.01	1.36	0.029	2.16	523303	4.01	97.51	30.1	2.157	27.851	7.2	30.007	0.28	0.03	2.84
523304	0.165	19.23	0.41	< 0.01	0.03	0.04	< 0.01	1.18	0.022	2.24	523304	6.28	98.11	30.5	1.741	28.614	5.7	30.354	0.38	0.04	2.71
523305	0.173	24.22	0.43	< 0.01	0.05	0.05	0.01	1.26	0.019	1.84	523305	5.85	98.92	30.4	2.326	27.977	7.7	30.303	0.27	0.04	2.74
523306	0.204	22.06	0.29	< 0.01	0.07	0.07	0.01	1.56	0.024	1.93	523306	4.17	98.67	30.3	1.865	28.374	6.1	30.239	0.34	0.04	2.68
523307	0.213	22.80	0.35	< 0.01	0.03	0.04	0.01	1.43	0.021	1.85	523307	5.01	97.57	30.1	2.085	27.986	6.9	30.071	0.10	0.04	2.76
523308	0.211	23.56	0.63	0.04	0.08	0.04	0.01	1.04	0.019	2.02	523308	4.61	99.45	30.3	1.892	28.239	6.3	30.131	0.42	0.06	2.79
523309	0.248	24.36	0.15	< 0.01	0.03	0.04	0.01	2.67	0.024	2.26	523309	5.39	98.34	30.2	2.107	27.994	7.0	30.101	0.29	0.10	2.63
523310	0.194	19.56	0.19	< 0.01	0.03	0.07	0.01	1.70	0.027	2.77	523310	4.18	98.16	30.2	1.957	28.123	6.5	30.080	0.45	0.20	2.74
523311	0.213	17.36	0.19	< 0.01	0.03	0.05	0.01	1.65	0.025	2.79	523311	2.86	97.49	30.1	1.805	27.513	6.0	29.317	2.75	0.16	2.65
523312	0.218	18.04	0.29	< 0.01	0.04	0.06	0.01	1.63	0.022	3.08	523312	1.75	97.20	30.2	1.927	28.084	6.4	30.011	0.50	0.08	2.60
523313	0.215	20.59	0.26	< 0.01	0.03	0.06	0.01	1.73	0.018	3.18	523313	3.77	97.44	30.0	1.440	28.648	4.8	30.088	-0.13	0.09	2.78
523314	0.199	13.08	0.27	< 0.01	0.02	0.05	0.01	1.89	0.031	3.07	523314	1.10	97.41	30.2	1.398	28.743	4.6	30.140	0.06	0.06	2.77
523315	0.191	17.78	0.44	0.02	0.07	0.05	0.01	1.55	0.023	2.46	523315	3.63	97.33	30.2	1.748	28.295	5.8	30.044	0.38	0.06	2.74
523316	0.125	13.73	0.09	< 0.01	0.07	0.04	< 0.01	1.22	0.023	1.88	523316	1.44	98.13	30.3	2.314	27.855	7.6	30.170	0.28	0.06	2.62
523317	0.178	14.74	0.27	< 0.01	0.02	0.05	< 0.01	1.61	0.025	2.86	523317	2.20	96.99	30.2	1.418	28.609	4.7	30.027	0.48	0.06	2.80
523318	0.171	15.83	0.43	< 0.01	0.03	0.04	0.01	1.13	0.028	1.95	523318	3.23	97.56	30.2	2.153	27.876	7.1	30.029	0.49	0.03	2.62
523319	0.194	15.65	0.41	< 0.01	0.03	0.05	< 0.01	1.58	0.026	2.60	523319	2.69	97.46	30.3	1.658	28.746	5.5	30.404	-0.26	0.05	2.67
523320.1	0.165	4.95	7.77	2.37	2.80	1.08	0.43	1.05	0.064	0.237	523320	0.85	98.87								
523320.2	0.130	32.38	2.10	0.10	0.15	0.13	0.02	0.21	0.009	1.44	523320	11.00	99.86								
523320.3	0.241	17.59	0.16	< 0.01	0.02	0.03	0.01	1.53	0.024	2.01	523320	3.43	98.47	30.8	2.174	26.110	7.1	28.284	8.08	0.11	
523321	0.225	19.14	0.53	< 0.01	0.06	0.05	0.01	1.37	0.022	2.02	523321	4.59	97.61	30.2	1.889	28.363	6.3	30.252	-0.22	0.04	2.71
523322	0.236	20.44	0.38	< 0.01	0.06	0.06	0.01	1.65	0.018	3.15	523322	4.62	98.39	30.1	1.410	28.548	4.7	29.958	0.35	0.10	2.67
523323	0.140	10.50	0.17	< 0.01	0.03	0.06	0.01	1.83	0.029	2.78	523323	0.30	97.80	30.3	1.419	28.826	4.7	30.244	0.04	0.08	2.76
523324	0.181	17.94	0.30	< 0.01	0.02	0.05	0.01	1.46	0.025	2.45	523324	3.68	98.54	30.1	1.682	28.383	5.6	30.065	0.14	0.05	2.68
523325	0.128	17.45	0.06	< 0.01	0.03	0.04	0.01	2.34	0.028	2.97	523325	2.64	97.72	30.3	1.668	28.522	5.5	30.190	0.27	0.07	2.87
523326	0.153	12.48	0.19	< 0.01	0.03	0.05	0.01	1.14	0.026	1.98	523326	1.66	97.91	30.2	2.168	27.957	7.2	30.125	0.33	0.07	2.60
523327	0.167	10.01	0.14	< 0.01	0.02	0.06	0.01	1.63	0.032	2.57	523327	0.20	97.27	30.3	1.705	28.489	5.6	30.194	0.27	0.05	2.82
523328	0.133	14.32	0.17	< 0.01	0.04	0.05	< 0.01	1.14	0.029	1.94	523328	2.43	97.52	30.2	2.412	27.459	8.0	29.871	1.16	0.06	2.67
523329	0.172	13.59	0.11	< 0.01	0.02	0.05	0.01	1.63	0.031	2.48	523329	1.75	97.81	30.0	1.954	28.231	6.5	30.185	-0.51	0.05	2.67
523330	0.149	17.69	0.27	< 0.01	0.03	0.04	0.01	1.16	0.029	1.99	523330	3.46	98.33	30.2	2.286	27.789	7.6	30.075	0.46	0.05	2.73
523331	0.198	14.32	0.26	< 0.01	0.05	0.05	0.01	1.53	0.031	2.26	523331	1.95	97.76	30.1	1.940	27.520	6.4	29.460	2.15	0.04	2.74
523332	0.187	14.98	0.35	< 0.01	0.02	0.08	0.02	1.51	0.030	2.04	523332	2.23	99.19	30.2	2.104	27.872	7.0	29.976	0.72	0.09	2.75

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	Client ID (Davis Tube)	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S	Spec Grav Core
Unit Symbol	%	%	%	%	%	%	%	%	%	%	-	%	%	g	g	g	%	g	%	%	-
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003			0.01							0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	Client ID	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR	GRAV
523333	0.138	16.46	0.17	< 0.01	0.03	0.05	0.01	1.14	0.026	1.58	523333	3.38	98.96	30.0	2.404	27.547	8.0	29.950	0.26	0.07	2.62
523334	0.281	15.79	0.61	< 0.01	0.03	0.05	0.01	2.63	0.035	2.84	523334	1.74	96.94	30.1	1.411	28.606	4.7	30.017	0.43	0.07	2.71
523335	0.275	12.58	0.43	< 0.01	0.12	0.05	0.01	2.72	0.039	3.08	523335	0.72	96.45	30.3	1.263	29.255	4.2	30.518	-0.70	1.59	2.76
523336	0.221	17.05	0.32	< 0.01	0.02	0.05	< 0.01	1.98	0.027	2.78	523336	3.11	97.70	30.3	1.595	28.484	5.3	30.079	0.62	0.08	2.67
523337	0.209	15.12	0.27	< 0.01	0.03	0.04	< 0.01	2.33	0.031	3.69	523337	1.39	96.89	30.2	1.136	29.108	3.8	30.244	-0.12	0.08	2.71
523338	0.200	11.98	0.12	< 0.01	0.02	0.05	0.01	2.46	0.037	2.70	523338	0.58	97.01	30.1	1.383	28.811	4.6	30.194	-0.26	0.04	2.67
523339	0.239	16.81	0.14	< 0.01	0.05	0.04	< 0.01	2.58	0.033	2.87	523339	2.24	97.29	30.1	1.527	28.487	5.1	30.014	0.33	0.05	2.71
523340	0.007	0.03	0.01	< 0.01	0.07	0.04	0.01	< 0.01	< 0.003	< 0.003	523340	0.20	100.2	30.2	0.076	29.885	0.3	29.960	0.66		2.62
523341	0.286	14.36	0.20	< 0.01	0.06	0.05	0.01	2.02	0.034	1.78	523341	1.29	97.56	30.1	2.025	28.104	6.7	30.129	-0.11	0.05	2.64
523342	0.263	16.45	0.15	0.04	0.04	0.05	0.01	3.23	0.040	2.43	523342	2.29	97.26	30.1	1.642	28.427	5.5	30.069	0.15	0.05	2.72
523343	0.215	15.12	0.21	< 0.01	0.03	0.04	0.01	1.95	0.025	2.88	523343	1.41	97.03	30.1	1.773	28.438	5.9	30.211	-0.35	0.04	2.62
523344	0.226	17.96	0.23	< 0.01	0.03	0.03	< 0.01	2.30	0.033	2.82	523344	2.30	97.49	30.1	1.583	28.119	5.3	29.702	1.34	0.03	2.76
523345	0.197	17.93	0.20	< 0.01	0.06	0.06	0.01	1.93	0.029	2.20	523345	3.16	97.70	30.0	1.976	28.081	6.6	30.057	-0.08	0.03	2.71
523346	0.160	16.13	0.10	< 0.01	0.04	0.03	0.01	1.50	0.026	1.90	523346	2.64	97.49	30.4	2.200	28.031	7.2	30.230	0.43	0.04	2.75
523347	0.212	22.13	0.50	< 0.01	0.03	0.03	0.01	1.72	0.025	2.42	523347	4.09	97.63	30.3	1.898	28.465	6.3	30.363	-0.36	0.05	2.72
523348	0.222	15.33	0.27	< 0.01	0.02	0.03	< 0.01	2.18	0.033	2.99	523348	1.79	97.15	30.2	1.516	28.800	5.0	30.316	-0.37	0.04	2.73
523349	0.241	19.96	0.73	< 0.01	0.02	0.03	0.02	1.98	0.028	2.71	523349	3.20	97.60	30.2	1.635	28.535	5.4	30.170	0.01	0.04	2.62
523350	0.241	22.44	0.42	< 0.01	0.02	0.03	0.01	2.05	0.023	2.57	523350	4.44	97.77	30.2	1.648	28.480	5.5	30.128	0.16	0.09	2.67
523351	0.224	20.63	0.10	< 0.01	0.02	0.04	< 0.01	2.43	0.030	2.72	523351	4.03	96.71	30.2	1.744	28.493	5.8	30.237	-0.26	0.03	2.65
523352	0.220	16.17	0.15	< 0.01	0.03	0.04	0.01	2.53	0.029	3.35	523352	2.03	96.53	30.2	1.365	28.775	4.5	30.141	0.22	0.04	2.70
523353	0.169	22.60	0.12	< 0.01	0.20	0.04	0.01	1.66	0.020	2.41	523353	4.15	98.30	30.2	1.942	28.175	6.4	30.117	0.22	0.03	2.66
523354	0.176	21.42	0.22	< 0.01	0.02	0.03	0.01	1.61	0.020	2.58	523354	4.24	97.34	30.3	1.840	28.212	6.1	30.052	0.77	0.03	2.68
523355	0.183	22.34	0.26	< 0.01	0.04	0.03	0.01	1.59	0.017	2.32	523355	4.44	97.64	30.1	2.114	28.076	7.0	30.190	-0.26	0.03	2.65
523356	0.192	23.62	0.32	< 0.01	0.04	0.05	0.01	1.77	0.023	3.08	523356	3.99	97.59	30.2	1.602	28.601	5.3	30.202	-0.04	0.06	2.76
523357	0.263	21.54	0.17	< 0.01	0.03	0.04	0.01	2.53	0.024	2.39	523357	3.14	96.94	30.2	1.655	28.303	5.5	29.957	0.66	0.21	2.66
523358											523358			30.2	0.014	30.186	0.0	30.201	0.11		3.19
523359											523359			30.3	0.009	30.316	0.0	30.326	-0.25		2.63
523360.1	0.167	4.95	7.78	2.29	2.82	1.09	0.44	1.03	0.062	0.240	523360	0.93	98.97								
523360.2	0.130	32.33	2.08	0.11	0.16	0.13	0.02	0.20	0.009	1.44	523360	11.13	99.70								
523360.3	0.245	17.91	0.14	< 0.01	0.03	0.03	0.01	1.63	0.024	2.01	523360	3.39	98.43	30.2	2.007	28.177	6.6	30.184	0.14	0.11	
523361											523361			30.1	0.010	30.033	0.0	30.043	0.08		3.23
523362	0.271	23.09	0.41	< 0.01	0.03	0.03	0.01	2.05	0.022	2.46	523362	3.87	97.08	30.1	1.808	28.298	6.0	30.105	-0.05	0.20	2.74
523363	0.174	17.31	0.05	< 0.01	0.10	0.03	0.01	1.54	0.024	1.54	523363	2.00	97.57	30.1	2.618	27.515	8.7	30.133	-0.09	0.21	2.63
523364	0.199	17.38	1.69	0.30	0.07	0.30	0.02	1.34	0.035	0.824	523364	2.34	97.84	30.1	0.930	29.012	3.1	29.942	0.67	0.16	3.11
523365	0.191	26.90	0.34	< 0.01	0.02	0.03	0.01	1.69	0.021	1.84	523365	5.45	97.60	30.1	2.024	28.053	6.7	30.077	0.12	0.23	2.65
523366	0.163	26.29	0.41	< 0.01	0.02	0.04	< 0.01	1.44	0.019	1.73	523366	4.61	97.35	30.1	2.307	27.614	7.7	29.921	0.50		2.74
523367	0.288	12.06	0.42	< 0.01	0.08	0.04	0.01	3.61	0.044	3.73	523367	2.83	96.01	30.1	1.488	28.514	4.9	30.002	0.31		2.69
523368	0.195	20.34	0.35	< 0.01	0.02	0.04	0.01	2.29	0.030	2.72	523368	4.72	97.89	30.1	1.719	28.326	5.7	30.045	0.30		2.76
523369	0.178	25.98	0.79	< 0.01	0.03	0.05	0.01	1.87	0.022	2.27	523369	3.10	97.70	30.2	1.738	28.482	5.7	30.220	0.06		2.77
523370	0.233	23.23	0.11	0.04	0.04	0.04	0.01	1.92	0.024	2.54	523370	0.97	97.92	30.0	1.380	28.584	4.6	29.965	0.27		2.74
523371	0.164	4.33	0.72	< 0.01	0.03	0.18	0.04	2.30	0.047	0.229	523371	-0.42	97.59	30.1	0.260	29.657	0.9	29.918	0.63		3.09
523372	0.161	17.94	0.06	< 0.01	0.04	0.04	0.01	1.31	0.019	2.83	523372	3.90	97.24	30.2	1.834	28.308	6.1	30.141	0.20		2.66
523373	0.190	21.77	0.33	< 0.01	0.02	0.05	0.01	2.13	0.029	1.78	523373	3.84	97.20	30.2	1.666	28.413	5.5	30.079	0.30		2.76
523374	0.212	25.71	0.42	< 0.01	0.02	0.05	0.01	2.50	0.028	1.70	523374	3.07	97.01	30.3	1.607	28.481	5.3	30.089	0.61		2.69
523375	0.214	27.43	0.41	< 0.01	0.03	0.04	< 0.01	2.48	0.030	1.83	523375	0.18	98.19	30.1	0.828	29.152	2.8	29.981	0.31		2.74
523376	0.236	15.11	0.32	< 0.01	0.04	0.04	< 0.01	3.82	0.042	3.38	523376	1.16	96.07	30.1	1.032	28.907	3.4	29.939	0.43		2.65
523377	0.282	21.42	2.06	< 0.01	0.03	0.05	< 0.01	3.47	0.041	3.15	523377	0.77	97.81	30.1	0.810	29.242	2.7	30.052	0.16		2.65
523378	0.260	24.30	1.03	< 0.01	0.02	0.05	0.01	4.08	0.049	2.29	523378	0.35	96.74	30.2	0.726	29.298	2.4	30.024	0.50		2.84
523379	0.307	13.26	1.02	< 0.01	0.03	0.06	0.01	4.25	0.048	3.36	523379	2.01	97.83	30.1	0.555	29.558	1.8	30.112	-0.04		2.78
523380	0.010	0.04	0.02	0.01	0.07	0.05	0.01	< 0.01	< 0.003	< 0.003	523380	0.04	99.41	30.1	0.062	29.816	0.2	29.878	0.81		2.65
523381	0.357	10.53	0.40	< 0.01	0.03	0.08	0.01	6.74	0.065	2.98	523381	3.12	95.86	30.1	0.458	29.870	1.5	30.328	-0.62		2.79

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	Client ID (Davis Tube)	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S	Spec Grav Core
Unit Symbol	%	%	%	%	%	%	%	%	%	%	-	%	%	g	g	g	%	g	%	%	-
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003			0.01							0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	Client ID	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR	GRAV
521292											521292			30.2	0.005	30.107	0.0	30.112	0.22		2.96
521293											521293			30.1	0.007	29.560	0.0	29.567	1.74		2.88
521294											521294			30.1	0.001	29.896	0.0	29.897	0.67		2.88
521295											521295			30.2	0.099	29.748	0.3	29.847	1.05		2.81
521296											521296			29.9	0.006	29.021	0.0	29.027	2.81		2.86
521297											521297			30.2	0.005	29.935	0.0	29.940	0.90		2.89
521298											521298			30.1	0.065	30.114	0.2	30.178	-0.30		2.83
521299											521299			30.0	0.004	29.590	0.0	29.594	1.45		2.73
521300											521300			30.2	0.013	29.634	0.0	29.647	1.77		2.84
521301											521301			30.1	0.017	29.813	0.1	29.830	0.81		2.92
521302											521302			30.1	0.017	29.934	0.1	29.951	0.38		2.94
521303											521303			30.0	0.013	29.713	0.0	29.726	1.04		2.90
521304											521304			30.1	0.014	29.823	0.0	29.837	0.78		3.02
521305											521305			30.2	0.012	29.358	0.0	29.370	2.74		3.09
521306											521306			30.2	0.008	29.295	0.0	29.303	2.86		3.00
521307											521307			30.2	0.007	29.591	0.0	29.598	1.92		3.11
521308											521308			30.1	0.011	29.855	0.0	29.866	0.82		3.04
521309											521309			30.1	0.015	29.902	0.1	29.917	0.68		3.01

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
NIST 694 Meas	11.16	1.89	0.75	0.013	0.35	44.41	0.88	0.57	0.116	30.18									1698					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
GBW 07113 Meas	70.14	12.67	3.13	0.139	0.14	0.55	2.39	5.32	0.273	0.07			492	41	41	6	395	4	< 5					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
MICA-FE Meas																						34.30	19.37	25.81
MICA-FE Cert																						34.4	19.5	25.6
MICA-FE Meas																						34.30	19.37	25.81
MICA-FE Cert																						34.4	19.5	25.6
CHR-BKG Meas																						15.08	12.94	13.89
CHR-BKG Cert																						15.27	12.91	13.87
IF-G Meas																						41.18	0.17	55.92
IF-G Cert																						41.2	0.150	55.8
IF-G Meas																						41.22	0.15	55.83
IF-G Cert																						41.2	0.150	55.8
LKSD-4 Meas																								
LKSD-4 Cert																								
BE-N Meas																						38.25	10.00	
BE-N Cert																						38.2	10.1	
BE-N Meas																						38.25	10.00	
BE-N Cert																						38.2	10.1	
BaSO4 Meas																								
BaSO4 Cert																								
OREAS 13P Meas																				0.223				
OREAS 13P Cert																				0.226				
OREAS 13P Meas																				0.228				
OREAS 13P Cert																				0.226				
OREAS 13P Meas																				0.243				
OREAS 13P Cert																				0.226				
OREAS 14P Meas																								
OREAS 14P Cert																								
OREAS 14P Meas																								
OREAS 14P Cert																								
Oreas 73a (Fusion) Meas																						36.46	2.36	
Oreas 73a (Fusion) Cert																						36.4	2.38	
Oreas 74a (Fusion) Meas																						32.60	2.11	
Oreas 74a (Fusion) Cert																						32.4	2.21	
Oreas 75a (Fusion) Meas																						27.30	2.00	
Oreas 75a (Fusion) Cert																						27.3	1.99	
521387 Orig	38.42	1.21	9.14	0.104	37.90	0.22	< 0.01	< 0.01	0.024	< 0.01	12.14	99.16	< 2	2	< 1	10	3	< 1	41	0.223	0.179			
521387 Dup	38.08	1.19	9.26	0.106	37.31	0.21	< 0.01	< 0.01	0.024	< 0.01	12.14	98.33	3	2	< 1	10	3	< 1	40	0.212	0.221			
521400 Orig	39.07	1.61	8.21	0.109	37.50	1.09	< 0.01	< 0.01	0.016	0.03	12.53	100.2	6	20	3	10	2	< 1	54	0.225	0.230			
521400 Split	38.11	1.62	8.06	0.109	37.10	1.08	0.01	< 0.01	0.018	0.03	12.49	98.63	4	18	3	10	< 2	< 1	52	0.172	0.234			
521400 Orig																								
521400 Dup																								
521404 Orig	38.37	1.32	8.07	0.118	36.99	1.64	< 0.01	< 0.01	0.015	0.01	12.42	98.97	2	4	< 1	11	< 2	< 1	53	0.204	0.237			
521404 Dup	38.69	1.38	8.16	0.120	38.20	1.63	< 0.01	< 0.01	0.016	< 0.01	12.42	100.6	2	4	< 1	11	2	< 1	54	0.187	0.241			
521410 Orig																								
521410 Dup																								
521418 Orig	38.85	1.26	7.94	0.114	38.30	1.39	< 0.01	< 0.01	0.015	< 0.01	11.84	99.72	< 2	2	< 1	11	3	< 1	43	0.180	0.240			
521418 Dup	38.76	1.26	8.16	0.115	38.42	1.38	0.01	< 0.01	0.015	< 0.01	11.84	99.96	2	2	< 1	11	< 2	< 1	44	0.183	0.240			
521420 Orig	38.05	1.38	8.48	0.121	37.80	1.29	< 0.01	< 0.01	0.014	< 0.01	12.47	99.61	< 2	2	< 1	10	< 2	< 1	50	0.218	0.235			
521420 Split	38.15	1.38	8.05	0.124	37.47	1.41	0.01	< 0.01	0.014	< 0.01	12.31	98.93	< 2	< 2	< 1	10	< 2	< 1	47	0.202	0.247			
521420 Orig																								
521420 Dup																								
521430 Orig	38.16	1.33	7.85	0.121	36.74	1.84	0.01	< 0.01	0.013	< 0.01	12.11	98.19	10	2	< 1	11	< 2	< 1	49	0.220	0.241			

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
521430 Split	38.42	1.31	8.05	0.126	37.08	1.98	0.01	< 0.01	0.014	< 0.01	11.89	98.91	8	3	< 1	12	< 2	< 1	51	0.178	0.250			
521430 Orig																								
521430 Dup																								
521433 Orig	36.90	1.22	7.75	0.134	37.15	1.13	0.02	< 0.01	0.013	< 0.01	14.91	99.23	3	17	< 1	10	11	< 1	43	0.216	0.232			
521433 Dup	36.27	1.20	7.75	0.134	36.43	1.13	0.02	< 0.01	0.013	0.02	14.91	97.88	3	17	< 1	10	< 2	< 1	44	0.213	0.232			
521440.1 Orig	49.05	15.96	11.79	0.161	4.85	7.69	2.25	2.72	1.169	0.43	0.88	96.96	702	527	21	26	104	2	331	0.233	1.031			
521440.1 Dup	49.78	16.39	11.99	0.164	4.96	7.85	2.29	2.76	1.220	0.45	0.88	98.73	716	555	21	26	100	2	337	0.236	1.047			
521448 Orig																								
521448 Dup																								
521450 Orig	38.49	0.99	8.41	0.157	38.19	1.85	< 0.01	< 0.01	0.010	< 0.01	11.31	99.44	< 2	< 2	< 1	11	< 2	< 1	43	0.220	0.235			
521450 Dup	38.60	0.99	8.42	0.158	38.03	1.85	< 0.01	< 0.01	0.011	0.02	11.31	99.40	< 2	< 2	< 1	11	2	< 1	46	0.223	0.241			
521458 Orig	37.87	1.09	8.18	0.120	38.63	1.19	0.01	< 0.01	0.012	< 0.01	12.78	99.88	2	< 2	< 1	9	< 2	< 1	44	0.243	0.252			
521458 Split	38.53	1.07	8.15	0.120	38.15	1.23	0.01	< 0.01	0.013	0.02	12.76	100.1	< 2	< 2	< 1	10	< 2	< 1	41	0.202	0.259			
521458 Orig																								
521458 Dup																								
521464 Orig	37.21	1.13	7.86	0.119	37.92	1.92	< 0.01	< 0.01	0.011	< 0.01	13.50	99.70	< 2	< 2	< 1	10	< 2	< 1	46	0.201	0.250			
521464 Dup	37.28	1.13	7.84	0.120	37.85	1.93	< 0.01	< 0.01	0.011	< 0.01	13.50	99.66	< 2	< 2	< 1	10	< 2	< 1	49	0.247	0.245			
521468 Orig	37.12	0.96	8.53	0.141	37.77	1.27	< 0.01	< 0.01	0.009	< 0.01	13.79	99.60	< 2	< 2	< 1	10	2	< 1	45	0.196	0.269			
521468 Split	36.88	0.99	8.23	0.136	36.92	1.26	< 0.01	< 0.01	0.010	0.01	13.73	98.16	< 2	< 2	< 1	10	< 2	< 1	42	0.169	0.240			
521468 Orig																								
521468 Dup																								
521478 Orig																								
521478 Dup																								
521479 Orig	50.06	15.23	11.26	0.178	7.01	9.84	4.43	0.16	1.468	0.10	1.45	> 101.0	18	165	30	38	97	< 1	333	0.012	0.024			
521479 Dup	49.70	14.86	11.03	0.176	6.88	9.75	4.41	0.16	1.467	0.12	1.45	100.0	18	161	30	38	86	< 1	332	0.010	0.023			
521480.1 Orig	49.54	16.28	11.95	0.163	4.95	7.80	2.35	2.77	1.212	0.43	0.84	98.29	716	550	21	26	98	2	332	0.232	1.041			
521480.1 Dup	49.10	16.18	11.86	0.163	4.90	7.80	2.30	2.72	1.192	0.44	0.84	97.51	706	540	21	25	98	2	329	0.228	1.047			
521486 Orig	38.96	0.83	7.79	0.130	38.22	0.98	0.01	< 0.01	0.006	< 0.01	13.07	99.98	< 2	2	< 1	10	3	< 1	38	0.209	0.288			
521486 Split	38.80	0.82	7.55	0.129	37.61	0.95	0.01	< 0.01	0.006	0.02	13.16	99.06	< 2	3	< 1	9	< 2	< 1	37	0.192	0.255			
521486 Orig																								
521486 Dup																								
521496 Orig	38.21	0.71	7.58	0.118	39.50	0.69	0.01	< 0.01	0.005	< 0.01	13.22	100.1	< 2	< 2	< 1	8	3	< 1	37	0.230	0.263			
521496 Dup	38.23	0.72	7.58	0.118	39.54	0.68	0.01	< 0.01	0.005	< 0.01	13.22	100.1	< 2	< 2	< 1	7	2	< 1	36	0.212	0.280			
521506 Orig																								
521506 Dup																								
521510 Orig	38.14	0.72	7.58	0.111	38.82	0.78	0.01	< 0.01	0.005	< 0.01	13.20	99.37	< 2	< 2	< 1	8	2	< 1	34	0.184	0.265			
521510 Dup	38.01	0.71	7.67	0.113	39.27	0.79	0.01	< 0.01	0.005	< 0.01	13.20	99.80	< 2	< 2	< 1	8	2	< 1	37	0.192	0.266			
521516 Orig	37.19	0.62	8.17	0.128	37.52	0.60	0.01	< 0.01	0.004	< 0.01	13.29	97.54	< 2	< 2	< 1	8	3	< 1	38	0.182	0.241			
521516 Split	38.07	0.64	8.41	0.133	38.16	0.60	< 0.01	< 0.01	0.005	< 0.01	13.26	99.30	< 2	< 2	< 1	9	< 2	< 1	36	0.201	0.267			
521516 Orig																								
521516 Dup																								
521517 Orig	39.83	0.71	7.72	0.116	39.47	0.38	< 0.01	< 0.01	0.005	< 0.01	12.51	100.7	4	< 2	< 1	10	8	< 1	51	0.183	0.268			
521517 Split	38.44	0.72	7.58	0.109	38.70	0.38	< 0.01	< 0.01	0.005	0.02	12.50	98.47	< 2	< 2	< 1	9	< 2	< 1	36	0.219	0.258			
521520.1 Orig	48.87	15.98	11.84	0.164	4.87	7.83	2.23	2.69	1.201	0.43	0.79	96.89	699	537	21	25	102	2	328	0.227	1.033			
521520.1 Dup	49.22	16.07	11.81	0.165	4.88	7.71	2.28	2.82	1.174	0.44	0.79	97.35	715	530	21	25	101	2	332	0.224	1.031			
522404 Orig	37.76	0.73	8.82	0.103	39.34	0.59	< 0.01	< 0.01	0.004	0.04	12.97	100.4	< 2	< 2	< 1	9	17	< 1	49	0.220	0.268			
522404 Dup	38.28	0.76	8.56	0.102	39.74	0.57	< 0.01	< 0.01	0.004	0.01	12.97	101.0	< 2	< 2	< 1	9	10	< 1	51	0.274	0.268			
522406 Orig	39.37	0.65	8.01	0.125	40.75	0.45	0.01	< 0.01	0.004	< 0.01	11.32	100.7	4	< 2	< 1	7	7	< 1	47	0.190	0.243			
522406 Split	38.84	0.66	7.92	0.121	39.91	0.47	< 0.01	< 0.01	0.003	< 0.01	11.52	99.45	< 2	< 2	< 1	7	< 2	< 1	26	0.205	0.244			
522406 Orig																								
522460.1 Orig	49.45	16.36	12.01	0.166	4.91	7.76	2.28	2.82	1.195	0.44	0.53	97.92	717	537	20	25	103	2	338	0.225	1.048			
522460.1 Dup	49.17	16.41	11.80	0.166	4.86	7.77	2.24	2.78	1.198	0.44	0.53	97.36	710	537	20	25	103	2	325	0.231	1.035			
522461 Orig	39.57	0.84	8.02	0.136	39.83	0.04	< 0.01	< 0.01	0.006	< 0.01	10.63	99.10	4	< 2	< 1	9	< 2	< 1	32	0.216	0.259			
522461 Split	39.27	0.83	7.62	0.134	39.40	0.04	< 0.01	< 0.01	0.006	< 0.01	11.05	98.35	< 2	< 2	< 1	9	< 2	< 1	31	0.198	0.245			
522461 Orig																								
522461 Dup																								
522470 Orig	49.96	13.64	10.49	0.175	6.62	11.28	4.46	0.21	1.272	0.10	0.58	98.79	35	435	29	39	78	< 1	293	0.010	0.019			

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
522470 Dup	50.53	13.72	10.64	0.179	6.68	11.52	4.45	0.21	1.295	0.10	0.58	99.91	35	442	30	40	117	< 1	296	0.015	0.020			
522471 Orig																								
522471 Dup																								
522481 Orig																								
522481 Dup																								
522487 Orig	38.26	0.89	8.70	0.132	38.43	0.72	< 0.01	< 0.01	0.006	< 0.01	12.08	99.22	< 2	< 2	< 1	11	3	< 1	39	0.234	0.276			
522487 Dup	37.60	0.86	8.78	0.133	37.66	0.74	< 0.01	< 0.01	0.006	< 0.01	12.08	97.85	< 2	< 2	< 1	11	2	< 1	40	0.257	0.276			
522491 Orig																								
522491 Dup																								
522500.1 Orig	49.41	16.09	12.01	0.165	4.84	7.82	2.26	2.82	1.190	0.44	0.82	97.87	714	542	21	25	102	2	333	0.231	1.038			
522500.1 Dup	49.17	16.04	11.76	0.165	4.79	7.84	2.24	2.77	1.189	0.41	0.82	97.19	708	532	20	25	92	2	334	0.226	1.043			
522501 Orig	39.80	1.33	7.93	0.114	38.50	1.08	0.01	< 0.01	0.015	< 0.01	11.90	100.7	2	< 2	1	11	3	< 1	50	0.257	0.251			
522501 Split	39.17	1.31	7.86	0.113	37.84	1.06	0.01	< 0.01	0.015	< 0.01	11.92	99.30	3	< 2	2	11	3	< 1	48	0.258	0.249			
522501 Orig	39.80	1.33	7.93	0.114	38.50	1.08	0.01	< 0.01	0.015	< 0.01	11.90	100.7	2	< 2	1	11	3	< 1	50	0.257	0.251			
522509 Orig	39.09	1.30	7.97	0.115	37.48	1.85	0.01	< 0.01	0.015	0.01	11.87	99.71	< 2	< 2	< 1	10	< 2	< 1	46	0.185	0.240			
522509 Split	37.97	1.29	8.16	0.115	36.58	1.91	0.04	0.01	0.014	< 0.01	11.97	98.06	3	< 2	1	11	3	< 1	48	0.205	0.245			
522509 Orig																								
522509 Dup																								
522516 Orig	39.54	1.41	7.85	0.128	37.78	1.76	0.01	< 0.01	0.017	< 0.01	12.28	100.8	< 2	< 2	< 1	10	< 2	< 1	48	0.172	0.259			
522516 Dup	39.61	1.41	7.85	0.130	37.70	1.77	0.01	< 0.01	0.017	0.02	12.28	100.8	< 2	< 2	< 1	10	< 2	< 1	48	0.186	0.256			
522519 Orig																								
522519 Dup																								
522520.1 Orig	49.80	15.94	12.18	0.168	4.90	7.94	2.25	2.81	1.175	0.43	0.85	98.45	718	542	21	25	103	2	333	0.239	1.059			
522520.1 Dup	48.91	16.28	11.85	0.163	4.84	7.69	2.26	2.80	1.171	0.44	0.85	97.24	710	533	20	25	100	2	329	0.226	1.034			
522527 Orig	40.36	1.64	8.13	0.112	36.31	2.43	0.01	< 0.01	0.018	0.01	10.88	99.90	< 2	< 2	< 1	13	3	< 1	52	0.165	0.250			
522527 Split	39.45	1.57	8.07	0.113	35.73	2.45	0.01	< 0.01	0.018	< 0.01	11.04	98.45	2	< 2	1	13	3	< 1	56	0.201	0.251			
522527 Orig																								
522527 Dup																								
523304 Orig	39.99	1.20	8.30	0.128	37.24	2.56	0.01	< 0.01	0.018	0.01	11.00	100.5	< 2	< 2	< 1	11	3	< 1	46	0.178	0.250			
523304 Dup	39.93	1.21	8.31	0.129	36.80	2.55	0.01	< 0.01	0.017	< 0.01	11.00	99.96	< 2	< 2	< 1	10	< 2	< 1	48	0.195	0.250			
523308 Orig																								
523308 Dup																								
523318 Orig	39.54	1.38	8.40	0.133	35.77	2.25	0.01	< 0.01	0.017	< 0.01	12.09	99.60	< 2	< 2	< 1	12	2	< 1	52	0.207	0.239			
523318 Dup	39.60	1.39	8.41	0.135	36.44	2.24	0.01	< 0.01	0.017	< 0.01	12.09	100.3	< 2	< 2	< 1	12	< 2	< 1	52	0.164	0.239			
523320.1 Orig	49.32	15.76	11.67	0.164	4.83	7.75	2.24	2.83	1.162	0.43	1.04	97.21	713	528	20	25	97	2	326	0.228	1.016			
523320.1 Dup	49.38	16.28	11.99	0.166	4.86	7.77	2.25	2.85	1.195	0.44	1.04	98.22	716	547	21	25	99	2	328	0.232	1.041			
523326 Orig	38.37	1.21	8.76	0.122	37.17	1.38	< 0.01	< 0.01	0.015	< 0.01	12.10	99.13	< 2	< 2	< 1	12	3	< 1	51	0.188	0.223			
523326 Split	38.56	1.19	9.10	0.123	37.06	1.35	< 0.01	< 0.01	0.015	< 0.01	11.92	99.32	2	< 2	1	12	2	< 1	51	0.246	0.241			
523326 Orig																								
523326 Dup																								
523333 Orig	38.67	1.35	8.22	0.102	37.52	0.47	< 0.01	< 0.01	0.013	< 0.01	12.74	99.12	< 2	< 2	< 1	11	2	< 1	47	0.188	0.227			
523333 Dup	38.28	1.37	8.23	0.102	37.53	0.48	< 0.01	< 0.01	0.013	< 0.01	12.74	98.75	< 2	< 2	< 1	11	3	< 1	46	0.194	0.229			
523336 Orig																								
523336 Dup																								
523346 Orig																								
523346 Dup																								
523350 Orig	38.85	0.76	8.03	0.139	39.84	0.78	< 0.01	< 0.01	0.007	< 0.01	12.27	100.7	5	< 2	< 1	9	7	< 1	52	0.217	0.255			
523350 Dup	38.61	0.75	7.99	0.134	38.34	0.80	< 0.01	< 0.01	0.007	0.01	12.27	98.92	2	< 2	< 1	9	3	< 1	35	0.182	0.239			
523356 Orig	38.66	0.75	7.69	0.121	39.59	0.38	< 0.01	< 0.01	0.010	< 0.01	10.87	98.07	< 2	3	< 1	7	2	< 1	27	0.193	0.184			
523356 Split	39.76	0.76	8.11	0.125	40.56	0.37	< 0.01	< 0.01	0.010	< 0.01	10.84	100.5	3	< 2	1	7	3	< 1	30	0.259	0.200			
523356 Orig																								
523356 Dup																								
523360.2 Orig																						36.42	2.35	13.08
523360.2 Dup																						36.61	2.39	13.09
523364 Orig	43.90	9.28	11.27	0.169	16.19	9.17	2.34	0.16	1.242	0.12	5.07	98.91	9	56	23	29	67	< 1	300	0.071	0.075			
523364 Dup	43.42	9.29	11.30	0.170	16.15	9.28	2.29	0.15	1.259	0.11	5.07	98.49	9	56	22	29	66	< 1	298	0.069	0.072			
523374 Orig	38.56	0.74	7.68	0.117	39.73	0.46	< 0.01	< 0.01	0.007	< 0.01	11.80	99.10	< 2	< 2	< 1	8	< 2	< 1	30	0.197	0.250			

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
523374 Split	39.45	0.72	7.87	0.119	39.90	0.47	< 0.01	< 0.01	0.006	< 0.01	11.93	100.5	3	< 2	< 1	8	2	< 1	32	0.257	0.254			
523379 Orig	38.85	0.85	7.71	0.119	38.57	1.08	< 0.01	< 0.01	0.006	0.02	11.17	98.37	< 2	< 2	< 1	10	< 2	< 1	37	0.184	0.244			
523379 Dup	38.86	0.86	7.87	0.120	38.99	1.08	< 0.01	< 0.01	0.006	< 0.01	11.17	98.97	< 2	< 2	< 1	10	< 2	< 1	39	0.189	0.249			
521294 Orig	47.62	12.36	9.51	0.173	14.30	7.27	2.03	0.80	0.901	0.14	4.62	99.73	697	209	15	29	73	< 1	215	0.032	0.075			
521294 Split	47.50	11.73	9.45	0.170	14.33	7.26	1.93	0.82	0.882	0.12	4.73	98.91	691	199	17	29	76	< 1	210	0.038	0.075			
521306 Orig	50.77	14.53	11.23	0.176	5.37	9.97	2.56	0.18	1.568	0.15	2.73	99.23	42	163	28	39	83	< 1	373	< 0.010	< 0.010			
521306 Dup	50.36	14.47	11.11	0.175	5.31	9.98	2.52	0.17	1.564	0.14	2.73	98.53	41	163	29	39	83	< 1	376	0.010	< 0.010			
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank	0.03	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01			< 2	< 2	< 1	< 1	3	< 1	< 5	< 0.010	< 0.010			
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
NIST 694 Meas													
NIST 694 Cert													
GBW 07113 Meas													
GBW 07113 Cert													
MICA-FE Meas	0.354	4.54	0.51	0.51	8.78	2.52	0.42	0.02	0.026	0.004			
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350			
MICA-FE Meas	0.354	4.54	0.51	0.51	8.78	2.52	0.42	0.02	0.026	0.004			
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350			
CHR-BKG Meas	0.132	23.27	0.06			0.14		19.9		0.196			
CHR-BKG Cert	0.14	23.47	0.07			0.14		20		0.201			
IF-G Meas	0.041	1.87	1.52	0.05	0.02	0.03	0.06	0.01		< 0.003			
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225			
IF-G Meas	0.041	1.89	1.53	0.05	0.02	0.03	0.06	0.01		< 0.003			
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225			
LKSD-4 Meas													0.85
LKSD-4 Cert													0.990
BE-N Meas	0.202	13.20	13.94	3.12	1.39	2.68	1.08	0.04	0.042	0.027			
BE-N Cert	0.200	13.1	13.9	3.18	1.39	2.61	1.05	0.0360	0.042	0.0267			
BE-N Meas	0.202	13.20	13.94	3.12	1.39	2.68	1.08	0.04	0.042	0.027			
BE-N Cert	0.200	13.1	13.9	3.18	1.39	2.61	1.05	0.0360	0.042	0.0267			
BaSO4 Meas													13.6
BaSO4 Cert													14.0
OREAS 13P Meas										0.224			
OREAS 13P Cert										0.226			
OREAS 13P Meas													
OREAS 13P Cert													
OREAS 13P Meas													
OREAS 13P Cert													
OREAS 14P Meas										2.11			
OREAS 14P Cert										2.10			
OREAS 14P Meas										2.10			
OREAS 14P Cert										2.10			
Oreas 73a (Fusion) Meas		32.52						0.20		1.43			
Oreas 73a (Fusion) Cert		32.5						0.20		1.44			
Oreas 74a (Fusion) Meas		27.99						0.18		3.23			
Oreas 74a (Fusion) Cert		27.9						0.18		3.24			
Oreas 75a (Fusion) Meas		22.51						0.15		5.24			
Oreas 75a (Fusion) Cert		22.3						0.16		5.25			
521387 Orig													
521387 Dup													
521400 Orig													
521400 Split													
521400 Orig													0.10
521400 Dup													0.09
521404 Orig													
521404 Dup													
521410 Orig													0.05
521410 Dup													0.05
521418 Orig													
521418 Dup													
521420 Orig													
521420 Split													
521420 Orig													0.08
521420 Dup													0.07
521430 Orig													

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
521430 Split													
521430 Orig													0.08
521430 Dup													0.08
521433 Orig													
521433 Dup													
521440.1 Orig													
521440.1 Dup													
521448 Orig													0.04
521448 Dup													0.04
521450 Orig													
521450 Dup													
521458 Orig													
521458 Split													
521458 Orig													0.04
521458 Dup													0.03
521464 Orig													
521464 Dup													
521468 Orig													
521468 Split													
521468 Orig													0.08
521468 Dup													0.08
521478 Orig													0.12
521478 Dup													0.13
521479 Orig													
521479 Dup													
521480.1 Orig													
521480.1 Dup													
521486 Orig													
521486 Split													
521486 Orig													0.04
521486 Dup													0.04
521496 Orig													0.03
521496 Dup													0.03
521506 Orig													0.07
521506 Dup													0.07
521510 Orig													
521510 Dup													
521516 Orig													
521516 Split													
521516 Orig													0.04
521516 Dup													0.04
521517 Orig													
521517 Split													
521520.1 Orig													
521520.1 Dup													
522404 Orig													
522404 Dup													
522406 Orig													
522406 Split													
522406 Orig													0.03
522460.1 Orig													
522460.1 Dup													
522461 Orig													
522461 Split													
522461 Orig													0.02
522461 Dup													0.02
522470 Orig													

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
522470 Dup													
522471 Orig													0.07
522471 Dup													0.08
522481 Orig													0.04
522481 Dup													0.04
522487 Orig													
522487 Dup													
522491 Orig													0.09
522491 Dup													0.09
522500.1 Orig													
522500.1 Dup													
522501 Orig													
522501 Split													
522501 Orig													
522509 Orig													
522509 Split													
522509 Orig													0.03
522509 Dup													0.03
522516 Orig													
522516 Dup													
522519 Orig													0.03
522519 Dup													0.03
522520.1 Orig													
522520.1 Dup													
522527 Orig													
522527 Split													
522527 Orig													0.02
522527 Dup													0.01
523304 Orig													
523304 Dup													
523308 Orig													0.06
523308 Dup													0.06
523318 Orig													0.03
523318 Dup													0.03
523320.1 Orig													
523320.1 Dup													
523326 Orig													
523326 Split													
523326 Orig													0.07
523326 Dup													0.07
523333 Orig													
523333 Dup													
523336 Orig													0.08
523336 Dup													0.08
523346 Orig													0.04
523346 Dup													0.04
523350 Orig													
523350 Dup													
523356 Orig													
523356 Split													
523356 Orig													0.06
523356 Dup													0.05
523360.2 Orig	0.130	32.28	2.06	0.12	0.17	0.12	0.02	0.19	0.008	1.44	11.13	99.52	
523360.2 Dup	0.130	32.38	2.10	0.10	0.15	0.13	0.02	0.21	0.009	1.44	11.13	99.88	
523364 Orig													0.16
523364 Dup													
523374 Orig													

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
523374 Split													
523379 Orig													
523379 Dup													
521294 Orig													
521294 Split													
521306 Orig													
521306 Dup													
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	
Method Blank													
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	
Method Blank													< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 11-Oct-11
Invoice No.: A11-11760
Invoice Date: 04-Jan-12
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road
Suite 2
Sudbury Ontario P3C 4Y9
Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

27 Pulp samples and 348 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT **A11-11760**

Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID
Code Specific Gravity Core - Core

Notes:
Total includes all elements in % oxide to the left of total.

Insufficient sample for XRF LOI analysis:
521378,521389,521408,521485,521491,522410,522462,522467,522495,523373 Insufficient sample for XRF analysis:
521390.3,521395,521479,5214820.3,521481,521482,521520.3,522460.3,522470,522472,522473,522474,522475,522494,522496,522500.3,522520.3,523320.3,523358,523359,52360.3,523361,523371,521292-521309.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.
Quality Control

SCC Accredited LAB 265
LAB 266 Accrédité CCN

ACTIVATION LABORATORIES LTD.

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521373	37.86	0.94	8.16	0.106	37.63	1.18	< 0.01	< 0.01	0.007	< 0.01	13.27	99.15	3	2	< 1	12	3	< 1	46	0.194	0.270	521373	16.99	0.30
521374	38.82	0.90	7.82	0.087	39.02	0.54	< 0.01	< 0.01	0.006	< 0.01	13.15	100.3	4	< 2	< 1	10	3	< 1	40	0.217	0.272	521374	15.68	0.32
521375	39.24	0.40	8.81	0.211	40.72	0.18	< 0.01	< 0.01	0.005	< 0.01	11.22	100.8	4	3	< 1	6	2	< 1	19	0.225	0.206	521375	16.86	0.44
521376	38.34	0.60	7.68	0.137	39.16	1.21	< 0.01	< 0.01	0.006	< 0.01	11.53	98.68	2	2	< 1	8	2	< 1	29	0.191	0.239	521376	15.48	0.27
521377	38.10	0.72	8.17	0.112	40.39	0.32	< 0.01	< 0.01	0.005	< 0.01	12.12	99.94	3	2	< 1	9	2	< 1	32	0.205	0.240	521377	24.27	0.57
521378	38.94	0.75	7.98	0.119	40.03	1.06	< 0.01	< 0.01	0.006	< 0.01	11.42	100.3	< 2	< 2	< 1	9	2	< 1	36	0.207	0.236	521378	16.83	0.45
521379	37.82	0.83	7.86	0.111	39.58	0.94	< 0.01	< 0.01	0.006	< 0.01	12.10	99.25	2	< 2	< 1	9	3	< 1	36	0.223	0.216	521379	22.25	0.51
521380	38.26	0.82	8.24	0.126	38.88	0.86	< 0.01	< 0.01	0.005	< 0.01	12.61	99.80	6	3	< 1	10	< 2	< 1	39	0.224	0.257	521380	20.72	0.63
521381	37.93	0.94	8.00	0.101	39.16	0.15	< 0.01	< 0.01	0.014	< 0.01	13.25	99.54	< 2	< 2	< 1	9	3	< 1	38	0.211	0.257	521381	26.33	0.73
521382	38.04	0.94	7.10	0.072	37.35	1.79	< 0.01	< 0.01	0.005	< 0.01	13.78	99.07	< 2	3	< 1	8	< 2	< 1	43	0.192	0.236	521382	18.24	0.70
521383	39.00	0.65	8.79	0.155	40.25	1.08	< 0.01	< 0.01	0.005	< 0.01	10.83	100.8	< 2	< 2	< 1	10	< 2	< 1	34	0.222	0.218	521383	24.67	0.59
521384	37.26	0.75	8.00	0.116	38.40	0.57	< 0.01	< 0.01	0.005	< 0.01	12.46	97.55	3	< 2	< 1	9	7	< 1	38	0.203	0.280	521384	20.84	0.43
521385	36.90	0.75	7.75	0.115	39.06	0.68	< 0.01	< 0.01	0.006	< 0.01	12.70	97.97	< 2	< 2	< 1	9	< 2	< 1	39	0.195	0.232	521385	22.12	0.41
521386	37.50	0.90	7.47	0.093	39.50	0.16	< 0.01	< 0.01	0.005	< 0.01	12.65	98.28	2	2	< 1	8	2	< 1	39	0.192	0.240	521386	23.99	0.56
521387	38.25	1.20	9.20	0.105	37.61	0.22	< 0.01	< 0.01	0.024	< 0.01	12.14	98.74	< 2	2	< 1	10	3	< 1	41	0.217	0.200	521387	25.88	0.77
521388	38.51	0.91	8.03	0.111	39.08	0.41	< 0.01	< 0.01	0.007	< 0.01	12.73	99.78	< 2	3	< 1	9	< 2	< 1	34	0.220	0.207	521388	23.33	0.61
521389	39.29	1.08	7.51	0.092	39.27	0.58	< 0.01	< 0.01	0.011	< 0.01	12.78	100.6	< 2	2	< 1	9	3	< 1	38	0.221	0.235	521389	18.95	0.69
521390.1	49.39	16.14	12.11	0.165	4.97	7.91	2.22	2.74	1.213	0.45	0.88	98.19	709	544	22	26	110	2	338	0.237	1.066	521390	48.73	16.02
521390.2																						521390	36.41	2.43
521390.3																						521390	17.91	0.44
521391	39.02	0.86	8.18	0.161	39.23	0.43	< 0.01	< 0.01	0.017	< 0.01	11.94	99.83	4	3	< 1	9	3	< 1	32	0.201	0.256	521391	22.41	0.46
521392	39.04	1.24	8.01	0.115	39.28	0.07	< 0.01	< 0.01	0.016	< 0.01	12.40	100.2	< 2	< 2	< 1	8	3	< 1	35	0.223	0.216	521392	19.95	0.71
521393	38.41	1.98	8.16	0.082	36.85	0.40	< 0.01	< 0.01	0.058	0.01	12.36	98.32	< 2	< 2	< 1	9	5	< 1	46	0.207	0.235	521393	20.98	1.06
521394	39.09	1.29	8.66	0.118	36.81	0.27	< 0.01	< 0.01	0.015	< 0.01	11.68	97.93	< 2	< 2	< 1	12	< 2	< 1	50	0.189	0.245	521394	18.80	0.74
521395	41.45	4.10	8.84	0.150	31.13	4.17	0.13	< 0.01	0.406	0.02	9.90	100.3	2	13	8	18	21	< 1	131	0.148	0.182	521395		
521396	40.04	1.85	8.02	0.100	38.46	0.45	< 0.01	< 0.01	0.016	< 0.01	11.73	100.7	< 2	< 2	< 1	11	2	< 1	53	0.204	0.242	521396	22.70	0.97
521397	39.12	1.58	8.22	0.110	37.45	1.09	< 0.01	< 0.01	0.017	< 0.01	11.98	99.57	2	< 2	< 1	12	< 2	< 1	56	0.210	0.238	521397	21.97	0.94
521398	38.72	1.59	8.35	0.110	37.22	1.33	< 0.01	< 0.01	0.016	< 0.01	11.69	99.04	< 2	< 2	< 1	12	< 2	< 1	54	0.178	0.237	521398	23.79	0.54
521399	39.19	1.42	8.23	0.140	36.30	2.16	< 0.01	< 0.01	0.016	< 0.01	11.02	98.48	< 2	< 2	< 1	12	< 2	< 1	53	0.188	0.239	521399	22.27	0.92
521400	39.07	1.61	8.21	0.109	37.50	1.09	< 0.01	< 0.01	0.016	0.03	12.53	100.2	6	20	3	10	2	< 1	54	0.225	0.230	521400	20.21	0.79
521401	38.76	1.25	7.86	0.117	37.84	1.46	< 0.01	< 0.01	0.014	< 0.01	12.49	99.79	3	8	1	11	2	< 1	50	0.180	0.245	521401	20.54	0.70
521402	39.27	1.33	7.71	0.102	38.47	1.11	< 0.01	< 0.01	0.012	< 0.01	12.73	100.8	3	5	< 1	9	< 2	< 1	45	0.217	0.225	521402	18.74	0.66
521403	38.59	1.39	7.76	0.092	39.23	0.58	< 0.01	< 0.01	0.011	< 0.01	12.52	100.2	2	7	< 1	11	3	< 1	48	0.194	0.257	521403	19.10	0.80
521404	38.53	1.35	8.12	0.119	37.60	1.63	< 0.01	< 0.01	0.015	< 0.01	12.42	99.80	2	4	< 1	11	< 2	< 1	53	0.196	0.239	521404	17.09	0.50
521405	38.93	1.35	7.94	0.145	37.03	2.69	0.02	< 0.01	0.016	< 0.01	10.77	98.90	2	4	1	12	2	< 1	51	0.182	0.237	521405	23.18	0.65
521406	38.63	1.54	7.96	0.122	37.04	2.35	0.01	< 0.01	0.017	< 0.01	11.96	99.63	2	4	< 1	12	< 2	< 1	55	0.200	0.236	521406	17.04	0.49
521407	39.07	1.33	7.89	0.151	36.28	3.09	0.02	< 0.01	0.017	0.01	10.26	98.13	2	4	1	11	2	< 1	53	0.198	0.228	521407	22.74	0.77
521408	38.83	1.38	7.92	0.146	36.80	2.82	0.01	< 0.01	0.016	< 0.01	11.00	98.93	2	4	2	11	2	< 1	53	0.175	0.234	521408	20.66	0.86
521409	38.29	1.36	8.22	0.113	38.44	1.32	< 0.01	< 0.01	0.014	0.01	11.80	99.57	3	4	< 1	11	< 2	< 1	48	0.195	0.249	521409	20.35	0.55
521410	38.55	0.82	8.13	0.095	41.01	0.36	< 0.01	< 0.01	0.008	< 0.01	11.69	100.7	2	3	< 1	9	< 2	< 1	39	0.189	0.257	521410	24.08	0.67
521411	38.25	0.88	8.62	0.146	39.28	1.74	< 0.01	< 0.01	0.012	< 0.01	10.44	99.39	2	2	< 1	11	2	< 1	41	0.217	0.228	521411	25.69	0.73
521412	39.10	1.36	7.93	0.111	38.46	1.87	0.01	< 0.01	0.015	< 0.01	11.43	100.3	< 2	2	< 1	11	2	< 1	45	0.189	0.227	521412	17.42	0.73
521413	39.09	1.23	8.47	0.139	37.71	1.92	< 0.01	< 0.01	0.014	< 0.01	11.46	100.1	< 2	3	< 1	12	2	< 1	46	0.185	0.245	521413	20.88	0.58
521414	39.22	1.43	8.13	0.111	37.65	1.68	< 0.01	< 0.01	0.015	< 0.01	11.59	99.83	3	3	< 1	12	2	< 1	49	0.169	0.240	521414	19.51	0.67
521415	39.11	1.38	8.34	0.125	38.67	1.82	< 0.01	< 0.01	0.015	< 0.01	11.25	100.7	< 2	2	1	12	2	< 1	50	0.197	0.230	521415	22.94	0.69
521416	38.24	1.41	7.70	0.100	38.00	1.29	< 0.01	< 0.01	0.017	< 0.01	12.58	99.36	< 2	3	1	9	2	< 1	46	0.212	0.218	521416	23.39	0.55
521417	38.58	1.21	8.19	0.131	38.46	1.37	< 0.01	< 0.01	0.016	< 0.01	11.56	99.54	< 2	2	< 1	10	2	< 1	39	0.187	0.234	521417	23.94	0.58
521418	38.81	1.26	8.05	0.115	38.36	1.38	< 0.01	< 0.01	0.015	< 0.01	11.84	99.84	< 2	2	< 1	11	< 2	< 1	43	0.181	0.240	521418	24.09	0.58
521419	38.49	1.36	7.35	0.104	38.80	0.70	< 0.01	< 0.01	0.014	0.01	12.71	99.53	< 2	2	< 1	8	3	< 1	39	0.245	0.230	521419	23.98	0.70
521420	38.05	1.38	8.48	0.121	37.80	1.29	< 0.01	< 0.01	0.014	< 0.01	12.47	99.61	< 2	2	< 1	10	< 2	< 1	50	0.218	0.235	521420	20.96	0.68
521421	37.81	1.34	8.25	0.138	37.60	1.37	< 0.01	< 0.01	0.013	0.02	12.24	98.80	8	< 2	< 1	10	< 2	< 1	48	0.204	0.245	521421	16.05	0.58

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521422	38.54	1.37	7.60	0.130	38.53	0.95	< 0.01	< 0.01	0.013	< 0.01	12.60	99.73	4	< 2	< 1	9	< 2	< 1	46	0.219	0.241	521422	20.79	0.74
521423	38.26	1.52	8.00	0.103	37.24	1.32	< 0.01	< 0.01	0.014	< 0.01	12.65	99.11	6	< 2	< 1	11	< 2	< 1	52	0.246	0.231	521423	16.31	0.63
521424	38.66	2.24	7.84	0.111	36.92	2.00	< 0.01	< 0.01	0.020	< 0.01	12.01	99.82	4	3	2	12	< 2	< 1	55	0.200	0.245	521424	17.73	0.93
521425	37.85	1.44	8.09	0.090	37.89	1.18	< 0.01	< 0.01	0.014	< 0.01	12.78	99.34	4	2	< 1	11	< 2	< 1	49	0.252	0.236	521425	14.00	0.47
521426	38.18	1.55	7.39	0.075	38.13	0.60	< 0.01	< 0.01	0.018	0.02	13.20	99.16	2	2	< 1	10	< 2	< 1	48	0.201	0.234	521426	18.82	0.87
521427	38.08	0.98	8.07	0.121	38.21	1.09	< 0.01	< 0.01	0.009	0.02	12.07	98.66	< 2	< 2	1	10	< 2	< 1	39	0.226	0.244	521427	20.02	0.53
521428	38.13	1.23	8.20	0.123	37.97	1.48	< 0.01	< 0.01	0.013	0.01	13.02	100.2	4	< 2	< 1	11	< 2	< 1	50	0.216	0.241	521428	18.45	0.56
521429	38.92	1.23	7.25	0.104	37.80	1.03	< 0.01	< 0.01	0.011	< 0.01	12.70	99.08	2	< 2	< 1	10	2	< 1	48	0.225	0.227	521429	18.00	0.63
521430	38.16	1.33	7.85	0.121	36.74	1.84	0.01	< 0.01	0.013	< 0.01	12.11	98.19	10	2	< 1	11	< 2	< 1	49	0.220	0.241	521430	20.36	0.50
521431	38.15	1.17	8.68	0.145	37.47	1.44	< 0.01	< 0.01	0.012	< 0.01	12.41	99.49	3	3	< 1	11	2	< 1	47	0.228	0.254	521431	16.60	0.53
521432	38.36	1.38	8.06	0.112	38.11	1.47	< 0.01	< 0.01	0.013	0.02	12.86	100.4	6	4	< 1	11	< 2	< 1	51	0.213	0.229	521432	19.24	0.67
521433	36.58	1.21	7.75	0.134	36.79	1.13	0.02	< 0.01	0.013	< 0.01	14.91	98.56	3	17	< 1	10	< 2	< 1	44	0.215	0.232	521433	18.15	1.32
521434	37.80	1.30	7.75	0.104	37.27	1.00	< 0.01	< 0.01	0.013	< 0.01	13.57	98.81	2	10	< 1	10	3	< 1	43	0.205	0.237	521434	15.54	0.52
521435	38.65	1.34	8.03	0.093	38.06	0.83	< 0.01	< 0.01	0.013	< 0.01	13.57	100.6	< 2	10	< 1	11	< 2	< 1	46	0.241	0.247	521435	11.67	0.48
521436	38.51	1.32	7.68	0.107	38.38	0.22	< 0.01	< 0.01	0.014	< 0.01	12.58	98.81	2	< 2	< 1	10	< 2	< 1	46	0.231	0.251	521436	16.21	0.64
521437	41.29	1.04	7.08	0.101	37.44	0.05	< 0.01	< 0.01	0.008	< 0.01	11.73	98.75	6	< 2	< 1	9	< 2	< 1	40	0.223	0.240	521437	16.46	0.65
521438	36.79	5.42	10.69	0.201	30.27	3.04	0.03	< 0.01	0.624	0.10	10.62	97.78	5	17	11	19	35	< 1	167	0.170	0.191	521438	10.22	1.81
521439	41.02	1.14	7.62	0.120	38.50	0.37	< 0.01	< 0.01	0.012	< 0.01	11.89	100.7	3	< 2	< 1	9	< 2	< 1	43	0.237	0.253	521439	13.02	0.83
521440.1	49.41	16.18	11.89	0.163	4.91	7.77	2.27	2.74	1.194	0.44	0.88	97.84	709	541	21	26	102	2	334	0.235	1.039	521440	49.48	16.22
521440.2																						521440	36.46	2.49
521440.3																						521440	17.98	0.46
521441	38.08	1.24	8.20	0.126	38.59	1.49	< 0.01	< 0.01	0.011	< 0.01	12.62	100.4	2	3	< 1	10	< 2	< 1	51	0.201	0.243	521441	18.08	0.39
521442	37.36	1.29	8.21	0.112	37.82	1.53	< 0.01	< 0.01	0.012	0.02	12.43	98.80	2	< 2	< 1	11	21	< 1	53	0.232	0.263	521442	15.90	0.44
521443	37.74	1.23	8.21	0.123	38.03	1.13	< 0.01	< 0.01	0.011	0.02	12.22	98.71	4	< 2	< 1	10	< 2	< 1	50	0.250	0.240	521443	18.19	0.64
521444	37.68	1.17	8.02	0.120	38.40	1.37	< 0.01	< 0.01	0.011	< 0.01	12.22	98.98	2	< 2	< 1	11	3	< 1	49	0.210	0.262	521444	15.71	0.47
521445	37.77	1.19	8.28	0.127	37.66	1.32	< 0.01	< 0.01	0.011	< 0.01	12.03	98.40	2	< 2	< 1	10	< 2	< 1	49	0.211	0.237	521445	16.99	0.60
521446	37.66	1.27	7.88	0.117	38.15	1.50	< 0.01	< 0.01	0.010	< 0.01	12.29	98.89	2	< 2	< 1	10	< 2	< 1	47	0.233	0.212	521446	15.45	0.48
521447	38.35	1.27	7.88	0.110	38.48	1.48	< 0.01	< 0.01	0.010	0.02	11.78	99.38	< 2	< 2	< 1	10	< 2	< 1	49	0.242	0.230	521447	17.64	0.56
521448	38.21	1.21	8.18	0.116	38.82	1.31	< 0.01	< 0.01	0.011	< 0.01	11.84	99.70	< 2	< 2	< 1	10	< 2	< 1	47	0.218	0.242	521448	15.41	0.62
521449	38.02	1.31	8.19	0.108	38.86	1.10	< 0.01	< 0.01	0.010	< 0.01	12.09	99.68	2	< 2	< 1	9	2	< 1	46	0.222	0.255	521449	16.98	0.60
521450	38.54	0.99	8.42	0.158	38.11	1.85	< 0.01	< 0.01	0.011	< 0.01	11.31	99.42	< 2	< 2	< 1	11	< 2	< 1	45	0.221	0.238	521450	13.22	0.43
521451	38.15	0.94	7.66	0.106	40.12	0.58	< 0.01	< 0.01	0.010	0.02	11.91	99.49	3	< 2	< 1	7	< 2	< 1	30	0.237	0.247	521451	15.34	0.47
521452	38.47	0.96	7.74	0.104	40.40	0.52	< 0.01	< 0.01	0.010	0.01	12.44	100.7	2	< 2	< 1	7	4	< 1	29	0.246	0.226	521452	15.04	0.53
521453	38.16	0.95	7.93	0.114	40.00	0.73	< 0.01	< 0.01	0.011	< 0.01	12.22	100.1	< 2	< 2	< 1	8	< 2	< 1	33	0.238	0.228	521453	17.37	0.45
521454	38.05	0.99	8.26	0.113	38.42	1.11	< 0.01	< 0.01	0.011	0.01	12.28	99.25	3	< 2	< 1	10	< 2	< 1	37	0.212	0.223	521454	13.44	0.29
521455	37.97	1.04	7.96	0.111	38.52	0.96	< 0.01	< 0.01	0.011	< 0.01	12.39	98.97	2	< 2	< 1	10	< 2	< 1	39	0.251	0.231	521455	15.45	0.35
521456	37.55	0.85	7.82	0.141	39.12	1.45	< 0.01	< 0.01	0.009	< 0.01	11.79	98.73	< 2	< 2	< 1	9	< 2	< 1	35	0.200	0.238	521456	14.35	0.52
521457	37.75	1.10	8.17	0.103	39.03	0.98	0.01	< 0.01	0.011	0.01	12.86	100.0	< 2	< 2	< 1	10	2	< 1	43	0.215	0.232	521457	16.87	0.37
521458	37.87	1.09	8.18	0.120	38.63	1.19	0.01	< 0.01	0.012	< 0.01	12.78	99.88	2	< 2	< 1	9	< 2	< 1	44	0.243	0.252	521458	15.27	0.37
521459	38.05	1.09	8.58	0.120	38.87	0.98	< 0.01	< 0.01	0.011	0.01	12.97	100.7	6	< 2	< 1	11	2	< 1	46	0.236	0.271	521459	18.37	0.40
521460	98.41	0.30	0.71	< 0.001	0.03	0.02	0.02	0.04	0.033	< 0.01	0.12	99.70	24	4	2	< 1	47	< 1	7	< 0.010	< 0.010	521460	98.55	0.27
521461	38.12	1.16	8.10	0.122	38.55	1.59	< 0.01	< 0.01	0.010	< 0.01	12.92	100.6	2	< 2	< 1	11	< 2	< 1	48	0.243	0.237	521461	19.50	0.64
521462	37.86	1.23	7.63	0.107	38.72	1.35	< 0.01	< 0.01	0.010	< 0.01	13.82	100.7	< 2	< 2	< 1	9	< 2	< 1	46	0.244	0.207	521462	15.79	0.55
521463	37.31	1.13	8.29	0.108	39.09	0.91	< 0.01	< 0.01	0.010	< 0.01	13.45	100.3	< 2	< 2	< 1	10	< 2	< 1	41	0.235	0.247	521463	16.14	0.59
521464	37.25	1.13	7.85	0.120	37.89	1.93	< 0.01	< 0.01	0.011	< 0.01	13.50	99.68	< 2	< 2	< 1	10	< 2	< 1	48	0.224	0.247	521464	18.00	0.62
521465	37.27	1.11	8.11	0.119	37.60	1.65	< 0.01	< 0.01	0.010	< 0.01	13.04	98.91	< 2	< 2	< 1	10	2	< 1	47	0.186	0.275	521465	19.02	0.60
521466	37.74	1.15	7.58	0.112	37.19	1.93	< 0.01	< 0.01	0.011	< 0.01	13.24	98.96	< 2	< 2	< 1	10	3	< 1	53	0.199	0.268	521466	18.16	0.57
521467	38.31	1.18	8.69	0.110	37.63	0.89	0.01	< 0.01	0.010	< 0.01	12.80	99.63	3	< 2	< 1	11	5	< 1	45	0.199	0.248	521467	14.23	0.54
521468	37.12	0.96	8.53	0.141	37.77	1.27	< 0.01	< 0.01	0.009	< 0.01	13.79	99.60	< 2	< 2	< 1	10	2	< 1	45	0.196	0.269	521468	15.59	0.48
521469	38.25	0.91	8.02	0.107	38.46	1.18	< 0.01	< 0.01	0.006	< 0.01	13.51	100.4	< 2	< 2	< 1	9	3	< 1	45	0.211	0.258	521469	13.85	0.44
521470	37.44	0.74	7.69	0.101	38.46	0.85	0.01	< 0.01	0.005	< 0.01	13.82	99.13	< 2	3	< 1	8	3	< 1	36	0.190	0.264	521470	11.52	0.40

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521471	38.27	0.69	7.39	0.103	40.58	0.25	0.01	< 0.01	0.003	< 0.01	13.34	100.7	< 2	< 2	< 1	7	2	< 1	36	0.215	0.272	521471	15.43	0.82
521472	37.23	0.75	8.39	0.117	39.51	0.45	0.01	< 0.01	0.005	< 0.01	13.66	100.1	< 2	< 2	< 1	9	2	< 1	37	0.218	0.253	521472	14.48	0.31
521473	37.08	0.64	8.38	0.119	39.74	0.27	0.01	< 0.01	0.007	< 0.01	13.46	99.71	2	< 2	< 1	10	4	< 1	35	0.215	0.314	521473	14.27	0.46
521474	37.48	0.67	7.84	0.104	38.63	0.74	0.01	< 0.01	0.006	< 0.01	13.38	98.86	2	< 2	< 1	8	4	< 1	34	0.207	0.288	521474	13.93	0.54
521475	36.93	0.67	7.93	0.113	38.15	0.89	0.01	< 0.01	0.008	< 0.01	13.56	98.26	< 2	2	< 1	9	3	< 1	34	0.200	0.273	521475	17.36	0.48
521476	37.53	0.58	8.00	0.099	40.10	0.27	< 0.01	< 0.01	0.005	< 0.01	13.58	100.2	< 2	< 2	< 1	7	3	< 1	30	0.225	0.285	521476	14.64	0.49
521477	36.80	0.57	7.84	0.095	40.36	0.18	< 0.01	< 0.01	0.006	< 0.01	13.80	99.66	< 2	< 2	< 1	6	3	< 1	27	0.232	0.312	521477	12.05	0.61
521478	39.05	0.60	8.05	0.135	39.95	0.52	< 0.01	< 0.01	0.005	< 0.01	12.42	100.7	< 2	< 2	1	8	4	< 1	30	0.221	0.254	521478	19.16	0.46
521479	49.88	15.05	11.15	0.177	6.95	9.79	4.42	0.16	1.467	0.11	1.45	> 101.0	18	163	30	38	91	< 1	332	0.011	0.023	521479		
521480.1	49.32	16.23	11.91	0.163	4.92	7.80	2.33	2.74	1.202	0.44	0.84	97.90	711	545	21	26	98	2	331	0.230	1.044	521480	49.01	16.18
521480.2																						521480	36.36	2.42
521480.3																						521480	17.87	0.41
521481	49.40	11.61	11.98	0.184	11.22	7.77	3.79	0.19	1.625	0.11	2.87	100.7	15	88	33	34	93	< 1	358	0.044	0.040	521481		
521482	39.45	2.50	6.87	0.161	28.77	4.48	0.05	0.02	0.216	0.03	15.04	97.59	2	12	5	9	14	< 1	74	0.166	0.203	521482		
521483	39.90	1.09	8.01	0.116	37.52	0.23	0.02	< 0.01	0.012	< 0.01	11.92	98.83	< 2	< 2	< 1	9	< 2	< 1	35	0.210	0.232	521483	15.43	0.70
521484	38.94	1.08	7.06	0.087	37.07	0.63	0.03	< 0.01	0.009	0.02	15.64	100.6	< 2	4	< 1	8	< 2	< 1	39	0.204	0.219	521484	19.49	1.06
521485	37.30	1.53	6.93	0.090	35.13	0.63	0.04	0.02	0.014	< 0.01	18.16	99.85	6	5	< 1	8	3	< 1	37	0.190	0.241	521485	11.11	1.17
521486	38.96	0.83	7.79	0.130	38.22	0.98	0.01	< 0.01	0.006	< 0.01	13.07	99.98	< 2	2	< 1	10	3	< 1	38	0.209	0.288	521486	17.20	0.51
521487	37.86	0.82	7.40	0.090	38.05	0.95	0.01	< 0.01	0.005	< 0.01	14.01	99.20	< 2	< 2	< 1	9	< 2	< 1	39	0.199	0.265	521487	16.74	0.67
521488	38.58	0.93	7.61	0.078	38.93	0.66	< 0.01	< 0.01	0.004	< 0.01	13.82	100.6	< 2	< 2	< 1	9	2	< 1	42	0.186	0.240	521488	15.68	0.61
521489	36.67	0.66	7.26	0.110	38.23	0.32	< 0.01	< 0.01	0.010	< 0.01	14.29	97.57	< 2	< 2	< 1	5	2	< 1	28	0.202	0.242	521489	12.46	0.60
521490	38.21	0.82	7.59	0.097	38.90	0.70	< 0.01	< 0.01	0.006	< 0.01	13.35	99.69	< 2	< 2	< 1	9	2	< 1	37	0.206	0.279	521490	14.42	0.44
521491	36.62	0.62	6.77	0.116	37.77	0.79	0.01	< 0.01	0.005	< 0.01	16.50	99.22	< 2	2	< 1	6	4	< 1	27	0.200	0.224	521491	11.35	0.37
521492	36.30	0.74	8.18	0.114	37.78	1.03	< 0.01	< 0.01	0.005	< 0.01	13.53	97.69	< 2	< 2	< 1	8	< 2	< 1	37	0.213	0.281	521492	14.99	0.36
521493	37.32	0.73	8.08	0.118	39.41	0.70	< 0.01	< 0.01	0.004	< 0.01	12.30	98.68	< 2	< 2	< 1	9	2	< 1	37	0.210	0.260	521493	13.20	0.35
521494	38.01	0.75	7.48	0.099	39.17	0.66	< 0.01	< 0.01	0.005	< 0.01	12.73	98.92	< 2	< 2	< 1	8	4	< 1	39	0.217	0.276	521494	15.27	0.31
521495	38.28	0.75	7.53	0.101	39.49	0.67	< 0.01	< 0.01	0.005	< 0.01	12.57	99.41	< 2	< 2	< 1	9	2	< 1	36	0.195	0.270	521495	16.05	0.26
521496	38.22	0.72	7.58	0.118	39.52	0.69	0.01	< 0.01	0.005	< 0.01	13.22	100.1	< 2	< 2	< 1	7	3	< 1	36	0.221	0.272	521496	16.38	0.29
521497	37.74	0.80	8.83	0.099	39.11	0.48	< 0.01	< 0.01	0.005	< 0.01	13.32	100.4	< 2	< 2	< 1	9	3	< 1	42	0.216	0.307	521497	11.50	0.38
521498	38.46	0.80	8.32	0.117	39.61	0.55	0.01	< 0.01	0.004	< 0.01	13.02	100.9	< 2	< 2	< 1	9	2	< 1	41	0.210	0.264	521498	15.98	0.22
521499	38.20	0.68	8.06	0.128	39.34	0.79	0.01	< 0.01	0.004	< 0.01	13.03	100.2	< 2	< 2	< 1	9	2	< 1	36	0.162	0.267	521499	15.43	0.27
521500	97.50	0.30	0.59	0.006	0.05	< 0.01	0.01	0.05	0.031	< 0.01	0.14	98.70	26	4	2	< 1	54	< 1	6	< 0.010	< 0.010	521500	98.47	0.26
521501	37.82	0.74	8.05	0.114	38.90	1.29	0.01	< 0.01	0.005	< 0.01	13.94	100.9	3	< 2	< 1	8	2	< 1	38	0.211	0.275	521501	14.09	0.18
521502	38.15	0.79	7.19	0.099	38.96	1.04	0.01	< 0.01	0.004	< 0.01	13.53	99.77	< 2	< 2	< 1	8	< 2	< 1	39	0.196	0.287	521502	16.01	0.66
521503	37.60	0.67	7.86	0.116	38.77	0.69	< 0.01	< 0.01	0.004	< 0.01	13.43	99.14	< 2	< 2	< 1	9	2	< 1	36	0.177	0.262	521503	20.04	0.44
521504	38.09	0.78	8.18	0.111	38.90	0.67	< 0.01	< 0.01	0.005	< 0.01	12.58	99.33	< 2	< 2	< 1	9	2	< 1	41	0.202	0.245	521504	17.54	0.48
521505	38.10	0.70	8.28	0.124	38.75	0.77	0.01	< 0.01	0.005	< 0.01	12.18	98.94	< 2	< 2	< 1	9	4	< 1	38	0.195	0.282	521505	17.01	0.65
521506	37.65	0.75	7.73	0.112	38.51	0.61	0.01	< 0.01	0.004	< 0.01	12.80	98.20	< 2	< 2	< 1	9	2	< 1	38	0.198	0.285	521506	15.85	0.99
521507	37.79	0.62	8.41	0.145	38.61	0.84	0.01	< 0.01	0.005	< 0.01	12.00	98.43	< 2	< 2	1	9	3	< 1	34	0.209	0.299	521507	12.76	0.30
521508	37.84	0.83	7.63	0.110	38.32	0.58	< 0.01	< 0.01	0.005	< 0.01	12.77	98.10	< 2	< 2	< 1	10	2	< 1	41	0.193	0.288	521508	14.32	0.57
521509	38.25	0.78	7.62	0.100	38.39	0.79	0.01	< 0.01	0.005	< 0.01	12.66	98.61	< 2	< 2	< 1	8	3	< 1	40	0.195	0.242	521509	12.39	0.48
521510	38.08	0.72	7.63	0.112	39.05	0.79	0.01	< 0.01	0.005	< 0.01	13.20	99.59	< 2	< 2	< 1	8	2	< 1	36	0.188	0.266	521510	12.93	0.45
521511	38.54	0.83	8.12	0.110	39.02	0.53	0.04	0.02	0.005	0.02	12.93	100.2	< 2	< 2	< 1	9	2	< 1	41	0.183	0.254	521511	15.91	0.47
521512	38.45	0.74	8.83	0.135	36.75	1.51	0.01	< 0.01	0.007	< 0.01	12.81	99.23	5	< 2	1	10	15	< 1	55	0.183	0.274	521512	15.29	0.41
521513	37.84	0.88	7.75	0.094	37.30	1.31	< 0.01	< 0.01	0.005	0.01	13.46	98.66	< 2	< 2	< 1	9	2	< 1	43	0.208	0.243	521513	13.67	0.33
521514	37.31	0.66	8.27	0.133	37.65	0.93	0.01	< 0.01	0.004	< 0.01	13.40	98.36	< 2	< 2	< 1	9	2	< 1	39	0.192	0.237	521514	14.69	0.14
521515	37.09	0.62	8.62	0.133	37.60	0.54	< 0.01	< 0.01	0.004	0.01	13.21	97.84	< 2	< 2	< 1	9	2	< 1	39	0.190	0.231	521515	16.02	0.14
521516	37.19	0.62	8.17	0.128	37.52	0.60	0.01	< 0.01	0.004	< 0.01	13.29	97.54	< 2	< 2	< 1	8	3	< 1	38	0.182	0.241	521516	13.99	0.18
521517	39.83	0.71	7.72	0.116	39.47	0.38	< 0.01	< 0.01	0.005	< 0.01	12.51	100.7	4	< 2	< 1	10	8	< 1	51	0.183	0.268	521517	12.44	0.27
521518	37.31	0.66	8.42	0.122	37.02	1.31	< 0.01	0.01	0.005	< 0.01	13.08	97.96	3	2	< 1	8	5	< 1	32	0.192	0.208	521518	16.62	0.18
521519	37.49	0.84	7.06	0.104	36.89	1.56	< 0.01	< 0.01	0.007	0.01	13.63	97.60	< 2	< 2	< 1	9	< 2	< 1	43	0.169	0.225	521519	13.77	0.40

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521520.1	49.04	16.02	11.82	0.165	4.87	7.77	2.26	2.76	1.187	0.44	0.79	97.12	707	533	21	25	102	2	330	0.226	1.032	521520	48.84	15.96
521520.2																						521520	36.58	2.47
521520.3																						521520	18.11	0.55
521521	36.91	0.78	8.01	0.110	38.03	1.07	< 0.01	< 0.01	0.005	< 0.01	13.57	98.49	< 2	< 2	< 1	9	3	< 1	41	0.204	0.255	521521	14.98	0.44
521522	37.54	0.81	7.33	0.104	37.47	1.09	0.01	< 0.01	0.004	< 0.01	13.64	98.01	< 2	< 2	< 1	8	2	< 1	38	0.188	0.218	521522	17.08	0.33
521523	37.62	0.85	7.18	0.102	37.45	0.89	< 0.01	< 0.01	0.004	< 0.01	13.73	97.84	4	< 2	< 1	9	< 2	< 1	40	0.181	0.226	521523	15.12	0.49
521524	39.42	0.67	7.75	0.119	39.96	1.05	0.01	< 0.01	0.005	0.01	8.53	97.53	9	< 2	< 1	9	2	< 1	39	0.180	0.233	521524	21.80	0.56
521525	39.60	0.76	7.45	0.112	39.18	1.25	< 0.01	< 0.01	0.005	0.01	9.05	97.43	4	< 2	< 1	10	< 2	< 1	43	0.187	0.250	521525	18.32	0.52
521526	39.95	0.90	8.25	0.118	40.01	0.56	< 0.01	< 0.01	0.006	< 0.01	10.80	100.6	6	< 2	< 1	10	6	< 1	59	0.207	0.253	521526	15.75	0.54
521527	39.52	0.68	8.09	0.116	39.71	0.82	< 0.01	< 0.01	0.005	< 0.01	9.78	98.74	2	< 2	< 1	9	5	< 1	38	0.177	0.251	521527	15.31	0.48
521528	40.01	0.78	8.32	0.126	40.38	0.46	< 0.01	< 0.01	0.005	< 0.01	9.83	99.88	5	< 2	< 1	10	7	< 1	56	0.223	0.259	521528	18.64	0.47
521529	40.63	0.70	8.25	0.125	40.67	0.96	< 0.01	< 0.01	0.005	< 0.01	8.43	99.78	5	< 2	< 1	10	4	< 1	58	0.226	0.252	521529	15.04	0.12
521530	41.88	0.75	8.16	0.125	41.38	1.35	0.01	< 0.01	0.005	< 0.01	6.59	100.3	7	< 2	2	10	8	< 1	62	0.235	0.256	521530	27.44	0.31
521531	40.22	0.80	8.36	0.121	41.35	1.05	< 0.01	< 0.01	0.005	< 0.01	6.95	98.86	9	< 2	< 1	10	< 2	< 1	43	0.223	0.280	521531	26.95	0.57
521532	39.86	0.67	7.76	0.115	39.94	0.93	< 0.01	< 0.01	0.004	< 0.01	8.41	97.70	2	< 2	< 1	9	3	< 1	37	0.207	0.237	521532	24.49	0.02
521533	38.62	1.10	7.63	0.101	38.72	0.20	< 0.01	< 0.01	0.006	< 0.01	11.84	98.19	3	< 2	< 1	9	8	< 1	55	0.248	0.250	521533	14.01	0.28
521534	40.41	0.74	7.74	0.114	40.52	1.05	0.01	< 0.01	0.004	0.01	6.94	97.55	3	< 2	< 1	10	< 2	< 1	39	0.215	0.240	521534	28.88	0.58
521535	39.43	0.72	7.74	0.108	41.06	0.48	< 0.01	< 0.01	0.005	< 0.01	8.09	97.63	2	< 2	< 1	7	< 2	< 1	30	0.209	0.208	521535	21.29	0.55
521536	40.40	0.68	7.55	0.110	40.58	0.54	< 0.01	< 0.01	0.005	0.01	7.87	97.76	2	< 2	< 1	8	< 2	< 1	30	0.219	0.212	521536	28.23	0.34
521537	40.21	1.35	7.62	0.121	36.97	0.33	< 0.01	< 0.01	0.012	< 0.01	11.98	98.57	4	< 2	2	9	11	< 1	61	0.208	0.261	521537	12.66	0.55
522400	96.67	0.30	0.93	0.009	0.02	0.05	0.01	0.04	0.030	< 0.01	-0.03	98.05	23	7	1	< 1	51	< 1	7	< 0.010	< 0.010	522400	98.49	0.32
522401	38.11	0.80	9.14	0.126	38.96	0.07	< 0.01	< 0.01	0.005	< 0.01	11.70	98.93	< 2	< 2	< 1	8	< 2	< 1	32	0.212	0.249	522401	14.19	0.63
522402	39.62	0.59	8.13	0.130	40.82	0.11	< 0.01	< 0.01	0.006	< 0.01	10.87	100.3	4	< 2	2	5	7	< 1	45	0.241	0.471	522402	10.79	0.28
522403	38.18	0.65	8.45	0.133	39.79	0.53	< 0.01	< 0.01	0.005	< 0.01	10.87	98.61	< 2	< 2	< 1	8	< 2	< 1	34	0.217	0.249	522403	13.19	0.47
522404	38.02	0.75	8.69	0.102	39.54	0.58	< 0.01	< 0.01	0.004	0.02	12.97	100.7	< 2	< 2	< 1	9	14	< 1	50	0.247	0.268	522404	14.50	0.61
522405	38.83	0.69	8.06	0.117	40.11	0.76	< 0.01	< 0.01	0.003	0.03	12.09	100.7	< 2	< 2	< 1	8	11	< 1	47	0.251	0.253	522405	14.86	0.70
522406	39.37	0.65	8.01	0.125	40.75	0.45	0.01	< 0.01	0.004	< 0.01	11.32	100.7	4	< 2	< 1	7	7	< 1	47	0.190	0.243	522406	16.51	0.67
522407	38.34	0.72	7.94	0.115	39.50	1.04	< 0.01	< 0.01	0.003	0.05	12.16	99.88	< 2	< 2	2	9	11	< 1	48	0.221	0.241	522407	14.32	0.51
522408	38.04	0.64	8.08	0.112	40.20	0.53	< 0.01	< 0.01	0.003	< 0.01	12.43	100.1	< 2	< 2	< 1	8	16	< 1	32	0.221	0.253	522408	15.64	0.54
522409	39.14	0.68	7.66	0.112	39.82	0.20	< 0.01	< 0.01	0.003	0.01	11.43	99.06	< 2	< 2	< 1	7	< 2	< 1	28	0.201	0.236	522409	12.86	0.66
522410	35.54	1.08	9.16	0.122	34.47	3.48	< 0.01	< 0.01	0.428	0.03	13.69	98.02	< 2	3	8	16	22	< 1	105	0.171	0.223	522410	9.43	0.74
522411	37.17	0.73	8.31	0.101	38.57	0.65	< 0.01	< 0.01	0.005	< 0.01	12.44	97.97	< 2	< 2	< 1	9	2	< 1	36	0.217	0.261	522411	14.45	0.37
522412	38.40	0.63	7.78	0.132	38.60	0.72	< 0.01	< 0.01	0.004	0.02	11.36	97.64	3	< 2	< 1	9	< 2	< 1	34	0.200	0.239	522412	20.72	0.34
522413	38.35	0.76	7.81	0.095	38.66	0.24	< 0.01	< 0.01	0.004	< 0.01	11.96	97.88	< 2	< 2	< 1	9	< 2	< 1	35	0.208	0.248	522413	14.20	0.43
522451	38.90	1.49	7.99	0.141	36.55	1.54	0.01	< 0.01	0.019	< 0.01	11.33	97.98	3	2	< 1	10	< 2	< 1	50	0.166	0.238	522451	19.77	0.95
522452	39.40	1.72	7.86	0.115	35.65	1.93	0.02	< 0.01	0.020	< 0.01	10.89	97.61	3	< 2	< 1	13	2	< 1	57	0.192	0.249	522452	14.72	0.82
522453	39.91	1.63	7.84	0.154	37.44	1.89	0.02	< 0.01	0.019	< 0.01	10.20	99.10	2	< 2	1	14	< 2	< 1	56	0.205	0.253	522453	16.18	1.00
522454	39.33	1.89	7.62	0.105	36.52	1.11	0.01	< 0.01	0.018	< 0.01	11.22	97.83	3	< 2	< 1	11	< 2	< 1	57	0.194	0.242	522454	19.61	1.13
522455	41.32	3.98	7.69	0.117	29.02	6.72	0.06	< 0.01	0.199	0.03	8.67	97.81	4	7	4	12	9	< 1	82	0.152	0.176	522455	12.03	1.83
522456	38.30	0.97	9.77	0.163	37.67	0.12	< 0.01	< 0.01	0.010	< 0.01	11.71	98.71	2	< 2	< 1	9	2	< 1	37	0.244	0.263	522456	17.35	0.55
522457	38.51	0.88	7.31	0.114	38.33	0.28	< 0.01	< 0.01	0.006	< 0.01	11.96	97.40	2	< 2	< 1	7	3	< 1	32	0.235	0.247	522457	17.40	0.56
522458	37.85	0.81	8.17	0.122	37.77	0.23	< 0.01	< 0.01	0.006	< 0.01	12.36	97.32	< 2	< 2	1	9	2	< 1	37	0.247	0.284	522458	15.68	0.34
522459	39.02	1.13	7.77	0.098	38.23	0.12	< 0.01	< 0.01	0.006	< 0.01	11.12	97.49	2	< 2	1	10	3	< 1	42	0.272	0.252	522459	21.21	0.50
522460.1	49.31	16.39	11.91	0.166	4.89	7.76	2.26	2.80	1.197	0.44	0.53	97.64	714	537	20	25	103	2	331	0.228	1.041	522460	49.34	16.07
522460.2																						522460	36.51	2.42
522460.3																						522460	18.17	0.54
522461	39.57	0.84	8.02	0.136	39.83	0.04	< 0.01	< 0.01	0.006	< 0.01	10.63	99.10	4	< 2	< 1	9	< 2	< 1	32	0.216	0.259	522461	16.31	0.42
522462	41.42	1.76	7.19	0.105	35.08	0.68	< 0.01	< 0.01	0.005	< 0.01	11.16	97.40	3	< 2	< 1	9	3	< 1	38	0.226	0.239	522462	16.05	0.82
522463	38.86	1.04	8.03	0.120	37.44	0.06	< 0.01	< 0.01	0.010	< 0.01	11.99	97.55	3	< 2	< 1	9	3	< 1	42	0.238	0.270	522463	14.23	0.64
522464	39.57	1.65	8.69	0.104	35.86	0.12	< 0.01	< 0.01	0.155	0.02	11.80	97.96	2	< 2	2	12	6	< 1	70	0.237	0.209	522464	9.82	0.76
522465	39.21	1.01	8.09	0.126	37.12	0.06	< 0.01	< 0.01	0.007	< 0.01	11.88	97.50	2	< 2	< 1	10	2	< 1	42	0.263	0.256	522465	13.90	0.36

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
522466	39.99	2.76	10.22	0.158	29.96	4.22	0.05	< 0.01	0.558	0.10	9.77	97.79	3	13	11	22	30	< 1	147	0.189	0.192	522466	19.13	0.68
522467	40.19	1.30	6.87	0.067	36.82	0.08	< 0.01	< 0.01	0.012	< 0.01	12.23	97.58	2	< 2	1	7	3	< 1	31	0.255	0.234	522467	12.71	0.69
522468	39.08	1.33	7.73	0.090	36.57	0.09	< 0.01	< 0.01	0.014	< 0.01	12.45	97.37	2	< 2	1	9	3	< 1	37	0.246	0.253	522468	16.13	0.42
522469	40.82	1.18	6.87	0.078	36.95	0.05	< 0.01	< 0.01	0.012	< 0.01	12.03	98.00	3	< 2	1	9	3	< 1	39	0.247	0.251	522469	12.46	0.50
522470	50.25	13.68	10.56	0.177	6.65	11.40	4.46	0.21	1.284	0.10	0.58	99.35	35	438	29	40	98	< 1	294	0.013	0.020	522470		
522471	38.52	0.85	8.27	0.122	38.32	0.05	< 0.01	< 0.01	0.008	< 0.01	11.80	97.95	2	< 2	< 1	8	4	< 1	32	0.234	0.245	522471	16.11	0.36
522472	39.57	1.05	7.81	0.103	37.04	0.06	< 0.01	< 0.01	0.006	< 0.01	11.72	97.37	< 2	< 2	< 1	9	30	< 1	41	0.242	0.262	522472	16.59	0.54
522473	42.15	0.86	6.91	0.098	35.27	0.12	< 0.01	< 0.01	0.007	< 0.01	11.97	97.38	2	< 2	< 1	6	3	< 1	24	0.241	0.219	522473		
522474	37.13	7.04	9.82	0.137	28.66	2.86	0.04	< 0.01	0.662	0.03	10.73	97.11	< 2	11	14	23	38	< 1	167	0.127	0.171	522474		
522475	38.06	8.31	10.82	0.148	28.65	2.90	0.05	< 0.01	0.825	0.02	10.52	100.3	2	10	15	27	47	< 1	193	0.125	0.159	522475		
522476	39.58	0.93	8.08	0.123	39.46	0.10	< 0.01	< 0.01	0.008	< 0.01	12.41	100.7	< 2	< 2	< 1	9	< 2	< 1	36	0.268	0.253	522476	15.50	0.37
522477	38.77	0.78	8.37	0.143	38.23	0.85	< 0.01	< 0.01	0.005	< 0.01	11.56	98.71	< 2	< 2	< 1	10	3	< 1	43	0.233	0.283	522477	13.23	0.28
522478	37.12	0.76	8.58	0.111	38.37	0.28	< 0.01	< 0.01	0.006	< 0.01	12.67	97.91	8	< 2	< 1	10	3	< 1	37	0.274	0.243	522478	19.02	0.37
522479	37.16	0.77	7.49	0.074	39.13	0.13	< 0.01	< 0.01	0.005	< 0.01	13.53	98.30	2	< 2	< 1	8	3	< 1	35	0.240	0.243	522479	14.94	0.40
522480	98.33	0.29	1.03	0.009	0.02	0.02	0.02	0.04	0.029	< 0.01	0.23	100.0	25	3	3	< 1	52	< 1	5	< 0.010	< 0.010	522480	98.38	0.36
522481	36.69	0.71	8.79	0.129	38.06	0.87	< 0.01	< 0.01	0.006	< 0.01	12.07	97.34	< 2	< 2	< 1	11	2	< 1	37	0.231	0.287	522481	15.43	0.43
522482	37.65	0.66	9.01	0.163	38.20	1.37	< 0.01	< 0.01	0.006	< 0.01	10.71	97.78	< 2	< 2	< 1	10	2	< 1	36	0.258	0.250	522482	16.12	0.37
522483	37.96	0.74	8.17	0.141	38.20	1.20	< 0.01	< 0.01	0.006	< 0.01	11.58	98.00	< 2	< 2	< 1	9	2	< 1	38	0.246	0.260	522483	22.47	0.33
522484	37.89	0.78	7.68	0.102	38.67	0.29	< 0.01	< 0.01	0.006	< 0.01	13.46	98.87	2	< 2	< 1	9	2	< 1	38	0.242	0.281	522484	18.23	0.47
522485	38.32	0.62	8.90	0.160	38.65	1.63	< 0.01	< 0.01	0.005	< 0.01	11.48	99.77	< 2	< 2	< 1	10	< 2	< 1	34	0.248	0.232	522485	18.09	0.47
522486	37.77	0.81	8.92	0.113	37.42	0.76	< 0.01	< 0.01	0.005	< 0.01	12.06	97.87	< 2	< 2	< 1	9	2	< 1	39	0.252	0.254	522486	22.32	0.57
522487	37.93	0.87	8.74	0.132	38.05	0.73	< 0.01	< 0.01	0.006	< 0.01	12.08	98.53	< 2	< 2	< 1	11	3	< 1	40	0.245	0.276	522487	17.37	0.60
522488	38.10	0.85	8.79	0.124	39.40	0.38	< 0.01	< 0.01	0.005	< 0.01	11.96	99.61	< 2	< 2	< 1	10	< 2	< 1	41	0.219	0.270	522488	21.55	0.68
522489	37.94	0.82	8.20	0.120	38.09	0.24	< 0.01	< 0.01	0.005	< 0.01	12.11	97.53	2	< 2	< 1	10	4	< 1	41	0.254	0.262	522489	22.03	0.68
522490	37.22	3.18	8.13	0.088	36.04	1.39	< 0.01	< 0.01	0.057	< 0.01	11.67	97.79	< 2	< 2	1	10	4	< 1	59	0.188	0.231	522490	7.68	1.36
522491	37.64	0.60	9.49	0.227	37.83	0.55	< 0.01	< 0.01	0.007	< 0.01	11.56	97.90	5	< 2	< 1	11	2	< 1	33	0.254	0.260	522491	15.70	0.48
522492	38.79	1.27	8.25	0.098	36.98	0.09	< 0.01	< 0.01	0.017	< 0.01	12.62	98.11	< 2	< 2	< 1	8	3	< 1	42	0.252	0.255	522492	18.45	0.74
522493	38.90	1.53	8.31	0.092	36.79	0.07	< 0.01	< 0.01	0.021	< 0.01	12.13	97.84	2	< 2	1	9	3	< 1	39	0.250	0.256	522493	21.76	1.04
522494	40.08	4.92	6.92	0.097	33.23	2.21	0.04	< 0.01	0.035	< 0.01	11.17	98.70	3	5	2	8	3	< 1	41	0.199	0.218	522494	24.60	1.16
522495	39.86	3.98	7.22	0.096	33.84	1.28	0.02	< 0.01	0.023	< 0.01	11.55	97.88	8	4	2	8	3	< 1	35	0.244	0.227	522495	21.62	0.66
522496	43.37	12.20	13.27	0.209	6.58	15.09	2.71	0.42	1.821	0.02	2.22	97.92	80	728	42	41	115	< 1	380	0.014	0.015	522496		
522497	39.45	1.32	8.26	0.096	36.37	0.08	0.01	< 0.01	0.016	< 0.01	11.75	97.35	2	< 2	< 1	10	3	< 1	51	0.244	0.261	522497	13.82	0.81
522498	39.85	1.49	8.61	0.125	37.42	1.10	< 0.01	< 0.01	0.013	< 0.01	11.21	99.82	< 2	< 2	< 1	12	< 2	< 1	49	0.187	0.262	522498	19.91	0.82
522499	38.25	1.39	8.06	0.115	36.96	0.34	< 0.01	< 0.01	0.013	< 0.01	12.27	97.40	3	< 2	< 1	11	2	< 1	49	0.242	0.260	522499	18.86	0.82
522500.1	49.29	16.07	11.89	0.165	4.81	7.83	2.25	2.79	1.190	0.43	0.82	97.53	711	537	20	25	97	2	334	0.229	1.041	522500	49.02	16.24
522500.2																						522500	36.29	2.36
522500.3																						522500	18.24	0.61
522501	39.80	1.33	7.93	0.114	38.50	1.08	0.01	< 0.01	0.015	< 0.01	11.90	100.7	2	< 2	1	11	3	< 1	50	0.257	0.251	522501	14.61	0.66
522502	39.35	1.33	8.39	0.120	38.14	0.48	< 0.01	< 0.01	0.012	< 0.01	12.41	100.2	< 2	< 2	< 1	11	2	< 1	43	0.218	0.241	522502	24.65	0.85
522503	39.86	1.35	8.44	0.103	37.76	0.47	< 0.01	< 0.01	0.012	0.02	11.96	99.96	< 2	< 2	< 1	11	2	< 1	47	0.196	0.252	522503	17.76	0.78
522504	39.90	1.25	8.16	0.157	38.47	0.54	0.01	< 0.01	0.013	< 0.01	12.15	100.7	< 2	< 2	< 1	10	< 2	< 1	46	0.173	0.252	522504	21.13	0.84
522505	39.32	1.32	8.89	0.101	37.87	0.21	< 0.01	< 0.01	0.013	< 0.01	12.35	100.1	< 2	< 2	< 1	10	2	< 1	44	0.184	0.261	522505	11.61	0.59
522506	39.29	1.15	9.54	0.140	37.52	0.68	< 0.01	< 0.01	0.014	< 0.01	11.69	100.0	< 2	< 2	< 1	11	4	< 1	38	0.181	0.228	522506	20.64	0.86
522507	40.11	1.98	7.83	0.108	36.94	1.03	0.03	< 0.01	0.018	< 0.01	11.91	99.96	< 2	< 2	< 1	11	< 2	< 1	50	0.184	0.250	522507	23.26	0.97
522508	39.10	1.09	7.79	0.142	38.24	0.99	< 0.01	< 0.01	0.014	0.02	12.03	99.42	< 2	< 2	< 1	8	< 2	< 1	34	0.187	0.238	522508	22.79	0.63
522509	39.09	1.30	7.97	0.115	37.48	1.85	0.01	< 0.01	0.015	0.01	11.87	99.71	< 2	< 2	< 1	10	< 2	< 1	46	0.185	0.240	522509	17.17	0.52
522510	39.31	1.26	7.63	0.103	38.95	0.55	< 0.01	< 0.01	0.010	< 0.01	12.52	100.3	< 2	< 2	< 1	8	3	< 1	36	0.200	0.261	522510	20.73	0.83
522511	39.33	1.33	8.33	0.121	37.90	1.47	< 0.01	< 0.01	0.016	< 0.01	11.38	99.88	< 2	< 2	1	10	2	< 1	48	0.201	0.245	522511	17.53	0.60
522512	39.21	1.73	7.86	0.097	37.99	1.22	< 0.01	< 0.01	0.017	< 0.01	12.04	100.2	< 2	< 2	< 1	10	2	< 1	49	0.192	0.256	522512	15.71	0.81
522513	39.37	1.34	7.75	0.102	38.70	0.79	0.03	< 0.01	0.012	< 0.01	12.38	100.5	< 2	< 2	< 1	8	< 2	< 1	37	0.194	0.259	522513	22.58	0.71
522514	39.78	1.69	8.37	0.100	37.51	0.64	0.06	0.02	0.018	0.02	12.31	100.5	< 2	< 2	< 1	11	2	< 1	54	0.197	0.249	522514	15.61	0.63

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
522515	39.73	1.54	8.57	0.101	37.69	0.79	< 0.01	< 0.01	0.017	< 0.01	12.21	100.7	< 2	< 2	< 1	12	2	< 1	53	0.190	0.251	522515	25.47	1.02
522516	39.57	1.41	7.85	0.129	37.74	1.77	0.01	< 0.01	0.017	< 0.01	12.28	100.8	< 2	< 2	< 1	10	< 2	< 1	48	0.179	0.257	522516	23.86	0.98
522517	39.59	1.59	8.30	0.107	37.57	1.26	0.01	< 0.01	0.017	0.01	12.00	100.5	< 2	< 2	< 1	10	3	< 1	54	0.178	0.243	522517	20.13	0.94
522518	39.79	1.64	7.68	0.088	38.47	0.67	< 0.01	< 0.01	0.019	0.02	12.42	100.8	< 2	< 2	< 1	9	< 2	< 1	44	0.204	0.242	522518	16.78	0.92
522519	40.22	1.50	7.90	0.126	37.45	2.01	0.02	< 0.01	0.018	0.03	11.05	100.3	< 2	< 2	< 1	10	< 2	< 1	55	0.167	0.250	522519	24.93	0.94
522520.1	49.36	16.11	12.01	0.166	4.87	7.82	2.25	2.80	1.173	0.43	0.85	97.84	714	537	20	25	102	2	331	0.232	1.047	522520	49.06	16.18
522520.2																						522520	36.43	2.38
522520.3																						522520	17.85	0.47
522521	39.31	1.27	8.11	0.139	36.86	1.91	0.01	< 0.01	0.016	0.02	11.15	98.80	< 2	< 2	< 1	11	< 2	< 1	44	0.191	0.258	522521	21.81	0.86
522522	39.16	1.41	7.54	0.102	37.33	1.09	0.01	< 0.01	0.017	< 0.01	12.14	98.80	< 2	< 2	< 1	10	< 2	< 1	42	0.188	0.229	522522	24.31	0.91
522523	39.32	1.66	8.27	0.097	37.23	1.20	< 0.01	< 0.01	0.017	< 0.01	11.86	99.68	< 2	< 2	< 1	12	< 2	< 1	51	0.194	0.248	522523	23.45	1.05
522524	39.43	1.63	7.05	0.098	37.33	0.94	< 0.01	< 0.01	0.016	< 0.01	12.05	98.55	< 2	< 2	< 1	11	< 2	< 1	48	0.177	0.245	522524	22.81	1.03
522525	39.26	1.49	7.83	0.098	37.29	1.35	< 0.01	< 0.01	0.016	0.01	11.52	98.87	< 2	< 2	< 1	11	< 2	< 1	46	0.186	0.240	522525	16.14	0.72
522526	39.80	1.51	7.95	0.132	36.29	2.09	< 0.01	< 0.01	0.017	< 0.01	10.94	98.75	< 2	< 2	< 1	13	< 2	< 1	51	0.179	0.249	522526	26.84	1.13
522527	40.36	1.64	8.13	0.112	36.31	2.43	0.01	< 0.01	0.018	0.01	10.88	99.90	< 2	< 2	< 1	13	3	< 1	52	0.165	0.250	522527	17.48	0.63
522528	39.41	1.74	8.23	0.102	36.52	1.51	< 0.01	< 0.01	0.017	0.01	11.48	99.03	< 2	< 2	< 1	11	2	< 1	53	0.186	0.244	522528	24.45	0.98
522529	40.37	1.44	8.01	0.146	35.70	3.36	0.02	< 0.01	0.020	0.01	10.69	99.78	< 2	< 2	< 1	12	7	< 1	53	0.201	0.240	522529	17.98	0.62
523301	39.09	1.17	8.05	0.137	37.97	0.95	< 0.01	< 0.01	0.018	0.01	11.79	99.19	< 2	< 2	< 1	8	2	< 1	35	0.212	0.226	523301	22.76	0.67
523302	39.32	1.25	8.21	0.123	37.78	1.31	< 0.01	< 0.01	0.018	< 0.01	11.75	99.78	< 2	< 2	< 1	10	2	< 1	41	0.202	0.268	523302	16.93	0.81
523303	39.34	1.28	8.25	0.116	37.91	1.10	< 0.01	< 0.01	0.016	0.01	11.42	99.46	< 2	< 2	< 1	9	4	< 1	43	0.188	0.245	523303	15.52	0.71
523304	39.96	1.21	8.31	0.129	37.02	2.55	0.01	< 0.01	0.017	< 0.01	11.00	100.2	< 2	< 2	< 1	10	< 2	< 1	47	0.186	0.250	523304	16.94	0.71
523305	39.08	1.08	7.84	0.105	38.41	1.14	0.01	< 0.01	0.012	0.03	11.93	99.64	< 2	< 2	< 1	8	< 2	< 1	35	0.200	0.257	523305	19.98	0.64
523306	39.40	0.92	8.48	0.153	39.57	0.71	< 0.01	< 0.01	0.015	< 0.01	10.96	100.2	< 2	< 2	< 1	8	< 2	< 1	26	0.190	0.239	523306	19.68	0.77
523307	39.46	1.25	8.06	0.139	38.30	1.12	0.05	0.02	0.015	< 0.01	11.66	100.1	< 2	< 2	< 1	9	2	< 1	37	0.203	0.234	523307	20.65	0.65
523308	40.26	1.81	8.09	0.153	36.99	1.98	0.29	0.15	0.015	< 0.01	10.59	100.3	< 2	2	< 1	9	2	< 1	44	0.193	0.220	523308	21.48	0.54
523309	38.66	0.85	8.12	0.164	39.97	0.33	< 0.01	< 0.01	0.009	0.01	11.58	99.70	< 2	< 2	< 1	7	4	< 1	25	0.199	0.333	523309	19.75	0.98
523310	39.27	1.28	7.03	0.094	38.66	0.42	0.03	0.02	0.015	0.01	12.93	99.76	< 2	< 2	< 1	7	< 2	< 1	32	0.227	0.257	523310	18.08	0.80
523311	39.37	1.08	7.77	0.124	38.46	0.95	< 0.01	< 0.01	0.013	< 0.01	12.26	100.0	< 2	< 2	< 1	8	2	< 1	38	0.184	0.259	523311	15.05	0.61
523312	39.16	1.14	8.40	0.133	38.09	1.06	< 0.01	< 0.01	0.016	0.02	12.20	100.2	< 2	< 2	< 1	11	4	< 1	42	0.204	0.250	523312	15.46	0.62
523313	39.27	0.90	7.66	0.136	39.68	0.68	< 0.01	< 0.01	0.015	0.02	12.27	100.6	< 2	< 2	< 1	7	< 2	< 1	25	0.210	0.237	523313	17.46	0.57
523314	39.52	1.19	7.92	0.127	37.72	1.85	0.01	< 0.01	0.017	< 0.01	11.56	99.91	< 2	< 2	1	10	2	< 1	43	0.192	0.251	523314	12.54	0.48
523315	39.55	1.23	7.85	0.121	37.61	1.67	< 0.01	< 0.01	0.017	< 0.01	11.73	99.79	< 2	< 2	< 1	10	< 2	< 1	44	0.202	0.256	523315	16.29	0.61
523316	39.06	1.39	8.44	0.081	38.13	0.21	< 0.01	< 0.01	0.012	0.01	12.66	100.0	< 2	< 2	< 1	9	< 2	< 1	41	0.195	0.251	523316	13.34	0.65
523317	39.85	1.44	7.53	0.104	38.15	1.02	< 0.01	< 0.01	0.015	< 0.01	12.17	100.3	< 2	< 2	< 1	10	4	< 1	43	0.177	0.240	523317	13.53	0.57
523318	39.57	1.39	8.41	0.134	36.10	2.24	0.01	< 0.01	0.017	< 0.01	12.09	99.97	< 2	< 2	< 1	12	< 2	< 1	52	0.186	0.239	523318	14.80	0.64
523319	38.47	1.38	7.71	0.127	35.81	1.98	0.01	< 0.01	0.018	0.02	12.07	97.60	< 2	< 2	< 1	12	2	< 1	50	0.160	0.223	523319	14.62	0.55
523320.1	49.35	16.02	11.83	0.165	4.85	7.76	2.25	2.84	1.178	0.43	1.04	97.71	714	537	20	25	98	2	327	0.230	1.029	523320	48.90	16.12
523320.2																						523320	36.61	2.39
523320.3																						523320	18.26	0.60
523321	38.93	1.29	8.45	0.165	36.04	2.31	0.01	< 0.01	0.017	< 0.01	12.30	99.52	< 2	< 2	< 1	12	4	< 1	49	0.180	0.223	523321	16.67	0.56
523322	38.02	1.22	7.43	0.129	37.36	1.22	0.01	< 0.01	0.017	< 0.01	12.95	98.36	< 2	< 2	< 1	8	2	< 1	42	0.187	0.225	523322	18.58	0.44
523323	38.53	1.43	7.56	0.081	37.93	0.78	< 0.01	< 0.01	0.015	< 0.01	12.80	99.14	< 2	< 2	< 1	12	2	< 1	47	0.192	0.237	523323	9.97	0.33
523324	37.61	1.21	7.63	0.107	37.56	1.12	0.01	< 0.01	0.015	< 0.01	12.60	97.87	< 2	< 2	< 1	10	3	< 1	41	0.193	0.227	523324	15.48	0.44
523325	37.72	0.66	7.68	0.106	40.39	0.11	< 0.01	< 0.01	0.005	< 0.01	12.07	98.75	< 2	< 2	< 1	6	< 2	< 1	25	0.167	0.230	523325	14.38	0.66
523326	38.37	1.21	8.76	0.122	37.17	1.38	< 0.01	< 0.01	0.015	< 0.01	12.10	99.13	< 2	< 2	< 1	12	3	< 1	51	0.188	0.223	523326	11.54	0.47
523327	38.20	1.38	7.98	0.103	37.39	1.08	< 0.01	< 0.01	0.015	0.01	12.09	98.26	< 2	< 2	< 1	11	2	< 1	51	0.204	0.225	523327	9.20	0.55
523328	38.08	1.38	8.21	0.085	37.31	0.74	< 0.01	< 0.01	0.016	< 0.01	12.59	98.42	< 2	< 2	< 1	11	2	< 1	50	0.182	0.222	523328	13.70	0.59
523329	38.52	1.48	7.71	0.098	38.38	0.44	< 0.01	< 0.01	0.013	< 0.01	12.67	99.32	< 2	< 2	< 1	10	< 2	< 1	51	0.207	0.241	523329	13.29	0.80
523330	38.29	1.56	7.99	0.103	37.71	0.93	< 0.01	< 0.01	0.013	< 0.01	12.15	98.76	< 2	< 2	< 1	12	< 2	< 1	54	0.164	0.232	523330	16.68	0.80
523331	38.28	1.21	8.60	0.140	37.52	1.42	< 0.01	< 0.01	0.015	0.01	12.03	99.24	< 2	< 2	< 1	12	3	< 1	51	0.210	0.234	523331	12.90	0.51
523332	39.03	1.62	7.91	0.111	37.69	0.65	< 0.01	< 0.01	0.018	0.02	12.61	99.67	< 2	< 2	< 1	11	2	< 1	49	0.187	0.232	523332	15.10	0.98

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
523333	38.48	1.36	8.23	0.102	37.52	0.48	< 0.01	< 0.01	0.013	< 0.01	12.74	98.93	< 2	< 2	< 1	11	2	< 1	46	0.191	0.228	523333	16.20	0.48
523334	38.23	0.97	7.90	0.161	37.34	1.28	< 0.01	< 0.01	0.011	0.02	11.69	97.62	< 2	< 2	< 1	11	2	< 1	41	0.186	0.236	523334	14.89	0.40
523335	38.44	0.97	8.42	0.161	37.27	1.23	< 0.01	< 0.01	0.011	0.02	11.72	98.26	< 2	< 2	< 1	11	3	< 1	42	0.186	0.246	523335	11.97	0.59
523336	38.65	1.08	8.32	0.139	37.37	0.84	< 0.01	< 0.01	0.011	< 0.01	12.32	98.73	< 2	< 2	< 1	11	2	< 1	44	0.177	0.238	523336	17.00	0.53
523337	38.69	1.18	8.04	0.121	38.15	0.94	< 0.01	< 0.01	0.011	< 0.01	11.90	99.04	< 2	< 2	< 1	11	< 2	< 1	44	0.195	0.226	523337	14.61	0.59
523338	38.43	1.13	8.49	0.123	38.07	0.51	< 0.01	< 0.01	0.012	< 0.01	12.02	98.79	< 2	< 2	< 1	11	2	< 1	43	0.183	0.232	523338	12.18	0.53
523339	38.80	0.97	8.19	0.143	38.87	0.27	< 0.01	< 0.01	0.008	< 0.01	11.78	99.05	< 2	< 2	< 1	8	< 2	< 1	33	0.211	0.226	523339	16.19	0.67
523340	98.30	0.28	0.57	0.005	0.08	0.02	0.01	0.04	0.028	0.02	0.20	99.54	23	4	< 1	< 1	49	< 1	< 5	< 0.010	< 0.010	523340	98.98	0.29
523341	38.15	0.86	9.00	0.182	37.62	1.15	< 0.01	< 0.01	0.010	< 0.01	12.36	99.36	< 2	< 2	< 1	11	4	< 1	39	0.181	0.246	523341	14.21	0.38
523342	38.47	0.85	8.41	0.147	38.64	0.35	< 0.01	< 0.01	0.008	< 0.01	12.10	98.98	< 2	< 2	< 1	8	3	< 1	35	0.189	0.282	523342	16.40	0.84
523343	38.81	0.90	7.91	0.106	38.34	0.82	< 0.01	< 0.01	0.007	0.01	12.31	99.20	< 2	< 2	< 1	9	2	< 1	39	0.200	0.241	523343	13.90	0.54
523344	38.54	0.91	7.96	0.115	39.23	0.66	< 0.01	< 0.01	0.006	0.03	11.34	98.81	< 2	< 2	< 1	10	< 2	< 1	40	0.206	0.242	523344	16.64	0.60
523345	38.73	0.99	7.87	0.102	38.83	0.66	< 0.01	< 0.01	0.008	< 0.01	11.96	99.16	2	4	< 1	10	3	< 1	45	0.184	0.249	523345	15.79	0.70
523346	38.59	0.96	8.18	0.091	38.23	0.38	< 0.01	< 0.01	0.007	0.02	12.33	98.79	< 2	2	< 1	8	2	< 1	40	0.190	0.232	523346	14.57	0.53
523347	38.56	0.90	7.68	0.108	38.39	1.23	< 0.01	< 0.01	0.006	< 0.01	11.96	98.86	2	3	< 1	9	< 2	< 1	44	0.183	0.234	523347	19.26	0.51
523348	38.50	0.87	7.99	0.112	38.65	0.79	< 0.01	< 0.01	0.006	< 0.01	11.85	98.78	2	3	< 1	10	3	< 1	41	0.200	0.233	523348	13.72	0.37
523349	38.49	0.85	7.84	0.117	38.92	0.94	< 0.01	< 0.01	0.005	0.01	11.79	98.97	2	3	< 1	10	3	< 1	39	0.197	0.241	523349	18.38	0.29
523350	38.73	0.76	8.01	0.136	39.09	0.79	< 0.01	< 0.01	0.007	< 0.01	12.27	99.79	4	< 2	< 1	9	5	< 1	43	0.200	0.247	523350	18.98	0.28
523351	38.61	0.95	7.10	0.098	39.61	0.21	< 0.01	< 0.01	0.007	< 0.01	12.75	99.35	2	3	< 1	9	2	< 1	37	0.205	0.261	523351	17.78	0.63
523352	39.01	0.88	7.21	0.102	39.72	0.45	< 0.01	< 0.01	0.007	0.01	12.39	99.79	< 2	< 2	< 1	8	< 2	< 1	35	0.212	0.233	523352	14.74	0.48
523353	39.14	0.82	7.58	0.102	40.26	0.22	< 0.01	< 0.01	0.008	< 0.01	11.75	99.90	< 2	3	< 1	7	2	< 1	32	0.223	0.205	523353	19.93	0.61
523354	38.64	0.84	7.11	0.110	39.12	0.29	< 0.01	< 0.01	0.007	< 0.01	13.05	99.18	< 2	3	< 1	9	2	< 1	35	0.171	0.217	523354	19.72	0.52
523355	38.54	0.84	7.44	0.111	39.32	0.30	< 0.01	< 0.01	0.006	0.02	12.98	99.56	< 2	< 2	< 1	9	< 2	< 1	36	0.194	0.237	523355	20.69	0.55
523356	38.66	0.75	7.69	0.121	39.59	0.38	< 0.01	< 0.01	0.010	< 0.01	10.87	98.07	< 2	3	< 1	7	2	< 1	27	0.193	0.184	523356	21.67	0.44
523357	39.30	0.74	7.46	0.128	39.49	0.25	< 0.01	< 0.01	0.007	< 0.01	11.24	98.63	< 2	< 2	< 1	8	< 2	< 1	31	0.198	0.264	523357	20.07	0.51
523358	46.58	12.50	14.46	0.222	6.05	11.83	3.83	0.22	2.088	0.13	0.80	98.72	17	134	31	42	81	< 1	496	0.014	< 0.010	523358		
523359	42.13	2.27	6.97	0.096	33.91	1.58	0.06	0.01	0.032	0.02	11.64	98.71	2	14	< 1	8	3	< 1	37	0.174	0.203	523359		
523360.1	48.72	15.97	11.74	0.162	4.83	7.61	2.25	2.80	1.163	0.44	0.85	96.55	709	535	21	25	104	2	332	0.227	1.013	523360	48.87	16.25
523360.2																						523360	36.51	2.37
523360.3																						523360	18.06	0.42
523361	43.86	10.33	11.50	0.186	10.27	14.73	2.17	0.11	1.478	0.15	3.71	98.50	14	77	28	31	81	< 1	340	0.037	0.040	523361		
523362	39.13	0.80	7.51	0.146	38.36	0.83	0.02	< 0.01	0.017	< 0.01	11.31	98.13	< 2	3	< 1	9	3	< 1	38	0.179	0.241	523362	21.97	0.55
523363	39.06	1.02	8.00	0.074	37.67	0.15	< 0.01	< 0.01	0.012	< 0.01	12.62	98.62	< 2	2	< 1	8	3	< 1	37	0.187	0.226	523363	16.06	0.49
523364	43.66	9.29	11.29	0.170	16.17	9.23	2.31	0.16	1.251	0.12	5.07	98.70	9	56	23	29	67	< 1	299	0.070	0.074	523364	21.44	2.07
523365	39.31	0.97	7.46	0.124	39.04	0.66	0.02	< 0.01	0.018	0.03	11.59	99.23	< 2	4	< 1	10	< 2	< 1	38	0.189	0.233	523365	26.60	0.95
523366	38.72	0.88	7.58	0.099	40.26	0.43	< 0.01	< 0.01	0.011	0.01	11.57	99.58	< 2	2	< 1	8	< 2	< 1	32	0.201	0.220	523366	24.35	0.69
523367	38.46	0.86	8.04	0.119	39.78	0.72	0.01	< 0.01	0.010	0.02	11.16	99.18	< 2	< 2	< 1	8	< 2	< 1	32	0.205	0.233	523367	11.12	0.48
523368	38.76	0.97	7.48	0.112	39.30	1.14	< 0.01	< 0.01	0.007	0.01	11.50	99.29	< 2	2	< 1	10	< 2	< 1	40	0.199	0.241	523368	19.09	0.55
523369	38.07	0.68	8.52	0.110	40.31	0.16	< 0.01	< 0.01	0.011	0.02	11.07	98.95	< 2	2	< 1	7	< 2	< 1	29	0.212	0.178	523369	25.05	0.68
523370	40.69	1.09	7.24	0.094	40.54	0.10	< 0.01	< 0.01	0.012	0.02	10.92	100.7	< 2	< 2	1	5	< 2	< 1	18	0.209	0.085	523370	21.45	0.74
523371	41.83	11.88	10.85	0.158	13.84	12.54	1.99	0.10	1.119	0.09	5.11	99.49	11	49	24	33	65	< 1	272	0.060	0.075	523371	5.27	0.45
523372	37.91	1.06	8.41	0.110	39.92	0.34	0.01	< 0.01	0.010	0.02	12.34	100.1	< 2	< 2	< 1	10	< 2	< 1	42	0.198	0.255	523372	17.83	0.63
523373	37.18	0.88	8.11	0.109	39.09	0.64	< 0.01	< 0.01	0.007	< 0.01	12.31	98.35	8	< 2	1	8	5	< 1	37	0.275	0.240	523373	20.00	0.60
523374	38.56	0.74	7.68	0.117	39.73	0.46	< 0.01	< 0.01	0.007	< 0.01	11.80	99.10	< 2	< 2	< 1	8	< 2	< 1	30	0.197	0.250	523374	23.46	0.81
523375	38.70	0.70	7.35	0.114	39.59	0.52	< 0.01	< 0.01	0.006	< 0.01	11.57	98.55	< 2	< 2	< 1	8	< 2	< 1	29	0.211	0.240	523375	25.10	1.18
523376	38.93	0.82	7.67	0.118	38.98	1.30	< 0.01	< 0.01	0.007	< 0.01	10.96	98.81	< 2	< 2	< 1	9	< 2	< 1	37	0.191	0.266	523376	14.07	1.04
523377	38.89	0.74	7.67	0.129	38.57	0.62	< 0.01	< 0.01	0.006	0.01	12.28	98.93	< 2	< 2	< 1	9	< 2	< 1	34	0.194	0.242	523377	22.22	0.74
523378	39.46	0.62	7.96	0.114	40.40	0.67	< 0.01	< 0.01	0.005	< 0.01	9.02	98.27	< 2	< 2	< 1	9	< 2	< 1	37	0.200	0.240	523378	22.21	1.06
523379	38.86	0.85	7.79	0.119	38.78	1.08	< 0.01	< 0.01	0.006	< 0.01	11.17	98.67	< 2	< 2	< 1	10	< 2	< 1	38	0.187	0.247	523379	13.24	0.79
523380	98.87	0.28	0.53	0.006	0.05	0.02	0.01	0.04	0.031	0.02	0.03	99.90	23	4	1	< 1	57	< 1	6	< 0.010	< 0.010	523380	98.29	0.37
523381	38.76	0.79	7.51	0.109	39.93	0.76	0.02	0.03	0.008	< 0.01	10.19	98.10	18	< 2	< 1	7	< 2	< 1	32	0.196	0.257	523381	9.73	0.76

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521292	46.73	14.24	13.37	0.223	7.69	7.86	3.12	0.57	1.753	0.20	4.16	99.90	365	380	34	42	106	< 1	349	0.029	0.049	521292		
521293	43.20	10.06	10.31	0.193	19.51	6.82	0.53	0.06	0.888	0.13	7.21	98.92	38	30	17	28	51	< 1	205	0.096	0.124	521293		
521294	47.62	12.36	9.51	0.173	14.30	7.27	2.03	0.80	0.901	0.14	4.62	99.73	697	209	15	29	73	< 1	215	0.032	0.075	521294		
521295	45.35	7.28	8.68	0.158	22.09	7.98	0.05	0.02	0.713	0.12	7.08	99.52	7	35	13	21	47	< 1	146	0.107	0.123	521295		
521296	42.80	6.40	8.02	0.150	19.99	8.52	0.06	0.03	0.517	0.07	12.54	99.09	18	125	10	20	35	< 1	138	0.098	0.111	521296		
521297	49.60	11.72	10.46	0.180	10.62	6.24	3.55	0.17	1.217	0.20	4.19	98.15	55	90	26	35	95	< 1	224	0.041	0.067	521297		
521298	44.74	15.27	11.08	0.165	11.28	4.05	3.77	0.63	1.387	0.13	5.94	98.45	222	95	28	42	71	< 1	306	0.015	0.028	521298		
521299	47.33	7.03	7.30	0.147	12.75	10.50	0.63	0.64	0.639	0.14	12.61	99.73	86	267	15	21	50	< 1	150	0.058	0.069	521299		
521300	47.40	14.66	8.50	0.186	7.18	7.24	3.40	2.21	1.314	0.25	6.47	98.82	1286	152	23	34	100	2	234	0.015	0.024	521300		
521301	49.39	18.25	10.70	0.152	2.43	6.37	4.69	1.58	1.831	0.41	2.60	98.40	387	1034	32	36	170	< 1	235	0.014	0.028	521301		
521302	49.04	17.49	11.59	0.190	3.96	6.15	4.50	1.34	1.532	0.16	2.76	98.72	276	177	33	44	81	< 1	302	0.015	0.030	521302		
521303	51.72	13.25	10.25	0.222	4.82	8.65	3.00	0.88	1.463	0.17	4.64	99.06	284	120	28	34	91	< 1	264	0.016	0.021	521303		
521304	49.38	15.27	10.92	0.171	5.82	10.26	2.88	0.39	1.500	0.13	2.60	99.32	103	101	29	40	87	< 1	343	< 0.010	0.016	521304		
521305	49.64	15.34	10.91	0.170	5.74	10.12	2.89	0.37	1.477	0.13	2.52	99.32	101	91	29	40	85	< 1	346	< 0.010	0.014	521305		
521306	50.57	14.50	11.17	0.176	5.34	9.97	2.54	0.17	1.566	0.14	2.73	98.88	41	163	29	39	83	< 1	374	< 0.010	< 0.010	521306		
521307	49.39	15.25	10.69	0.176	6.08	10.65	2.68	0.45	1.430	0.13	2.25	99.17	120	104	28	39	82	< 1	332	0.011	0.016	521307		
521308	49.08	15.26	10.57	0.176	6.00	10.72	2.67	0.50	1.458	0.13	2.77	99.34	142	86	28	39	83	< 1	334	0.012	0.015	521308		
521309	48.84	15.84	10.32	0.163	5.45	10.51	3.03	0.39	1.468	0.13	2.77	98.91	133	109	28	39	86	< 1	334	0.011	0.014	521309		

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S	Spec Grav Core
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%	-
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR	GRAV
521373	57.81	0.184	16.44	0.18	0.04	0.03	0.04	0.01	1.63	0.029	1.73	2.86	98.27	30.1	1.877	28.063	6.2	29.940	0.62		2.74
521374	60.22	0.198	15.65	0.14	< 0.01	0.03	0.04	0.01	1.83	0.029	1.38	2.80	98.28	30.1	2.215	27.958	7.3	30.174	-0.09		2.66
521375	55.30	0.204	18.07	0.09	0.01	0.04	0.03	0.01	2.18	0.023	2.40	1.84	97.49	30.1	1.153	28.845	3.8	29.998	0.46		2.80
521376	57.34	0.247	16.94	0.19	< 0.01	0.01	0.03	0.01	2.51	0.028	2.41	2.42	97.87	30.2	1.383	28.816	4.6	30.198	-0.03		2.64
521377	40.62	0.152	23.86	0.11	< 0.01	0.01	0.02	0.01	1.44	0.020	1.55	6.23	98.85	30.2	2.622	27.578	8.7	30.200	-0.09		2.58
521378	55.02	0.220	17.85	0.22	< 0.01	0.02	0.07	0.02	2.29	0.031	2.79	2.95	98.68	30.2	1.371	28.654	4.5	30.025	0.64		2.70
521379	44.37	0.181	22.14	0.16	< 0.01	0.03	0.02	0.01	1.57	0.021	2.12	5.12	98.49	30.3	1.907	28.383	6.3	30.290	-0.05		2.68
521380	49.01	0.194	20.14	0.12	< 0.01	0.02	0.02	0.01	1.68	0.024	1.73	4.81	99.11	30.3	2.267	27.940	7.5	30.207	0.17		2.70
521381	34.48	0.156	27.79	0.06	< 0.01	0.01	0.03	0.01	0.99	0.016	0.770	8.08	99.43	30.1	4.020	26.044	13.3	30.064	0.22		2.61
521382	53.15	0.142	19.48	0.10	< 0.01	0.02	0.02	0.01	1.33	0.025	0.987	4.37	98.56	30.1	2.211	27.749	7.3	29.960	0.59		2.61
521383	39.98	0.221	24.72	0.40	< 0.01	0.03	0.02	0.01	1.40	0.020	1.34	5.72	99.11	30.1	2.654	27.342	8.8	29.996	0.44		2.74
521384	45.07	0.206	22.44	0.10	< 0.01	< 0.01	0.02	0.01	1.50	0.019	1.63	5.22	97.46	30.1	2.628	27.388	8.7	30.016	0.22		2.69
521385	46.39	0.200	20.81	0.13	0.01	0.01	0.02	0.01	1.40	0.022	1.71	5.42	98.66	30.1	2.541	27.530	8.5	30.071	-0.06		2.75
521386	43.21	0.169	21.62	0.06	< 0.01	0.02	0.02	0.01	1.32	0.021	1.56	5.95	98.49	30.1	2.933	26.981	9.7	29.914	0.57		2.61
521387	38.52	0.154	25.98	0.06	< 0.01	0.04	0.05	0.01	0.85	0.020	0.899	6.33	99.55	30.1	4.743	25.220	15.7	29.962	0.55		2.61
521388	40.37	0.175	24.72	0.07	< 0.01	0.01	0.02	0.01	1.24	0.019	1.52	5.99	98.05	30.2	3.088	27.009	10.2	30.097	0.38		2.69
521389	52.44	0.169	18.97	0.12	< 0.01	0.02	0.05	0.01	1.50	0.032	2.36	3.88	99.16	30.2	2.077	27.986	6.9	30.063	0.36		2.69
521390.1	12.15	0.173	4.94	7.80	2.43	2.77	1.10	0.44	1.06	0.065	0.234	0.80	98.71								
521390.2	13.27	0.125	32.21	2.09	0.10	0.12	0.12	0.02	0.20	0.008	1.44	10.95	99.49								
521390.3	54.47	0.245	17.50	0.15	< 0.01	0.01	0.03	0.01	1.60	0.025	2.01	3.29	97.67	30.7	2.124	28.215	6.9	30.339	1.14	0.11	
521391	43.20	0.252	23.82	0.12	< 0.01	0.04	0.05	0.01	1.70	0.022	1.96	4.77	98.81	30.3	2.483	27.682	8.2	30.164	0.32		2.69
521392	49.99	0.252	20.82	0.06	< 0.01	0.04	0.05	0.01	1.67	0.025	1.93	3.89	99.38	30.3	2.685	27.522	8.9	30.207	0.20		2.69
521393	54.67	0.255	18.19	0.08	< 0.01	0.05	0.20	0.01	1.98	0.039	1.45	0.70	99.64	30.2	2.177	28.392	7.2	30.569	-1.27		2.66
521394	55.50	0.225	17.73	0.13	< 0.01	0.02	0.06	0.01	1.29	0.029	1.83	2.80	99.16	30.3	2.651	27.518	8.8	30.169	0.30	0.04	2.71
521395														30.4	0.075	28.940	0.2	29.015	4.52		2.67
521396	47.95	0.186	19.44	0.26	< 0.01	0.03	0.05	0.01	1.29	0.028	1.63	3.06	97.59	30.2	2.260	28.026	7.5	30.286	-0.22	0.08	2.77
521397	48.65	0.167	19.12	0.35	< 0.01	0.05	0.03	0.01	0.98	0.021	1.58	4.92	98.79	30.2	3.005	27.035	9.9	30.039	0.58	0.09	2.67
521398	50.26	0.189	17.99	0.31	< 0.01	0.02	0.04	0.01	1.42	0.029	1.80	1.06	97.44	30.3	1.965	28.400	6.5	30.365	-0.12	0.09	2.70
521399	44.47	0.206	22.80	0.67	< 0.01	0.03	0.03	0.01	1.08	0.018	1.82	4.99	99.31	30.2	2.782	27.394	9.2	30.176	-0.05	0.05	2.69
521400	50.44	0.172	19.96	0.31	< 0.01	0.02	0.03	0.01	1.02	0.022	1.69	4.37	99.02	30.2	2.632	27.367	8.7	29.999	0.52	0.09	2.64
521401	50.34	0.183	19.94	0.32	< 0.01	0.02	0.03	0.01	1.05	0.022	1.85	4.72	99.69	30.3	2.535	27.831	8.4	30.365	-0.25	0.07	2.68
521402	50.90	0.186	20.69	0.32	< 0.01	0.01	0.03	0.01	1.26	0.021	2.07	4.26	99.14	30.3	2.229	27.992	7.4	30.222	0.27	0.10	2.60
521403	50.53	0.187	20.51	0.20	< 0.01	0.02	0.04	0.01	1.60	0.024	1.95	3.79	98.75	30.1	2.341	27.271	7.8	29.612	1.76	0.09	2.66
521404	54.95	0.201	18.71	0.29	< 0.01	0.03	0.03	0.01	1.44	0.022	2.15	3.52	98.94	30.2	2.176	28.174	7.2	30.350	-0.55	0.06	2.66
521405	41.18	0.231	23.87	2.32	0.01	0.03	0.04	0.01	1.53	0.017	2.10	4.39	99.56	30.3	1.816	28.582	6.0	30.398	-0.16	0.05	2.82
521406	54.49	0.176	18.89	0.68	< 0.01	0.01	0.04	0.01	1.16	0.019	2.07	3.96	99.02	30.2	1.949	28.225	6.5	30.174	-0.06	0.06	2.72
521407	40.68	0.230	23.41	2.95	0.01	0.01	0.04	0.01	1.55	0.022	2.35	4.10	98.87	30.2	1.482	28.704	4.9	30.185	-0.07	0.04	2.76
521408	47.71	0.214	21.15	1.30	< 0.01	0.02	0.07	0.01	1.33	0.019	1.87	4.20	99.40	30.2	1.813	28.210	6.0	30.023	0.68	0.06	2.66
521409	47.55	0.178	21.80	0.49	< 0.01	0.01	0.04	0.01	1.30	0.023	1.89	4.54	98.72	30.2	2.411	27.803	8.0	30.215	-0.02	0.06	2.70
521410	37.32	0.126	27.80	0.24	< 0.01	0.02	0.02	< 0.01	1.20	0.019	1.66	6.64	99.79	30.2	2.961	27.121	9.8	30.081	0.25	0.05	2.85
521411	35.38	0.207	28.26	0.63	< 0.01	0.02	0.03	0.01	1.35	0.022	1.55	5.83	99.70	30.3	2.554	27.675	8.4	30.229	0.10	0.11	2.85
521412	53.78	0.168	18.75	0.41	0.05	0.02	0.04	0.01	1.41	0.022	2.56	3.34	98.71	30.2	1.649	28.537	5.5	30.186	0.17	0.05	2.62
521413	46.73	0.205	21.77	0.55	< 0.01	0.02	0.03	0.01	1.34	0.017	2.03	4.30	98.47	30.2	1.906	28.054	6.3	29.960	0.94	0.08	2.73
521414	49.76	0.138	20.19	0.43	0.02	0.05	0.02	0.01	1.27	0.014	1.56	5.66	99.30	30.1	2.452	27.607	8.1	30.059	0.16	0.04	2.77
521415	42.37	0.190	25.09	0.59	< 0.01	0.02	0.03	0.01	1.17	0.019	1.71	5.00	99.83	30.1	2.291	27.692	7.6	29.984	0.49	0.04	2.76
521416	39.25	0.142	24.82	0.35	0.20	0.33	0.03	0.01	0.73	0.015	1.69	6.68	98.20	30.3	2.498	27.684	8.3	30.181	0.23	0.04	2.69
521417	40.94	0.194	23.58	0.40	< 0.01	0.01	0.03	0.01	1.26	0.014	1.96	5.53	98.44	30.3	2.163	28.617	7.1	30.780	-1.72	0.06	2.67
521418	39.97	0.160	24.49	0.30	< 0.01	0.05	0.03	0.01	1.21	0.016	1.89	4.84	97.63	30.1	2.076	28.004	6.9	30.080	0.17	0.05	2.64
521419	39.89	0.193	24.13	0.25	< 0.01	0.01	0.03	0.01	1.20	0.013	1.82	5.92	98.12	30.3	2.544	27.717	8.4	30.261	0.09	0.07	2.62
521420	45.33	0.190	23.33	0.40	< 0.01	0.02	0.03	0.01	1.13	0.020	1.77	5.47	99.32	30.2	2.903	26.577	9.6	29.480	2.44	0.07	2.59
521421	56.68	0.232	16.47	0.31	< 0.01	0.03	0.03	0.01	1.76	0.024	2.73	2.58	97.49	30.2	1.577	28.597	5.2	30.175	0.09	0.07	2.60

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S	Spec Grav Core
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%	-
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR	GRAV
521422	44.14	0.218	22.33	0.33	< 0.01	0.02	0.03	0.01	1.40	0.016	2.61	4.96	97.57	30.2	1.664	28.467	5.5	30.132	0.15	0.11	2.79
521423	55.37	0.198	17.51	0.26	< 0.01	0.03	0.04	0.01	1.42	0.022	2.21	3.30	97.30	30.2	2.129	28.089	7.1	30.218	-0.20	0.09	2.67
521424	54.07	0.197	17.68	0.60	< 0.01	0.03	0.06	0.01	1.38	0.027	2.27	3.06	98.02	30.3	1.855	28.657	6.1	30.513	-0.75	0.10	2.66
521425	64.07	0.151	14.43	0.16	< 0.01	0.01	0.04	0.01	1.25	0.023	2.27	1.78	98.62	30.2	1.833	29.463	6.1	31.295	-3.75	0.10	2.64
521426	51.73	0.125	19.50	0.12	< 0.01	0.02	0.04	0.01	0.98	0.022	1.20	4.41	97.82	30.2	2.285	27.945	7.6	30.230	-0.01	0.19	2.66
521427	49.43	0.193	20.10	0.29	< 0.01	0.02	0.03	0.01	1.45	0.020	1.92	4.05	98.04	30.2	2.043	28.218	6.8	30.262	-0.20	0.13	2.73
521428	52.98	0.195	18.11	0.22	< 0.01	0.04	0.03	0.01	1.35	0.020	2.66	3.47	98.08	30.2	1.833	28.312	6.1	30.144	0.17	0.10	2.67
521429	54.40	0.223	17.24	0.30	< 0.01	0.02	0.04	< 0.01	1.70	0.028	2.19	3.15	97.91	30.1	1.724	28.440	5.7	30.164	-0.16	0.13	2.64
521430	48.05	0.186	19.85	1.32	< 0.01	0.02	0.03	0.01	1.09	0.019	1.95	4.56	97.93	30.2	2.098	28.225	6.9	30.323	-0.36	0.08	2.65
521431	56.70	0.223	16.83	0.52	< 0.01	0.01	0.04	< 0.01	1.55	0.026	2.09	3.03	98.10	30.1	2.008	28.166	6.7	30.174	-0.27	0.10	2.71
521432	51.67	0.183	19.33	0.46	< 0.01	0.04	0.04	0.01	1.13	0.021	1.47	4.33	98.56	30.2	2.064	28.327	6.8	30.391	-0.52	0.11	2.62
521433	48.13	0.399	18.80	0.45	0.19	0.12	0.22	0.09	2.87	0.030	1.34	6.48	98.59	30.1	0.504	29.663	1.7	30.167	-0.12		2.54
521434	59.00	0.313	15.47	0.53	< 0.01	0.06	0.06	0.01	0.03	0.030	0.760	3.69	95.99	30.1	1.319	28.710	4.4	30.029	0.09	0.20	2.60
521435	70.20	0.331	11.44	0.43	0.03	0.02	0.08	0.02	1.91	0.034	0.868	1.81	99.32	30.1	1.472	29.071	4.9	30.543	-1.47	0.23	2.58
521436	59.26	0.236	15.92	0.08	< 0.01	0.08	0.07	0.01	1.40	0.030	1.57	2.83	98.32	30.2	2.176	27.595	7.2	29.771	1.28	0.21	2.68
521437	54.28	0.340	14.68	0.05	< 0.01	< 0.01	0.13	0.01	3.47	0.054	0.651	2.47	97.15	30.1	0.651	29.420	2.2	30.071	0.03		2.67
521438	71.80	0.321	8.81	0.60	0.02	0.02	0.70	0.03	2.26	0.098	1.70	0.06	98.45	30.1	0.918	28.950	3.1	29.868	0.62	0.08	2.68
521439	64.30	0.402	12.08	0.16	< 0.01	0.02	0.16	0.01	3.65	0.047	2.52	0.78	97.94	30.1	0.765	29.294	2.5	30.058	0.07		2.71
521440.1	12.11	0.174	4.97	7.78	2.44	2.83	1.10	0.44	1.06	0.061	0.233	0.77	99.67								
521440.2	13.15	0.127	32.35	2.07	0.08	0.11	0.13	0.02	0.20	0.005	1.44	10.93	99.57								
521440.3	54.68	0.239	17.55	0.16	< 0.01	0.01	0.04	0.01	1.61	0.025	2.03	3.33	98.11	30.1	2.077	27.848	6.9	29.925	0.68	0.11	
521441	54.37	0.204	17.62	0.24	< 0.01	0.01	0.03	< 0.01	1.38	0.020	2.35	3.03	97.70	30.2	1.989	28.257	6.6	30.246	-0.21	0.09	2.73
521442	57.40	0.203	16.18	0.32	< 0.01	0.01	0.03	0.01	1.54	0.022	2.58	2.50	97.10	30.1	1.892	28.059	6.3	29.951	0.39	0.10	2.72
521443	52.58	0.198	18.76	0.27	< 0.01	0.02	0.03	0.01	1.41	0.023	2.18	3.23	97.51	30.1	2.069	27.837	6.9	29.906	0.54	0.07	2.66
521444	58.18	0.207	15.92	0.51	< 0.01	0.02	0.04	0.01	1.77	0.027	2.53	2.47	97.86	30.0	1.855	28.232	6.2	30.087	-0.16	0.05	2.73
521445	55.10	0.179	17.96	0.39	< 0.01	0.02	0.04	0.01	1.29	0.023	2.04	3.15	97.78	30.2	2.190	28.124	7.2	30.315	-0.23	0.06	2.74
521446	57.94	0.192	16.54	0.35	< 0.01	0.03	0.04	0.01	1.49	0.025	2.73	2.43	97.69	30.1	1.792	28.346	5.9	30.138	-0.02	0.04	2.71
521447	52.46	0.179	19.38	0.43	< 0.01	0.03	0.04	0.01	1.38	0.022	2.45	3.47	98.02	30.1	1.927	28.219	6.4	30.147	-0.21	0.04	2.73
521448	57.18	0.181	17.25	0.34	< 0.01	0.03	0.04	0.01	1.46	0.024	2.63	2.56	97.69	30.2	1.867	28.193	6.2	30.060	0.38	0.04	2.71
521449	53.67	0.171	18.98	0.33	< 0.01	0.08	0.04	0.01	1.35	0.020	2.25	3.48	97.95	30.2	2.105	28.062	7.0	30.167	-0.00	0.03	2.73
521450	61.63	0.241	14.42	0.47	< 0.01	0.02	0.04	0.01	2.18	0.030	3.20	1.05	96.89	30.2	1.309	28.971	4.3	30.280	-0.38	0.05	2.74
521451	54.76	0.204	18.41	0.20	< 0.01	0.01	0.05	0.01	2.14	0.023	3.19	2.80	97.56	30.1	1.366	28.795	4.5	30.161	-0.18	0.03	2.76
521452	56.23	0.205	16.92	0.18	< 0.01	0.04	0.05	< 0.01	2.21	0.023	3.46	2.46	97.32	30.1	1.383	28.354	4.6	29.737	1.26	0.03	2.70
521453	50.94	0.185	20.37	0.20	< 0.01	0.05	0.04	0.01	1.73	0.021	2.56	4.09	97.97	30.1	1.623	28.591	5.4	30.214	-0.37	0.03	2.72
521454	62.77	0.161	15.13	0.19	< 0.01	0.02	0.04	0.01	1.57	0.027	2.74	1.90	98.27	30.2	1.660	28.644	5.5	30.304	-0.44	0.04	2.72
521455	57.26	0.173	17.66	0.20	< 0.01	0.02	0.05	0.01	1.57	0.022	2.60	2.89	98.23	30.4	1.691	28.682	5.6	30.373	0.04	0.04	2.67
521456	56.69	0.232	16.48	0.22	< 0.01	0.03	0.04	< 0.01	2.28	0.028	3.46	2.27	96.57	30.1	1.250	29.045	4.2	30.295	-0.62	0.05	2.76
521457	54.48	0.153	18.99	0.17	< 0.01	0.04	0.04	< 0.01	1.05	0.018	2.25	3.83	98.26	30.4	2.089	28.481	6.9	30.570	-0.68	0.03	2.62
521458	57.95	0.193	16.20	0.15	< 0.01	0.03	0.04	0.01	1.63	0.023	2.89	2.60	97.33	30.1	1.769	28.239	5.9	30.008	0.14	0.03	2.67
521459	53.47	0.168	19.58	0.14	< 0.01	0.05	0.04	0.01	1.24	0.020	1.94	4.39	99.81	30.3	2.455	28.079	8.1	30.534	-0.72	0.02	2.68
521460	0.54	0.008	< 0.01	0.02	0.01	0.08	0.05	0.01	< 0.01	< 0.003	< 0.003	0.12	99.66	30.1	0.103	29.365	0.3	29.468	2.08		2.72
521461	47.46	0.190	21.71	0.29	< 0.01	0.11	0.03	0.01	1.33	0.019	2.09	5.06	98.41	30.3	1.999	28.660	6.6	30.659	-1.14	0.02	2.63
521462	57.18	0.149	16.61	0.20	< 0.01	0.01	0.03	0.01	1.14	0.021	2.96	2.81	97.42	30.1	1.643	28.484	5.5	30.127	0.02	0.04	2.60
521463	56.03	0.164	17.50	0.28	< 0.01	0.03	0.04	0.01	1.44	0.023	2.19	3.24	97.66	30.1	2.068	28.158	6.9	30.226	-0.35	0.05	2.57
521464	50.64	0.206	19.22	0.31	< 0.01	0.02	0.04	0.01	1.61	0.025	2.96	3.86	97.49	30.2	1.704	28.477	5.6	30.181	0.09	0.04	2.63
521465	50.60	0.189	19.82	0.25	< 0.01	0.02	0.04	0.01	1.37	0.024	2.18	4.15	98.23	30.2	2.251	27.967	7.5	30.218	-0.10	0.04	2.67
521466	52.46	0.155	18.93	0.24	< 0.01	0.04	0.03	0.01	0.02	0.024	2.67	3.64	96.89	30.2	1.855	28.171	6.1	30.026	0.53	0.05	2.70
521467	63.96	0.159	13.76	0.11	< 0.01	0.02	0.03	0.01	1.43	0.025	2.26	1.52	98.00	30.2	2.039	28.245	6.7	30.284	-0.19	0.03	2.67
521468	58.13	0.224	16.55	0.12	< 0.01	0.01	0.03	< 0.01	1.38	0.022	1.97	3.13	97.62	30.3	2.280	27.999	7.5	30.279	0.02	0.08	2.59
521469	62.32	0.238	13.99	0.19	< 0.01	0.02	0.02	< 0.01	1.74	0.026	1.95	2.46	97.21	30.1	2.142	27.806	7.1	29.947	0.50	0.28	2.61
521470	69.07	0.325	10.86	0.23	< 0.01	0.01	0.03	0.01	2.12	0.028	2.22	0.92	97.71	30.3	1.627	27.698	5.4	29.325	3.14	0.20	2.49

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S	Spec Grav Core
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%	-
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR	GRAV
521471	53.23	0.243	17.57	0.14	< 0.01	0.06	0.02	< 0.01	2.35	0.031	3.19	3.54	96.56	30.3	1.457	29.015	4.8	30.471	-0.57	0.23	2.71
521472	58.61	0.306	15.38	0.19	< 0.01	0.02	0.03	< 0.01	2.19	0.025	2.65	2.72	96.83	30.3	1.893	28.429	6.3	30.322	-0.16	0.05	2.61
521473	59.11	0.260	15.93	0.06	< 0.01	0.05	0.03	0.01	2.72	0.031	2.47	2.51	97.86	30.3	1.681	28.645	5.5	30.326	-0.10	0.05	2.63
521474	62.76	0.260	14.15	0.20	< 0.01	0.02	0.03	0.01	1.95	0.029	1.44	2.28	97.55	30.0	2.048	27.891	6.8	29.939	0.25	0.04	2.55
521475	56.76	0.262	17.89	0.24	< 0.01	0.02	0.03	0.01	1.70	0.025	1.21	3.72	99.70	30.3	2.374	27.700	7.8	30.074	0.79	0.04	2.54
521476	58.53	0.251	17.23	0.06	< 0.01	0.04	0.03	0.01	1.71	0.021	1.41	3.73	98.11	30.2	2.312	27.948	7.7	30.260	-0.16	0.05	2.60
521477	62.96	0.215	15.22	0.17	< 0.01	0.02	0.03	0.01	2.47	0.020	0.869	3.59	98.21	30.2	1.791	28.451	5.9	30.242	-0.17	0.09	2.60
521478	47.31	0.270	20.53	0.40	< 0.01	0.03	0.03	0.01	2.33	0.023	1.70	5.31	97.49	30.3	1.726	28.564	5.7	30.290	0.07	0.13	2.68
521479														30.1	0.009	30.164	0.0	30.173	-0.15		3.07
521480.1	12.10	0.173	4.97	7.76	2.45	2.79	1.10	0.44	1.06	0.063	0.237	0.77	99.10								
521480.2	13.20	0.125	32.37	2.08	0.08	0.13	0.12	0.02	0.20	0.005	1.44	11.10	99.65								
521480.3	54.44	0.246	17.75	0.15	< 0.01	0.01	0.03	0.01	1.67	0.024	2.01	3.11	97.70	30.0	1.947	27.815	6.5	29.761	0.90	0.12	
521481														30.2	0.011	30.021	0.0	30.032	0.46		3.20
521482														30.2	0.014	29.876	0.0	29.890	0.88		2.80
521483	61.28	0.274	14.45	0.04	< 0.01	0.03	0.06	0.01	2.56	0.040	0.907	1.90	97.62	30.2	1.571	28.632	5.2	30.204	0.06	0.03	2.77
521484	46.91	0.291	19.11	0.09	< 0.01	0.05	0.04	0.01	3.68	0.054	0.240	5.86	96.82	30.1	0.682	29.568	2.3	30.250	-0.53	0.02	2.78
521485	66.22	0.094	9.87	0.16	< 0.01	0.02	0.17	0.01	5.21	0.068	0.315	3.74	98.09	30.1	0.442	29.549	1.5	29.991	0.49	0.02	2.72
521486	50.58	0.339	18.79	0.60	< 0.01	0.03	0.03	< 0.01	2.52	0.032	1.03	5.94	97.54	30.1	1.478	28.816	4.9	30.295	-0.53	0.04	2.60
521487	54.15	0.222	16.58	1.13	0.11	0.20	0.04	0.02	1.67	0.022	1.22	4.70	97.47	30.1	2.229	27.823	7.4	30.052	0.12	0.07	2.65
521488	59.68	0.203	13.78	1.53	0.24	0.18	0.04	0.05	1.50	0.024	0.713	3.56	97.78	30.2	2.118	28.042	7.0	30.161	0.18	0.10	2.60
521489	58.13	0.241	15.61	0.55	0.10	0.10	0.06	0.01	1.82	0.017	2.37	5.03	97.10	30.2	1.625	28.546	5.4	30.171	0.11	0.12	2.71
521490	56.57	0.224	16.31	1.06	0.02	0.03	0.02	0.01	1.73	0.023	1.79	4.67	97.32	30.2	1.905	28.370	6.3	30.275	-0.27	0.06	2.80
521491	62.69	0.463	11.93	0.32	< 0.01	0.02	0.06	0.01	4.60	0.038	1.65	3.66	97.10	30.1	0.336	29.793	1.1	30.129	-0.09	0.03	2.75
521492	54.68	0.263	16.93	1.51	0.01	0.02	0.02	0.01	1.58	0.020	1.41	5.87	97.68	30.1	2.666	27.417	8.9	30.082	-0.04	0.06	2.80
521493	60.76	0.233	15.30	0.95	< 0.01	0.01	0.02	0.02	1.85	0.024	1.62	3.03	97.36	30.3	1.998	28.112	6.6	30.110	0.64	0.05	2.75
521494	54.51	0.215	17.46	1.39	0.05	0.01	0.02	0.02	1.77	0.021	1.96	4.17	97.18	30.4	2.036	28.280	6.7	30.316	0.11	0.02	2.67
521495	52.87	0.249	18.49	1.47	< 0.01	0.01	0.02	0.02	1.76	0.021	1.86	4.47	97.52	30.2	2.119	28.069	7.0	30.188	-0.10	0.03	2.65
521496	51.45	0.223	19.42	1.21	< 0.01	0.02	0.02	0.04	1.62	0.020	2.11	4.85	97.65	30.3	2.235	28.045	7.4	30.280	-0.01	0.03	2.67
521497	65.49	0.144	13.59	1.00	0.07	0.01	0.02	0.15	1.43	0.022	1.68	2.21	97.69	30.1	2.397	27.797	8.0	30.194	-0.17	0.03	2.65
521498	55.21	0.190	18.30	0.25	< 0.01	0.01	0.02	0.01	1.63	0.021	2.04	4.20	98.06	30.1	2.204	27.873	7.3	30.078	0.19	0.01	2.69
521499	55.11	0.194	17.48	0.95	< 0.01	0.04	0.03	0.08	1.64	0.018	2.20	3.77	97.21	30.1	1.731	28.427	5.8	30.158	-0.17	< 0.01	2.63
521500	0.60	0.010	0.01	0.02	0.01	0.07	0.05	0.01	< 0.01	< 0.003	< 0.003	0.14	99.65	30.3	0.036	29.959	0.1	29.994	1.06		2.75
521501	60.23	0.206	15.83	0.21	0.12	0.05	0.02	0.01	1.69	0.020	1.94	3.24	97.83	30.3	2.082	28.288	6.9	30.369	-0.18	0.03	2.63
521502	55.34	0.212	16.91	0.74	0.24	0.16	0.06	0.07	1.66	0.021	1.69	3.61	97.38	30.2	2.132	28.101	7.1	30.233	-0.07	0.04	2.63
521503	50.82	0.195	18.11	0.11	0.05	0.04	0.02	0.01	1.44	0.020	1.75	4.34	97.38	30.4	2.313	28.094	7.6	30.406	0.02	0.02	2.64
521504	52.25	0.194	19.16	0.44	0.02	0.03	0.02	0.02	1.46	0.023	1.63	4.11	97.38	30.2	2.422	27.837	8.0	30.260	-0.03		2.64
521505	52.97	0.214	18.53	0.35	0.07	0.09	0.04	0.01	1.91	0.028	1.98	3.76	97.61	30.3	2.158	28.080	7.1	30.238	0.31	0.04	2.64
521506	55.78	0.208	16.08	0.59	0.23	0.27	0.07	0.01	1.80	0.025	2.19	2.91	97.01	30.2	1.801	28.485	6.0	30.285	-0.15	0.07	2.62
521507	61.44	0.245	14.57	0.28	0.05	0.02	0.03	0.01	2.58	0.025	2.29	2.03	96.62	30.2	1.639	28.582	5.4	30.221	-0.09	0.04	2.62
521508	58.50	0.223	15.74	0.11	< 0.01	0.01	0.02	0.01	2.47	0.029	2.23	2.65	96.86	30.3	1.991	28.449	6.6	30.441	-0.57	0.03	2.63
521509	66.77	0.205	12.61	0.14	< 0.01	0.02	0.02	< 0.01	1.89	0.027	1.76	1.30	97.60	30.2	1.791	28.215	5.9	30.005	0.68	0.08	2.73
521510	62.21	0.223	14.34	0.14	< 0.01	0.01	0.02	0.01	2.16	0.022	2.80	2.11	97.39	30.3	1.800	28.307	5.9	30.107	0.58	0.03	2.66
521511	56.27	0.213	17.39	0.13	< 0.01	0.04	0.02	0.01	1.98	0.026	1.79	3.52	97.75	30.3	2.474	27.673	8.2	30.146	0.38	0.05	2.65
521512	59.93	0.194	15.89	0.25	0.05	0.01	0.02	0.01	1.48	0.021	1.06	3.06	97.68	30.3	2.535	27.620	8.4	30.155	0.48	0.04	2.59
521513	63.05	0.187	14.44	0.15	< 0.01	0.02	0.02	0.01	1.61	0.026	1.94	2.05	97.49	30.2	2.180	27.851	7.2	30.031	0.40	0.08	2.61
521514	59.72	0.210	16.63	0.19	< 0.01	0.01	0.02	< 0.01	1.70	0.022	1.67	3.31	98.30	30.1	2.244	28.097	7.5	30.341	-0.73	0.03	2.64
521515	56.58	0.196	18.19	0.18	< 0.01	0.01	0.02	0.01	1.40	0.019	1.52	3.97	98.23	30.2	2.540	27.689	8.4	30.229	0.02	0.02	2.62
521516	60.08	0.214	16.08	0.47	< 0.01	0.02	0.02	0.01	1.70	0.019	1.99	3.13	97.88	30.2	2.446	27.823	8.1	30.269	-0.21	0.04	2.62
521517	64.74	0.228	13.87	0.17	0.03	0.02	0.02	0.01	2.20	0.030	2.13	1.62	97.78	30.2	1.796	28.348	5.9	30.144	0.25	0.04	2.67
521518	56.62	0.200	18.31	0.20	< 0.01	0.01	0.02	0.01	1.24	0.015	1.45	4.01	98.85	30.2	2.655	27.374	8.8	30.029	0.57	0.04	2.63
521519	62.32	0.205	13.78	0.18	0.29	0.02	0.03	0.01	1.68	0.025	2.59	1.85	97.15	30.2	1.828	28.396	6.1	30.224	-0.15	0.04	2.63

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S	Spec Grav Core
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%	-
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR	GRAV
521520.1	12.06	0.168	4.95	7.75	2.41	2.79	1.09	0.44	1.06	0.063	0.235	0.82	98.63								
521520.2	13.26	0.128	32.31	2.09	0.08	0.15	0.13	0.02	0.20	0.008	1.44	11.07	99.94								
521520.3	54.92	0.238	17.94	0.17	< 0.01	0.02	0.03	< 0.01	1.54	0.021	2.00	3.54	99.06	30.0	2.130	27.125	7.1	29.255	2.61	0.11	
521521	57.07	0.172	17.05	0.72	0.08	0.01	0.03	< 0.01	1.47	0.020	1.73	4.32	98.09	30.1	2.504	27.327	8.3	29.831	0.83	0.05	2.62
521522	51.04	0.174	19.56	1.04	0.07	0.01	0.02	< 0.01	1.25	0.018	2.09	5.39	98.08	30.2	2.448	27.920	8.1	30.368	-0.57	0.05	2.62
521523	56.42	0.196	16.98	0.80	< 0.01	0.02	0.02	0.01	1.66	0.024	1.58	4.17	97.49	30.2	2.076	28.119	6.9	30.196	-0.03	0.07	2.60
521524	41.44	0.259	23.83	0.64	0.07	0.05	0.03	< 0.01	2.80	0.037	2.64	2.52	96.67	30.1	0.948	29.117	3.2	30.065	-0.01	< 0.01	2.90
521525	48.77	0.279	19.82	0.89	0.05	0.02	0.04	0.01	3.21	0.041	2.47	1.84	96.28	30.1	0.949	29.265	3.2	30.214	-0.37	0.01	2.82
521526	54.52	0.215	18.40	0.36	0.28	0.03	0.03	< 0.01	2.24	0.031	2.07	2.57	97.04	30.0	1.518	28.518	5.1	30.036	-0.09	0.03	2.73
521527	55.10	0.277	17.07	0.73	0.03	0.02	0.04	0.01	3.34	0.039	2.70	1.59	96.73	30.2	1.045	28.739	3.5	29.784	1.22	0.02	2.73
521528	49.20	0.234	21.30	0.43	0.10	0.01	0.03	0.01	2.48	0.034	2.06	2.06	97.06	30.2	1.366	28.378	4.5	29.744	1.56	0.01	2.74
521529	55.15	0.278	17.51	0.34	< 0.01	< 0.01	0.03	0.01	3.48	0.045	2.18	0.35	96.48	30.2	1.010	28.787	3.3	29.797	1.31	0.01	2.85
521530	30.07	0.256	31.03	0.64	< 0.01	< 0.01	0.02	0.01	2.04	0.029	0.889	1.38	97.47	30.2	1.654	28.095	5.5	29.749	1.45	< 0.01	2.99
521531	31.21	0.274	30.96	0.27	< 0.01	< 0.01	0.02	0.01	2.17	0.032	0.970	1.41	97.42	30.1	1.375	28.748	4.6	30.124	-0.12	< 0.01	2.99
521532	37.92	0.285	27.03	0.90	< 0.01	< 0.01	0.03	0.01	2.43	0.031	1.52	1.23	97.78	30.2	1.562	28.151	5.2	29.713	1.52	< 0.01	2.78
521533	59.65	0.254	16.03	0.11	< 0.01	< 0.01	0.03	0.01	2.42	0.030	2.25	1.37	96.85	30.2	1.642	28.654	5.4	30.296	-0.35	0.07	2.91
521534	29.05	0.254	32.27	0.34	< 0.01	0.01	0.02	0.01	1.94	0.024	1.08	1.66	98.78	30.1	1.434	28.241	4.8	29.675	1.34	< 0.01	3.03
521535	41.09	0.278	25.32	0.15	< 0.01	< 0.01	0.04	0.01	2.74	0.029	1.74	1.93	97.86	30.1	0.897	28.352	3.0	29.249	2.96	0.02	2.94
521536	31.51	0.280	31.79	0.38	< 0.01	< 0.01	0.03	0.01	2.35	0.023	1.07	1.87	98.00	30.1	1.350	28.066	4.5	29.416	2.28	0.02	3.01
521537	66.10	0.316	12.38	0.08	< 0.01	0.03	0.07	0.01	2.26	0.039	2.10	0.96	97.55	30.1	1.444	28.242	4.8	29.687	1.32	0.12	2.70
522400	0.61	0.011	0.02	0.03	0.01	0.07	0.04	0.01	< 0.01	0.004	< 0.003	0.09	99.71	23.1	0.054	22.395	0.2	22.449	2.72		2.73
522401	61.01	0.230	15.29	0.04	0.02	0.02	0.02	0.01	1.97	0.025	1.88	1.68	97.01	30.1	2.270	27.480	7.5	29.750	1.26	0.06	2.68
522402	62.45	0.427	12.18	0.04	< 0.01	0.01	0.03	0.01	5.88	0.048	2.70	0.24	95.06	30.2	1.703	28.496	5.6	30.199	-0.10	0.05	2.72
522403	61.26	0.235	14.66	0.16	0.01	0.01	0.02	< 0.01	2.59	0.031	3.20	0.84	96.67	30.2	1.390	28.451	4.6	29.840	1.08	0.05	2.67
522404	61.83	0.149	15.04	0.07	0.17	0.02	0.01	< 0.01	1.66	0.019	1.66	2.32	98.05	30.2	2.248	27.886	7.4	30.134	0.34	0.08	2.65
522405	59.95	0.193	15.29	0.10	< 0.01	0.01	0.01	0.01	2.28	0.027	2.36	1.90	97.68	30.2	1.588	28.712	5.3	30.300	-0.36	0.07	2.69
522406	55.20	0.193	17.38	0.11	0.03	0.02	0.01	0.01	2.26	0.027	2.62	2.22	97.26	30.1	1.488	28.245	4.9	29.733	1.33	0.03	2.74
522407	58.58	0.213	15.92	0.10	0.02	0.02	0.02	< 0.01	2.52	0.028	2.74	2.22	97.21	30.2	1.516	27.970	5.0	29.486	2.34	0.07	2.70
522408	55.54	0.204	17.36	0.08	0.02	0.01	0.01	0.01	2.28	0.026	2.32	3.38	97.42	30.1	1.666	28.028	5.5	29.694	1.24	0.07	2.62
522409	63.74	0.227	12.97	0.07	0.01	0.01	0.02	0.01	2.62	0.030	2.92	0.75	96.90	30.2	1.343	28.805	4.4	30.148	0.27	0.03	2.65
522410	72.75	0.257	8.55	0.79	0.08	0.07	0.74	0.06	1.68	0.124	1.23	1.87	98.37	30.1	2.104	28.061	7.0	30.166	-0.12		2.68
522411	62.43	0.205	14.80	0.13	< 0.01	0.01	0.02	0.01	2.03	0.025	1.67	1.79	97.94	30.1	2.005	28.197	6.7	30.202	-0.41	0.16	2.74
522412	44.22	0.223	22.56	0.41	0.03	0.02	0.02	0.01	2.18	0.023	1.90	5.33	97.98	30.1	1.656	28.535	5.5	30.191	-0.25	0.14	2.74
522413	60.48	0.212	15.49	0.16	< 0.01	0.02	0.02	0.01	2.08	0.030	1.82	2.69	97.65	30.1	2.018	27.983	6.7	30.001	0.34	0.09	2.74
522451	50.53	0.212	19.11	0.60	< 0.01	0.01	0.05	0.01	1.44	0.025	1.87	4.14	98.70	30.2	2.181	28.798	7.2	30.979	-2.58	0.03	2.73
522452	59.12	0.232	14.80	0.40	0.02	0.02	0.05	0.01	1.89	0.026	2.48	2.41	97.00	30.2	1.407	28.093	4.7	29.500	2.47	0.03	2.78
522453	55.47	0.270	15.97	0.47	0.05	0.01	0.05	0.01	2.02	0.029	2.87	2.51	96.92	30.1	1.275	28.851	4.2	30.126	-0.02	0.03	2.78
522454	49.78	0.212	18.89	0.58	0.04	0.01	0.05	0.01	1.37	0.027	1.92	3.77	97.40	30.1	2.043	28.275	6.8	30.319	-0.56		2.69
522455	68.77	0.232	8.85	1.47	0.03	0.04	0.15	0.01	2.14	0.037	1.60	0.25	97.44	30.3	0.821	29.384	2.7	30.205	0.20	0.02	2.75
522456	52.82	0.273	18.18	0.09	0.01	0.05	0.04	0.01	2.11	0.029	2.45	3.28	97.24	30.2	1.794	28.094	5.9	29.888	0.96	0.11	2.79
522457	50.89	0.206	19.40	0.11	0.14	0.02	0.02	0.01	1.90	0.021	2.53	3.79	97.00	30.2	1.943	28.308	6.4	30.251	-0.01	0.07	2.93
522458	56.08	0.223	17.51	0.09	< 0.01	0.01	0.03	< 0.01	2.23	0.030	2.30	3.02	97.53	30.1	1.936	28.270	6.4	30.207	-0.23	0.08	2.69
522459	46.21	0.168	22.50	0.08	< 0.01	0.01	0.02	0.01	1.45	0.026	1.88	3.87	97.93	30.6	2.419	27.991	7.9	30.410	0.56	0.02	2.75
522460.1	12.08	0.165	4.90	7.75	2.45	2.84	1.08	0.43	1.04	0.065	0.233	0.83	99.28								
522460.2	13.18	0.128	32.27	2.06	0.01	0.15	0.13	0.02	0.19	0.005	1.44	10.99	99.51								
522460.3	54.97	0.237	17.77	0.15	< 0.01	0.04	0.03	0.01	1.61	0.024	2.00	3.18	98.72	30.3	2.021	27.606	6.7	29.627	2.26	0.11	
522461	57.14	0.328	17.04	0.07	0.02	0.02	0.04	0.01	2.46	0.028	2.55	1.67	98.11	30.3	1.814	28.632	6.0	30.446	-0.52	0.02	2.71
522462	53.41	0.318	13.67	0.96	< 0.01	< 0.01	0.10	0.01	4.45	0.043	3.13	1.55	96.75	30.1	0.479	29.496	1.6	29.975	0.30	0.02	2.67
522463	63.48	0.286	14.18	0.09	0.10	0.03	0.06	0.01	2.05	0.030	2.25	1.60	99.03	30.3	1.977	28.468	6.5	30.445	-0.57	0.02	2.81
522464	73.26	0.245	9.84	0.07	0.01	0.02	0.40	0.02	1.70	0.074	1.35	0.09	97.65	30.2	1.835	27.941	6.1	29.776	1.51	0.02	2.69
522465	62.75	0.292	14.33	0.06	0.01	0.02	0.03	< 0.01	1.85	0.036	2.06	1.59	97.28	28.8	2.031	26.813	7.1	28.844	-0.29	0.03	2.73

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S	Spec Grav Core
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%	-
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR	GRAV
522466	50.95	0.246	17.98	0.20	< 0.01	< 0.01	0.07	0.01	1.50	0.029	0.857	1.54	98.13	30.2	1.909	28.415	6.3	30.324	-0.31	0.03	2.93
522467	65.71	0.252	12.56	0.04	0.01	0.02	0.06	0.01	2.46	0.035	1.58	0.87	96.99	25.1	1.238	23.706	4.9	24.944	0.52	0.15	2.68
522468	59.10	0.253	15.98	0.07	0.04	0.05	0.05	0.01	1.67	0.030	1.60	2.70	98.10	30.2	2.404	27.648	8.0	30.052	0.41	0.16	2.69
522469	64.00	0.287	12.24	0.02	< 0.01	< 0.01	0.09	0.01	2.39	0.046	1.32	1.54	97.07	30.2	1.427	28.566	4.7	29.993	0.53	0.10	2.66
522470														30.2	0.028	29.813	0.1	29.841	1.25		3.08
522471	57.40	0.234	16.52	0.05	< 0.01	0.07	0.04	0.01	2.00	0.026	2.42	2.31	97.50	30.2	1.945	28.280	6.4	30.225	-0.17	0.08	2.80
522472	58.38	0.251	16.41	0.06	0.04	0.01	0.03	0.01	1.76	0.030	1.72	2.49	98.33	19.4	1.528	17.771	7.9	19.299	0.62		2.75
522473														21.6	0.029	21.427	0.1	21.456	0.61		2.66
522474														30.2	0.055	29.821	0.2	29.876	0.96		2.67
522475														30.4	0.025	30.222	0.1	30.247	0.38		2.66
522476	58.46	0.256	16.07	0.16	< 0.01	0.03	0.04	0.02	1.83	0.035	2.09	2.65	97.46	30.2	1.968	28.144	6.5	30.112	0.39	0.04	2.61
522477	61.17	0.261	15.26	0.27	< 0.01	0.05	0.03	0.01	2.38	0.039	2.82	2.11	97.87	30.2	1.601	28.675	5.3	30.275	-0.12	0.06	2.58
522478	48.67	0.182	22.32	0.14	< 0.01	0.01	0.02	0.01	1.49	0.024	1.65	4.84	98.75	30.4	2.519	27.024	8.3	29.544	2.72	0.06	2.71
522479	56.38	0.155	18.67	0.08	< 0.01	0.03	0.03	0.01	1.72	0.029	2.47	3.76	98.63	30.3	1.954	27.820	6.5	29.774	1.63	0.07	2.73
522480	0.62	0.010	0.01	0.04	< 0.01	0.06	0.05	0.01	< 0.01	< 0.003	< 0.003	0.19	99.73	10.3	0.063	9.987	0.6	10.050	2.55		2.73
522481	57.73	0.220	17.68	0.21	< 0.01	0.05	0.04	< 0.01	2.26	0.033	1.86	3.14	99.05	30.3	2.035	28.161	6.7	30.196	0.43	0.04	2.57
522482	54.84	0.271	18.56	0.42	0.01	< 0.01	0.03	0.01	2.44	0.030	2.06	2.46	97.62	30.3	1.739	28.600	5.7	30.338	-0.10	0.04	2.81
522483	40.05	0.231	26.03	0.58	< 0.01	0.03	0.03	0.01	1.46	0.020	1.77	6.12	99.09	30.1	2.585	27.272	8.6	29.856	0.94	0.06	2.62
522484	48.75	0.194	21.84	0.15	< 0.01	0.04	0.03	0.01	1.59	0.024	1.74	5.70	98.71	30.0	2.486	27.333	8.3	29.819	0.72	0.07	2.71
522485	49.48	0.221	21.16	0.59	< 0.01	0.05	0.03	0.01	1.54	0.028	1.80	4.62	98.07	30.2	2.407	27.911	8.0	30.317	-0.31	0.07	2.66
522486	41.71	0.164	24.97	0.41	< 0.01	0.03	0.03	0.01	1.05	0.020	1.20	6.67	99.12	30.4	3.736	26.528	12.3	30.265	0.28	0.05	2.72
522487	51.96	0.231	19.68	0.25	< 0.01	0.04	0.04	0.01	1.66	0.029	1.74	4.30	97.88	30.2	2.535	27.731	8.4	30.266	-0.34	0.04	2.76
522488	44.08	0.204	23.54	0.20	< 0.01	0.04	0.02	0.01	1.42	0.025	1.47	5.44	98.65	30.3	3.187	26.943	10.5	30.130	0.43	0.03	2.58
522489	41.65	0.206	24.64	0.16	< 0.01	0.03	0.03	0.01	1.40	0.026	1.70	6.02	98.56	30.1	3.164	26.804	10.5	29.968	0.40	0.05	2.64
522490	76.71	0.215	7.48	0.39	< 0.01	0.02	0.27	0.01	1.96	0.070	2.21	-0.86	97.48	30.3	1.683	28.514	5.6	30.197	0.29	0.06	3.16
522491	57.01	0.308	16.87	0.16	< 0.01	0.02	0.05	0.01	2.00	0.034	1.90	2.61	97.07	30.2	2.189	27.986	7.2	30.175	0.18	0.09	2.85
522492	53.56	0.204	17.70	0.07	< 0.01	0.05	0.06	0.01	1.40	0.029	1.89	3.60	97.71	30.1	2.766	27.005	9.2	29.771	0.94	0.12	2.60
522493	45.51	0.182	21.23	0.07	< 0.01	0.04	0.07	0.01	1.12	0.023	1.85	5.05	97.96	30.2	3.095	27.016	10.3	30.111	0.27	0.04	2.73
522494	47.16	0.201	20.40	0.02	< 0.01	< 0.01	0.09	0.01	1.48	0.029	1.76		96.92	30.1	0.212	30.022	0.7	30.234	-0.56	0.05	2.67
522495	55.15	0.271	12.39	0.02	< 0.01	< 0.01	0.09	0.01	1.41	0.033	1.37	2.99	98.19	30.2	0.370	29.829	1.2	30.199	-0.12		2.65
522496														30.3	0.008	29.855	0.0	29.863	1.38		3.14
522497	63.76	0.285	13.01	0.05	< 0.01	0.05	0.07	0.01	1.97	0.043	1.83	1.53	97.24	30.0	1.972	28.004	6.6	29.976	0.21		2.68
522498	50.92	0.263	18.66	0.51	< 0.01	0.05	0.05	0.01	1.61	0.030	1.84	3.45	98.09	30.1	2.524	27.850	8.4	30.374	-0.95	0.04	2.74
522499	51.22	0.216	18.58	0.14	< 0.01	0.03	0.04	0.01	1.43	0.025	2.26	3.97	97.57	30.1	2.328	26.988	7.7	29.316	2.59	0.08	2.66
522500.1	12.05	0.167	4.95	7.71	2.41	2.79	1.10	0.44	1.05	0.065	0.232	0.88	99.10								
522500.2	13.16	0.129	32.35	2.06	0.08	0.13	0.12	0.02	0.20	0.007	1.44	10.88	99.23								
522500.3	54.25	0.239	17.75	0.15	< 0.01	0.03	0.04	0.01	1.59	0.024	2.02	3.31	98.25	30.5	2.081	28.056	6.8	30.137	1.05	0.11	
522501	61.10	0.214	14.20	0.25	< 0.01	0.03	0.04	0.01	1.75	0.032	3.33	1.48	97.67	30.1	1.516	28.528	5.0	30.045	0.05	0.12	2.74
522502	36.91	0.184	26.12	0.25	< 0.01	0.06	0.04	0.01	0.88	0.021	1.56	6.97	98.44	30.1	3.403	26.721	11.3	30.124	-0.10	0.08	2.66
522503	54.51	0.188	17.41	0.30	< 0.01	0.05	0.04	0.01	1.37	0.026	2.06	3.11	97.60	30.2	2.532	27.623	8.4	30.155	0.31	0.09	2.79
522504	44.62	0.240	22.50	0.21	< 0.01	0.05	0.04	0.01	1.35	0.026	2.20	4.99	98.20	30.1	2.180	27.775	7.2	29.955	0.53	0.11	2.73
522505	68.30	0.163	11.62	0.07	< 0.01	0.04	0.06	0.01	1.56	0.036	2.22	1.16	97.44	30.1	2.170	27.700	7.2	29.870	0.66	0.13	2.71
522506	47.29	0.171	21.51	0.22	< 0.01	0.08	0.05	0.01	0.93	0.020	1.37	5.26	98.41	30.1	3.181	26.741	10.6	29.922	0.55	0.08	2.73
522507	42.62	0.138	22.84	0.52	< 0.01	0.03	0.04	0.01	0.81	0.018	1.86	5.45	98.53	30.1	2.570	27.546	8.5	30.116	0.07	0.05	2.78
522508	38.45	0.248	25.08	0.49	< 0.01	0.05	0.04	< 0.01	1.55	0.022	2.96	5.23	97.48	30.0	1.619	28.323	5.4	29.942	0.31	0.10	2.74
522509	51.83	0.178	19.27	0.60	0.02	0.05	0.04	0.01	1.29	0.022	2.64	3.99	97.62	30.2	1.766	28.369	5.9	30.135	0.16	0.03	2.67
522510	43.72	0.178	23.35	0.18	< 0.01	0.05	0.03	0.01	1.37	0.021	2.26	5.82	98.51	30.0	2.076	28.018	6.9	30.094	-0.15	0.03	2.67
522511	53.26	0.181	18.44	0.50	< 0.01	0.02	0.04	0.01	1.28	0.024	2.16	3.41	97.44	30.1	2.044	27.809	6.8	29.853	0.85	0.04	2.72
522512	58.31	0.149	16.50	0.42	< 0.01	0.05	0.05	0.01	1.37	0.031	2.63	2.59	98.62	30.0	1.941	27.595	6.5	29.536	1.66	0.04	2.64
522513	41.78	0.176	24.60	0.39	< 0.01	0.02	0.04	0.01	1.31	0.019	2.17	5.51	99.29	30.0	2.403	27.820	8.0	30.222	-0.63	0.03	2.62
522514	60.81	0.143	15.14	0.25	< 0.01	0.01	0.05	0.01	1.18	0.025	2.28	2.47	98.57	30.1	2.311	27.799	7.7	30.110	0.03	0.03	2.69

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S	Spec Grav Core
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%	-
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR	GRAV
522515	38.23	0.140	25.40	0.33	0.01	0.02	0.04	0.01	0.86	0.014	1.29	6.82	99.66	30.3	3.826	26.348	12.6	30.174	0.36	0.03	2.63
522516	36.72	0.204	24.87	1.28	< 0.01	0.02	0.04	0.01	1.27	0.016	1.97	6.75	97.95	30.0	2.332	27.549	7.8	29.881	0.49	0.05	2.69
522517	48.79	0.146	20.33	0.50	< 0.01	0.02	0.04	0.01	0.98	0.023	2.05	4.34	98.26	30.1	2.544	27.507	8.5	30.051	0.12	0.04	2.78
522518	54.33	0.153	17.63	0.30	< 0.01	0.02	0.06	0.01	1.42	0.024	2.53	3.23	97.37	30.1	1.870	28.207	6.2	30.076	0.08	0.03	2.67
522519	37.20	0.205	24.93	1.63	< 0.01	0.02	0.04	0.01	1.33	0.021	1.80	5.25	98.28	30.0	2.263	27.668	7.5	29.931	0.37	0.03	2.67
522520.1	12.09	0.168	4.95	7.79	2.43	2.79	1.10	0.44	1.05	0.063	0.233	0.77	99.11								
522520.2	13.16	0.128	32.30	2.08	0.08	0.13	0.12	0.02	0.20	0.007	1.44	10.99	99.47								
522520.3	54.54	0.245	17.67	0.14	< 0.01	0.02	0.03	0.01	1.65	0.024	2.02	2.94	97.60	30.1	1.955	27.842	6.5	29.797	0.98	0.11	
522521	43.44	0.228	22.11	1.51	< 0.01	0.01	0.05	0.01	1.55	0.023	2.03	4.47	98.07	30.2	2.289	28.000	7.6	30.289	-0.32	0.04	2.66
522522	37.83	0.150	25.82	0.71	< 0.01	0.02	0.04	0.01	0.91	0.016	1.82	6.33	98.84	30.1	2.622	27.343	8.7	29.965	0.55	0.04	2.74
522523	41.58	0.142	24.05	0.55	< 0.01	0.03	0.05	0.01	0.91	0.021	1.49	5.81	99.11	30.2	3.029	27.164	10.0	30.193	0.16	0.03	2.75
522524	42.68	0.150	23.27	0.36	< 0.01	0.02	0.04	0.01	1.00	0.020	1.80	5.74	98.92	30.1	2.718	27.285	9.0	30.003	0.31	0.04	2.72
522525	56.14	0.151	17.35	0.37	< 0.01	0.02	0.04	0.01	1.33	0.026	2.38	2.86	97.50	30.1	1.901	28.121	6.3	30.022	0.37	0.03	2.71
522526	33.88	0.206	26.98	0.93	< 0.01	0.02	0.04	0.01	1.27	0.021	1.47	6.24	99.00	30.1	2.653	27.372	8.8	30.024	0.14	0.02	2.80
522527	55.25	0.173	17.55	0.96	0.01	0.01	0.08	0.02	1.50	0.023	2.43	2.76	98.87	30.1	1.937	28.183	6.4	30.120	-0.09	0.02	2.85
522528	40.27	0.141	24.80	0.71	< 0.01	0.02	0.04	0.01	1.01	0.022	1.54	5.99	99.95	30.3	3.078	27.034	10.2	30.111	0.47	0.03	2.73
522529	53.92	0.182	17.77	1.09	0.01	0.03	0.05	0.01	1.33	0.028	2.44	3.23	98.70	30.1	1.647	28.372	5.5	30.019	0.17	0.03	2.70
523301	41.96	0.210	24.43	0.37	< 0.01	0.02	0.05	0.01	1.35	0.018	1.78	5.44	99.03	30.1	2.136	27.835	7.1	29.972	0.44	0.03	2.63
523302	54.46	0.198	18.43	0.53	< 0.01	0.13	0.06	0.01	1.55	0.027	1.85	3.17	98.16	30.1	1.983	29.042	6.6	31.024	-2.95	0.03	2.72
523303	56.74	0.182	16.33	0.39	< 0.01	0.03	0.06	0.01	1.36	0.029	2.16	4.01	97.51	30.1	2.157	27.851	7.2	30.007	0.28	0.03	2.84
523304	50.88	0.165	19.23	0.41	< 0.01	0.03	0.04	< 0.01	1.18	0.022	2.24	6.28	98.11	30.5	1.741	28.614	5.7	30.354	0.38	0.04	2.71
523305	44.42	0.173	24.22	0.43	< 0.01	0.05	0.05	0.01	1.26	0.019	1.84	5.85	98.92	30.4	2.326	27.977	7.7	30.303	0.27	0.04	2.74
523306	47.88	0.204	22.06	0.29	< 0.01	0.07	0.07	0.01	1.56	0.024	1.93	4.17	98.67	30.3	1.865	28.374	6.1	30.239	0.34	0.04	2.68
523307	44.57	0.213	22.80	0.35	< 0.01	0.03	0.04	0.01	1.43	0.021	1.85	5.01	97.57	30.1	2.085	27.986	6.9	30.071	0.10	0.04	2.76
523308	45.18	0.211	23.56	0.63	0.04	0.08	0.04	0.01	1.04	0.019	2.02	4.61	99.45	30.3	1.892	28.239	6.3	30.131	0.42	0.06	2.79
523309	42.50	0.248	24.36	0.15	< 0.01	0.03	0.04	0.01	2.67	0.024	2.26	5.39	98.34	30.2	2.107	27.994	7.0	30.101	0.29	0.10	2.63
523310	50.59	0.194	19.56	0.19	< 0.01	0.03	0.07	0.01	1.70	0.027	2.77	4.18	98.16	30.2	1.957	28.123	6.5	30.080	0.45	0.20	2.74
523311	56.67	0.213	17.36	0.19	< 0.01	0.03	0.05	0.01	1.65	0.025	2.79	2.86	97.49	30.1	1.805	27.513	6.0	29.317	2.75	0.16	2.65
523312	56.01	0.218	18.04	0.29	< 0.01	0.04	0.06	0.01	1.63	0.022	3.08	1.75	97.20	30.2	1.927	28.084	6.4	30.011	0.50	0.08	2.60
523313	49.57	0.215	20.59	0.26	< 0.01	0.03	0.06	0.01	1.73	0.018	3.18	3.77	97.44	30.0	1.440	28.648	4.8	30.088	-0.13	0.09	2.78
523314	64.72	0.199	13.08	0.27	< 0.01	0.02	0.05	0.01	1.89	0.031	3.07	1.10	97.41	30.2	1.398	28.743	4.6	30.140	0.06	0.06	2.77
523315	54.21	0.191	17.78	0.44	0.02	0.07	0.05	0.01	1.55	0.023	2.46	3.63	97.33	30.2	1.748	28.295	5.8	30.044	0.38	0.06	2.74
523316	65.52	0.125	13.73	0.09	< 0.01	0.07	0.04	< 0.01	1.22	0.023	1.88	1.44	98.13	30.3	2.314	27.855	7.6	30.170	0.28	0.06	2.62
523317	60.97	0.178	14.74	0.27	< 0.01	0.02	0.05	< 0.01	1.61	0.025	2.86	2.20	96.99	30.2	1.418	28.609	4.7	30.027	0.48	0.06	2.80
523318	59.29	0.171	15.83	0.43	< 0.01	0.03	0.04	0.01	1.13	0.028	1.95	3.23	97.56	30.2	2.153	27.876	7.1	30.029	0.49	0.03	2.62
523319	59.09	0.194	15.65	0.41	< 0.01	0.03	0.05	< 0.01	1.58	0.026	2.60	2.69	97.46	30.3	1.658	28.746	5.5	30.404	-0.26	0.05	2.67
523320.1	12.08	0.165	4.95	7.77	2.37	2.80	1.08	0.43	1.05	0.064	0.237	0.85	98.87								
523320.2	13.19	0.130	32.38	2.10	0.10	0.15	0.13	0.02	0.21	0.009	1.44	11.00	99.86								
523320.3	54.60	0.241	17.59	0.16	< 0.01	0.02	0.03	0.01	1.53	0.024	2.01	3.43	98.47	30.8	2.174	26.110	7.1	28.284	8.08	0.11	
523321	52.38	0.225	19.14	0.53	< 0.01	0.06	0.05	0.01	1.37	0.022	2.02	4.59	97.61	30.2	1.889	28.363	6.3	30.252	-0.22	0.04	2.71
523322	48.79	0.236	20.44	0.38	< 0.01	0.06	0.06	0.01	1.65	0.018	3.15	4.62	98.39	30.1	1.410	28.548	4.7	29.958	0.35	0.10	2.67
523323	71.67	0.140	10.50	0.17	< 0.01	0.03	0.06	0.01	1.83	0.029	2.78	0.30	97.80	30.3	1.419	28.826	4.7	30.244	0.04	0.08	2.76
523324	56.53	0.181	17.94	0.30	< 0.01	0.02	0.05	0.01	1.46	0.025	2.45	3.68	98.54	30.1	1.682	28.383	5.6	30.065	0.14	0.05	2.68
523325	57.02	0.128	17.45	0.06	< 0.01	0.03	0.04	0.01	2.34	0.028	2.97	2.64	97.72	30.3	1.668	28.522	5.5	30.190	0.27	0.07	2.87
523326	68.19	0.153	12.48	0.19	< 0.01	0.03	0.05	0.01	1.14	0.026	1.98	1.66	97.91	30.2	2.168	27.957	7.2	30.125	0.33	0.07	2.60
523327	72.69	0.167	10.01	0.14	< 0.01	0.02	0.06	0.01	1.63	0.032	2.57	0.20	97.27	30.3	1.705	28.489	5.6	30.194	0.27	0.05	2.82
523328	62.99	0.133	14.32	0.17	< 0.01	0.04	0.05	< 0.01	1.14	0.029	1.94	2.43	97.52	30.2	2.412	27.459	8.0	29.871	1.16	0.06	2.67
523329	63.93	0.172	13.59	0.11	< 0.01	0.02	0.05	0.01	1.63	0.031	2.48	1.75	97.81	30.0	1.954	28.231	6.5	30.185	-0.51	0.05	2.67
523330	56.05	0.149	17.69	0.27	< 0.01	0.03	0.04	0.01	1.16	0.029	1.99	3.46	98.33	30.2	2.286	27.789	7.6	30.075	0.46	0.05	2.73
523331	63.70	0.198	14.32	0.26	< 0.01	0.05	0.05	0.01	1.53	0.031	2.26	1.95	97.76	30.1	1.940	27.520	6.4	29.460	2.15	0.04	2.74
523332	61.68	0.187	14.98	0.35	< 0.01	0.02	0.08	0.02	1.51	0.030	2.04	2.23	99.19	30.2	2.104	27.872	7.0	29.976	0.72	0.09	2.75

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S	Spec Grav Core
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%	-
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR	GRAV
523333	59.29	0.138	16.46	0.17	< 0.01	0.03	0.05	0.01	1.14	0.026	1.58	3.38	98.96	30.0	2.404	27.547	8.0	29.950	0.26	0.07	2.62
523334	57.70	0.281	15.79	0.61	< 0.01	0.03	0.05	0.01	2.63	0.035	2.84	1.74	96.94	30.1	1.411	28.606	4.7	30.017	0.43	0.07	2.71
523335	63.89	0.275	12.58	0.43	< 0.01	0.12	0.05	0.01	2.72	0.039	3.08	0.72	96.45	30.3	1.263	29.255	4.2	30.518	-0.70	1.59	2.76
523336	54.65	0.221	17.05	0.32	< 0.01	0.02	0.05	< 0.01	1.98	0.027	2.78	3.11	97.70	30.3	1.595	28.484	5.3	30.079	0.62	0.08	2.67
523337	58.60	0.209	15.12	0.27	< 0.01	0.03	0.04	< 0.01	2.33	0.031	3.69	1.39	96.89	30.2	1.136	29.108	3.8	30.244	-0.12	0.08	2.71
523338	66.19	0.200	11.98	0.12	< 0.01	0.02	0.05	0.01	2.46	0.037	2.70	0.58	97.01	30.1	1.383	28.811	4.6	30.194	-0.26	0.04	2.67
523339	55.47	0.239	16.81	0.14	< 0.01	0.05	0.04	< 0.01	2.58	0.033	2.87	2.24	97.29	30.1	1.527	28.487	5.1	30.014	0.33	0.05	2.71
523340	0.57	0.007	0.03	0.01	< 0.01	0.07	0.04	0.01	< 0.01	< 0.003	< 0.003	0.20	100.2	30.2	0.076	29.885	0.3	29.960	0.66		2.62
523341	62.91	0.286	14.36	0.20	< 0.01	0.06	0.05	0.01	2.02	0.034	1.78	1.29	97.56	30.1	2.025	28.104	6.7	30.129	-0.11	0.05	2.64
523342	55.03	0.263	16.45	0.15	0.04	0.04	0.05	0.01	3.23	0.040	2.43	2.29	97.26	30.1	1.642	28.427	5.5	30.069	0.15	0.05	2.72
523343	60.70	0.215	15.12	0.21	< 0.01	0.03	0.04	0.01	1.95	0.025	2.88	1.41	97.03	30.1	1.773	28.438	5.9	30.211	-0.35	0.04	2.62
523344	54.35	0.226	17.96	0.23	< 0.01	0.03	0.03	< 0.01	2.30	0.033	2.82	2.30	97.49	30.1	1.583	28.119	5.3	29.702	1.34	0.03	2.76
523345	55.51	0.197	17.93	0.20	< 0.01	0.06	0.06	0.01	1.93	0.029	2.20	3.16	97.70	30.0	1.976	28.081	6.6	30.057	-0.08	0.03	2.71
523346	59.87	0.160	16.13	0.10	< 0.01	0.04	0.03	0.01	1.50	0.026	1.90	2.64	97.49	30.4	2.200	28.031	7.2	30.230	0.43	0.04	2.75
523347	46.72	0.212	22.13	0.50	< 0.01	0.03	0.03	0.01	1.72	0.025	2.42	4.09	97.63	30.3	1.898	28.465	6.3	30.363	-0.36	0.05	2.72
523348	60.23	0.222	15.33	0.27	< 0.01	0.02	0.03	< 0.01	2.18	0.033	2.99	1.79	97.15	30.2	1.516	28.800	5.0	30.316	-0.37	0.04	2.73
523349	50.09	0.241	19.96	0.73	< 0.01	0.02	0.03	0.02	1.98	0.028	2.71	3.20	97.60	30.2	1.635	28.535	5.4	30.170	0.01	0.04	2.62
523350	46.27	0.241	22.44	0.42	< 0.01	0.02	0.03	0.01	2.05	0.023	2.57	4.44	97.77	30.2	1.648	28.480	5.5	30.128	0.16	0.09	2.67
523351	48.12	0.224	20.63	0.10	< 0.01	0.02	0.04	< 0.01	2.43	0.030	2.72	4.03	96.71	30.2	1.744	28.493	5.8	30.237	-0.26	0.03	2.65
523352	56.83	0.220	16.17	0.15	< 0.01	0.03	0.04	0.01	2.53	0.029	3.35	2.03	96.53	30.2	1.365	28.775	4.5	30.141	0.22	0.04	2.70
523353	46.39	0.169	22.60	0.12	< 0.01	0.20	0.04	0.01	1.66	0.020	2.41	4.15	98.30	30.2	1.942	28.175	6.4	30.117	0.22	0.03	2.66
523354	46.81	0.176	21.42	0.22	< 0.01	0.02	0.03	0.01	1.61	0.020	2.58	4.24	97.34	30.3	1.840	28.212	6.1	30.052	0.77	0.03	2.68
523355	45.20	0.183	22.34	0.26	< 0.01	0.04	0.03	0.01	1.59	0.017	2.32	4.44	97.64	30.1	2.114	28.076	7.0	30.190	-0.26	0.03	2.65
523356	42.45	0.192	23.62	0.32	< 0.01	0.04	0.05	0.01	1.77	0.023	3.08	3.99	97.59	30.2	1.602	28.601	5.3	30.202	-0.04	0.06	2.76
523357	46.28	0.263	21.54	0.17	< 0.01	0.03	0.04	0.01	2.53	0.024	2.39	3.14	96.94	30.2	1.655	28.303	5.5	29.957	0.66	0.21	2.66
523358														30.2	0.014	30.186	0.0	30.201	0.11		3.19
523359														30.3	0.009	30.316	0.0	30.326	-0.25		2.63
523360.1	12.05	0.167	4.95	7.78	2.29	2.82	1.09	0.44	1.03	0.062	0.240	0.93	98.97								
523360.2	13.09	0.130	32.33	2.08	0.11	0.16	0.13	0.02	0.20	0.009	1.44	11.13	99.70								
523360.3	54.54	0.245	17.91	0.14	< 0.01	0.03	0.03	0.01	1.63	0.024	2.01	3.39	98.43	30.2	2.007	28.177	6.6	30.184	0.14	0.11	
523361														30.1	0.010	30.033	0.0	30.043	0.08		3.23
523362	42.37	0.271	23.09	0.41	< 0.01	0.03	0.03	0.01	2.05	0.022	2.46	3.87	97.08	30.1	1.808	28.298	6.0	30.105	-0.05	0.20	2.74
523363	58.26	0.174	17.31	0.05	< 0.01	0.10	0.03	0.01	1.54	0.024	1.54	2.00	97.57	30.1	2.618	27.515	8.7	30.133	-0.09	0.21	2.63
523364	49.83	0.199	17.38	1.69	0.30	0.07	0.30	0.02	1.34	0.035	0.824	2.34	97.84	30.1	0.930	29.012	3.1	29.942	0.67	0.16	3.11
523365	33.63	0.191	26.90	0.34	< 0.01	0.02	0.03	0.01	1.69	0.021	1.84	5.45	97.60	30.1	2.024	28.053	6.7	30.077	0.12	0.23	2.65
523366	37.63	0.163	26.29	0.41	< 0.01	0.02	0.04	< 0.01	1.44	0.019	1.73	4.61	97.35	30.1	2.307	27.614	7.7	29.921	0.50		2.74
523367	61.32	0.288	12.06	0.42	< 0.01	0.08	0.04	0.01	3.61	0.044	3.73	2.83	96.01	30.1	1.488	28.514	4.9	30.002	0.31		2.69
523368	47.55	0.195	20.34	0.35	< 0.01	0.02	0.04	0.01	2.29	0.030	2.72	4.72	97.89	30.1	1.719	28.326	5.7	30.045	0.30		2.76
523369	37.70	0.178	25.98	0.79	< 0.01	0.03	0.05	0.01	1.87	0.022	2.27	3.10	97.70	30.2	1.738	28.482	5.7	30.220	0.06		2.77
523370	46.58	0.233	23.23	0.11	0.04	0.04	0.04	0.01	1.92	0.024	2.54	0.97	97.92	30.0	1.380	28.584	4.6	29.965	0.27		2.74
523371	84.39	0.164	4.33	0.72	< 0.01	0.03	0.18	0.04	2.30	0.047	0.229	-0.42	97.59	30.1	0.260	29.657	0.9	29.918	0.63		3.09
523372	52.51	0.161	17.94	0.06	< 0.01	0.04	0.04	0.01	1.31	0.019	2.83	3.90	97.24	30.2	1.834	28.308	6.1	30.141	0.20		2.66
523373	46.45	0.190	21.77	0.33	< 0.01	0.02	0.05	0.01	2.13	0.029	1.78	3.84	97.20	30.2	1.666	28.413	5.5	30.079	0.30		2.76
523374	39.07	0.212	25.71	0.42	< 0.01	0.02	0.05	0.01	2.50	0.028	1.70	3.07	97.01	30.3	1.607	28.481	5.3	30.089	0.61		2.69
523375	39.36	0.214	27.43	0.41	< 0.01	0.03	0.04	< 0.01	2.48	0.030	1.83	0.18	98.19	30.1	0.828	29.152	2.8	29.981	0.31		2.74
523376	56.88	0.236	15.11	0.32	< 0.01	0.04	0.04	< 0.01	3.82	0.042	3.38	1.16	96.07	30.1	1.032	28.907	3.4	29.939	0.43		2.65
523377	43.60	0.282	21.42	2.06	< 0.01	0.03	0.05	< 0.01	3.47	0.041	3.15	0.77	97.81	30.1	0.810	29.242	2.7	30.052	0.16		2.65
523378	41.10	0.260	24.30	1.03	< 0.01	0.02	0.05	0.01	4.08	0.049	2.29	0.35	96.74	30.2	0.726	29.298	2.4	30.024	0.50		2.84
523379	59.48	0.307	13.26	1.02	< 0.01	0.03	0.06	0.01	4.25	0.048	3.36	2.01	97.83	30.1	0.555	29.558	1.8	30.112	-0.04		2.78
523380	0.51	0.010	0.04	0.02	0.01	0.07	0.05	0.01	< 0.01	< 0.003	< 0.003	0.04	99.41	30.1	0.062	29.816	0.2	29.878	0.81		2.65
523381	61.15	0.357	10.53	0.40	< 0.01	0.03	0.08	0.01	6.74	0.065	2.98	3.12	95.86	30.1	0.458	29.870	1.5	30.328	-0.62		2.79

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S	Spec Grav Core
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%	-
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR	GRAV
521292														30.2	0.005	30.107	0.0	30.112	0.22		2.96
521293														30.1	0.007	29.560	0.0	29.567	1.74		2.88
521294														30.1	0.001	29.896	0.0	29.897	0.67		2.88
521295														30.2	0.099	29.748	0.3	29.847	1.05		2.81
521296														29.9	0.006	29.021	0.0	29.027	2.81		2.86
521297														30.2	0.005	29.935	0.0	29.940	0.90		2.89
521298														30.1	0.065	30.114	0.2	30.178	-0.30		2.83
521299														30.0	0.004	29.590	0.0	29.594	1.45		2.73
521300														30.2	0.013	29.634	0.0	29.647	1.77		2.84
521301														30.1	0.017	29.813	0.1	29.830	0.81		2.92
521302														30.1	0.017	29.934	0.1	29.951	0.38		2.94
521303														30.0	0.013	29.713	0.0	29.726	1.04		2.90
521304														30.1	0.014	29.823	0.0	29.837	0.78		3.02
521305														30.2	0.012	29.358	0.0	29.370	2.74		3.09
521306														30.2	0.008	29.295	0.0	29.303	2.86		3.00
521307														30.2	0.007	29.591	0.0	29.598	1.92		3.11
521308														30.1	0.011	29.855	0.0	29.866	0.82		3.04
521309														30.1	0.015	29.902	0.1	29.917	0.68		3.01

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
NIST 694 Meas	11.16	1.89	0.75	0.013	0.35	44.41	0.88	0.57	0.116	30.18									1698					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
GBW 07113 Meas	70.14	12.67	3.13	0.139	0.14	0.55	2.39	5.32	0.273	0.07			492	41	41	6	395	4	< 5					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
MICA-FE Meas																						34.30	19.37	25.81
MICA-FE Cert																						34.4	19.5	25.6
MICA-FE Meas																						34.30	19.37	25.81
MICA-FE Cert																						34.4	19.5	25.6
CHR-BKG Meas																						15.08	12.94	13.89
CHR-BKG Cert																						15.27	12.91	13.87
IF-G Meas																						41.18	0.17	55.92
IF-G Cert																						41.2	0.150	55.8
IF-G Meas																						41.22	0.15	55.83
IF-G Cert																						41.2	0.150	55.8
LKSD-4 Meas																								
LKSD-4 Cert																								
BE-N Meas																						38.25	10.00	
BE-N Cert																						38.2	10.1	
BE-N Meas																						38.25	10.00	
BE-N Cert																						38.2	10.1	
BaSO4 Meas																								
BaSO4 Cert																								
OREAS 13P Meas																				0.223				
OREAS 13P Cert																				0.226				
OREAS 13P Meas																				0.228				
OREAS 13P Cert																				0.226				
OREAS 13P Meas																				0.243				
OREAS 13P Cert																				0.226				
OREAS 14P Meas																								
OREAS 14P Cert																								
OREAS 14P Meas																								
OREAS 14P Cert																								
Oreas 73a (Fusion) Meas																						36.46	2.36	
Oreas 73a (Fusion) Cert																						36.4	2.38	
Oreas 74a (Fusion) Meas																						32.60	2.11	
Oreas 74a (Fusion) Cert																						32.4	2.21	
Oreas 75a (Fusion) Meas																						27.30	2.00	
Oreas 75a (Fusion) Cert																						27.3	1.99	
521400 Orig																								
521400 Dup																								
521410 Orig																								
521410 Dup																								
521418 Orig	38.85	1.26	7.94	0.114	38.30	1.39	< 0.01	< 0.01	0.015	< 0.01	11.84	99.72	< 2	2	< 1	11	3	< 1	43	0.180	0.240			
521418 Dup	38.76	1.26	8.16	0.115	38.42	1.38	0.01	< 0.01	0.015	< 0.01	11.84	99.96	2	2	< 1	11	< 2	< 1	44	0.183	0.240			
521420 Orig	38.05	1.38	8.48	0.121	37.80	1.29	< 0.01	< 0.01	0.014	< 0.01	12.47	99.61	< 2	2	< 1	10	< 2	< 1	50	0.218	0.235			
521420 Split	38.15	1.38	8.05	0.124	37.47	1.41	0.01	< 0.01	0.014	< 0.01	12.31	98.93	< 2	< 2	< 1	10	< 2	< 1	47	0.202	0.247			
521420 Orig																								
521420 Dup																								
521430 Orig																								
521430 Dup																								
521433 Orig	36.90	1.22	7.75	0.134	37.15	1.13	0.02	< 0.01	0.013	< 0.01	14.91	99.23	3	17	< 1	10	11	< 1	43	0.216	0.232			
521433 Dup	36.27	1.20	7.75	0.134	36.43	1.13	0.02	< 0.01	0.013	0.02	14.91	97.88	3	17	< 1	10	< 2	< 1	44	0.213	0.232			
521440.1 Orig	49.05	15.96	11.79	0.161	4.85	7.69	2.25	2.72	1.169	0.43	0.88	96.96	702	527	21	26	104	2	331	0.233	1.031			
521440.1 Dup	49.78	16.39	11.99	0.164	4.96	7.85	2.29	2.76	1.220	0.45	0.88	98.73	716	555	21	26	100	2	337	0.236	1.047			
521448 Orig																								

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
521448 Dup																								
521450 Orig	38.49	0.99	8.41	0.157	38.19	1.85	< 0.01	< 0.01	0.010	< 0.01	11.31	99.44	< 2	< 2	< 1	11	< 2	< 1	43	0.220	0.235			
521450 Dup	38.60	0.99	8.42	0.158	38.03	1.85	< 0.01	< 0.01	0.011	0.02	11.31	99.40	< 2	< 2	< 1	11	2	< 1	46	0.223	0.241			
521458 Orig																								
521458 Dup																								
521468 Orig																								
521468 Dup																								
521478 Orig																								
521478 Dup																								
521479 Orig	50.06	15.23	11.26	0.178	7.01	9.84	4.43	0.16	1.468	0.10	1.45	> 101.0	18	165	30	38	97	< 1	333	0.012	0.024			
521479 Dup	49.70	14.86	11.03	0.176	6.88	9.75	4.41	0.16	1.467	0.12	1.45	100.0	18	161	30	38	86	< 1	332	0.010	0.023			
521480.1 Orig	49.54	16.28	11.95	0.163	4.95	7.80	2.35	2.77	1.212	0.43	0.84	98.29	716	550	21	26	98	2	332	0.232	1.041			
521480.1 Dup	49.10	16.18	11.86	0.163	4.90	7.80	2.30	2.72	1.192	0.44	0.84	97.51	706	540	21	25	98	2	329	0.228	1.047			
521486 Orig	38.96	0.83	7.79	0.130	38.22	0.98	0.01	< 0.01	0.006	< 0.01	13.07	99.98	< 2	2	< 1	10	3	< 1	38	0.209	0.288			
521486 Split	38.80	0.82	7.55	0.129	37.61	0.95	0.01	< 0.01	0.006	0.02	13.16	99.06	< 2	3	< 1	9	< 2	< 1	37	0.192	0.255			
521486 Orig																								
521486 Dup																								
521496 Orig	38.21	0.71	7.58	0.118	39.50	0.69	0.01	< 0.01	0.005	< 0.01	13.22	100.1	< 2	< 2	< 1	8	3	< 1	37	0.230	0.263			
521496 Dup	38.23	0.72	7.58	0.118	39.54	0.68	0.01	< 0.01	0.005	< 0.01	13.22	100.1	< 2	< 2	< 1	7	2	< 1	36	0.212	0.280			
521506 Orig																								
521506 Dup																								
521510 Orig	38.14	0.72	7.58	0.111	38.82	0.78	0.01	< 0.01	0.005	< 0.01	13.20	99.37	< 2	< 2	< 1	8	2	< 1	34	0.184	0.265			
521510 Dup	38.01	0.71	7.67	0.113	39.27	0.79	0.01	< 0.01	0.005	< 0.01	13.20	99.80	< 2	< 2	< 1	8	2	< 1	37	0.192	0.266			
521516 Orig																								
521516 Dup																								
521520.1 Orig	48.87	15.98	11.84	0.164	4.87	7.83	2.23	2.69	1.201	0.43	0.79	96.89	699	537	21	25	102	2	328	0.227	1.033			
521520.1 Dup	49.22	16.07	11.81	0.165	4.88	7.71	2.28	2.82	1.174	0.44	0.79	97.35	715	530	21	25	101	2	332	0.224	1.031			
522406 Orig	39.37	0.65	8.01	0.125	40.75	0.45	0.01	< 0.01	0.004	< 0.01	11.32	100.7	4	< 2	< 1	7	7	< 1	47	0.190	0.243			
522406 Split	38.84	0.66	7.92	0.121	39.91	0.47	< 0.01	< 0.01	0.003	< 0.01	11.52	99.45	< 2	< 2	< 1	7	< 2	< 1	26	0.205	0.244			
522406 Orig																								
522461 Orig	39.57	0.84	8.02	0.136	39.83	0.04	< 0.01	< 0.01	0.006	< 0.01	10.63	99.10	4	< 2	< 1	9	< 2	< 1	32	0.216	0.259			
522461 Split	39.27	0.83	7.62	0.134	39.40	0.04	< 0.01	< 0.01	0.006	< 0.01	11.05	98.35	< 2	< 2	< 1	9	< 2	< 1	31	0.198	0.245			
522461 Orig																								
522461 Dup																								
522470 Orig	49.96	13.64	10.49	0.175	6.62	11.28	4.46	0.21	1.272	0.10	0.58	98.79	35	435	29	39	78	< 1	293	0.010	0.019			
522470 Dup	50.53	13.72	10.64	0.179	6.68	11.52	4.45	0.21	1.295	0.10	0.58	99.91	35	442	30	40	117	< 1	296	0.015	0.020			
522471 Orig																								
522471 Dup																								
522481 Orig																								
522481 Dup																								
522487 Orig	38.26	0.89	8.70	0.132	38.43	0.72	< 0.01	< 0.01	0.006	< 0.01	12.08	99.22	< 2	< 2	< 1	11	3	< 1	39	0.234	0.276			
522487 Dup	37.60	0.86	8.78	0.133	37.66	0.74	< 0.01	< 0.01	0.006	< 0.01	12.08	97.85	< 2	< 2	< 1	11	2	< 1	40	0.257	0.276			
522491 Orig																								
522491 Dup																								
522500.1 Orig	49.41	16.09	12.01	0.165	4.84	7.82	2.26	2.82	1.190	0.44	0.82	97.87	714	542	21	25	102	2	333	0.231	1.038			
522500.1 Dup	49.17	16.04	11.76	0.165	4.79	7.84	2.24	2.77	1.189	0.41	0.82	97.19	708	532	20	25	92	2	334	0.226	1.043			
522501 Orig	39.80	1.33	7.93	0.114	38.50	1.08	0.01	< 0.01	0.015	< 0.01	11.90	100.7	2	< 2	1	11	3	< 1	50	0.257	0.251			
522501 Split	39.17	1.31	7.86	0.113	37.84	1.06	0.01	< 0.01	0.015	< 0.01	11.92	99.30	3	< 2	2	11	3	< 1	48	0.258	0.249			
522509 Orig																								
522509 Dup																								
522519 Orig																								
522519 Dup																								
522520.1 Orig	49.80	15.94	12.18	0.168	4.90	7.94	2.25	2.81	1.175	0.43	0.85	98.45	718	542	21	25	103	2	333	0.239	1.059			
522520.1 Dup	48.91	16.28	11.85	0.163	4.84	7.69	2.26	2.80	1.171	0.44	0.85	97.24	710	533	20	25	100	2	329	0.226	1.034			
522527 Orig																								
522527 Dup																								
523308 Orig																								

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
523308 Dup																								
523320.1 Orig	49.32	15.76	11.67	0.164	4.83	7.75	2.24	2.83	1.162	0.43	1.04	97.21	713	528	20	25	97	2	326	0.228	1.016			
523320.1 Dup	49.38	16.28	11.99	0.166	4.86	7.77	2.25	2.85	1.195	0.44	1.04	98.22	716	547	21	25	99	2	328	0.232	1.041			
523326 Orig																								
523326 Dup																								
523333 Orig	38.67	1.35	8.22	0.102	37.52	0.47	< 0.01	< 0.01	0.013	< 0.01	12.74	99.12	< 2	< 2	< 1	11	2	< 1	47	0.188	0.227			
523333 Dup	38.28	1.37	8.23	0.102	37.53	0.48	< 0.01	< 0.01	0.013	< 0.01	12.74	98.75	< 2	< 2	< 1	11	3	< 1	46	0.194	0.229			
523336 Orig																								
523336 Dup																								
523346 Orig																								
523346 Dup																								
523356 Orig																								
523356 Dup																								
523360.2 Orig																						36.42	2.35	13.08
523360.2 Dup																						36.61	2.39	13.09
523379 Orig	38.85	0.85	7.71	0.119	38.57	1.08	< 0.01	< 0.01	0.006	0.02	11.17	98.37	< 2	< 2	< 1	10	< 2	< 1	37	0.184	0.244			
523379 Dup	38.86	0.86	7.87	0.120	38.99	1.08	< 0.01	< 0.01	0.006	< 0.01	11.17	98.97	< 2	< 2	< 1	10	< 2	< 1	39	0.189	0.249			
521306 Orig	50.77	14.53	11.23	0.176	5.37	9.97	2.56	0.18	1.568	0.15	2.73	99.23	42	163	28	39	83	< 1	373	< 0.010	< 0.010			
521306 Dup	50.36	14.47	11.11	0.175	5.31	9.98	2.52	0.17	1.564	0.14	2.73	98.53	41	163	29	39	83	< 1	376	0.010	< 0.010			
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank	0.03	< 0.01	< 0.01	0.002	< 0.01	< 0.01	< 0.01	< 0.01	< 0.001	< 0.01			< 2	< 2	< 1	< 1	3	< 1	< 5	< 0.010	< 0.010			
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
NIST 694 Meas													
NIST 694 Cert													
GBW 07113 Meas													
GBW 07113 Cert													
MICA-FE Meas	0.354	4.54	0.51	0.51	8.78	2.52	0.42	0.02	0.026	0.004			
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350			
MICA-FE Meas	0.354	4.54	0.51	0.51	8.78	2.52	0.42	0.02	0.026	0.004			
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350			
CHR-BKG Meas	0.132	23.27	0.06			0.14		19.9		0.196			
CHR-BKG Cert	0.14	23.47	0.07			0.14		20		0.201			
IF-G Meas	0.041	1.87	1.52	0.05	0.02	0.03	0.06	0.01		< 0.003			
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225			
IF-G Meas	0.041	1.89	1.53	0.05	0.02	0.03	0.06	0.01		< 0.003			
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225			
LKSD-4 Meas													0.85
LKSD-4 Cert													0.990
BE-N Meas	0.202	13.20	13.94	3.12	1.39	2.68	1.08	0.04	0.042	0.027			
BE-N Cert	0.200	13.1	13.9	3.18	1.39	2.61	1.05	0.0360	0.042	0.0267			
BE-N Meas	0.202	13.20	13.94	3.12	1.39	2.68	1.08	0.04	0.042	0.027			
BE-N Cert	0.200	13.1	13.9	3.18	1.39	2.61	1.05	0.0360	0.042	0.0267			
BaSO4 Meas													13.6
BaSO4 Cert													14.0
OREAS 13P Meas										0.224			
OREAS 13P Cert										0.226			
OREAS 13P Meas													
OREAS 13P Cert													
OREAS 13P Meas													
OREAS 13P Cert													
OREAS 14P Meas										2.11			
OREAS 14P Cert										2.10			
OREAS 14P Meas										2.10			
OREAS 14P Cert										2.10			
Oreas 73a (Fusion) Meas		32.52						0.20		1.43			
Oreas 73a (Fusion) Cert		32.5						0.20		1.44			
Oreas 74a (Fusion) Meas		27.99						0.18		3.23			
Oreas 74a (Fusion) Cert		27.9						0.18		3.24			
Oreas 75a (Fusion) Meas		22.51						0.15		5.24			
Oreas 75a (Fusion) Cert		22.3						0.16		5.25			
521400 Orig													0.10
521400 Dup													0.09
521410 Orig													0.05
521410 Dup													0.05
521418 Orig													
521418 Dup													
521420 Orig													
521420 Split													
521420 Orig													0.08
521420 Dup													0.07
521430 Orig													0.08
521430 Dup													0.08
521433 Orig													
521433 Dup													
521440.1 Orig													
521440.1 Dup													
521448 Orig													0.04

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
521448 Dup													0.04
521450 Orig													
521450 Dup													
521458 Orig													0.04
521458 Dup													0.03
521468 Orig													0.08
521468 Dup													0.08
521478 Orig													0.12
521478 Dup													0.13
521479 Orig													
521479 Dup													
521480.1 Orig													
521480.1 Dup													
521486 Orig													
521486 Split													
521486 Orig													0.04
521486 Dup													0.04
521496 Orig													0.03
521496 Dup													0.03
521506 Orig													0.07
521506 Dup													0.07
521510 Orig													
521510 Dup													
521516 Orig													0.04
521516 Dup													0.04
521520.1 Orig													
521520.1 Dup													
522406 Orig													
522406 Split													
522406 Orig													0.03
522461 Orig													
522461 Split													
522461 Orig													0.02
522461 Dup													0.02
522470 Orig													
522470 Dup													
522471 Orig													0.07
522471 Dup													0.08
522481 Orig													0.04
522481 Dup													0.04
522487 Orig													
522487 Dup													
522491 Orig													0.09
522491 Dup													0.09
522500.1 Orig													
522500.1 Dup													
522501 Orig													
522501 Split													
522509 Orig													0.03
522509 Dup													0.03
522519 Orig													0.03
522519 Dup													0.03
522520.1 Orig													
522520.1 Dup													
522527 Orig													0.02
522527 Dup													0.01
523308 Orig													0.06

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
523308 Dup													0.06
523320.1 Orig													
523320.1 Dup													
523326 Orig													0.07
523326 Dup													0.07
523333 Orig													
523333 Dup													
523336 Orig													0.08
523336 Dup													0.08
523346 Orig													0.04
523346 Dup													0.04
523356 Orig													0.06
523356 Dup													0.05
523360.2 Orig	0.130	32.28	2.06	0.12	0.17	0.12	0.02	0.19	0.008	1.44	11.13	99.52	
523360.2 Dup	0.130	32.38	2.10	0.10	0.15	0.13	0.02	0.21	0.009	1.44	11.13	99.88	
523379 Orig													
523379 Dup													
521306 Orig													
521306 Dup													
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	
Method Blank													
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	
Method Blank													< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 30-Sep-11
Invoice No.: A11-11241
Invoice Date: 07-Dec-11
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road
Suite 2
Sudbury Ontario P3C 4Y9
Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

22 Pulp samples and 219 Rock samples were submitted for analysis.

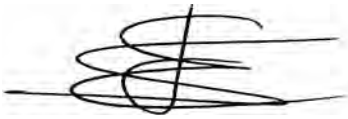
The following analytical packages were requested:

REPORT **A11-11241**

Code 4B (1-10) Major Elements Fusion ICP(WRA)
Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (1-10) Whole Rock Analysis-XRF
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID

Notes:
Total includes all elements in % oxide to the left of total.

CERTIFIED BY :



Emmanuel Eseme , Ph.D.
Quality Control

SCC Accredited LAB 265
LAB 266 Accrédité CCN

ACTIVATION LABORATORIES LTD.

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Total	LOI	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01		2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521310.1	50.66	15.94	12.04	0.163	4.90	7.54	2.39	2.99	1.168	0.45	99.19	0.96	720	540	21	26	109	2	342	0.220	0.993	521310	48.82	16.17
521310.2																						521310	36.15	2.47
521310.3																						521310	18.78	0.70
521311	49.55	14.39	10.75	0.182	6.09	9.45	3.26	0.47	1.322	0.13	98.84	3.24	211	196	30	37	84	< 1	325	< 0.010	0.038	521311		
521312	47.74	8.90	9.82	0.202	16.37	8.69	0.49	1.18	0.809	0.07	99.44	5.17	695	27	17	26	48	< 1	190	0.060	0.154	521312		
521313	52.41	13.02	9.17	0.198	6.61	7.51	3.15	1.73	0.313	0.07	100.9	6.71	828	175	14	47	21	< 1	216	< 0.010	0.023	521313		
521314	56.19	3.84	2.09	0.120	2.32	21.90	0.06	0.03	0.295	0.21	101.0	13.90	22	433	20	4	39	< 1	30	< 0.010	< 0.010	521314		
521315	50.02	14.06	8.02	0.139	10.17	9.19	3.74	0.43	0.651	0.14	100.7	4.08	290	391	14	25	66	< 1	159	0.025	0.118	521315		
521316	40.50	1.53	7.82	0.135	37.31	1.00	0.01	< 0.01	0.022	< 0.01	100.5	12.14	4	9	< 1	10	4	< 1	41	0.195	0.425	521316	14.37	1.10
521317	49.25	11.29	7.09	0.106	18.41	4.67	2.45	0.56	0.454	0.15	100.4	5.96	206	395	9	14	62	< 1	100	0.079	0.179	521317	30.40	2.07
521318	40.39	1.43	7.94	0.092	37.93	0.85	0.05	< 0.01	0.020	0.01	100.9	12.24	3	18	1	9	5	< 1	35	0.196	0.454	521318	19.10	0.87
521319	40.68	1.78	7.57	0.117	36.82	0.46	0.01	< 0.01	0.024	< 0.01	99.46	11.98	3	11	< 1	9	4	< 1	37	0.204	0.408	521319	10.51	0.95
521320	38.91	8.03	8.30	0.151	25.62	10.47	0.02	0.04	0.480	0.09	101.0	8.85	6	142	8	19	37	< 1	132	0.116	0.273	521320	8.74	1.53
521321	37.01	0.30	8.23	0.120	40.92	0.18	0.03	< 0.01	0.014	0.02	99.78	12.94	2	7	< 1	5	15	< 1	17	0.229	0.532	521321	6.98	0.48
521322	33.93	10.60	13.95	0.135	16.40	5.37	0.08	0.35	2.736	1.33	99.28	14.38	400	354	39	33	257	2	395	< 0.010	0.040	521322	30.63	9.83
521323	35.42	7.49	12.99	0.196	20.65	13.13	0.02	< 0.01	1.471	0.14	100.6	9.09	5	19	32	35	85	< 1	310	0.084	0.209	521323	18.71	3.39
521324	38.52	1.87	7.20	0.131	30.45	5.89	0.02	< 0.01	0.043	< 0.01	99.09	14.95	5	50	< 1	11	5	< 1	52	0.172	0.216	521324		
521325	39.57	1.88	7.57	0.126	31.08	5.15	0.02	< 0.01	0.022	< 0.01	99.97	14.54	3	44	1	10	4	< 1	43	0.184	0.397	521325		
521326	38.06	3.11	7.58	0.128	29.52	6.86	0.42	0.06	0.304	0.05	100.7	14.64	10	96	6	14	21	< 1	90	0.149	0.306	521326	10.93	1.46
521327	37.59	0.95	8.67	0.137	39.84	0.21	0.02	< 0.01	0.024	0.01	100.9	13.42	2	4	< 1	8	3	< 1	37	0.207	0.456	521327	15.77	0.63
521328	39.98	1.38	7.61	0.130	38.24	0.93	0.03	0.03	0.016	0.02	100.2	11.80	< 2	5	< 1	11	3	< 1	42	0.200	0.457	521328	14.02	0.72
521329	39.93	1.64	8.69	0.143	36.88	1.38	0.01	< 0.01	0.022	0.04	99.98	11.24	< 2	8	< 1	12	3	< 1	51	0.203	0.462	521329	14.12	0.83
521330	98.70	0.36	1.06	0.013	0.13	0.12	0.04	0.06	0.037	0.03	100.7	0.19	27	6	2	< 1	58	< 1	< 5	< 0.010	< 0.010	521330	98.85	0.41
521331	39.54	1.93	8.89	0.108	37.53	0.99	0.01	< 0.01	0.022	< 0.01	100.9	11.90	< 2	9	< 1	13	3	< 1	52	0.206	0.447	521331	13.78	0.84
521332	40.71	1.81	8.36	0.139	37.54	2.25	0.02	< 0.01	0.023	0.03	100.3	9.45	< 2	4	< 1	12	4	< 1	54	0.196	0.436	521332	14.34	1.10
521333	45.99	13.17	7.85	0.091	8.36	8.84	2.67	1.94	1.519	0.90	100.8	9.47	1891	1424	20	16	152	2	172	< 0.010	0.033	521333	25.18	6.49
521334	37.72	1.38	8.57	0.094	37.09	2.06	0.02	< 0.01	0.015	0.13	100.4	13.34	4	8	< 1	10	3	< 1	41	0.194	0.452	521334	14.59	0.59
521335	38.68	0.99	7.69	0.113	38.97	0.60	0.01	< 0.01	0.011	0.05	100.1	13.00	3	5	< 1	8	3	< 1	32	0.198	0.403	521335	13.70	0.37
521336	39.64	1.51	7.74	0.096	38.04	0.83	< 0.01	< 0.01	0.016	0.02	100.1	12.19	< 2	4	< 1	11	3	< 1	41	0.201	0.463	521336	14.36	0.58
521337	39.79	1.61	8.34	0.125	38.32	1.10	< 0.01	< 0.01	0.019	0.03	100.8	11.44	< 2	4	< 1	11	2	< 1	46	0.218	0.442	521337	15.81	0.71
521338	37.98	1.37	8.79	0.148	37.61	0.61	0.02	< 0.01	0.021	0.04	98.51	11.91	< 2	4	1	13	3	< 1	41	0.200	0.463	521338	12.62	0.44
521339	39.82	1.59	8.55	0.147	37.78	1.80	0.01	< 0.01	0.021	0.03	100.8	11.07	< 2	3	< 1	11	4	< 1	47	0.200	0.435	521339	13.12	0.72
521340	39.21	1.97	8.75	0.080	38.40	0.61	0.02	< 0.01	0.020	0.04	101.0	11.89	< 2	3	< 1	12	3	< 1	53	0.201	0.457	521340	11.92	0.83
521341	40.34	1.81	7.81	0.125	37.82	2.20	0.04	< 0.01	0.021	0.02	100.8	10.59	< 2	4	< 1	13	3	< 1	49	0.202	0.449	521341	14.51	0.98
521342	39.17	1.63	8.09	0.132	37.40	2.00	0.03	< 0.01	0.019	0.02	98.50	10.01	< 2	3	1	11	3	< 1	49	0.183	0.452	521342	12.03	1.04
521343	39.28	1.62	7.54	0.109	38.83	1.38	0.03	< 0.01	0.019	0.02	99.56	10.73	< 2	3	< 1	12	3	< 1	42	0.204	0.453	521343	11.75	0.87
521344	38.65	1.46	8.31	0.129	38.22	0.80	0.01	< 0.01	0.020	0.04	99.05	11.42	< 2	3	< 1	11	4	< 1	42	0.198	0.450	521344	11.83	0.50
521345- missing																						521345		
521346	38.81	0.66	7.74	0.112	41.94	0.65	0.02	< 0.01	0.006	0.02	100.2	10.21	< 2	3	< 1	5	< 2	< 1	15	0.229	0.462	521346	8.76	0.69
521347	39.24	1.34	8.11	0.138	38.77	2.06	0.03	< 0.01	0.016	< 0.01	100.2	10.46	< 2	3	< 1	11	3	< 1	44	0.195	0.434	521347	12.47	0.68
521348	38.45	1.22	8.14	0.140	40.24	1.06	0.02	< 0.01	0.019	0.01	100.9	11.63	< 2	3	1	9	4	< 1	37	0.212	0.427	521348	13.98	0.43
521349	35.78	0.10	6.65	0.073	43.70	0.04	< 0.01	< 0.01	0.002	< 0.01	98.97	12.63	< 2	3	< 1	3	3	< 1	< 5	0.221	0.462	521349	2.85	0.30
521350	38.78	1.79	7.85	0.063	37.42	0.81	0.02	0.01	0.017	0.02	99.32	12.54	< 2	< 2	< 1	11	4	< 1	56	0.217	0.251	521350	10.66	0.45
521350.2 missing																								
521350.3 missing																								
521351	39.11	1.26	7.78	0.125	39.20	1.46	0.02	< 0.01	0.014	< 0.01	100.3	11.37	< 2	< 2	1	10	2	< 1	47	0.210	0.250	521351	13.55	0.80
521352	39.30	1.67	7.81	0.127	37.60	2.39	0.04	< 0.01	0.019	0.02	99.74	10.77	< 2	< 2	1	11	3	< 1	59	0.196	0.245	521352	10.36	0.81
521353	38.37	1.88	8.16	0.060	37.80	0.56	0.02	< 0.01	0.017	0.04	99.39	12.48	< 2	3	< 1	10	2	< 1	49	0.214	0.426	521353	11.17	0.60
521354	37.58	1.65	7.94	0.077	37.52	0.79	0.02	< 0.01	0.017	0.03	97.70	12.08	20	3	< 1	10	3	< 1	43	0.171	0.438	521354	14.95	0.66
521355	38.11	1.44	8.01	0.122	37.82	1.37	0.03	< 0.01	0.018	< 0.01	98.73	11.82	< 2	< 2	< 1	10	< 2	< 1	47	0.182	0.262	521355	13.72	0.51
521356	37.88	1.33	7.56	0.116	37.85	0.37	0.01	< 0.01	0.014	0.01	97.56	12.41	< 2	< 2	1	11	7	< 1	44	0.203	0.264	521356	10.66	0.38

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Total	LOI	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01		2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
521357	39.78	1.34	8.05	0.157	38.19	1.23	0.02	< 0.01	0.019	< 0.01	99.35	10.55	< 2	< 2	< 1	11	5	< 1	44	0.207	0.251	521357	13.47	0.68
521358	39.95	1.54	8.35	0.153	38.66	1.03	0.02	< 0.01	0.018	< 0.01	100.5	10.78	< 2	< 2	< 1	12	5	< 1	51	0.220	0.259	521358	12.07	0.60
521359	39.97	1.85	8.21	0.146	37.53	1.11	0.02	< 0.01	0.022	0.02	99.65	10.76	< 2	< 2	< 1	11	4	< 1	46	0.210	0.246	521359	12.86	0.71
521360	43.71	10.14	10.69	0.157	17.94	10.14	1.88	0.12	1.032	0.11	101.0	5.04	12	58	19	28	59	< 1	270	0.079	0.094	521360	10.56	1.87
521361	50.37	14.54	12.54	0.198	5.88	9.24	4.76	0.23	1.607	0.11	100.1	0.61	25	158	32	40	91	< 1	392	< 0.010	< 0.010	521361		
521362	39.09	1.22	9.47	0.212	39.11	0.48	0.03	< 0.01	0.019	0.01	98.87	9.23	< 2	< 2	< 1	11	5	< 1	36	0.233	0.248	521362	12.61	0.70
521363	39.94	1.74	8.42	0.145	36.53	2.24	0.03	< 0.01	0.022	< 0.01	99.42	10.35	< 2	< 2	< 1	12	3	< 1	54	0.199	0.454	521363	12.23	0.65
521364	39.52	1.69	8.41	0.125	37.93	1.75	0.04	< 0.01	0.025	< 0.01	99.60	10.10	< 2	< 2	< 1	12	2	< 1	55	0.191	0.501	521364	9.56	0.72
521365	39.96	1.62	8.08	0.127	38.15	1.83	0.04	< 0.01	0.025	< 0.01	99.60	9.76	< 2	< 2	< 1	12	3	< 1	53	0.177	0.493	521365	10.37	0.99
521366	39.66	2.17	6.28	0.101	36.71	1.98	0.03	< 0.01	0.024	< 0.01	98.11	11.16	< 2	< 2	< 1	13	< 2	< 1	67	0.166	0.493	521366	10.86	0.58
521367	40.05	1.62	8.29	0.133	38.23	1.75	0.04	< 0.01	0.020	< 0.01	100.7	10.52	< 2	< 2	< 1	12	24	< 1	54	0.228	0.505	521367	12.28	0.91
521368	39.84	1.75	8.30	0.119	38.39	1.30	0.02	< 0.01	0.021	< 0.01	100.1	10.34	< 2	< 2	< 1	12	< 2	< 1	52	0.219	0.465	521368	14.65	0.85
521369	39.54	1.77	8.68	0.121	38.10	1.59	0.03	< 0.01	0.022	< 0.01	99.85	10.00	< 2	< 2	1	12	3	< 1	56	0.206	0.493	521369	12.15	0.97
521370	97.47	0.31	0.82	0.009	0.06	0.03	0.03	0.05	0.030	< 0.01	98.95	0.14	24	5	1	< 1	49	< 1	< 5	< 0.010	< 0.010	521370	98.84	0.37
521371	39.41	1.60	8.33	0.119	38.47	1.86	0.03	< 0.01	0.020	< 0.01	98.98	9.13	< 2	< 2	1	12	3	< 1	56	0.200	0.486	521371	11.72	1.11
521372	37.72	0.80	7.86	0.114	40.37	0.09	< 0.01	< 0.01	0.006	< 0.01	98.45	11.49	< 2	< 2	< 1	7	3	< 1	22	0.218	0.472	521372	14.21	0.70
522251	38.16	0.87	7.91	0.110	38.68	0.57	< 0.01	< 0.01	0.008	< 0.01	99.13	12.80	< 2	< 2	< 1	11	3	< 1	34	0.219	0.531	522251	13.03	0.34
522252	37.65	0.77	8.19	0.124	39.24	0.47	< 0.01	< 0.01	0.009	< 0.01	98.62	12.16	< 2	< 2	< 1	9	< 2	< 1	29	0.211	0.463	522252	12.78	0.29
522253	37.06	0.85	7.62	0.108	39.29	0.35	0.02	0.01	0.011	< 0.01	98.14	12.82	4	< 2	2	6	18	< 1	29	0.215	0.205	522253	16.19	0.30
522254	37.08	1.06	7.87	0.102	39.21	0.06	0.03	0.01	0.012	< 0.01	98.86	13.43	< 2	< 2	< 1	12	3	< 1	39	0.224	0.665	522254	10.24	0.29
522255	38.45	1.08	7.84	0.106	39.25	0.06	0.02	< 0.01	0.011	< 0.01	99.61	12.81	< 2	< 2	< 1	11	< 2	< 1	38	0.222	0.596	522255	12.76	0.50
522256	43.59	3.63	8.80	0.123	30.69	2.27	0.40	0.07	0.529	0.03	100.9	10.80	10	36	10	14	33	< 1	130	0.160	0.317	522256		
522257	41.99	1.48	7.16	0.095	36.19	0.05	0.02	< 0.01	0.013	< 0.01	98.77	11.76	< 2	< 2	< 1	9	4	< 1	35	0.188	0.469	522257	9.56	0.57
522258	39.34	0.90	7.01	0.144	38.10	0.16	0.02	< 0.01	0.008	0.01	97.59	11.89	< 2	< 2	< 1	10	4	< 1	31	0.189	0.254	522258	13.84	0.49
522259	39.32	0.93	7.82	0.127	39.69	0.05	0.02	< 0.01	0.008	0.01	100.2	12.18	< 2	< 2	< 1	7	2	< 1	26	0.231	0.509	522259	10.30	0.55
522260.1	50.55	16.99	11.62	0.158	4.76	7.40	2.34	2.94	1.146	0.42	99.05	0.73	711	531	20	25	101	2	332	0.226	0.997	522260	48.77	16.20
522260.2 missing																						522260		
522260.3																						522260	18.72	0.67
522261	37.44	0.82	8.45	0.131	38.19	0.48	0.01	< 0.01	0.007	< 0.01	98.14	12.62	< 2	< 2	< 1	9	2	< 1	37	0.214	0.526	522261	11.90	0.34
522262	37.53	0.97	8.56	0.114	39.65	0.44	0.02	0.01	0.007	< 0.01	100.5	13.16	< 2	< 2	< 1	10	3	< 1	40	0.229	0.504	522262	12.49	0.43
522263	39.03	0.77	7.33	0.118	40.29	0.38	0.02	< 0.01	0.007	< 0.01	100.3	12.32	< 2	< 2	< 1	4	3	< 1	32	0.234	0.240	522263	8.88	0.47
522264	37.44	0.66	9.13	0.202	39.98	0.64	0.02	< 0.01	0.007	< 0.01	99.13	11.06	< 2	< 2	< 1	9	2	< 1	32	0.223	0.516	522264	12.08	0.37
522265	38.25	0.97	8.07	0.114	38.63	0.57	0.03	0.01	0.008	< 0.01	99.86	13.21	< 2	< 2	< 1	10	3	< 1	41	0.221	0.496	522265	9.45	0.39
522266	38.47	1.42	7.45	0.082	38.51	1.38	0.01	< 0.01	0.290	0.04	100.4	12.71	< 2	< 2	7	14	20	< 1	79	0.212	0.418	522266	11.26	0.57
522267	37.47	0.81	7.33	0.133	38.97	0.62	< 0.01	< 0.01	0.007	< 0.01	97.40	12.06	< 2	< 2	< 1	10	< 2	< 1	35	0.188	0.509	522267	15.36	0.35
522268	41.32	0.96	8.54	0.131	41.63	0.88	0.02	0.01	0.017	0.02	97.74	4.20	3	< 2	2	10	8	< 1	43	0.212	0.282	522268	11.25	0.25
522269	37.76	0.87	8.70	0.119	38.58	0.77	0.02	< 0.01	0.015	< 0.01	99.26	12.42	< 2	< 2	< 1	9	5	< 1	39	0.216	0.480	522269	10.60	0.33
522270	39.10	0.84	8.77	0.126	39.20	0.72	< 0.01	< 0.01	0.006	< 0.01	100.8	12.05	< 2	< 2	< 1	10	2	< 1	40	0.215	0.499	522270	14.69	0.41
522271	38.46	0.91	8.12	0.126	38.70	0.73	0.02	< 0.01	0.006	< 0.01	99.61	12.53	< 2	< 2	< 1	10	3	< 1	41	0.214	0.475	522271	17.94	0.51
522272	38.47	0.96	8.05	0.085	38.76	0.50	0.02	< 0.01	0.006	0.02	99.49	12.62	< 2	< 2	< 1	9	7	< 1	50	0.201	0.250	522272	14.69	0.35
522273	25.19	0.68	4.78	0.065	24.78	0.11	< 0.01	< 0.01	0.007	< 0.01	97.87	42.24	< 2	< 2	< 1	5	5	< 1	24	0.119	0.137	522273	11.62	0.28
522274	39.51	0.98	8.37	0.137	39.13	0.05	0.02	< 0.01	0.007	< 0.01	99.72	11.51	< 2	< 2	< 1	10	< 2	< 1	39	0.218	0.486	522274	11.03	0.32
522275 missing																								
522276	41.97	2.13	7.12	0.099	34.51	1.08	0.05	0.02	0.039	< 0.01	98.81	11.79	< 2	7	2	8	10	< 1	36	0.190	0.420	522276		
522277	41.26	1.05	7.22	0.107	37.37	0.06	0.02	< 0.01	0.006	0.01	98.76	11.65	< 2	< 2	< 1	9	< 2	< 1	39	0.211	0.463	522277	15.35	0.83
522278	41.29	0.96	7.60	0.081	38.26	0.23	< 0.01	< 0.01	0.006	< 0.01	97.34	8.90	< 2	< 2	< 1	9	< 2	< 1	41	0.206	0.454	522278	13.75	0.52
522279	34.28	13.72	20.54	0.378	9.22	12.00	0.88	0.10	3.077	0.25	98.92	4.47	7	28	58	61	173	< 1	671	0.011	0.016	522279		
522280	94.74	0.64	2.01	0.018	0.36	0.08	0.13	0.10	0.034	< 0.01	98.09	-0.02	27	5	4	< 1	54	< 1	< 5	< 0.010	< 0.010	522280	16.71	1.28
522281	45.04	9.31	13.27	0.197	15.13	8.26	2.79	0.17	1.539	0.13	100.3	4.50	9	46	31	30	88	< 1	356	0.065	0.093	522281		
522282	39.58	1.10	8.38	0.126	38.45	0.25	0.02	< 0.01	0.025	< 0.01	100.1	12.11	< 2	< 2	< 1	11	3	< 1	50	0.206	0.312	522282	10.21	0.66
522283	39.68	0.97	8.28	0.127	39.16	0.62	0.02	< 0.01	0.007	< 0.01	99.68	10.80	< 2	< 2	< 1	11	2	< 1	46	0.192	0.309	522283	13.34	0.93

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Total	LOI	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01		2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
522284	40.25	3.19	9.75	0.142	33.71	3.77	0.09	< 0.01	0.263	0.05	100.9	9.71	< 2	4	5	17	14	< 1	98	0.173	0.270	522284	13.93	0.52
522285	38.92	4.04	8.72	0.150	31.47	5.13	0.10	< 0.01	0.357	0.08	98.67	9.72	< 2	5	8	18	19	< 1	111	0.147	0.244	522285	15.26	0.47
522286	37.82	0.92	9.01	0.085	38.91	0.62	< 0.01	< 0.01	0.006	< 0.01	100.4	13.06	< 2	< 2	< 1	11	< 2	< 1	46	0.215	0.301	522286	18.82	0.44
522287	37.97	0.75	8.65	0.133	39.22	0.50	0.01	< 0.01	0.006	0.01	99.23	11.96	< 2	< 2	< 1	10	4	< 1	38	0.215	0.296	522287	14.85	0.49
522288	38.67	0.80	8.41	0.110	39.91	0.47	< 0.01	< 0.01	0.005	< 0.01	100.3	11.88	< 2	< 2	< 1	9	2	< 1	38	0.209	0.317	522288	14.35	0.46
522289	37.55	1.00	8.21	0.094	37.66	0.45	0.02	< 0.01	0.005	0.01	97.71	12.70	< 2	< 2	< 1	9	< 2	< 1	39	0.221	0.294	522289	19.56	0.50
522290	37.38	0.78	7.55	0.123	38.70	0.82	0.01	< 0.01	0.005	< 0.01	97.54	12.16	< 2	< 2	< 1	9	3	< 1	39	0.170	0.295	522290	15.84	0.54
522291	37.90	0.68	8.13	0.130	38.82	0.90	< 0.01	< 0.01	0.005	< 0.01	98.17	11.59	< 2	< 2	< 1	9	2	< 1	38	0.201	0.302	522291	17.68	0.38
522292	38.53	0.93	6.58	0.079	38.91	0.78	< 0.01	< 0.01	0.005	< 0.01	98.65	12.83	< 2	< 2	< 1	8	< 2	< 1	40	0.184	0.247	522292	13.60	0.39
522293	36.95	0.70	8.35	0.128	37.92	0.94	0.01	0.01	0.005	< 0.01	98.03	13.01	< 2	< 2	< 1	9	4	< 1	34	0.213	0.218	522293	17.24	0.31
522294	37.63	0.77	7.83	0.123	38.89	0.89	0.01	< 0.01	0.005	< 0.01	98.44	12.28	< 2	< 2	< 1	9	< 2	< 1	39	0.204	0.303	522294	19.66	0.38
522295	37.54	0.70	7.96	0.138	39.21	1.00	0.02	< 0.01	0.005	< 0.01	98.48	11.90	< 2	< 2	< 1	9	2	< 1	39	0.189	0.276	522295	14.08	0.26
522296	37.55	0.76	7.82	0.112	38.92	0.89	0.01	< 0.01	0.005	< 0.01	98.76	12.69	< 2	< 2	< 1	9	< 2	< 1	39	0.244	0.239	522296	14.01	0.41
522297	37.22	0.67	8.16	0.132	38.14	0.97	0.02	< 0.01	0.006	< 0.01	97.77	12.44	< 2	< 2	< 1	9	< 2	< 1	36	0.194	0.298	522297	12.01	0.33
522298	37.68	0.81	7.83	0.115	37.87	0.82	< 0.01	< 0.01	0.005	< 0.01	97.45	12.32	< 2	< 2	< 1	9	< 2	< 1	37	0.202	0.312	522298	17.87	0.53
522299	37.61	1.00	8.13	0.093	37.50	1.23	0.05	0.02	0.005	0.01	98.60	12.96	< 2	< 2	< 1	8	3	< 1	41	0.216	0.268	522299	19.27	0.46
522300.1	50.41	16.65	11.80	0.161	4.82	7.56	2.29	2.86	1.170	0.43	98.87	0.72	704	532	21	25	120	2	335	0.218	0.997	522300	48.95	16.26
522300.2																						522300	36.25	2.44
522300.3																						522300	18.49	0.68
522301	38.25	0.88	7.22	0.095	38.92	0.15	< 0.01	0.01	0.006	< 0.01	98.22	12.68	< 2	< 2	< 1	8	2	< 1	37	0.195	0.194	522301	7.04	0.44
522302	48.00	13.68	10.53	0.166	9.55	9.82	3.94	0.13	1.151	0.11	99.19	2.12	9	109	25	36	70	< 1	276	0.029	0.056	522302		
522303	45.69	8.22	8.89	0.134	20.96	4.91	2.47	0.08	0.609	0.05	98.44	6.43	7	106	14	25	37	< 1	182	0.104	0.130	522303		
522304	46.74	12.10	10.08	0.154	13.68	7.93	3.62	0.11	0.972	0.09	99.41	3.94	11	187	20	31	54	< 1	240	0.054	0.080	522304	5.71	1.14
522305	37.37	0.69	8.39	0.117	38.68	0.19	0.02	< 0.01	0.005	< 0.01	98.52	13.06	< 2	< 2	< 1	9	3	< 1	35	0.209	0.298	522305	17.96	0.56
522306	37.03	0.77	8.38	0.115	38.33	0.19	0.05	0.02	0.009	< 0.01	97.36	12.46	< 2	< 2	< 1	9	4	< 1	36	0.227	0.340	522306	10.51	0.45
522307	37.48	0.67	8.01	0.125	38.60	0.30	0.01	< 0.01	0.005	< 0.01	97.34	12.11	< 2	< 2	< 1	9	3	< 1	36	0.218	0.312	522307	12.13	0.48
522308	37.53	0.74	6.88	0.103	39.73	0.63	0.01	< 0.01	0.005	< 0.01	97.74	12.13	< 2	< 2	< 1	9	< 2	< 1	36	0.185	0.275	522308	15.09	0.53
522309	37.75	0.61	8.97	0.152	38.88	0.46	0.02	< 0.01	0.006	< 0.01	98.42	11.58	< 2	< 2	< 1	10	3	< 1	34	0.215	0.325	522309	15.47	0.47
522310	38.72	0.70	8.49	0.122	40.20	0.39	0.02	< 0.01	0.005	< 0.01	100.3	11.65	< 2	< 2	< 1	10	< 2	< 1	39	0.194	0.334	522310	9.02	0.55
522311	38.83	0.70	8.40	0.118	39.65	0.56	0.01	< 0.01	0.005	< 0.01	100.0	11.74	< 2	< 2	< 1	10	< 2	< 1	38	0.211	0.286	522311	8.69	0.28
522312	38.09	0.81	7.93	0.079	40.01	0.27	0.01	< 0.01	0.004	< 0.01	100.1	12.89	< 2	< 2	< 1	9	< 2	< 1	37	0.205	0.269	522312	14.67	0.50
522313	40.19	1.05	7.29	0.058	38.46	0.07	0.02	< 0.01	0.006	< 0.01	99.40	12.25	< 2	< 2	< 1	8	< 2	< 1	36	0.216	0.302	522313	15.33	0.39
522314	37.68	0.61	8.39	0.115	37.88	0.28	< 0.01	< 0.01	0.004	< 0.01	97.45	12.48	< 2	< 2	< 1	9	2	< 1	37	0.226	0.306	522314	15.59	0.32
522315	38.52	0.73	7.83	0.119	38.75	0.76	0.02	0.01	0.004	0.01	98.24	11.47	< 2	< 2	< 1	9	< 2	< 1	40	0.191	0.316	522315	14.57	0.39
522316	38.17	0.68	8.14	0.136	38.95	0.64	0.02	0.01	0.008	< 0.01	98.88	12.13	2	< 2	< 1	9	2	< 1	33	0.193	0.286	522316	12.05	0.36
522317	38.32	0.68	8.01	0.099	38.87	0.90	< 0.01	< 0.01	0.004	< 0.01	98.73	11.83	< 2	< 2	< 1	9	< 2	< 1	37	0.176	0.290	522317	15.79	0.63
522318	38.48	0.73	8.01	0.112	38.60	1.07	0.02	< 0.01	0.006	< 0.01	98.40	11.36	< 2	< 2	< 1	9	3	< 1	39	0.199	0.294	522318	20.79	0.65
522319	38.36	0.69	7.05	0.114	39.01	1.56	0.01	< 0.01	0.004	0.01	98.17	11.35	< 2	< 2	< 1	9	< 2	< 1	40	0.176	0.289	522319	25.59	0.45
522320 missing																								
522321	38.45	0.53	8.41	0.140	41.02	0.55	0.02	< 0.01	0.003	< 0.01	100.1	10.93	< 2	< 2	< 1	9	< 2	< 1	31	0.192	0.298	522321	13.84	0.46
522322	37.79	0.54	8.31	0.122	39.53	0.41	< 0.01	< 0.01	0.005	< 0.01	98.58	11.86	< 2	< 2	< 1	8	< 2	< 1	32	0.198	0.290	522322	19.44	0.48
522323	38.57	0.68	8.25	0.118	39.90	0.93	< 0.01	< 0.01	0.004	0.01	100.7	12.23	< 2	< 2	< 1	10	< 2	< 1	40	0.230	0.281	522323	25.59	0.45
522324	38.21	0.62	7.20	0.131	39.93	0.98	< 0.01	< 0.01	0.004	< 0.01	98.44	11.35	< 2	< 2	< 1	10	< 2	< 1	36	0.172	0.261	522324	13.84	0.46
522325	39.52	0.61	7.85	0.114	39.77	0.93	< 0.01	< 0.01	0.004	< 0.01	100.1	11.31	< 2	< 2	< 1	10	< 2	< 1	35	0.203	0.269	522325	19.44	0.48
522326	38.05	0.73	8.05	0.093	39.02	0.83	< 0.01	< 0.01	0.004	< 0.01	98.85	12.06	< 2	< 2	< 1	10	2	< 1	42	0.189	0.307	522326	20.70	0.51
522327	38.15	0.69	7.85	0.107	39.94	0.72	< 0.01	< 0.01	0.004	< 0.01	99.91	12.44	< 2	< 2	1	9	< 2	< 1	37	0.212	0.266	522327	15.89	0.53
522328 empty																								
522329 empty																								
522330 empty																								
522331	41.02	1.07	7.65	0.095	36.41	0.68	0.01	< 0.01	0.010	< 0.01	98.95	12.01	< 2	5	< 1	10	3	< 1	43	0.214	0.280	522331	12.60	0.61
522332	35.95	12.81	14.32	0.224	5.81	19.32	0.88	0.13	2.030	0.14	100.4	8.79	12	107	40	42	115	< 1	438	< 0.010	< 0.010	522332		

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Total	LOI	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01		2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
522333	37.29	4.68	8.62	0.130	32.39	2.82	< 0.01	< 0.01	0.486	0.04	98.93	12.46	< 2	6	10	19	28	< 1	135	0.152	0.188	522333	24.48	2.61
522334	39.44	1.23	8.30	0.120	38.87	0.06	0.01	< 0.01	0.017	< 0.01	100.7	12.63	< 2	< 2	< 1	9	3	< 1	38	0.203	0.279	522334	26.40	0.79
522335	38.11	1.18	7.93	0.098	37.73	0.15	< 0.01	< 0.01	0.020	0.01	97.87	12.63	< 2	< 2	< 1	10	4	< 1	40	0.199	0.293	522335	25.60	0.94
522336	37.62	1.27	7.80	0.103	37.40	0.47	0.01	< 0.01	0.010	0.01	97.60	12.90	< 2	< 2	< 1	10	3	< 1	41	0.194	0.283	522336	21.36	0.67
522337	37.03	0.92	8.51	0.116	37.30	0.59	0.01	< 0.01	0.008	< 0.01	97.47	12.98	< 2	< 2	< 1	9	2	< 1	35	0.210	0.286	522337	16.93	0.63
522338	37.29	1.08	7.44	0.076	37.04	1.11	< 0.01	< 0.01	0.009	< 0.01	97.65	13.61	< 2	< 2	< 1	10	3	< 1	41	0.193	0.276	522338	10.48	0.45
522339	39.23	1.28	5.59	0.073	37.88	1.19	< 0.01	< 0.01	0.009	< 0.01	99.10	13.85	< 2	< 2	< 1	6	3	< 1	37	0.180	0.235	522339	10.68	0.39
522340.1	49.88	16.65	12.16	0.163	4.87	7.77	2.20	2.75	1.198	0.43	98.80	0.74	710	542	21	26	104	2	339	0.223	1.022	522340	49.10	16.00
522340.2																						522340	36.58	2.36
522340.3																						522340	18.44	0.67
522341	38.00	1.03	7.72	0.114	37.59	0.93	< 0.01	< 0.01	0.009	0.01	98.20	12.79	< 2	< 2	< 1	9	3	< 1	34	0.195	0.250	522341	25.48	0.67
522342	38.25	0.89	7.45	0.124	37.50	1.17	< 0.01	< 0.01	0.008	< 0.01	98.97	13.58	< 2	< 2	< 1	9	2	< 1	37	0.204	0.272	522342	16.97	0.47
522343	37.66	0.79	8.70	0.119	37.66	0.60	< 0.01	< 0.01	0.007	< 0.01	98.35	12.81	< 2	< 2	< 1	9	2	< 1	32	0.206	0.305	522343	19.55	0.37
522344	37.93	0.94	6.83	0.113	38.30	0.60	< 0.01	< 0.01	0.007	< 0.01	97.62	12.89	< 2	< 2	< 1	11	3	< 1	35	0.184	0.276	522344	17.18	0.49
522345	38.36	1.06	7.70	0.114	38.47	0.30	< 0.01	< 0.01	0.007	< 0.01	98.96	12.94	< 2	< 2	< 1	9	3	< 1	41	0.204	0.262	522345	21.88	0.63
522346	38.06	1.13	8.40	0.102	37.60	0.13	< 0.01	< 0.01	0.008	< 0.01	98.20	12.77	< 2	< 2	< 1	11	5	< 1	44	0.204	0.277	522346	15.83	0.50
522347	38.11	0.81	8.34	0.141	37.88	1.08	< 0.01	< 0.01	0.007	< 0.01	99.53	13.14	< 2	< 2	< 1	10	2	< 1	38	0.196	0.270	522347	18.98	0.52
522348	38.23	0.90	7.76	0.121	37.16	0.86	0.02	< 0.01	0.006	< 0.01	97.69	12.65	< 2	< 2	1	9	2	< 1	39	0.200	0.281	522348	14.30	0.33
522349	37.55	0.85	7.51	0.102	37.74	0.56	< 0.01	< 0.01	0.006	0.01	97.43	13.09	< 2	< 2	< 1	10	3	< 1	32	0.197	0.256	522349	13.80	0.55
522350	39.57	1.33	7.20	0.110	37.37	1.48	< 0.01	< 0.01	0.010	< 0.01	99.15	12.07	< 2	< 2	< 1	9	3	< 1	44	0.212	0.315	522350	24.17	0.86
522351	37.81	1.12	7.34	0.087	37.29	1.80	< 0.01	< 0.01	0.009	< 0.01	98.67	13.21	< 2	< 2	< 1	11	3	< 1	43	0.192	0.282	522351	18.44	0.47
522352	38.94	1.33	6.61	0.075	38.18	0.41	< 0.01	< 0.01	0.008	< 0.01	98.48	12.94	< 2	< 2	< 1	10	3	< 1	45	0.201	0.313	522352	19.58	0.51
522353	38.65	0.99	7.56	0.114	39.37	0.63	< 0.01	< 0.01	0.010	< 0.01	99.96	12.62	< 2	< 2	< 1	8	3	< 1	33	0.205	0.280	522353	16.70	0.41
522354	38.29	1.04	7.85	0.134	36.93	1.47	< 0.01	< 0.01	0.011	< 0.01	97.65	11.90	< 2	< 2	< 1	10	4	< 1	43	0.180	0.353	522354	19.73	0.51
522355	38.44	0.95	7.84	0.122	37.84	0.96	< 0.01	< 0.01	0.009	< 0.01	98.57	12.41	< 2	< 2	< 1	9	14	< 1	32	0.230	0.234	522355	22.04	0.54
522356	38.63	0.99	7.68	0.112	38.30	1.01	< 0.01	< 0.01	0.008	< 0.01	99.36	12.63	< 2	< 2	< 1	10	3	< 1	40	0.195	0.262	522356	19.20	0.45
522357	38.40	1.04	7.90	0.115	37.90	1.11	< 0.01	< 0.01	0.011	< 0.01	98.50	12.02	< 2	< 2	< 1	11	2	< 1	41	0.168	0.353	522357	17.25	0.54
522358	38.29	1.13	7.69	0.093	37.67	0.92	< 0.01	< 0.01	0.008	< 0.01	98.59	12.78	< 2	< 2	< 1	9	2	< 1	40	0.203	0.245	522358	17.64	0.74
522359	39.06	1.00	7.68	0.124	38.17	0.90	< 0.01	< 0.01	0.009	< 0.01	99.46	12.51	< 2	< 2	< 1	9	3	< 1	38	0.185	0.272	522359	20.31	0.62
522360	98.43	0.32	0.42	0.005	0.05	0.03	0.02	0.04	0.030	< 0.01	99.41	0.04	26	7	1	< 1	49	< 1	< 5	< 0.010	< 0.010	522360	98.83	0.33
522361	39.01	0.99	7.73	0.131	37.96	1.27	< 0.01	< 0.01	0.007	< 0.01	99.32	12.22	< 2	< 2	< 1	10	3	< 1	39	0.200	0.261	522361	20.07	0.47
522362	38.82	0.95	7.95	0.139	37.91	1.66	< 0.01	< 0.01	0.008	< 0.01	99.86	12.42	< 2	< 2	< 1	10	3	< 1	42	0.189	0.269	522362	20.20	0.51
522363	38.48	1.29	7.31	0.085	37.65	0.74	< 0.01	< 0.01	0.008	< 0.01	98.30	12.73	< 2	< 2	< 1	10	2	< 1	44	0.194	0.284	522363	23.86	0.63
522364	39.29	1.23	7.63	0.113	38.51	1.07	< 0.01	< 0.01	0.011	< 0.01	100.4	12.55	< 2	< 2	< 1	10	3	< 1	46	0.168	0.327	522364	23.15	0.77
522365	38.02	1.04	7.73	0.097	38.39	0.62	< 0.01	< 0.01	0.010	< 0.01	98.84	12.94	< 2	< 2	< 1	9	< 2	< 1	40	0.200	0.284	522365	17.79	0.42
522366	39.45	1.15	7.73	0.088	38.66	0.15	< 0.01	< 0.01	0.009	< 0.01	99.83	12.58	< 2	< 2	< 1	9	4	< 1	42	0.211	0.276	522366	21.09	0.52
522367	41.30	1.18	7.23	0.112	37.81	0.17	< 0.01	< 0.01	0.008	< 0.01	99.66	11.84	< 2	< 2	< 1	11	3	< 1	44	0.201	0.272	522367	16.43	0.75
522368	42.01	1.29	6.09	0.103	37.14	0.34	0.01	< 0.01	0.008	0.02	98.93	11.91	< 2	3	< 1	5	3	< 1	18	0.170	0.246	522368		
522369	41.79	2.21	7.40	0.105	33.40	1.39	0.04	< 0.01	0.041	< 0.01	97.54	11.15	< 2	4	1	10	4	< 1	51	0.186	0.263	522369		
522370	49.39	13.30	14.07	0.216	5.17	9.09	5.18	0.30	1.998	0.15	99.71	0.85	22	132	38	40	105	< 1	484	< 0.010	< 0.010	522370		
522371	34.50	2.35	8.29	0.151	35.85	0.08	0.02	< 0.01	0.033	0.01	91.75	10.48	< 2	< 2	< 1	5	4	< 1	55	0.167	4.789	522371	13.32	4.89
522372	38.62	0.99	8.05	0.117	38.05	0.07	< 0.01	< 0.01	0.009	< 0.01	98.66	12.76	< 2	< 2	< 1	9	2	< 1	38	0.175	0.345	522372	29.72	0.93
522373	37.80	0.91	7.93	0.099	38.97	0.43	< 0.01	< 0.01	0.008	< 0.01	98.91	12.76	< 2	< 2	< 1	11	3	< 1	37	0.201	0.260	522373	28.58	0.68
522374	37.60	0.97	7.41	0.114	37.36	1.05	< 0.01	< 0.01	0.009	< 0.01	97.72	13.20	< 2	< 2	< 1	9	40	< 1	39	0.219	0.271	522374	27.71	0.71
522375	37.81	0.88	7.66	0.123	38.17	0.74	< 0.01	< 0.01	0.008	< 0.01	98.46	13.08	< 2	< 2	< 1	9	2	< 1	37	0.195	0.281	522375	27.45	0.63
522376	38.53	0.74	7.12	0.088	41.55	0.29	< 0.01	< 0.01	0.005	< 0.01	100.6	12.21	< 2	< 2	< 1	4	< 2	< 1	16	0.224	0.254	522376	22.34	1.35
522377	37.51	0.83	7.01	0.120	39.88	0.41	< 0.01	< 0.01	0.007	0.01	98.53	12.75	< 2	< 2	< 1	9	5	< 1	29	0.206	0.244	522377	27.61	0.51
522378	37.99	0.91	7.60	0.117	38.95	0.96	< 0.01	< 0.01	0.008	< 0.01	99.21	12.66	< 2	< 2	< 1	10	5	< 1	31	0.197	0.275	522378	26.22	0.55
522379	38.29	0.98	7.20	0.112	39.23	0.86	< 0.01	< 0.01	0.009	< 0.01	99.19	12.51	< 2	< 2	1	9	5	< 1	34	0.201	0.272	522379	25.71	0.67
522380.1	50.35	16.49	11.96	0.164	4.88	7.80	2.25	2.78	1.169	0.42	99.00	0.75	711	534	21	26	106	2	341	0.227	1.025	522380	49.12	16.00
522380.2																						522380	36.72	2.47

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Total	LOI	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01	0.01		2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
522380.3																						522380		
522381	38.25	1.11	6.86	0.119	38.43	0.38	< 0.01	< 0.01	0.010	< 0.01	98.05	12.88	< 2	< 2	< 1	8	5	< 1	30	0.218	0.337	522381	24.34	0.68
522382	39.18	1.04	8.46	0.097	38.44	0.10	< 0.01	< 0.01	0.017	< 0.01	99.65	12.31	< 2	< 2	< 1	9	5	< 1	32	0.220	0.308	522382	27.28	0.93
522383	40.05	0.84	7.48	0.113	38.05	0.11	< 0.01	< 0.01	0.007	< 0.01	98.90	12.25	< 2	< 2	< 1	8	5	< 1	28	0.209	0.233	522383	26.07	0.72
522384	39.26	1.10	7.93	0.110	38.77	0.26	0.02	< 0.01	0.021	< 0.01	99.77	12.28	< 2	< 2	< 1	10	5	< 1	41	0.214	0.336	522384	21.39	0.58
522385	38.95	1.00	7.77	0.092	38.58	0.88	< 0.01	< 0.01	0.012	< 0.01	100.0	12.75	< 2	< 2	< 1	10	5	< 1	37	0.195	0.313	522385	20.59	0.72
522386	38.92	0.73	7.81	0.130	39.52	0.36	0.01	< 0.01	0.006	< 0.01	98.68	11.19	< 2	< 2	< 1	8	5	< 1	30	0.208	0.283	522386	21.67	0.62
522387	38.90	0.70	8.25	0.144	40.42	0.47	0.01	< 0.01	0.007	< 0.01	100.2	11.25	< 2	< 2	< 1	8	5	< 1	29	0.212	0.287	522387	25.02	0.69
522388	38.94	0.87	7.14	0.099	39.26	0.59	< 0.01	< 0.01	0.005	0.01	98.69	11.75	< 2	< 2	< 1	9	4	< 1	34	0.197	0.247	522388	27.68	0.71
522389	38.67	0.77	8.35	0.111	40.13	0.44	< 0.01	< 0.01	0.005	< 0.01	99.92	11.42	< 2	< 2	< 1	9	5	< 1	33	0.214	0.294	522389	23.91	0.65
522390	38.97	0.89	7.46	0.086	39.85	0.38	< 0.01	< 0.01	0.004	< 0.01	99.80	12.16	< 2	< 2	< 1	9	5	< 1	36	0.206	0.286	522390	27.39	0.92
522391	38.37	0.76	7.65	0.107	39.61	0.27	< 0.01	< 0.01	0.005	< 0.01	98.61	11.83	< 2	< 2	< 1	9	4	< 1	30	0.214	0.278	522391	22.35	0.68
522392	47.28	12.25	12.87	0.201	8.79	9.59	4.12	0.18	1.676	0.13	98.67	1.58	11	103	31	36	95	< 1	379	0.032	0.029	522392		
522393	39.87	0.87	8.60	0.137	38.39	0.08	0.03	< 0.01	0.011	< 0.01	99.11	11.12	< 2	< 2	< 1	6	6	< 1	35	0.217	0.711	522393	13.21	1.01
522394	38.58	0.89	7.65	0.113	39.39	0.17	0.01	< 0.01	0.015	< 0.01	99.06	12.23	< 2	< 2	< 1	11	4	< 1	36	0.218	0.311	522394	18.47	0.48
522395	37.51	0.89	8.21	0.116	39.67	0.12	0.01	< 0.01	0.014	< 0.01	98.71	12.17	< 2	< 2	< 1	10	4	< 1	38	0.211	0.319	522395	18.00	0.44
522396	40.00	4.10	9.06	0.119	30.85	5.67	0.43	0.03	0.340	0.03	100.0	9.40	2	11	7	17	22	< 1	111	0.155	0.250	522396	23.79	0.80
522397	38.08	0.71	7.82	0.132	39.81	0.12	< 0.01	< 0.01	0.005	0.01	98.69	12.00	< 2	< 2	< 1	9	5	< 1	34	0.219	0.286	522397	21.88	0.42
522398	38.32	0.72	7.96	0.131	39.79	0.04	< 0.01	< 0.01	0.006	< 0.01	98.86	11.89	< 2	< 2	< 1	9	4	< 1	27	0.216	0.297	522398	21.14	0.55
522399	41.89	11.43	11.62	0.239	12.21	16.53	1.39	0.10	1.196	0.11	100.8	3.04	3	20	25	36	65	< 1	303	0.040	0.060	522399		
522400 missing																								
522401 missing																								
522402 missing																								
522403 missing																								
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522411 missing																								
522412 missing																								
522413 missing																								
522280.01	50.38	16.67	11.90	0.160	4.81	7.45	2.37	2.94	1.143	0.45	98.98	0.69	710	529	20	25	102	2	335	0.228	1.002	522280		
522280.02																						522280		
522280.03																						522280		

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
521310.1	12.06	0.164	4.95	7.72	2.43	2.80	1.09	0.44	1.05	0.065	0.233	0.88	98.87							
521310.2	13.11	0.129	32.04	2.07	0.10	0.10	0.12	0.02	0.20	0.008	1.44	11.00	98.95							
521310.3	52.74	0.234	18.44	0.18	< 0.01	0.08	0.03	< 0.01	1.56	0.025	2.03	3.39	98.19	30.2	2.095	27.720	6.9	29.815	1.31	0.12
521311														60.2	0.030	59.595	0.1	59.625	0.97	
521312														61.1	0.050	60.770	0.1	60.820	0.46	
521313														60.4	0.034	60.053	0.1	60.087	0.55	
521314														60.2	0.076	60.063	0.1	60.138	0.17	
521315														60.4	0.024	60.040	0.0	60.064	0.48	
521316	63.56	0.423	12.41	0.61	< 0.01	0.08	0.17	0.03	3.01	0.053	0.250	1.10	97.13	30.1	0.877	29.289	2.9	30.166	-0.06	0.11
521317	33.39	0.171	25.24	0.67	0.31	0.08	0.10	0.03	1.50	0.028	0.255		94.24	30.2	0.307	29.866	1.0	30.173	0.16	
521318	54.37	0.275	17.94	0.23	< 0.01	0.02	0.04	0.01	1.70	0.031	0.185	3.74	98.46	30.1	1.894	28.187	6.3	30.081	-0.05	0.05
521319	68.66	0.507	9.46	0.10	< 0.01	0.06	0.24	0.01	5.05	0.055	0.171	0.56	96.23	30.1	0.484	29.587	1.6	30.071	0.12	
521320	75.88	0.236	8.04	0.96	0.02	0.03	0.13	0.02	2.09	0.029	0.241	-0.40	97.55	28.6	0.776	27.885	2.7	28.660	-0.13	0.02
521321	79.40	0.240	8.66	0.04	< 0.01	0.02	0.03	0.01	2.09	0.027	0.342	-0.19	98.10	30.0	2.086	27.850	6.9	29.936	0.25	0.04
521322	29.44	0.179	14.97	5.51	< 0.01	0.28	4.51	1.05	0.16	0.083	0.065		96.61	61.6	0.194	59.595	0.3	59.789	2.99	
521323	51.79	0.277	13.68	4.05	0.09	0.02	0.62	0.06	2.39	0.070	0.427		95.57	30.1	0.368	29.771	1.2	30.140	-0.02	
521324														61.3	0.056	61.261	0.1	61.317	-0.01	
521325														61.7	0.082	61.092	0.1	61.174	0.78	
521326	64.95	0.537	8.49	2.33	0.01	0.05	0.33	0.03	4.91	0.066	0.202		94.30	60.2	0.286	59.946	0.5	60.232	-0.09	
521327	60.07	0.271	16.18	0.02	< 0.01	0.02	0.04	0.01	1.66	0.027	0.346	3.29	98.29	30.1	2.356	27.695	7.8	30.051	0.07	0.08
521328	63.44	0.415	13.40	0.38	0.05	0.19	0.04	0.01	2.26	0.033	1.14	1.91	98.01	30.0	1.462	28.750	4.9	30.212	-0.54	0.08
521329	63.98	0.334	13.03	0.55	< 0.01	0.05	0.06	0.01	1.89	0.035	1.19	1.87	97.96	30.2	1.352	29.038	4.5	30.390	-0.63	0.05
521330	0.80	0.005	0.03	0.02	0.01	0.07	0.05	0.01	< 0.01	< 0.003	< 0.003	0.19	100.4	42.2	0.116	41.253	0.3	41.369	2.03	
521331	65.52	0.253	12.92	0.29	< 0.01	0.02	0.06	< 0.01	1.54	0.030	0.997	2.16	98.37	30.1	1.571	28.661	5.2	30.232	-0.30	0.04
521332	61.96	0.276	13.58	0.66	< 0.01	0.02	0.06	0.01	2.05	0.037	1.76	1.29	97.14	30.0	1.180	29.048	3.9	30.228	-0.67	0.05
521333	42.67	0.291	4.96	5.15	1.28	1.00	7.63	0.61	0.16	0.192	0.057		95.67	60.2	0.195	59.999	0.3	60.194	0.04	
521334	61.68	0.160	14.42	0.21	< 0.01	0.01	0.05	0.01	1.46	0.025	2.23	1.93	97.32	30.1	2.081	28.215	6.9	30.295	-0.67	0.05
521335	62.66	0.285	15.05	0.11	< 0.01	0.02	0.05	< 0.01	2.41	0.028	2.80	0.92	98.34	30.1	1.422	28.710	4.7	30.132	-0.01	0.04
521336	62.95	0.279	13.76	0.16	< 0.01	0.03	0.06	0.01	2.11	0.035	2.44	1.39	98.13	30.1	1.738	28.400	5.8	30.138	-0.17	0.04
521337	58.52	0.237	15.17	0.30	< 0.01	0.02	0.07	0.01	1.90	0.032	3.09	1.96	97.82	30.1	1.384	28.800	4.6	30.184	-0.40	0.03
521338	67.69	0.217	12.40	0.13	< 0.01	0.02	0.06	0.01	1.73	0.032	2.54	0.62	98.50	30.2	1.743	28.622	5.8	30.365	-0.68	0.04
521339	64.56	0.192	12.91	0.29	< 0.01	0.08	0.06	0.01	1.64	0.030	3.00	0.66	97.26	30.1	1.445	28.811	4.8	30.256	-0.38	0.04
521340	68.93	0.141	11.64	0.10	< 0.01	0.03	0.06	< 0.01	1.35	0.036	2.57	0.16	97.76	30.0	2.128	27.868	7.1	29.997	0.06	0.01
521341	61.26	0.163	13.78	0.48	< 0.01	0.03	0.06	0.01	1.48	0.033	3.46	0.98	97.21	30.1	1.190	28.747	4.0	29.937	0.42	0.03
521342	66.60	0.197	11.76	0.30	< 0.01	0.03	0.07	< 0.01	1.95	0.036	4.00	-0.99	96.98	30.0	0.852	29.250	2.8	30.102	-0.20	0.02
521343	68.21	0.233	11.41	0.24	< 0.01	0.02	0.08	0.01	2.23	0.034	3.00	-0.77	97.29	30.1	1.237	28.651	4.1	29.888	0.76	0.04
521344	64.99	0.214	11.81	0.12	< 0.01	0.01	0.06	0.01	1.95	0.025	2.64	0.74	96.84	23.5	1.181	21.788	5.0	22.968	2.40	0.04
521345- missing																				
521346	68.24	0.144	10.44	0.17	< 0.01	0.01	0.03	< 0.01	3.21	0.027	4.99	-1.19	96.13	30.4	0.844	28.755	2.8	29.598	2.66	0.08
521347	57.95	0.253	12.96	0.69	< 0.01	0.02	0.05	0.01	2.67	0.031	3.98	-0.13	96.24	30.1	0.874	29.003	2.9	29.876	0.58	0.02
521348	60.78	0.228	15.29	0.18	< 0.01	0.01	0.07	< 0.01	2.10	0.026	3.21	-0.66	97.49	30.2	1.331	28.351	4.4	29.682	1.76	0.03
521349	84.82	0.062	4.38	0.02	< 0.01	< 0.01	0.02	0.01	3.04	0.018	2.41	-2.09	96.54	30.0	1.016	29.771	3.4	30.786	-2.57	< 0.01
521350	7.94	0.062	10.56	0.13	< 0.01	0.01	0.03	0.01	0.25	0.011	0.235	0.21	100.1	30.2	1.822	28.013	6.0	29.835	1.25	
521350.2 missing																				
521350.3 missing																				
521351	58.55	0.218	14.69	0.31	< 0.01	0.04	0.05	< 0.01	2.49	0.030	3.80	0.41	96.50	30.2	1.042	29.190	3.5	30.233	-0.11	0.02
521352	62.02	0.170	10.50	0.26	< 0.01	0.02	0.05	0.01	1.85	0.027	3.80	0.19	96.71	30.8	0.974	28.439	3.2	29.413	4.47	0.03
521353	68.72	0.105	11.27	0.10	< 0.01	< 0.01	0.05	0.01	1.22	0.031	2.63	-0.56	97.41	30.4	1.971	27.159	6.5	29.130	4.33	0.02
521354	59.48	0.127	14.86	0.15	< 0.01	0.02	0.05	< 0.01	1.36	0.027	2.42	1.99	97.43	30.2	2.147	27.205	7.1	29.352	2.96	0.02
521355	60.01	0.184	14.47	0.23	< 0.01	0.02	0.05	0.01	1.68	0.024	3.44	0.68	97.57	30.6	1.408	28.693	4.6	30.101	1.70	0.06
521356	71.00	0.218	10.73	0.08	< 0.01	0.02	0.05	< 0.01	2.07	0.031	3.50	-0.38	97.17	25.0	1.279	22.666	5.1	23.944	4.40	0.08

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
521357	61.36	0.281	13.40	0.26	< 0.01	0.02	0.05	< 0.01	2.37	0.029	3.32	0.29	96.63	30.8	1.413	27.761	4.6	29.174	5.30	0.03
521358	62.71	0.298	11.98	0.21	< 0.01	0.01	0.06	0.01	2.18	0.035	3.19	0.43	96.66	30.4	1.571	27.106	5.2	28.677	5.64	0.04
521359	63.71	0.301	12.34	0.31	< 0.01	0.01	0.09	< 0.01	2.13	0.033	3.05	-0.22	96.73	30.3	1.508	27.186	5.0	28.694	5.27	0.04
521360	68.98	0.243	6.33	1.52	0.17	0.05	0.35	0.03	1.92	0.050	2.46	-1.27	93.79	30.3	0.476	29.139	1.6	29.614	2.32	
521361														28.3	0.022	27.050	0.1	27.072	4.30	
521362	59.88	0.180	12.83	0.14	< 0.01	0.05	0.06	0.01	1.77	0.029	3.62	-1.45	96.19	30.8	1.218	29.652	4.0	30.870	-0.34	0.05
521363	62.28	0.174	12.48	0.13	< 0.01	0.03	0.06	< 0.01	1.81	0.031	3.72	0.32	96.17	30.7	0.794	28.753	2.6	29.547	3.87	
521364	67.13	0.239	10.02	0.37	< 0.01	0.01	0.08	0.01	2.86	0.040	5.47	-1.00	95.72	30.1	0.799	28.714	2.7	29.513	2.01	0.03
521365	62.63	0.265	10.41	0.52	< 0.01	0.01	0.08	0.01	3.19	0.043	5.09	-1.07	95.78	30.1	0.817	28.572	2.7	29.389	2.23	0.03
521366	70.50	0.180	10.35	0.35	< 0.01	0.01	0.06	0.01	1.96	0.034	2.66	-0.15	98.00	30.8	1.199	28.274	3.9	29.474	4.28	0.06
521367	62.08	0.259	11.59	0.74	< 0.01	0.02	0.07	0.01	2.85	0.034	4.67	-0.29	96.42	30.7	1.043	28.055	3.4	29.098	5.10	
521368	60.35	0.190	14.24	0.55	< 0.01	0.02	0.07	0.01	2.18	0.035	3.47	0.71	97.28	30.1	1.192	28.815	4.0	30.007	0.18	0.07
521369	65.45	0.210	11.85	0.35	< 0.01	0.03	0.08	0.01	2.44	0.040	2.88	0.56	97.01	30.1	1.035	29.065	3.4	30.100	0.13	
521370	0.81	0.006	0.06	0.03	0.01	0.06	0.04	0.01	< 0.01	< 0.003	< 0.003	0.14	100.4	52.5	0.117	51.493	0.2	51.611	1.75	
521371	66.44	0.249	11.45	0.80	0.03	0.09	0.10	0.01	3.16	0.052	2.78	-0.87	97.12	61.5	1.519	59.550	2.5	61.069	0.70	
521372	55.71	0.191	17.54	0.07	< 0.01	0.08	0.03	0.01	2.87	0.023	4.63	0.96	97.00	61.5	1.970	59.339	3.2	61.309	0.31	
522251	64.15	0.290	15.45	0.18	< 0.01	0.02	0.03	0.01	1.69	0.024	0.915	1.51	97.60	29.5	1.750	27.544	5.9	29.294	0.58	0.04
522252	65.25	0.293	14.17	0.17	< 0.01	0.02	0.04	< 0.01	1.98	0.024	0.897	1.84	97.70	30.1	1.837	28.178	6.1	30.016	0.35	0.04
522253	57.51	0.239	17.97	0.19	< 0.01	0.04	0.03	0.01	1.25	0.017	0.877	3.56	98.17	30.0	2.101	27.830	7.0	29.931	0.38	0.04
522254	70.29	0.486	11.32	0.03	< 0.01	0.02	0.05	< 0.01	2.93	0.036	0.872	1.10	97.59	30.2	2.126	27.917	7.0	30.044	0.65	0.03
522255	65.84	0.459	13.27	0.04	< 0.01	0.04	0.04	< 0.01	2.46	0.031	0.670	2.02	98.11	30.0	2.173	27.813	7.2	29.986	0.17	0.02
522256														60.3	0.024	60.521	0.0	60.544	-0.43	
522257	74.04	0.430	9.17	0.04	< 0.01	0.06	0.10	< 0.01	2.82	0.047	0.645	0.38	97.83	30.1	1.392	28.621	4.6	30.013	0.42	0.02
522258	63.18	0.433	13.70	0.09	< 0.01	0.03	0.03	< 0.01	2.11	0.029	2.24	1.41	97.54	30.1	1.688	28.453	5.6	30.141	-0.02	0.03
522259	70.92	0.412	10.36	0.04	< 0.01	0.03	0.04	0.01	2.24	0.028	2.13	0.00	97.04	30.0	1.556	28.541	5.2	30.096	-0.18	0.03
522260.1	12.06	0.163	4.93	7.77	2.44	2.79	1.11	0.44	1.06	0.065	0.232	0.78	98.81							
522260.2 missing																				
522260.3	52.42	0.231	18.27	0.17	< 0.01	0.02	0.04	0.01	1.55	0.022	2.03	3.48	97.63	30.1	2.071	27.714	6.9	29.785	0.98	0.10
522261	67.93	0.398	12.85	0.08	< 0.01	0.03	0.03	0.01	2.01	0.030	0.789	1.51	97.89	30.0	2.225	27.776	7.4	30.001	0.16	0.03
522262	66.61	0.304	13.49	0.07	< 0.01	0.04	0.02	< 0.01	1.58	0.024	0.830	2.07	97.94	30.1	2.341	27.743	7.8	30.084	0.16	0.03
522263	73.43	0.421	9.75	0.07	< 0.01	0.02	0.03	< 0.01	2.79	0.027	1.94	-0.34	97.43	30.1	1.386	28.728	4.6	30.114	-0.11	0.03
522264	65.37	0.454	13.40	0.18	< 0.01	0.05	0.03	< 0.01	2.67	0.030	1.42	0.93	96.93	30.3	1.351	28.899	4.5	30.250	0.07	0.04
522265	74.93	0.355	9.63	0.10	< 0.01	0.03	0.03	< 0.01	1.81	0.030	0.647	0.33	97.70	30.0	1.806	28.320	6.0	30.126	-0.26	0.02
522266	71.62	0.266	11.07	0.26	< 0.01	0.03	0.15	0.01	0.03	0.043	0.742	0.69	96.70	30.1	1.581	28.386	5.3	29.967	0.36	0.04
522267	60.42	0.321	16.08	0.21	< 0.01	0.03	0.03	< 0.01	0.03	0.030	0.972	2.14	95.92	30.1	2.040	27.976	6.8	30.016	0.24	0.04
522268	70.38	0.273	12.16	0.09	< 0.01	0.02	0.10	0.01	1.80	0.031	1.02	0.86	98.22	30.2	1.945	28.325	6.4	30.270	-0.15	0.03
522269	73.09	0.297	11.27	0.09	< 0.01	0.02	0.04	< 0.01	0.15	0.027	0.968	-0.03	96.80	30.1	1.990	27.970	6.6	29.960	0.35	0.02
522270	62.20	0.273	15.13	0.10	< 0.01	0.03	0.02	0.01	1.68	0.028	1.16	1.75	97.43	30.1	2.340	27.600	7.8	29.941	0.69	0.05
522271	55.06	0.273	18.42	0.28	< 0.01	0.04	0.06	0.01	1.48	0.027	1.27	3.45	98.82	30.1	2.222	27.755	7.4	29.977	0.57	0.07
522272	63.60	0.249	14.83	0.09	0.12	0.08	0.02	0.01	1.63	0.025	0.756	2.34	98.79	30.1	2.409	27.606	8.0	30.015	0.22	0.04
522273	69.67	0.291	11.79	0.12	0.07	0.03	0.04	0.01	1.81	0.029	2.00	0.77	98.53	30.2	1.810	28.451	6.0	30.262	-0.22	0.08
522274	71.10	0.424	10.97	0.08	0.02	0.02	0.04	0.01	2.29	0.042	1.59	0.39	98.32	30.3	1.725	28.640	5.7	30.365	-0.08	0.04
522275 missing																				
522276														52.6	0.017	53.033	0.0	53.051	-0.77	
522277	55.29	0.587	14.89	0.14	< 0.01	< 0.01	0.16	0.04	6.05	0.087	0.877		94.24	60.5	0.559	60.282	0.9	60.840	-0.48	0.03
522278	63.06	0.313	13.75	0.13	< 0.01	0.16	0.03	0.01	2.33	0.040	1.82	1.29	97.21	30.2	1.112	29.073	3.7	30.185	0.01	0.04
522279														61.5	0.008	61.298	0.0	61.306	0.34	
522280	76.93	0.684	0.47	0.22	0.14	0.12	0.04	0.06	0.08	0.006	0.024		96.76	25.3	0.235	24.881	0.9	25.116	0.78	
522281														60.6	0.079	60.094	0.1	60.173	0.75	
522282	68.20	0.401	9.97	0.29	0.03	0.06	0.05	0.01	2.29	0.041	2.56	1.71	96.48	30.3	1.691	28.645	5.6	30.337	-0.12	0.14
522283	64.10	0.363	12.62	0.66	0.08	0.07	0.12	0.02	2.72	0.051	1.82	0.33	97.22	30.2	1.172	29.158	3.9	30.330	-0.33	0.07

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
522284	65.59	0.186	14.48	0.08	0.22	0.03	0.03	0.01	1.96	0.031	1.63	-0.19	98.50	30.3	1.515	28.667	5.0	30.182	0.32	0.04
522285	58.54	0.250	16.41	0.22	< 0.01	0.05	0.03	0.01	2.44	0.033	2.72	0.87	97.29	30.2	1.149	29.007	3.8	30.156	0.11	0.03
522286	51.19	0.228	20.62	0.22	< 0.01	0.02	0.02	0.01	2.17	0.028	2.11	1.80	97.67	30.2	2.505	27.644	8.3	30.149	0.28	0.09
522287	58.96	0.250	16.43	0.22	< 0.01	< 0.01	0.02	0.01	2.34	0.029	2.53	1.92	97.98	30.0	1.685	28.284	5.6	29.969	0.27	0.04
522288	57.96	0.227	15.19	0.39	0.06	0.06	0.03	0.02	2.23	0.027	2.77	3.28	97.05	30.1	2.027	27.993	6.7	30.020	0.29	0.03
522289	50.44	0.236	21.29	0.29	0.01	0.04	0.02	0.01	2.05	0.027	1.85	1.48	97.79	23.7	1.445	22.300	6.1	23.745	-0.02	0.03
522290	56.93	0.164	17.09	0.14	0.17	0.03	0.03	< 0.01	1.96	0.034	2.88	1.80	97.62	30.2	1.465	28.500	4.9	29.965	0.66	0.03
522291	53.85	0.217	19.26	0.19	< 0.01	0.05	0.03	< 0.01	1.61	0.022	1.45	3.57	98.29	30.3	1.927	28.237	6.4	30.163	0.30	0.02
522292	59.83	0.254	14.94	0.33	< 0.01	0.02	0.03	0.01	2.54	0.035	3.08	2.13	97.19	30.2	1.373	28.802	4.5	30.175	0.06	0.02
522293	51.43	0.289	19.13	0.56	0.24	0.05	0.03	0.01	2.46	0.028	2.82	3.79	98.38	30.3	2.526	27.279	8.3	29.805	1.62	0.05
522294	51.31	0.191	21.38	0.20	0.01	0.02	0.02	0.01	1.87	0.027	2.48	1.37	98.93	30.3	1.265	29.010	4.2	30.275	0.07	0.05
522295	58.75	0.250	15.39	0.32	0.16	0.03	0.02	< 0.01	2.47	0.031	2.99	3.03	97.79	30.2	1.632	28.475	5.4	30.107	0.17	0.05
522296	58.55	0.218	14.92	0.22	0.04	0.11	0.02	0.01	2.48	0.037	2.50	4.26	97.78	30.2	2.010	28.257	6.6	30.266	-0.13	0.04
522297	67.48	0.153	12.14	0.18	0.06	0.02	0.02	0.01	1.61	0.028	2.42	2.04	98.51	30.2	1.327	28.736	4.4	30.063	0.35	0.07
522298	56.58	0.252	17.40	0.17	0.04	0.03	0.04	< 0.01	1.69	0.027	2.15	1.86	98.63	30.1	1.546	28.351	5.1	29.897	0.60	0.05
522299	54.14	0.189	20.25	0.11	< 0.01	0.06	0.03	0.01	1.50	0.024	1.73	0.67	98.43	30.2	1.618	28.446	5.4	30.064	0.54	0.08
522300.1	12.08	0.171	4.98	7.79	2.43	2.81	1.09	0.44	1.05	0.066	0.237	0.78	99.14							
522300.2	13.17	0.132	32.16	2.09	0.10	0.14	0.12	0.02	0.20	0.009	1.44	10.89	99.15							
522300.3	52.47	0.235	18.21	0.18	< 0.01	0.03	0.03	0.01	1.57	0.023	2.03	3.25	97.21	30.4	1.994	28.048	6.6	30.042	1.13	0.11
522301	70.64	0.265	7.61	0.08	< 0.01	0.12	0.03	0.01	3.17	0.040	2.99	4.10	96.54	30.2	2.283	27.783	7.6	30.066	0.48	0.11
522302														49.6	0.026	49.279	0.1	49.305	0.65	
522303														52.7	0.029	52.119	0.1	52.147	1.11	
522304	73.56	0.373	5.29	0.30	0.02	0.01	0.06	0.02	1.63	0.023	2.73		90.87	30.2	0.245	29.946	0.8	30.191	0.18	
522305	55.26	0.206	19.47	0.15	0.27	0.04	0.03	< 0.01	2.39	0.033	2.38	-0.42	98.34	30.3	1.413	28.784	4.7	30.196	0.37	0.04
522306	68.43	0.281	11.38	0.12	0.06	0.07	0.03	< 0.01	3.54	0.045	3.14	-1.29	96.75	24.8	0.997	23.802	4.0	24.799	-0.03	0.04
522307	63.73	0.251	13.26	0.09	0.12	0.05	0.03	0.01	3.02	0.039	3.01	0.71	96.93	30.3	1.171	29.029	3.9	30.200	0.19	0.04
522308	58.47	0.181	16.04	0.13	< 0.01	0.02	0.03	0.01	2.13	0.031	2.14	2.74	97.53	30.2	1.511	28.647	5.0	30.158	0.16	0.03
522309	61.42	0.163	16.91	0.11	0.03	0.06	0.02	0.01	0.02	0.025	2.09	-0.28	96.51	30.3	1.126	28.427	3.7	29.553	2.32	0.03
522310	71.91	0.196	9.13	0.03	0.07	0.03	0.03	0.01	2.74	0.043	2.72	0.22	96.70	30.2	1.272	28.839	4.2	30.111	0.21	0.03
522311	71.13	0.255	9.37	0.06	0.12	0.06	0.03	0.01	2.67	0.038	2.88	1.66	97.25	30.2	1.680	28.349	5.6	30.029	0.66	0.03
522312	59.06	0.207	16.16	0.23	0.48	0.06	0.03	0.01	2.11	0.031	2.28	2.58	98.41	30.3	2.126	28.065	7.0	30.191	0.30	0.05
522313	60.91	0.226	16.92	0.20	0.05	0.04	0.03	0.01	2.35	0.034	2.50	-0.85	98.13	30.1	1.498	28.527	5.0	30.025	0.41	0.06
522314	61.23	0.182	17.61	0.30	< 0.01	0.03	0.03	0.01	1.98	0.033	2.44	-0.78	98.95	30.2	1.572	28.581	5.2	30.153	0.05	0.02
522315	60.00	0.205	15.69	0.35	0.01	0.04	0.03	0.01	2.25	0.031	2.37	1.66	97.60	30.3	1.848	28.441	6.1	30.289	0.14	0.02
522316	65.18	0.198	12.83	0.27	0.05	0.02	0.02	< 0.01	2.33	0.033	2.90	1.66	97.89	30.2	1.431	28.888	4.7	30.319	-0.26	0.01
522317	53.93	0.224	18.55	0.20	< 0.01	0.08	0.03	0.01	2.75	0.032	2.47	2.06	96.75	30.2	1.641	28.540	5.4	30.181	-0.03	0.01
522318	49.32	0.168	23.27	0.16	< 0.01	0.05	0.03	< 0.01	1.91	0.026	1.60	1.51	99.45	30.1	1.575	28.012	5.2	29.587	1.85	0.01
522319	40.88	0.192	28.17	0.53	< 0.01	0.02	0.02	< 0.01	1.63	0.025	1.57	0.39	99.42	30.2	1.418	28.633	4.7	30.050	0.35	0.01
522320 missing																				
522321	60.26	0.190	15.21	0.33	< 0.01	0.03	0.03	0.01	2.13	0.034	2.57	1.87	96.94	30.2	1.349	28.565	4.5	29.913	1.10	< 0.01
522322	48.14	0.191	20.96	0.42	0.10	0.03	0.02	< 0.01	1.92	0.029	1.94	4.04	97.72	30.2	2.109	27.897	7.0	30.006	0.68	0.01
522323	40.88	0.192	28.17	0.53	< 0.01	0.02	0.02	< 0.01	1.63	0.025	1.57	0.39	99.42	30.2	2.262	27.659	7.5	29.921	0.86	0.01
522324	60.26	0.190	15.21	0.33	< 0.01	0.03	0.03	0.01	2.13	0.034	2.57	1.87	96.94	30.1	1.326	28.512	4.4	29.838	0.83	0.02
522325	48.14	0.191	20.96	0.42	0.10	0.03	0.02	< 0.01	1.92	0.029	1.94	4.04	97.72	30.2	1.567	28.429	5.2	29.996	0.63	0.01
522326	46.33	0.155	22.67	0.32	< 0.01	0.02	0.03	0.01	1.60	0.029	1.50	4.72	98.55	30.3	2.420	27.751	8.0	30.171	0.46	0.02
522327	55.71	0.189	17.09	0.29	< 0.01	0.02	0.03	< 0.01	2.21	0.032	2.12	2.59	96.70	30.1	1.589	28.344	5.3	29.933	0.59	0.02
522328 empty																				
522329 empty																				
522330 empty																				
522331	66.54	0.087	11.11	0.12	< 0.01	0.04	0.11	< 0.01	3.53	0.061	0.353	1.56	96.67	30.1	0.825	28.895	2.7	29.720	1.16	< 0.01
522332														39.4	0.033	38.970	0.1	39.003	0.96	

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
522333	40.12	0.236	22.04	1.37	< 0.01	0.04	0.56	0.03	0.94	0.038	0.343	6.89	99.70	30.3	1.515	28.475	5.0	29.991	0.93	0.02
522334	36.57	0.234	26.30	0.09	0.02	0.05	0.03	0.01	0.97	0.017	0.805	7.16	99.45	30.2	4.828	25.146	16.0	29.974	0.75	0.01
522335	38.55	0.215	24.75	0.26	< 0.01	0.07	0.07	0.03	1.02	0.022	0.747	6.50	98.77	29.8	4.054	25.451	13.6	29.505	0.93	0.02
522336	46.74	0.197	21.87	0.35	0.02	0.03	0.03	< 0.01	1.10	0.021	1.38	5.48	99.25	30.1	3.175	26.682	10.5	29.857	0.85	0.02
522337	56.03	0.224	17.01	0.15	< 0.01	0.06	0.04	0.01	1.42	0.024	1.38	3.90	97.76	16.9	1.428	15.347	8.4	16.775	0.94	0.13
522338	73.14	0.215	10.43	0.06	< 0.01	0.03	0.04	0.01	1.69	0.027	0.746	0.95	98.27	7.26	0.425	6.631	5.9	7.056	2.88	
522339	71.85	0.249	11.16	0.12	< 0.01	< 0.01	0.04	0.02	1.72	0.024	1.09		97.29	7.95	0.338	7.480	4.3	7.818	1.72	
522340.1	12.17	0.170	4.93	7.92	2.44	2.79	1.10	0.45	1.07	0.066	0.233	0.77	99.20							
522340.2	13.18	0.130	32.15	2.08	0.11	0.13	0.12	0.02	0.20	0.005	1.44	10.89	99.40							
522340.3	52.94	0.233	18.47	0.15	< 0.01	0.04	0.04	0.01	1.59	0.023	2.03	3.39	98.03	30.2	1.924	27.936	6.4	29.860	1.23	0.11
522341	36.27	0.175	26.72	0.13	< 0.01	0.03	0.02	0.01	0.71	0.011	0.921	7.82	98.95	30.2	3.708	26.168	12.3	29.876	1.16	0.16
522342	54.92	0.280	18.02	0.13	< 0.01	0.03	0.03	0.01	1.59	0.021	1.31	4.40	98.12	28.2	1.879	26.078	6.7	27.957	0.73	0.21
522343	49.73	0.246	21.39	0.15	< 0.01	0.03	0.04	0.01	1.44	0.018	0.829	5.52	99.29	30.2	3.296	26.824	10.9	30.120	0.24	0.18
522344	54.75	0.242	18.66	0.10	< 0.01	0.05	0.03	0.01	1.47	0.021	0.897	4.54	98.42	30.9	2.711	27.788	8.8	30.500	1.15	0.19
522345	43.52	0.211	24.12	0.08	< 0.01	0.03	0.02	0.01	0.93	0.016	0.842	6.73	99.00	30.3	3.362	26.590	11.1	29.952	1.01	0.23
522346	59.99	0.307	16.37	0.08	< 0.01	0.02	0.03	0.01	1.32	0.025	0.332	3.46	98.22	30.2	2.873	26.793	9.5	29.666	1.83	0.08
522347	51.02	0.275	20.24	0.12	< 0.01	0.01	0.03	0.01	1.37	0.019	0.853	4.82	98.20	30.1	2.838	26.892	9.4	29.730	1.28	0.15
522348	62.68	0.299	14.88	0.10	< 0.01	0.03	0.02	< 0.01	1.87	0.026	1.39	2.30	98.20	30.3	2.127	28.062	7.0	30.189	0.51	0.12
522349	62.92	0.258	15.10	0.06	< 0.01	0.02	0.03	0.01	1.63	0.024	1.27	2.56	98.24	30.2	2.552	27.423	8.5	29.975	0.59	0.11
522350	41.63	0.233	24.28	0.37	< 0.01	0.03	0.03	0.01	1.40	0.025	0.874	6.07	99.93	30.3	3.120	26.965	10.3	30.085	0.82	0.04
522351	54.49	0.191	18.93	0.15	0.02	0.03	0.03	< 0.01	1.31	0.023	1.22	4.09	99.39	30.2	2.590	27.600	8.6	30.191	0.09	0.08
522352	51.64	0.183	20.20	0.10	< 0.01	0.02	0.04	< 0.01	1.46	0.026	1.51	4.18	99.41	30.1	2.298	27.608	7.6	29.906	0.59	0.05
522353	54.99	0.213	18.46	0.12	< 0.01	0.02	0.03	0.01	1.44	0.017	1.89	3.63	97.91	30.3	2.211	28.005	7.3	30.216	0.37	0.04
522354	48.31	0.290	21.48	0.25	< 0.01	0.02	0.03	< 0.01	1.75	0.018	1.27	4.82	98.43	30.4	2.682	27.490	8.8	30.171	0.64	0.03
522355	43.43	0.203	23.92	0.21	0.04	0.03	0.03	0.01	0.96	0.013	1.22	6.07	98.71	30.2	3.007	26.814	10.0	29.821	1.27	0.26
522356	49.49	0.206	20.93	0.25	0.09	0.04	0.03	0.01	1.18	0.018	1.42	5.04	98.36	30.1	2.358	27.505	7.8	29.863	0.76	0.05
522357	52.43	0.251	19.01	0.19	< 0.01	0.02	0.03	< 0.01	1.98	0.023	1.66	3.79	97.13	30.1	2.343	27.440	7.8	29.784	0.95	0.03
522358	54.82	0.157	19.35	0.11	< 0.01	< 0.01	0.02	0.02	0.85	0.020	1.42		95.07	30.3	2.472	27.418	8.2	29.890	1.36	0.03
522359	46.37	0.223	22.30	0.33	< 0.01	0.03	0.03	< 0.01	1.24	0.018	1.43	5.53	98.40	30.1	2.623	27.036	8.7	29.659	1.54	0.05
522360	0.73	0.004	0.05	0.04	< 0.01	0.06	0.05	0.01	0.01	< 0.003	< 0.003	0.04	100.2	10.7	0.029	10.541	0.3	10.569	1.43	
522361	48.57	0.231	21.54	0.38	< 0.01	0.05	0.03	0.01	1.29	0.018	1.77	4.81	99.22	30.4	2.455	27.924	8.1	30.379	0.06	0.03
522362	46.04	0.236	22.32	0.47	< 0.01	0.07	0.03	< 0.01	1.25	0.017	1.85	5.21	98.20	30.3	2.600	27.522	8.6	30.123	0.73	0.05
522363	40.85	0.153	24.80	0.19	< 0.01	0.05	0.03	0.01	1.00	0.019	0.978	6.72	99.28	30.1	3.189	26.393	10.6	29.583	1.77	0.07
522364	43.87	0.202	22.89	0.25	0.02	0.06	0.03	0.01	1.20	0.016	1.43	6.00	99.90	30.3	3.005	27.152	9.9	30.157	0.59	0.05
522365	53.62	0.196	18.77	0.10	0.01	0.03	0.03	0.01	1.31	0.019	1.67	4.61	98.59	30.2	2.655	27.764	8.8	30.419	-0.76	0.06
522366	47.46	0.165	21.59	0.09	< 0.01	0.03	0.03	0.01	1.15	0.015	1.57	5.42	99.11	30.2	2.967	26.822	9.8	29.790	1.35	0.09
522367	57.58	0.407	15.97	0.14	< 0.01	0.03	0.06	0.01	2.60	0.045	0.891	2.76	97.62	28.2	1.325	26.335	4.7	27.660	1.85	0.05
522368														30.2	0.021	29.975	0.1	29.996	0.54	
522369														30.2	0.010	29.898	0.0	29.908	0.90	
522370														45.2	0.041	44.290	0.1	44.331	1.83	
522371	36.44	0.310	17.13	0.02	< 0.01	0.04	0.09	< 0.01	15.8	0.039	0.794	2.61	91.40	30.1	6.097	24.053	20.3	30.150	-0.20	0.05
522372	24.69	0.195	31.83	0.05	< 0.01	0.05	0.03	< 0.01	0.99	0.017	0.851	9.66	98.98	30.2	6.049	24.102	20.0	30.151	0.17	0.04
522373	27.91	0.152	31.34	0.13	< 0.01	0.04	0.02	0.01	0.77	0.014	1.05	9.23	99.90	30.2	5.008	25.171	16.6	30.179	0.11	0.04
522374	29.95	0.187	29.03	0.38	< 0.01	0.04	0.03	0.01	0.97	0.013	1.16	8.51	98.67	30.3	3.964	26.197	13.1	30.161	0.31	0.10
522375	30.56	0.180	29.08	0.35	< 0.01	0.06	0.02	0.01	1.00	0.013	0.975	8.60	98.88	30.1	3.695	26.384	12.3	30.079	0.16	0.09
522376	40.56	0.135	24.03	0.11	0.03	0.07	0.04	0.01	2.28	0.022	2.12	5.87	98.97	30.1	2.054	28.003	6.8	30.057	0.14	0.11
522377	30.22	0.180	29.47	0.20	< 0.01	0.04	0.03	0.01	1.01	0.015	1.62	8.36	99.26	30.0	3.045	26.869	10.1	29.915	0.42	0.06
522378	34.98	0.179	27.64	0.33	< 0.01	0.03	0.03	0.01	1.04	0.018	1.37	7.30	99.68	30.2	3.225	26.733	10.7	29.958	0.68	0.06
522379	35.61	0.179	26.37	0.29	< 0.01	0.04	0.03	0.01	1.27	0.019	1.67	7.28	99.13	30.0	2.707	27.138	9.0	29.845	0.60	0.08
522380.1	12.18	0.168	4.99	7.94	2.43	2.76	1.10	0.44	1.07	0.065	0.233	0.78	99.27							
522380.2	13.20	0.127	32.06	2.09	0.11	0.17	0.13	0.02	0.20	0.007	1.44	10.97	99.71							

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
522380.3																				
522381	40.11	0.296	24.27	0.13	< 0.01	0.04	0.04	0.01	1.61	0.016	1.03	6.75	99.27	30.0	3.032	26.774	10.1	29.806	0.75	0.16
522382	33.75	0.202	26.27	0.10	0.03	0.06	0.04	0.01	1.00	0.020	0.576	7.89	98.15	30.1	4.603	25.292	15.3	29.895	0.64	0.19
522383	35.94	0.204	25.83	0.06	0.04	0.06	0.03	0.01	0.85	0.017	1.11	7.32	98.27	30.3	3.861	26.054	12.8	29.916	1.20	0.18
522384	47.90	0.244	20.87	0.07	< 0.01	0.03	0.03	< 0.01	1.55	0.023	1.12	4.97	98.74	30.2	3.559	26.421	11.8	29.980	0.78	0.22
522385	48.13	0.241	20.37	0.25	< 0.01	0.03	0.05	0.01	1.46	0.026	1.15	4.84	97.82	30.1	3.092	26.912	10.3	30.004	0.48	0.26
522386	43.25	0.239	22.92	0.17	< 0.01	0.03	0.02	0.01	1.75	0.024	1.65	4.84	97.16	30.1	2.258	27.788	7.5	30.047	0.34	0.14
522387	35.33	0.233	26.65	0.23	< 0.01	0.11	0.03	0.01	1.65	0.020	1.60	6.49	98.01	30.1	2.662	27.218	8.8	29.880	0.72	0.13
522388	31.53	0.148	28.36	0.24	< 0.01	0.06	0.03	0.01	1.12	0.019	1.55	7.12	98.56	30.2	2.854	27.085	9.4	29.940	0.96	0.16
522389	39.19	0.179	25.59	0.14	< 0.01	0.03	0.03	< 0.01	1.50	0.023	1.47	6.14	98.80	30.3	2.861	27.057	9.4	29.918	1.19	0.15
522390	31.14	0.140	29.00	0.16	< 0.01	0.06	0.03	< 0.01	1.10	0.016	1.31	7.70	98.90	30.2	3.522	26.327	11.6	29.849	1.29	0.14
522391	41.77	0.178	23.88	0.16	< 0.01	0.09	0.02	0.01	1.63	0.023	1.68	5.80	98.26	30.0	2.289	27.450	7.6	29.739	1.02	0.20
522392														30.1	0.018	29.839	0.1	29.857	0.82	
522393	59.97	0.553	13.50	0.07	< 0.01	0.07	0.04	< 0.01	5.57	0.050	1.23	1.47	96.69	30.2	2.378	27.537	7.9	29.915	0.96	0.08
522394	51.95	0.245	19.52	0.12	0.01	0.06	0.04	< 0.01	1.85	0.030	1.75	3.93	98.46	30.3	2.340	27.677	7.7	30.017	0.79	0.13
522395	53.38	0.251	19.31	0.09	< 0.01	0.03	0.04	0.01	1.82	0.029	1.48	3.99	98.81	30.2	2.645	27.277	8.8	29.922	0.81	0.13
522396	42.15	0.214	23.69	0.12	< 0.01	0.09	0.05	0.01	1.44	0.025	0.856	6.01	99.21	30.2	2.784	27.223	9.2	30.007	0.57	0.11
522397	44.83	0.228	23.08	0.10	< 0.01	0.05	0.03	0.01	1.61	0.022	1.72	5.36	99.29	30.2	2.704	27.166	9.0	29.870	1.13	0.14
522398	45.67	0.234	21.87	0.06	< 0.01	0.10	0.03	0.01	1.98	0.027	2.09	4.71	98.44	30.2	2.250	27.641	7.5	29.892	1.00	0.09
522399														30.3	0.016	29.919	0.1	29.935	1.06	
522400 missing																				
522401 missing																				
522402 missing																				
522403 missing																				
522404 missing																				
522405 missing																				
522406 missing																				
522407 missing																				
522408 missing																				
522409 missing																				
522410 missing																				
522411 missing																				
522412 missing																				
522413 missing																				
522280.01																				
522280.02																				
522280.03																				

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.01	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
NIST 694 Meas	11.46	1.91	0.75	0.013	0.34	43.11	0.88	0.54	0.116	30.25									1672					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
NIST 694 Meas	11.45	1.95	0.74	0.013	0.34	42.92	0.90	0.56	0.120	30.25									1669					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
DNC-1 Meas	47.06	18.43	9.78	0.148	10.13	11.46	1.91	0.22	0.486	0.07			104	143	15	31	38		155	0.031	0.028			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148.0	0.025	0.027			
DNC-1 Meas	46.95	19.07	9.85	0.147	10.00	11.38	1.94	0.23	0.484	0.06			105	146	15	31	34		157					
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148.0					
GBW 07113 Meas	71.47	12.88	3.19	0.141	0.15	0.58	2.50	5.41	0.280	0.03			497	41	44	5	385	4	< 5					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
GBW 07113 Meas	72.50	12.85	3.21	0.140	0.14	0.59	2.48	5.38	0.283	0.03			500	41	44	5	383	4	< 5					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
MICA-FE Meas																						34.30	19.37	25.81
MICA-FE Cert																						34.4	19.5	25.6
MICA-FE Meas																						34.19	19.52	25.87
MICA-FE Cert																						34.4	19.5	25.6
MICA-FE Meas																						34.30	19.37	25.81
MICA-FE Cert																						34.4	19.5	25.6
CHR-BKG Meas																						15.08	12.94	13.89
CHR-BKG Cert																						15.27	12.91	13.87
IF-G Meas																						41.18	0.17	55.92
IF-G Cert																						41.2	0.150	55.8
IF-G Meas																						41.22	0.15	55.83
IF-G Cert																						41.2	0.150	55.8
LKSD-4 Meas																								
LKSD-4 Cert																								
BE-N Meas																						38.21	10.15	
BE-N Cert																						38.2	10.1	
BE-N Meas																						38.25	10.00	
BE-N Cert																						38.2	10.1	
BaSO4 Meas																								
BaSO4 Cert																								
W-2a Meas	52.53	15.30	10.45	0.165	6.22	10.95	2.22	0.62	1.060	0.13			172	194	19	35	98	< 1	274	0.012	< 0.010			
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262	0.00700	0.00920			
W-2a Meas	52.32	15.18	10.78	0.166	6.26	11.14	2.19	0.61	1.079	0.12			172	192	19	35	86	< 1	276					
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262					
OREAS 13P Meas																				0.226				
OREAS 13P Cert																				0.226				
OREAS 14P Meas																								
OREAS 14P Cert																								
OREAS 14P Meas																								
OREAS 14P Cert																								
SY-4 Meas	49.90	20.68	6.22	0.107	0.50	8.09	6.93	1.65	0.284	0.11			344	1198	115	1	525	3	< 5	< 0.010	< 0.010			
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0	0.000	0.001			
SY-4 Meas	49.73	20.62	6.06	0.106	0.49	8.06	7.02	1.68	0.285	0.12			345	1200	114	1	546	3	8					
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0					
Oreas 73a (Fusion) Meas																						36.46	2.36	
Oreas 73a (Fusion) Cert																						36.4	2.38	
Oreas 73a (Fusion) Meas																						36.70	2.36	
Oreas 73a (Fusion) Cert																						36.4	2.38	
Oreas 74a (Fusion) Meas																						32.60	2.11	
Oreas 74a (Fusion) Cert																						32.4	2.21	
Oreas 74a (Fusion) Meas																						32.45	2.24	
Oreas 74a (Fusion) Cert																						32.4	2.21	

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.01	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
Oreas 75a (Fusion) Meas																						27.30	2.00	
Oreas 75a (Fusion) Cert																						27.3	1.99	
Oreas 75a (Fusion) Meas																						27.45	2.00	
Oreas 75a (Fusion) Cert																						27.3	1.99	
BIR-1a Meas	47.47	15.50	11.05	0.171	9.45	13.40	1.80	0.02	0.958	0.02			7	107	13	43	17	< 1	334	0.023	0.038			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310	0	0			
BIR-1a Meas	47.97	15.81	11.30	0.171	9.52	13.48	1.86	0.02	0.953	< 0.01			8	108	14	44	15	< 1	336					
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310					
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
521324 Orig	38.72	1.88	7.41	0.132	30.41	5.91	0.02	0.01	0.043	< 0.01	14.95	99.48	5	50	< 1	11	5	< 1	53	0.180	0.217			
521324 Dup	38.32	1.87	7.00	0.131	30.49	5.86	0.02	< 0.01	0.043	< 0.01	14.95	98.70	5	50	2	11	5	< 1	51	0.163	0.215			
521327 Orig																								
521327 Dup																								
521337 Orig																								
521337 Dup																								
521341 Orig	40.34	1.77	7.83	0.125	37.68	2.20	0.02	< 0.01	0.021	0.01	10.59	100.6	< 2	4	< 1	13	3	< 1	48	0.198	0.451			
521341 Dup	40.34	1.84	7.80	0.126	37.96	2.19	0.05	0.02	0.022	0.03	10.59	101.0	< 2	4	< 1	13	3	< 1	50	0.206	0.447			
521350 Orig	38.28	1.78	8.00	0.065	38.45	0.85	0.02	0.01	0.017	0.02	12.54	100.0	< 2	< 2	< 1	12	4	< 1	57	0.209	0.257			
521350 Dup	39.28	1.80	7.70	0.061	36.40	0.78	0.02	0.01	0.016	0.02	12.54	98.63	< 2	< 2	< 1	11	4	< 1	54	0.226	0.245			
521355 Orig	38.03	1.44	8.02	0.122	38.02	1.38	0.03	< 0.01	0.018	< 0.01	11.82	98.87	< 2	< 2	< 1	10	7	< 1	46	0.179	0.263			
521355 Dup	38.19	1.45	7.99	0.121	37.62	1.35	0.03	< 0.01	0.017	< 0.01	11.82	98.59	< 2	< 2	< 1	10	< 2	< 1	48	0.186	0.261			
521358 Orig																								
521358 Dup	39.79	1.51	8.40	0.151	38.98	1.09	< 0.01	< 0.01	0.018	< 0.01	10.78	100.7	< 2	< 2	2	13	< 2	< 1	51	0.26	0.26			
521370 Orig	97.47	0.31	0.82	0.009	0.06	0.03	0.03	0.05	0.030	< 0.01	0.14	98.95	24	5	1	< 1	49	< 1	< 5	< 0.010	< 0.010			
522259 Orig																								
522259 Dup																								
522263 Orig	38.80	0.77	7.27	0.116	40.08	0.38	0.02	< 0.01	0.006	< 0.01	12.32	99.76	< 2	< 2	< 1	4	3	< 1	33	0.233	0.237			
522263 Dup	39.25	0.78	7.38	0.119	40.49	0.38	0.02	< 0.01	0.007	< 0.01	12.32	100.8	< 2	< 2	< 1	4	2	< 1	31	0.234	0.244			
522263 Orig	38.80	0.77	7.27	0.116	40.08	0.38	0.02	< 0.01	0.006	< 0.01	12.32	99.76	< 2	< 2	< 1	4	3	< 1	33	0.230	0.222			
522263 Dup	39.25	0.78	7.38	0.119	40.49	0.38	0.02	< 0.01	0.007	< 0.01	12.32	100.8	< 2	< 2	< 1	4	2	< 1	31	0.231	0.228			
522265 Orig	38.49	0.98	8.27	0.116	38.92	0.58	0.03	0.01	0.008	< 0.01	13.21	100.6	< 2	< 2	< 1	10	4	< 1	42	0.224	0.503			
522265 Dup	38.01	0.96	7.87	0.112	38.34	0.56	0.03	0.01	0.008	< 0.01	13.21	99.12	< 2	< 2	< 1	10	2	< 1	40	0.218	0.489			
522269 Orig																								
522269 Dup																								
522280 Orig	94.76	0.64	1.99	0.018	0.36	0.08	0.13	0.10	0.034	< 0.01	-0.02	98.09	27	5	3	< 1	54	< 1	< 5	< 0.010	< 0.010			
522280 Dup	94.71	0.64	2.03	0.018	0.35	0.08	0.12	0.10	0.034	< 0.01	-0.02	98.08	27	5	6	< 1	53	< 1	7	< 0.010	< 0.010			
522283 Orig																								
522293 Orig																								
522293 Dup																								
522295 Dup	37.54	0.70	7.96	0.138	39.21	1.00	0.02	< 0.01	0.005	< 0.01	11.90	98.48	< 2	< 2	< 1	9	2	< 1	39	0.189	0.276			
522301 Orig	38.44	0.85	7.79	0.099	39.20	0.17	< 0.01	< 0.01	0.006	< 0.01	12.68	99.25	< 2	< 2	< 1	8	< 2	< 1	35	0.211	0.248			
522301 Split	38.76	0.85	7.65	0.098	40.59	0.18	0.01	< 0.01	0.006	0.02	12.45	100.6	< 2	< 2	< 1	9	4	< 1	35	0.217	0.242			
522305 Orig																								
522312 Dup	38.09	0.81	7.93	0.079	40.01	0.27	0.01	< 0.01	0.004	< 0.01	12.89	100.1	< 2	< 2	< 1	9	< 2	< 1	37	0.205	0.269			
522315 Orig																								
522315 Dup																								
522326 Orig																								
522326 Dup																								
522331 Orig	41.02	1.07	7.65	0.095	36.41	0.68	0.01	< 0.01	0.010	< 0.01	12.01	98.95	< 2	5	< 1	10	3	< 1	43	0.214	0.280			
522331 Split	40.36	1.06	7.49	0.093	37.17	0.55	0.02	< 0.01	0.010	< 0.01	11.83	98.58	< 2	3	< 1	10	3	< 1	38	0.213	0.291			

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.01	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
522332 Orig	35.95	12.81	14.32	0.224	5.81	19.32	0.88	0.13	2.030	0.14	8.79	100.4	12	107	40	42	115	< 1	438	< 0.010	< 0.010			
522332 Split	36.03	12.97	13.81	0.218	5.81	18.88	0.92	0.13	2.004	0.14	7.87	98.78	10	111	40	41	115	< 1	445	0.011	< 0.010			
522340.3 Orig																								
522340.3 Dup																								
522345 Orig	38.47	1.07	7.78	0.114	38.60	0.31	< 0.01	< 0.01	0.007	< 0.01	12.94	99.29	< 2	< 2	< 1	9	3	< 1	40	0.202	0.264			
522345 Dup	38.26	1.06	7.62	0.114	38.34	0.30	< 0.01	< 0.01	0.007	< 0.01	12.94	98.63	< 2	< 2	< 1	9	3	< 1	42	0.205	0.261			
522350 Orig																								
522350 Dup																								
522361 Orig																								
522361 Dup																								
522362 Orig	39.16	0.95	8.10	0.140	38.38	1.68	< 0.01	< 0.01	0.008	< 0.01	12.42	100.9	< 2	< 2	< 1	10	4	< 1	42	0.205	0.273			
522362 Dup	38.47	0.94	7.80	0.137	37.44	1.64	< 0.01	< 0.01	0.008	< 0.01	12.42	98.86	< 2	< 2	< 1	10	2	< 1	41	0.172	0.266			
522374 Orig																								
522374 Dup																								
522376 Orig	38.38	0.74	7.13	0.087	41.78	0.29	< 0.01	< 0.01	0.005	< 0.01	12.21	100.6	< 2	< 2	< 1	4	< 2	< 1	15	0.212	0.262			
522376 Dup	38.69	0.75	7.12	0.088	41.32	0.29	< 0.01	< 0.01	0.005	0.02	12.21	100.5	< 2	< 2	< 1	4	3	< 1	16	0.236	0.246			
522377 Orig	37.51	0.83	7.01	0.120	39.88	0.41	< 0.01	< 0.01	0.007	0.01	12.75	98.53	< 2	< 2	< 1	9	5	< 1	29	0.206	0.244			
522377 Split	37.58	0.84	7.04	0.119	40.01	0.43	< 0.01	< 0.01	0.008	< 0.01	12.82	98.85	< 2	< 2	< 1	9	5	< 1	29	0.179	0.253			
522385 Orig	38.95	1.00	7.77	0.092	38.58	0.88	< 0.01	< 0.01	0.012	< 0.01	12.75	100.0	< 2	< 2	< 1	10	5	< 1	37	0.195	0.313			
522385 Split	38.54	0.97	7.92	0.094	38.66	0.88	< 0.01	< 0.01	0.012	0.01	12.88	99.98	< 2	< 2	< 1	9	5	< 1	37	0.207	0.323			
522385 Orig																								
522385 Dup																								
522391 Orig	38.35	0.76	7.64	0.106	39.83	0.27	< 0.01	< 0.01	0.005	< 0.01	11.83	98.80	< 2	< 2	< 1	9	4	< 1	30	0.212	0.269			
522391 Dup	38.39	0.76	7.65	0.107	39.38	0.28	0.01	< 0.01	0.005	< 0.01	11.83	98.43	< 2	< 2	< 1	9	4	< 1	31	0.216	0.287			
522396 Orig																								
522396 Dup																								
522399 Orig	42.23	11.43	11.61	0.242	12.19	16.77	1.38	0.10	1.213	0.12	3.38	100.7	5	24	25	37	72	< 1	303					
522399 Dup	42.41	11.49	11.63	0.241	12.24	16.76	1.40	0.11	1.225	0.10	3.38	101.0	5	24	25	37	71	< 1	304					
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
NIST 694 Meas													
NIST 694 Cert													
NIST 694 Meas													
NIST 694 Cert													
DNC-1 Meas													
DNC-1 Cert													
DNC-1 Meas													
DNC-1 Cert													
GBW 07113 Meas													
GBW 07113 Cert													
GBW 07113 Meas													
GBW 07113 Cert													
MICA-FE Meas	0.354	4.54	0.51	0.51	8.78	2.52	0.42	0.02	0.026	0.004			
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350			
MICA-FE Meas	0.352	4.58	0.47	0.51	8.75	2.51	0.42	0.02	0.026	0.004			
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350			
MICA-FE Meas	0.354	4.54	0.51	0.51	8.78	2.52	0.42	0.02	0.026	0.004			
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350			
CHR-BKG Meas	0.132	23.27	0.06			0.14		19.9		0.196			
CHR-BKG Cert	0.14	23.47	0.07			0.14		20		0.201			
IF-G Meas	0.041	1.87	1.52	0.05	0.02	0.03	0.06	0.01		< 0.003			
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225			
IF-G Meas	0.041	1.89	1.53	0.05	0.02	0.03	0.06	0.01		< 0.003			
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225			
LKSD-4 Meas													0.91
LKSD-4 Cert													0.990
BE-N Meas	0.200	13.18	13.90	3.12	1.39	2.62	1.08	0.04	0.042	0.027			
BE-N Cert	0.200	13.1	13.9	3.18	1.39	2.61	1.05	0.0360	0.042	0.0267			
BE-N Meas	0.202	13.20	13.94	3.12	1.39	2.68	1.08	0.04	0.042	0.027			
BE-N Cert	0.200	13.1	13.9	3.18	1.39	2.61	1.05	0.0360	0.042	0.0267			
BaSO4 Meas													13.4
BaSO4 Cert													14.0
W-2a Meas													
W-2a Cert													
W-2a Meas													
W-2a Cert													
OREAS 13P Meas										0.227			
OREAS 13P Cert										0.226			
OREAS 14P Meas										2.09			
OREAS 14P Cert										2.10			
OREAS 14P Meas										2.10			
OREAS 14P Cert										2.10			
SY-4 Meas													
SY-4 Cert													
SY-4 Meas													
SY-4 Cert													
Oreas 73a (Fusion) Meas		32.52						0.20		1.43			
Oreas 73a (Fusion) Cert		32.5						0.20		1.44			
Oreas 73a (Fusion) Meas		32.38						0.20		1.44			
Oreas 73a (Fusion) Cert		32.5						0.20		1.44			
Oreas 74a (Fusion) Meas		27.99						0.18		3.21			
Oreas 74a (Fusion) Cert		27.9						0.18		3.24			
Oreas 74a (Fusion) Meas		27.88						0.19		3.24			
Oreas 74a (Fusion) Cert		27.9						0.18		3.24			

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
Oreas 75a (Fusion) Meas		22.51						0.15		5.24			
Oreas 75a (Fusion) Cert		22.3						0.16		5.25			
Oreas 75a (Fusion) Meas		22.45						0.15		5.26			
Oreas 75a (Fusion) Cert		22.3						0.16		5.25			
BIR-1a Meas													
BIR-1a Cert													
BIR-1a Meas													
BIR-1a Cert													
OREAS 13b (4-Acid) Meas													1.17
OREAS 13b (4-Acid) Cert													1.20
OREAS 13b (4-Acid) Meas													1.12
OREAS 13b (4-Acid) Cert													1.20
521324 Orig													
521324 Dup													
521327 Orig													0.08
521327 Dup													0.09
521337 Orig													0.03
521337 Dup													0.03
521341 Orig													
521341 Dup													
521350 Orig													
521350 Dup													
521355 Orig													
521355 Dup													
521358 Orig													0.04
521358 Dup													0.04
521370 Orig													
522259 Orig													0.03
522259 Dup													0.03
522263 Orig													
522263 Dup													
522263 Orig													
522263 Dup													
522265 Orig													
522265 Dup													
522269 Orig													0.02
522269 Dup													0.02
522280 Orig													
522280 Dup													
522283 Orig													0.07
522293 Orig													0.05
522293 Dup													0.05
522295 Dup													
522301 Orig													
522301 Split													
522305 Orig													0.04
522312 Dup													
522315 Orig													0.02
522315 Dup													0.02
522326 Orig													0.02
522326 Dup													0.01
522331 Orig													
522331 Split													

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
522332 Orig													
522332 Split													
522340.3 Orig													0.11
522340.3 Dup													0.11
522345 Orig													
522345 Dup													
522350 Orig													0.04
522350 Dup													0.04
522361 Orig													0.04
522361 Dup													0.03
522362 Orig													
522362 Dup													
522374 Orig													0.10
522374 Dup													0.10
522376 Orig													
522376 Dup													
522377 Orig													
522377 Split													
522385 Orig													
522385 Split													
522385 Orig													0.27
522385 Dup													0.24
522391 Orig													
522391 Dup													
522396 Orig													0.11
522396 Dup													0.12
522399 Orig													
522399 Dup													
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	
Method Blank													< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 14-Sep-11
Invoice No.: A11-10323
Invoice Date: 12-Dec-11
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road
Suite 2
Sudbury Ontario P3C 4Y9
Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

1 Crushed Rock sample, 12 Pulp samples and 163 Rock samples were submitted for analysis.

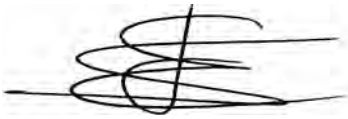
The following analytical packages were requested:

REPORT **A11-10323**

Code 4B (1-10) Major Elements Fusion ICP(WRA)
Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (1-10) Whole Rock Analysis-XRF
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID

Notes:
Total includes all elements in % oxide to the left of total.

CERTIFIED BY :



Emmanuel Eseme , Ph.D.
Quality Control

SCC Accredited LAB 265
LAB 266 Accrédité CCN

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
A521251	37.84	0.94	7.84	0.106	39.40	0.42	< 0.01	< 0.01	0.008	0.03	13.29	99.89	3	< 2	< 1	9	4	< 1	38	0.226	0.258	521251	22.47	0.76
A521252	38.19	1.31	7.96	0.110	38.21	1.28	< 0.01	< 0.01	0.018	0.02	12.82	99.92	3	2	< 1	10	3	< 1	49	0.193	0.213	521252	15.21	0.64
A521253	38.18	1.46	7.84	0.087	38.01	0.88	< 0.01	< 0.01	0.023	0.01	12.49	98.99	2	< 2	< 1	12	3	< 1	56	0.195	0.228	521253	12.91	0.51
A521254	37.84	1.14	8.19	0.092	39.35	0.18	< 0.01	< 0.01	0.007	0.03	12.69	99.52	< 2	< 2	< 1	9	3	< 1	42	0.231	0.228	521254	25.09	0.85
A521255	39.14	0.89	8.23	0.136	38.90	0.86	< 0.01	< 0.01	0.009	0.03	11.11	99.31	2	< 2	< 1	9	4	< 1	37	0.200	0.225	521255	23.61	0.81
A521256	38.34	2.16	8.66	0.105	37.59	0.59	< 0.01	< 0.01	0.023	0.04	11.49	99.01	< 2	< 2	< 1	10	3	< 1	42	0.201	0.214	521256	20.64	1.20
A521257	38.52	1.36	8.05	0.097	38.73	0.16	0.02	< 0.01	0.017	< 0.01	12.68	99.65	< 2	< 2	< 1	9	3	< 1	40	0.205	0.216	521257	23.19	0.81
A521258	39.26	1.39	8.26	0.120	38.05	2.03	< 0.01	< 0.01	0.016	0.02	11.47	100.6	< 2	< 2	< 1	12	< 2	< 1	53	0.214	0.212	521258	19.56	0.66
A521259	38.22	1.42	8.26	0.111	37.70	1.78	0.01	< 0.01	0.017	0.01	11.67	99.21	< 2	< 2	< 1	11	< 2	< 1	53	0.187	0.208	521259	17.30	0.53
A521260	38.21	1.48	8.01	0.095	38.19	0.91	< 0.01	< 0.01	0.016	< 0.01	12.23	99.14	< 2	< 2	< 1	11	< 2	< 1	50	0.214	0.204	521260	15.59	0.49
A521261	38.47	1.41	8.10	0.116	38.28	1.23	< 0.01	< 0.01	0.016	0.02	11.68	99.33	< 2	< 2	< 1	10	< 2	< 1	49	0.185	0.212	521261	16.98	0.52
A521262	37.82	1.50	8.13	0.094	38.22	0.83	< 0.01	< 0.01	0.015	0.01	12.23	98.85	< 2	< 2	< 1	11	< 2	< 1	49	0.173	0.197	521262	18.76	0.55
A521263	38.86	1.65	8.33	0.090	38.77	0.51	< 0.01	< 0.01	0.017	< 0.01	12.26	100.5	< 2	< 2	< 1	11	2	< 1	52	0.191	0.212	521263	21.43	0.78
A521264	38.43	1.33	8.05	0.120	38.42	0.86	< 0.01	< 0.01	0.015	< 0.01	12.12	99.34	< 2	< 2	< 1	10	< 2	< 1	47	0.203	0.205	521264	18.62	0.66
A521265	38.24	1.32	8.26	0.129	38.26	1.03	< 0.01	< 0.01	0.016	< 0.01	11.63	98.90	< 2	< 2	< 1	11	8	< 1	47	0.213	0.204	521265	17.79	0.61
A521266	37.87	1.66	7.12	0.078	37.82	0.72	< 0.01	< 0.01	0.016	< 0.01	12.53	97.81	< 2	< 2	< 1	11	< 2	< 1	50	0.209	0.204	521266	14.86	0.70
A521267	38.19	1.47	8.47	0.116	38.14	0.75	< 0.01	< 0.01	0.015	< 0.01	12.43	99.60	< 2	< 2	< 1	11	2	< 1	52	0.200	0.220	521267	13.21	0.58
A521268	38.64	1.57	7.25	0.096	38.62	0.55	< 0.01	< 0.01	0.015	< 0.01	12.83	99.59	< 2	< 2	< 1	10	2	< 1	51	0.215	0.219	521268	12.22	0.39
A521269	37.82	1.92	8.05	0.064	37.93	0.15	< 0.01	< 0.01	0.014	< 0.01	12.69	98.63	< 2	< 2	< 1	12	< 2	< 1	56	0.211	0.219	521269	15.75	0.81
A521270.1	49.39	15.84	11.74	0.166	4.92	8.12	2.29	2.85	1.193	0.51	0.86	97.88	761	536	20	25	110	2	401	0.22	1.05	521270	49.04	15.94
A521270.2																						521270	36.50	2.33
A521270.3																						521270	18.23	0.76
A521271	38.15	1.28	7.52	0.117	39.52	0.89	< 0.01	< 0.01	0.014	< 0.01	12.01	99.50	< 2	< 2	< 1	13	< 2	< 1	45	0.168	0.232	521271	10.95	0.53
A521272	37.79	1.21	8.61	0.123	37.84	1.01	< 0.01	< 0.01	0.014	0.02	12.22	98.84	4	< 2	< 1	12	4	< 1	47	0.224	0.236	521272	17.72	0.63
A521273	37.67	1.46	7.67	0.076	38.61	0.20	< 0.01	< 0.01	0.016	< 0.01	13.10	98.81	< 2	< 2	< 1	11	3	< 1	49	0.223	0.207	521273	15.65	0.59
A521274	38.84	1.48	7.74	0.086	39.36	0.22	< 0.01	< 0.01	0.016	< 0.01	12.87	100.6	< 2	< 2	< 1	9	4	< 1	47	0.202	0.234	521274	22.63	0.86
A521275	37.93	2.54	6.84	0.083	37.25	0.98	< 0.01	< 0.01	0.060	< 0.01	12.53	98.21	< 2	< 2	1	10	5	< 1	64	0.190	0.209	521275	9.55	0.97
A521276	39.58	1.43	7.93	0.090	38.59	0.70	0.02	0.01	0.017	< 0.01	12.56	100.9	< 2	< 2	< 1	11	2	< 1	46	0.191	0.210	521276	10.31	0.60
A521277	38.34	1.27	8.13	0.134	37.98	1.87	< 0.01	< 0.01	0.015	0.03	11.91	99.69	< 2	< 2	< 1	11	2	< 1	46	0.189	0.209	521277	12.88	0.32
A521278	39.53	1.21	7.88	0.147	38.85	2.17	< 0.01	< 0.01	0.015	< 0.01	11.08	100.9	< 2	< 2	< 1	11	< 2	< 1	44	0.205	0.200	521278	14.63	0.37
A521279	38.34	1.29	7.40	0.121	38.32	1.34	< 0.01	< 0.01	0.012	< 0.01	11.89	98.72	< 2	< 2	< 1	10	< 2	< 1	45	0.187	0.218	521279	17.42	0.52
A521280	38.93	1.21	8.45	0.151	37.29	2.74	< 0.01	< 0.01	0.016	< 0.01	11.05	99.85	< 2	< 2	< 1	12	2	< 1	51	0.192	0.200	521280	19.68	0.48
A521281	39.09	1.38	7.88	0.091	39.53	0.17	< 0.01	< 0.01	0.013	< 0.01	12.79	100.9	< 2	< 2	< 1	9	2	< 1	43	0.199	0.226	521281	21.12	0.69
A521282	37.65	1.34	8.13	0.105	38.96	1.01	< 0.01	< 0.01	0.015	< 0.01	12.43	99.64	< 2	< 2	< 1	11	< 2	< 1	49	0.185	0.210	521282	16.77	0.69
A521283	39.28	1.42	7.91	0.119	38.26	0.31	0.02	< 0.01	0.012	0.03	12.18	99.54	< 2	< 2	< 1	12	5	< 1	46	0.187	0.227	521283	22.85	1.01
A521284	40.03	1.29	7.50	0.075	38.51	0.09	< 0.01	< 0.01	0.015	0.02	11.99	99.53	< 2	< 2	< 1	8	2	< 1	37	0.190	0.219	521284	7.27	0.55
A521285	40.31	1.48	7.04	0.073	38.69	0.14	< 0.01	< 0.01	0.015	< 0.01	12.45	100.2	< 2	< 2	< 1	9	2	< 1	38	0.194	0.214	521285	5.07	0.36
A521286	38.10	1.47	7.73	0.098	37.70	0.12	< 0.01	< 0.01	0.014	< 0.01	12.36	97.61	< 2	< 2	< 1	10	< 2	< 1	47	0.194	0.230	521286	13.77	0.74
A521287	37.80	0.71	8.97	0.156	40.12	0.66	< 0.01	< 0.01	0.007	< 0.01	10.91	99.34	< 2	< 2	< 1	11	2	< 1	38	0.211	0.243	521287	10.77	0.60
A521288	38.64	1.09	8.82	0.132	38.91	1.44	< 0.01	< 0.01	0.012	0.02	11.16	100.2	< 2	< 2	< 1	12	< 2	< 1	49	0.201	0.217	521288	19.07	0.68
A521289	38.13	0.98	8.12	0.107	40.09	0.57	< 0.01	< 0.01	0.006	< 0.01	12.29	100.3	< 2	< 2	< 1	9	< 2	< 1	40	0.197	0.218	521289	12.05	0.70
A521290	99.66	0.35	0.64	0.007	0.04	0.03	0.03	0.05	0.032	0.01	0.05	100.9	25	5	1	< 1	46	< 1	< 5	< 0.010	< 0.010	521290	98.09	0.26
A521291	38.56	0.97	8.13	0.140	39.65	0.90	< 0.01	< 0.01	0.010	0.02	10.87	99.26	< 2	< 2	< 1	10	3	< 1	40	0.206	0.213	521291	13.98	0.50
A521292 missing																								
A521293 missing																								
A521294 missing																								
A521295 missing																								
A521296 missing																								
A521297 missing																								
A521298 missing																								
A521299 missing																								

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
A521300 missing																								
A521301 missing																								
A521302 missing																								
A521303 missing																								
A521304 missing																								
A521305 missing																								
A521306 missing																								
A521307 missing																								
A521308 missing																								
A521309 missing																								
A522894	37.69	0.85	9.25	0.093	39.52	0.19	< 0.01	< 0.01	0.006	< 0.01	12.95	100.5	< 2	< 2	< 1	11	3	< 1	44	0.199	0.231	522894	13.99	0.42
A522895	36.41	0.74	9.81	0.097	37.43	0.34	< 0.01	< 0.01	0.006	0.02	12.79	97.64	< 2	< 2	< 1	12	4	< 1	43	0.207	0.242	522895	17.83	0.44
A522896	37.81	0.71	8.65	0.133	38.05	0.68	< 0.01	< 0.01	0.007	< 0.01	12.29	98.34	< 2	< 2	< 1	11	3	< 1	37	0.188	0.236	522896	22.41	0.43
A522897	36.84	0.71	9.04	0.126	38.60	0.69	< 0.01	< 0.01	0.005	< 0.01	12.94	98.96	< 2	< 2	< 1	11	< 2	< 1	38	0.216	0.231	522897	12.77	0.25
A522898	36.16	0.65	9.29	0.102	38.32	0.27	< 0.01	< 0.01	0.005	0.01	12.94	97.75	< 2	< 2	< 1	10	< 2	< 1	36	0.223	0.234	522898	12.96	0.42
A522899	38.06	0.82	7.96	0.083	38.66	0.11	< 0.01	< 0.01	0.005	< 0.01	13.09	98.80	< 2	< 2	< 1	8	< 2	< 1	40	0.205	0.214	522899	12.81	0.56
A522900.1	49.50	15.81	12.00	0.165	5.03	8.12	2.30	2.82	1.192	0.46	0.88	98.28	736	532	19	25	114	2	400	0.23	1.05	522900	49.18	16.12
A522900.2																						522900	36.39	2.47
A522900.3																						522900	19.85	0.67
A522901	37.99	0.68	7.51	0.113	39.91	0.36	< 0.01	< 0.01	0.005	0.02	13.35	99.94	< 2	< 2	< 1	11	< 2	< 1	35	0.213	0.220	522901	9.82	0.41
A522902	37.63	0.70	7.65	0.113	39.91	0.42	< 0.01	< 0.01	0.005	0.02	12.81	99.26	< 2	< 2	< 1	10	4	< 1	37	0.200	0.227	522902	12.49	0.42
A522903	37.89	0.66	8.64	0.145	39.56	0.83	< 0.01	< 0.01	0.005	0.02	12.11	99.86	< 2	< 2	< 1	9	3	< 1	36	0.200	0.209	522903	19.30	0.29
A522904	39.33	7.77	11.61	0.176	15.64	16.78	0.11	< 0.01	1.210	0.04	5.67	100.5	6	47	27	33	66	< 1	292	0.060	0.066	522904		
A522905	36.82	0.70	8.63	0.147	40.39	0.53	< 0.01	< 0.01	0.017	0.01	12.09	99.34	< 2	< 2	< 1	10	3	< 1	33	0.213	0.227	522905	12.75	0.25
A522906	38.39	0.78	7.92	0.138	40.15	0.60	< 0.01	< 0.01	0.006	< 0.01	12.46	100.4	< 2	< 2	< 1	11	< 2	< 1	37	0.196	0.240	522906	16.05	0.42
A522907	37.45	0.60	7.97	0.167	40.42	0.69	< 0.01	< 0.01	0.005	< 0.01	11.78	99.08	< 2	< 2	< 1	11	< 2	< 1	33	0.180	0.220	522907	22.30	0.39
A522908	37.26	0.70	8.63	0.121	40.13	0.50	< 0.01	< 0.01	0.005	< 0.01	12.27	99.62	< 2	< 2	< 1	10	< 2	< 1	36	0.206	0.198	522908	22.69	0.37
A522909	38.18	0.59	8.47	0.156	40.55	0.94	< 0.01	< 0.01	0.005	< 0.01	10.61	99.51	< 2	< 2	< 1	9	< 2	< 1	28	0.201	0.213	522909	19.94	0.38
A522910	38.75	1.31	7.69	0.094	39.26	0.21	< 0.01	< 0.01	0.031	0.02	12.58	99.94	< 2	< 2	< 1	10	3	< 1	45	0.196	0.192	522910	22.03	1.14
A522911	38.90	0.63	8.95	0.189	40.15	1.69	0.03	0.01	0.005	< 0.01	10.20	100.8	< 2	< 2	< 1	11	< 2	< 1	31	0.222	0.220	522911	14.94	0.46
A522912	37.39	0.64	8.53	0.152	38.85	1.28	< 0.01	< 0.01	0.006	< 0.01	10.62	97.48	< 2	< 2	< 1	12	5	< 1	34	0.196	0.204	522912	14.91	0.35
A522913	39.56	0.62	9.11	0.189	39.66	2.03	< 0.01	< 0.01	0.006	< 0.01	9.50	100.7	< 2	< 2	< 1	11	2	< 1	34	0.195	0.216	522913	14.95	0.53
A522914	38.32	0.82	8.81	0.112	39.64	0.89	< 0.01	< 0.01	0.006	0.03	12.15	100.8	< 2	< 2	< 1	10	< 2	< 1	39	0.192	0.210	522914	18.66	0.53
A522915	38.82	0.79	8.59	0.131	39.39	1.19	< 0.01	< 0.01	0.006	0.02	11.29	100.2	< 2	< 2	< 1	10	< 2	< 1	39	0.186	0.218	522915	19.52	0.49
A522916	38.40	0.70	8.42	0.139	39.09	1.35	< 0.01	< 0.01	0.020	0.01	11.33	99.47	< 2	< 2	< 1	11	6	< 1	35	0.184	0.208	522916	14.37	0.47
A522917	37.95	0.86	8.18	0.105	39.95	0.62	< 0.01	< 0.01	0.011	< 0.01	12.46	100.1	3	< 2	< 1	11	< 2	< 1	40	0.213	0.218	522917	15.58	0.43
A522918	38.01	0.88	8.09	0.114	39.12	0.80	< 0.01	< 0.01	0.010	< 0.01	11.50	98.53	< 2	< 2	< 1	9	< 2	< 1	36	0.188	0.210	522918	21.52	0.48
A522919	39.10	0.72	8.54	0.137	40.08	1.18	< 0.01	< 0.01	0.007	< 0.01	10.82	100.6	< 2	< 2	< 1	10	< 2	< 1	32	0.198	0.202	522919	20.81	0.36
A522920	99.46	0.31	0.57	0.006	0.07	0.02	0.02	0.05	0.032	< 0.01	0.09	100.6	29	4	1	< 1	66	< 1	< 5	< 0.010	< 0.010	522920	99.26	0.28
A522921	38.97	1.04	7.13	0.111	39.42	0.76	0.06	0.04	0.011	< 0.01	11.61	99.16	4	< 2	< 1	10	5	< 1	38	0.191	0.200	522921	18.11	0.40
A522922	38.07	0.88	8.90	0.118	39.44	0.80	< 0.01	< 0.01	0.008	< 0.01	11.85	100.1	< 2	< 2	< 1	11	2	< 1	40	0.208	0.226	522922	18.38	0.45
A522923	37.68	0.91	8.46	0.141	38.80	0.36	0.01	< 0.01	0.014	0.02	12.72	99.13	< 2	< 2	< 1	9	2	< 1	39	0.196	0.206	522923	23.83	0.51
A522924	37.12	0.81	8.20	0.134	38.88	0.40	< 0.01	< 0.01	0.007	0.02	11.97	97.54	< 2	< 2	< 1	9	2	< 1	36	0.174	0.221	522924	18.01	0.45
A522925	38.72	1.14	8.83	0.138	37.99	2.29	0.02	0.01	0.018	< 0.01	10.91	100.1	< 2	< 2	< 1	12	2	< 1	48	0.213	0.232	522925	23.03	0.62
A522926	37.55	1.09	8.80	0.115	39.64	0.77	0.01	< 0.01	0.014	0.03	11.85	99.88	< 2	< 2	< 1	10	< 2	< 1	41	0.182	0.204	522926	22.92	0.72
A522927	37.30	1.30	8.83	0.086	38.95	0.36	0.01	< 0.01	0.015	< 0.01	12.71	99.56	< 2	< 2	< 1	9	< 2	< 1	44	0.203	0.218	522927	15.94	0.57
A522928	37.60	1.09	8.31	0.144	37.46	1.82	0.02	< 0.01	0.013	0.02	11.60	98.08	< 2	< 2	< 1	11	< 2	< 1	46	0.182	0.212	522928	19.51	0.73
A522929	37.86	1.53	8.11	0.094	37.90	0.82	0.02	< 0.01	0.013	< 0.01	12.35	98.70	< 2	< 2	< 1	10	2	< 1	53	0.187	0.228	522929	18.74	0.79
A522930	38.93	1.36	8.76	0.106	38.94	0.57	< 0.01	< 0.01	0.012	0.01	11.80	100.5	< 2	< 2	< 1	13	< 2	< 1	48	0.202	0.211	522930	19.70	0.82
A522931	39.98	1.27	8.19	0.149	39.12	1.19	0.01	< 0.01	0.013	< 0.01	10.31	100.2	< 2	< 2	< 1	11	4	< 1	48	0.198	0.209	522931	22.96	0.98
A522932	38.17	2.71	10.28	0.120	28.77	8.49	< 0.01	< 0.01	0.737	0.07	9.06	98.41	< 2	< 2	14	21	33	< 1	187	0.141	0.149	522932	20.49	1.30

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
A522933	38.75	1.36	8.40	0.104	38.45	0.87	0.01	< 0.01	0.014	< 0.01	11.71	99.67	< 2	< 2	< 1	11	< 2	< 1	50	0.186	0.207	522933	17.92	0.73
A522934	37.91	1.13	8.31	0.119	38.29	0.59	< 0.01	< 0.01	0.012	0.02	12.25	98.64	< 2	< 2	< 1	12	< 2	< 1	45	0.199	0.212	522934	15.43	0.64
A522935	37.72	1.15	8.38	0.125	37.51	0.70	< 0.01	< 0.01	0.012	< 0.01	12.13	97.74	< 2	< 2	< 1	12	3	< 1	47	0.188	0.220	522935	15.21	0.51
A522936	38.72	1.35	8.05	0.103	39.48	0.55	< 0.01	< 0.01	0.012	< 0.01	12.60	100.9	< 2	< 2	< 1	11	< 2	< 1	46	0.175	0.202	522936	17.44	0.72
A522937	38.59	1.11	9.05	0.150	38.22	1.89	0.01	< 0.01	0.013	< 0.01	11.06	100.1	< 2	< 2	< 1	11	< 2	< 1	45	0.204	0.206	522937	12.52	0.36
A522938	38.44	1.55	9.02	0.115	39.27	0.59	< 0.01	< 0.01	0.014	< 0.01	11.87	100.9	< 2	< 2	< 1	12	< 2	< 1	51	0.237	0.211	522938	20.57	0.66
A522939	38.72	1.26	7.01	0.126	37.46	1.37	0.02	< 0.01	0.013	< 0.01	11.73	98.55	< 2	< 2	< 1	11	< 2	< 1	45	0.150	0.196	522939	15.05	0.48
A522940.1	49.70	16.27	12.10	0.166	4.95	8.13	2.31	2.88	1.218	0.48	0.00	98.20	742	542	20	26	107	2	396	0.22	1.06	522940	49.29	16.21
A522940.2																						522940	36.16	2.44
A522940.3																						522940	18.36	0.66
A522941	38.50	1.56	8.06	0.114	38.46	1.24	0.02	< 0.01	0.014	0.01	11.55	99.52	< 2	< 2	< 1	11	2	< 1	52	0.175	0.240	522941	17.99	0.54
A522942	39.14	1.40	8.23	0.115	38.98	1.65	0.02	< 0.01	0.014	< 0.01	11.15	100.7	< 2	< 2	< 1	11	< 2	< 1	50	0.236	0.220	522942	17.91	0.59
A522943	38.79	1.24	8.30	0.139	38.07	1.81	0.02	< 0.01	0.013	0.02	11.10	99.50	< 2	< 2	< 1	12	< 2	< 1	48	0.205	0.221	522943	19.81	0.67
A522944	38.58	1.27	8.22	0.124	39.06	1.05	0.02	< 0.01	0.013	0.02	11.49	99.85	< 2	< 2	< 1	11	< 2	< 1	46	0.204	0.208	522944	18.28	0.55
A522945	38.19	1.34	8.37	0.129	38.70	0.98	< 0.01	< 0.01	0.013	0.01	11.54	99.28	< 2	< 2	< 1	11	< 2	< 1	48	0.204	0.214	522945	17.46	0.56
A522946	38.34	1.10	8.31	0.142	38.55	1.07	< 0.01	< 0.01	0.013	< 0.01	11.48	99.02	< 2	< 2	< 1	10	< 2	< 1	43	0.187	0.205	522946	21.05	0.54
A522947	38.00	1.26	7.94	0.138	37.70	1.12	0.01	< 0.01	0.014	0.01	11.92	98.12	< 2	< 2	< 1	11	< 2	< 1	51	0.195	0.209	522947	23.31	0.78
A522948	38.99	1.07	8.74	0.165	38.90	1.69	0.01	< 0.01	0.013	< 0.01	11.06	100.6	< 2	< 2	< 1	12	< 2	< 1	48	0.192	0.217	522948	21.51	0.65
A522949	37.61	1.43	8.06	0.116	37.98	0.28	< 0.01	< 0.01	0.013	< 0.01	12.02	97.52	< 2	< 2	< 1	11	< 2	< 1	49	0.214	0.215	522949	23.37	0.86
A522950	38.40	1.03	8.81	0.164	39.52	0.88	< 0.01	< 0.01	0.012	< 0.01	11.24	100.1	< 2	< 2	< 1	12	3	< 1	44	0.205	0.185	522950	19.59	0.55
A522951	38.73	1.22	7.27	0.126	38.44	0.65	< 0.01	< 0.01	0.013	< 0.01	11.70	98.15	< 2	< 2	< 1	10	4	< 1	44	0.185	0.227	522951	20.36	0.73
A522952	38.24	1.12	8.62	0.138	37.56	0.69	0.01	< 0.01	0.012	0.01	11.94	98.34	< 2	< 2	< 1	12	3	< 1	42	0.183	0.275	522952	17.93	0.57
A522953	37.23	1.10	9.03	0.139	37.89	0.76	0.01	< 0.01	0.012	0.01	12.58	98.76	< 2	< 2	< 1	12	3	< 1	40	0.199	0.243	522953	17.01	0.66
A522954	38.86	1.19	7.37	0.121	38.22	1.04	0.01	< 0.01	0.010	0.04	12.56	99.41	< 2	< 2	< 1	11	6	< 1	45	0.213	0.266	522954	21.76	1.05
A522955	38.31	1.10	7.01	0.111	38.33	0.95	0.01	< 0.01	0.009	0.01	12.68	98.51	< 2	< 2	< 1	10	6	< 1	38	0.199	0.220	522955	19.37	0.80
A522956	38.32	1.22	6.94	0.114	38.28	0.22	0.02	< 0.01	0.015	0.02	12.38	97.54	< 2	< 2	< 1	10	3	< 1	41	0.187	0.226	522956	22.38	0.73
A522957	39.68	1.31	7.79	0.096	39.32	0.22	< 0.01	< 0.01	0.010	< 0.01	12.36	100.8	< 2	< 2	< 1	11	4	< 1	45	0.208	0.244	522957	22.67	0.78
A522958	38.67	1.26	7.46	0.099	37.77	0.50	0.01	< 0.01	0.009	0.01	12.45	98.24	< 2	< 2	< 1	11	3	< 1	43	0.212	0.234	522958	12.72	0.34
A522959	37.84	0.83	8.60	0.114	39.69	0.56	0.02	< 0.01	0.007	0.02	11.93	99.61	< 2	< 2	< 1	11	4	< 1	34	0.219	0.247	522959	11.58	0.61
A522960 A	98.36	0.28	0.76	0.007	0.11	0.02	0.02	0.04	0.031	0.02	0.12	99.78	22	5	2	< 1	48	< 1	< 5	< 0.010	< 0.010	522960	97.99	0.19
A522961	38.40	0.67	8.65	0.158	38.83	1.55	0.02	< 0.01	0.007	0.02	10.64	98.95	< 2	< 2	< 1	11	4	< 1	30	0.192	0.238	522961	9.54	0.24
A522962	37.56	0.99	8.26	0.116	38.36	1.36	0.01	< 0.01	0.009	< 0.01	12.19	98.87	4	< 2	< 1	11	3	< 1	37	0.219	0.230	522962	9.98	0.31
A522963	37.49	0.79	8.20	0.146	38.10	1.35	< 0.01	< 0.01	0.008	0.03	12.48	98.59	< 2	< 2	< 1	10	3	< 1	32	0.216	0.215	522963	14.71	0.45
A522964	38.03	1.03	8.18	0.101	39.70	0.38	< 0.01	< 0.01	0.011	0.02	13.38	100.8	< 2	< 2	< 1	10	5	< 1	39	0.191	0.242	522964	11.51	0.38
A522965	38.87	1.22	6.91	0.075	38.86	0.37	0.02	< 0.01	0.008	< 0.01	13.13	99.47	< 2	< 2	< 1	9	4	< 1	39	0.186	0.220	522965	12.48	0.54
A522966	38.11	0.91	7.84	0.114	38.80	1.38	0.01	< 0.01	0.007	< 0.01	12.51	99.68	< 2	< 2	< 1	11	4	< 1	37	0.198	0.242	522966	11.36	0.48
A522967	41.11	10.52	12.01	0.200	6.94	21.68	1.16	0.10	1.692	0.09	2.43	100.7	56	100	34	37	87	< 1	380	0.017	0.013	522967		
A522968	40.80	5.27	7.01	0.094	27.49	6.28	0.25	0.03	0.180	< 0.01	10.39	100.4	8	62	4	12	11	< 1	69	0.139	0.151	522968		
A522969	41.32	8.66	6.78	0.127	21.33	13.86	0.24	< 0.01	0.291	0.04	6.44	100.1	10	35	7	14	18	< 1	100	0.106	0.128	522969		
A522970	37.81	1.42	7.88	0.095	37.69	0.09	0.01	< 0.01	0.018	< 0.01	12.47	97.50	< 2	< 2	< 1	10	3	< 1	39	0.194	0.235	522970	16.29	0.49
A522971	36.27	0.65	7.36	0.094	40.19	0.10	< 0.01	< 0.01	0.007	0.02	13.78	98.48	< 2	< 2	< 1	5	3	< 1	19	0.219	0.236	522971	17.80	0.47
A522972	37.57	0.86	8.42	0.107	38.57	1.34	< 0.01	< 0.01	0.007	0.01	13.05	99.93	< 2	< 2	< 1	11	3	< 1	35	0.198	0.236	522972	14.91	0.40
A522973	37.76	0.96	8.00	0.102	38.22	1.02	0.01	< 0.01	0.009	0.01	13.12	99.22	< 2	< 2	< 1	10	4	< 1	39	0.211	0.230	522973	15.49	0.41
A522974	29.66	1.39	5.73	0.116	30.51	9.84	0.14	0.20	0.068	0.03	22.61	100.3	36	37	5	7	59	< 1	34	0.132	0.162	522974	15.62	0.60
A522975	37.86	0.92	8.10	0.121	38.73	1.05	< 0.01	< 0.01	0.008	0.02	13.35	100.2	< 2	< 2	< 1	10	< 2	< 1	40	0.205	0.248	522975	14.82	0.36
A522976	36.88	0.89	8.35	0.088	37.88	0.88	< 0.01	< 0.01	0.008	< 0.01	14.05	99.04	< 2	< 2	< 1	9	3	< 1	40	0.218	0.237	522976	14.82	0.40
A522977	38.11	0.79	8.30	0.136	39.68	0.77	< 0.01	< 0.01	0.007	< 0.01	12.14	99.94	< 2	< 2	< 1	10	4	< 1	29	0.236	0.226	522977	18.19	0.12
A522978	38.45	0.95	7.55	0.091	38.98	0.57	< 0.01	< 0.01	0.007	< 0.01	12.48	99.08	< 2	< 2	< 1	9	3	< 1	35	0.215	0.245	522978	18.49	0.29
A522979	37.70	0.85	8.13	0.137	38.65	0.86	< 0.01	< 0.01	0.010	< 0.01	11.38	97.73	< 2	< 2	< 1	8	3	< 1	33	0.188	0.257	522979	19.90	0.20
A522980.1	48.65	15.99	11.80	0.164	4.82	7.85	2.18	2.82	1.176	0.43	0.85	96.95	711	528	19	25	102	2	339	0.22	1.04	522980	48.97	15.91
A522980.2																						522980	36.15	2.46

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
A522980.3																						522980	21.01	0.44
A522981	38.94	0.82	8.16	0.125	39.84	0.54	< 0.01	< 0.01	0.008	0.02	12.06	100.5	< 2	< 2	< 1	9	3	< 1	29	0.234	0.224	522981	18.67	0.33
A522982	38.57	0.66	8.31	0.142	40.82	0.53	< 0.01	< 0.01	0.008	< 0.01	10.69	99.74	< 2	< 2	< 1	8	4	< 1	25	0.221	0.218	522982	20.82	0.26
A522983	38.16	0.78	7.81	0.139	38.61	0.71	< 0.01	< 0.01	0.009	0.02	11.70	97.93	< 2	< 2	< 1	9	6	< 1	22	0.224	0.248	522983	22.92	0.54
A522984	43.62	3.33	8.21	0.154	30.71	2.58	0.80	0.32	0.170	0.03	8.86	98.78	126	62	4	13	30	< 1	63	0.169	0.195	522984	19.52	0.68
A522985	37.84	0.77	8.83	0.127	38.89	0.99	< 0.01	< 0.01	0.006	0.01	12.67	100.1	< 2	< 2	< 1	10	3	< 1	38	0.212	0.255	522985	18.43	0.36
A522986	38.90	0.72	8.49	0.139	38.24	1.28	< 0.01	< 0.01	0.006	< 0.01	12.38	100.2	< 2	< 2	< 1	11	3	< 1	36	0.223	0.260	522986	18.90	0.60
A522987	38.26	0.65	9.48	0.154	38.42	1.16	< 0.01	< 0.01	0.005	< 0.01	10.78	98.90	< 2	< 2	< 1	10	3	< 1	33	0.233	0.235	522987	17.87	0.42
A522988	38.80	0.75	8.56	0.128	38.50	1.37	< 0.01	< 0.01	0.006	0.02	11.06	99.18	< 2	< 2	< 1	11	3	< 1	38	0.216	0.226	522988	18.89	0.43
A522989	39.71	0.70	8.44	0.136	38.05	2.08	0.01	< 0.01	0.006	< 0.01	10.78	99.93	< 2	< 2	< 1	11	3	< 1	38	0.214	0.253	522989	17.73	0.48
A522990	39.62	0.75	8.41	0.120	39.20	1.02	< 0.01	< 0.01	0.006	0.02	11.31	100.5	< 2	< 2	< 1	9	3	< 1	37	0.194	0.224	522990	22.03	0.60
A522991	38.59	0.83	7.98	0.104	38.64	0.65	< 0.01	< 0.01	0.005	0.02	12.20	99.02	< 2	< 2	< 1	9	3	< 1	34	0.228	0.237	522991	20.60	0.42
A522992	38.09	0.87	8.34	0.091	39.39	0.17	< 0.01	< 0.01	0.005	0.01	12.67	99.64	< 2	< 2	< 1	9	< 2	< 1	40	0.191	0.276	522992	23.14	0.52
A522993	37.97	0.86	7.66	0.088	38.84	0.12	< 0.01	< 0.01	0.005	0.02	13.06	98.63	< 2	< 2	< 1	9	7	< 1	37	0.218	0.241	522993	23.18	0.19
A522994	37.49	0.62	8.69	0.125	39.13	0.87	< 0.01	< 0.01	0.006	< 0.01	12.45	99.38	< 2	< 2	< 1	10	4	< 1	29	0.206	0.265	522994	20.29	0.41
A522995	38.13	0.58	8.85	0.121	38.83	1.09	< 0.01	< 0.01	0.005	0.02	12.29	99.94	< 2	< 2	< 1	9	3	< 1	29	0.222	0.242	522995	19.04	0.34
A522996	38.87	0.67	7.98	0.130	40.43	0.64	< 0.01	< 0.01	0.005	0.02	11.74	100.5	< 2	< 2	< 1	9	4	< 1	29	0.205	0.253	522996	20.48	0.02
A522997	39.09	0.45	8.78	0.167	40.66	1.28	0.02	< 0.01	0.006	< 0.01	9.96	100.4	< 2	< 2	< 1	9	22	< 1	21	0.223	0.203	522997	17.62	0.33
A522998	36.95	0.75	8.39	0.093	38.95	0.55	< 0.01	< 0.01	0.005	< 0.01	13.18	98.88	< 2	< 2	< 1	8	3	< 1	32	0.205	0.241	522998	19.06	0.42
A522999	38.56	1.24	8.56	0.109	37.72	1.40	< 0.01	< 0.01	0.015	0.02	12.15	99.78	< 2	< 2	< 1	12	3	< 1	45	0.200	0.232	522999	16.39	0.41
A523000	99.89	0.30	0.53	0.005	0.03	0.03	0.01	0.04	0.031	< 0.01	0.12	101.0	28	3	2	< 1	68	< 1	< 5	< 0.010	< 0.010	523000	98.41	0.33
A522960 B	98.75	0.30	0.75	0.007	0.02	0.02	0.01	0.05	0.028	< 0.01	0.12	100.1	29	2	2	< 1	69	< 1	< 5	< 0.010	< 0.010	522960	98.23	0.23

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
A521251	38.69	0.205	26.05	0.20	< 0.01	0.03	0.03	< 0.01	1.64	0.021	1.55	6.71	98.32	30.2	2.823	27.258	9.4	30.081	0.28	0.03
A521252	58.58	0.189	16.04	0.21	< 0.01	0.02	0.04	0.01	1.44	0.026	2.53	2.19	97.12	30.1	1.918	28.050	6.4	29.968	0.51	0.06
A521253	64.81	0.173	13.37	0.27	< 0.01	0.01	0.07	< 0.01	1.47	0.029	2.99	1.18	97.75	30.2	1.910	28.274	6.3	30.184	0.17	0.06
A521254	36.61	0.182	26.33	0.23	< 0.01	0.02	0.03	0.01	1.25	0.019	1.98	6.47	99.03	30.2	3.353	26.882	11.1	30.236	-0.22	0.06
A521255	41.45	0.257	23.79	0.17	< 0.01	0.02	0.03	0.01	1.56	0.022	1.97	4.32	97.97	30.3	2.800	27.542	9.2	30.342	-0.19	0.05
A521256	48.30	0.224	20.97	0.12	< 0.01	0.02	0.07	0.01	1.40	0.024	1.62	3.76	98.33	30.1	2.957	26.992	9.8	29.949	0.60	0.04
A521257	42.64	0.149	23.45	0.14	< 0.01	0.02	0.05	0.01	0.92	0.016	2.13	5.12	98.62	30.1	3.085	27.037	10.2	30.121	-0.02	0.03
A521258	49.22	0.190	20.79	0.14	< 0.01	0.02	0.04	0.01	1.03	0.025	2.33	3.49	97.47	30.3	2.329	27.898	7.7	30.228	0.30	0.05
A521259	53.45	0.193	18.94	0.28	< 0.01	0.02	0.05	0.01	1.22	0.024	2.71	2.96	97.64	30.3	2.033	28.101	6.7	30.135	0.53	0.06
A521260	59.21	0.181	16.53	0.27	< 0.01	0.02	0.04	0.01	1.37	0.027	2.61	1.99	98.29	30.1	2.030	27.858	6.7	29.888	0.74	0.08
A521261	55.11	0.210	18.03	0.38	< 0.01	0.01	0.04	< 0.01	1.62	0.027	3.00	2.46	98.39	30.1	1.669	28.196	5.5	29.865	0.84	0.09
A521262	52.48	0.146	20.14	0.13	< 0.01	0.01	0.04	0.01	1.05	0.024	2.44	3.54	99.30	30.4	2.111	28.115	7.0	30.226	0.43	0.11
A521263	46.83	0.146	22.35	0.26	< 0.01	0.02	0.04	0.01	0.95	0.021	1.94	4.57	99.34	30.2	2.537	27.636	8.4	30.173	-0.05	0.12
A521264	51.99	0.198	19.01	0.36	< 0.01	0.02	0.05	0.01	1.56	0.026	3.08	3.20	98.75	30.1	1.659	28.341	5.5	30.000	0.30	0.07
A521265	53.46	0.207	18.18	0.08	< 0.01	0.02	0.05	< 0.01	1.60	0.026	3.15	2.82	97.97	30.1	1.601	28.364	5.3	29.965	0.45	0.06
A521266	59.84	0.140	15.29	0.05	< 0.01	0.02	0.05	0.01	1.33	0.030	2.88	2.11	97.25	30.3	1.660	28.588	5.5	30.248	0.02	0.10
A521267	64.12	0.168	13.50	0.21	< 0.01	0.01	0.05	0.01	1.36	0.027	2.60	1.77	97.55	30.3	1.948	28.385	6.4	30.333	0.00	0.13
A521268	64.39	0.189	12.73	0.21	< 0.01	0.01	0.05	< 0.01	1.77	0.031	3.77	0.85	96.97	30.1	1.448	28.612	4.8	30.060	0.06	0.11
A521269	58.94	0.119	16.26	0.20	< 0.01	0.02	0.05	< 0.01	1.21	0.029	2.35	2.25	97.98	30.1	2.380	27.211	7.9	29.590	1.56	0.05
A521270.1	12.16	0.168	4.98	7.89	2.43	2.77	1.10	0.44	1.05	0.064	0.232	0.53	98.79							
A521270.2	13.26	0.132	32.37	2.12	0.06	0.16	0.12	0.03	0.20	0.008	1.44	10.79	99.52							
A521270.3	54.28	0.226	17.86	0.15	< 0.01	0.02	0.04	0.01	1.56	0.024	1.99	3.69	98.83	30.1	0.655	27.431	7.5	29.698	1.18	0.10
A521271	68.57	0.207	11.88	1.20	< 0.01	0.02	0.04	< 0.01	1.89	0.037	2.72	0.37	98.40	30.2	1.713	28.072	5.7	29.785	1.42	0.09
A521272	54.91	0.194	18.07	0.97	< 0.01	0.02	0.04	< 0.01	1.37	0.030	2.42	2.74	99.11	30.3	2.346	27.236	7.7	29.582	2.52	0.06
A521273	58.64	0.147	15.95	0.83	< 0.01	0.01	0.05	0.01	1.32	0.031	2.69	2.60	98.50	30.2	2.246	27.625	7.4	29.871	1.12	0.11
A521274	41.91	0.188	23.34	0.63	< 0.01	0.02	0.04	0.01	1.31	0.022	2.30	5.37	98.60	30.3	2.995	27.944	9.9	30.938	-2.17	0.07
A521275	70.68	0.282	9.57	0.99	< 0.01	0.01	0.18	0.01	2.18	0.047	3.32	-0.47	97.28	30.2	1.379	28.413	4.6	29.792	1.50	0.09
A521276	70.88	0.222	10.20	0.26	< 0.01	0.01	0.06	0.01	1.78	0.034	2.97	-0.10	97.23	30.1	1.750	28.103	5.8	29.853	0.92	0.07
A521277	64.84	0.207	13.79	0.59	< 0.01	0.01	0.05	0.01	1.42	0.027	2.88	1.25	98.23	30.3	1.727	28.851	5.7	30.577	-0.87	0.09
A521278	59.17	0.239	15.91	0.55	< 0.01	0.01	0.04	< 0.01	1.85	0.027	3.60	1.43	97.77	24.1	1.011	23.123	4.2	24.133	-0.16	0.05
A521279	52.87	0.241	19.16	0.77	< 0.01	0.02	0.04	< 0.01	1.80	0.028	2.92	3.02	98.75	30.3	1.715	28.619	5.7	30.334	-0.24	0.13
A521280	48.34	0.228	20.88	2.73	< 0.01	0.01	0.04	0.01	1.03	0.023	2.43	3.74	99.58	30.3	2.081	27.670	6.9	29.751	1.83	0.08
A521281	47.47	0.158	20.58	1.20	< 0.01	0.02	0.04	< 0.01	1.27	0.025	1.87	4.80	99.21	30.2	2.846	27.763	9.4	30.610	-1.39	0.06
A521282	52.29	0.172	19.55	1.22	< 0.01	0.01	0.05	0.01	1.26	0.029	2.83	3.57	98.42	30.2	2.004	28.344	6.6	30.347	-0.43	0.08
A521283	42.84	0.276	22.36	1.45	< 0.01	0.02	0.04	< 0.01	1.57	0.027	1.91	4.86	99.16	30.3	2.617	27.478	8.6	30.095	0.74	0.11
A521284	78.61	0.290	7.00	2.24	< 0.01	0.01	0.12	< 0.01	2.53	0.051	1.43	-0.94	99.14	30.4	1.502	28.462	4.9	29.964	1.46	0.14
A521285	83.52	0.309	4.92	1.06	< 0.01	0.02	0.12	0.01	2.80	0.049	1.86	-1.95	98.13	23.6	0.848	22.812	3.6	23.660	-0.44	0.10
A521286	63.08	0.240	13.57	0.71	< 0.01	0.02	0.05	0.01	2.11	0.040	2.29	1.44	98.01	30.4	1.896	29.387	6.2	31.283	-2.98	0.05
A521287	66.78	0.328	11.74	0.19	< 0.01	0.02	0.03	0.01	3.41	0.048	3.01	-0.32	96.58	30.2	1.479	27.891	4.9	29.369	2.90	0.13
A521288	51.10	0.208	20.67	0.13	< 0.01	0.02	0.04	< 0.01	1.41	0.029	1.97	3.11	98.42	30.3	2.323	28.535	7.7	30.858	-1.89	
A521289	63.89	0.194	13.53	0.95	< 0.01	0.02	0.03	< 0.01	2.09	0.032	2.95	1.16	97.52	29.6	1.652	27.913	5.6	29.564	0.22	0.13
A521290	0.65	0.008	< 0.01	0.03	< 0.01	0.09	0.05	0.01	< 0.01	< 0.003	< 0.003	0.08	99.25	60.9	0.156	60.452	0.3	60.608	0.50	0.19
A521291	55.76	0.289	15.17	0.29	< 0.01	< 0.01	0.04	0.01	2.60	0.033	4.18	-0.26	96.26	30.2	1.041	28.198	3.4	29.239	3.11	0.12
A521292 missing																				
A521293 missing																				
A521294 missing																				
A521295 missing																				
A521296 missing																				
A521297 missing																				
A521298 missing																				
A521299 missing																				

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
A521300 missing																				
A521301 missing																				
A521302 missing																				
A521303 missing																				
A521304 missing																				
A521305 missing																				
A521306 missing																				
A521307 missing																				
A521308 missing																				
A521309 missing																				
A522894	62.20	0.187	15.16	1.36	< 0.01	0.02	0.04	0.01	1.50	0.032	1.42	2.66	98.99	30.4	2.867	27.095	9.4	29.961	1.31	0.03
A522895	53.84	0.192	19.67	0.59	< 0.01	0.01	0.02	0.01	1.46	0.029	1.18	4.09	99.34	30.3	3.636	26.399	12.0	30.035	0.85	0.03
A522896	43.31	0.234	23.89	0.35	< 0.01	0.02	0.03	< 0.01	1.37	0.024	1.13	5.86	99.01	30.4	3.648	26.928	12.0	30.575	-0.60	0.04
A522897	64.79	0.233	14.46	0.50	< 0.01	0.01	0.02	0.01	1.83	0.031	2.02	1.95	98.81	30.4	2.387	27.891	7.8	30.278	0.46	0.04
A522898	64.00	0.197	14.39	0.15	< 0.01	0.02	0.03	< 0.01	1.77	0.031	1.27	2.56	97.76	30.3	2.851	27.321	9.4	30.172	0.50	0.04
A522899	64.34	0.157	13.49	0.11	< 0.01	0.01	0.02	< 0.01	1.65	0.026	1.91	2.10	97.13	30.3	2.201	27.730	7.3	29.931	1.36	0.03
A522900.1	12.26	0.166	5.05	7.92	2.42	2.86	1.12	0.45	1.07	0.065	0.232	0.56	99.47							
A522900.2	13.13	0.127	32.08	2.06	0.08	0.14	0.12	0.02	0.19	0.006	1.44	10.76	99.01							
A522900.3	50.17	0.225	19.43	0.50	< 0.01	0.01	0.04	0.01	1.46	0.021	1.68	4.16	98.17	30.0	0.835	27.632	7.8	29.964	-2.96	0.03
A522901	69.31	0.274	10.73	0.30	0.02	0.03	0.03	0.01	2.36	0.034	2.99	0.22	96.55	29.3	1.400	27.571	4.8	28.971	0.95	0.04
A522902	63.56	0.243	13.61	0.07	< 0.01	0.02	0.03	< 0.01	2.26	0.037	2.76	1.46	96.92	30.2	1.816	28.060	6.0	29.876	0.95	0.04
A522903	50.17	0.233	20.50	0.16	< 0.01	0.02	0.02	0.01	1.44	0.024	1.86	4.33	98.34	30.2	2.560	27.709	8.5	30.269	-0.08	0.04
A522904														60.7	0.040	60.757	0.1	60.797	-0.22	
A522905	61.86	0.322	14.70	0.43	< 0.01	0.01	0.03	< 0.01	2.60	0.032	2.37	1.75	97.04	30.1	1.808	28.509	6.0	30.318	-0.68	0.04
A522906	55.46	0.269	17.31	0.54	< 0.01	0.01	0.03	< 0.01	2.27	0.034	2.25	3.10	97.68	30.2	1.857	27.830	6.1	29.687	1.76	0.10
A522907	42.91	0.241	24.51	0.50	< 0.01	0.01	0.02	0.01	1.48	0.020	1.21	5.49	99.08	30.2	2.952	27.400	9.8	30.353	-0.36	0.10
A522908	41.74	0.183	25.37	0.59	< 0.01	0.01	0.02	0.01	1.17	0.018	1.44	6.24	99.85	30.2	3.025	26.841	10.0	29.866	1.21	0.09
A522909	45.56	0.255	22.84	< 0.01	< 0.01	0.02	0.03	0.01	2.05	0.026	2.01	4.34	97.41	30.4	2.023	28.403	6.7	30.426	-0.23	0.06
A522910	43.09	0.184	23.10	< 0.01	< 0.01	0.01	0.07	< 0.01	1.31	0.025	1.49	5.55	97.98	30.2	2.871	27.556	9.5	30.427	-0.88	0.05
A522911	59.02	0.297	15.24	< 0.01	< 0.01	0.02	0.03	0.01	2.68	0.036	2.80	1.49	96.93	30.2	1.416	28.745	4.7	30.161	0.27	0.07
A522912	61.63	0.236	15.82	0.29	< 0.01	0.01	0.03	< 0.01	1.83	0.028	2.19	0.21	97.51	30.2	2.171	28.272	7.2	30.442	-0.91	0.08
A522913	59.71	0.271	15.90	< 0.01	< 0.01	0.02	0.03	< 0.01	2.34	0.035	2.37	1.50	97.61	30.1	1.621	28.465	5.4	30.087	0.17	0.07
A522914	49.57	0.194	21.22	< 0.01	< 0.01	0.01	0.03	0.01	1.30	0.023	1.63	4.67	97.79	30.1	2.657	27.859	8.8	30.517	-1.31	0.07
A522915	47.36	0.220	21.69	< 0.01	< 0.01	0.02	0.03	< 0.01	1.52	0.022	1.87	4.42	97.13	30.3	2.415	27.894	8.0	30.309	-0.09	0.09
A522916	62.03	0.226	14.21	< 0.01	< 0.01	0.01	0.07	0.01	1.95	0.029	2.20	1.70	97.19	30.4	2.005	28.532	6.6	30.537	-0.44	0.03
A522917	55.32	0.202	18.34	< 0.01	< 0.01	0.01	0.04	0.01	1.72	0.027	2.13	3.63	97.42	30.2	2.130	28.018	7.1	30.148	0.19	0.06
A522918	43.26	0.198	23.89	< 0.01	< 0.01	0.01	0.04	< 0.01	1.46	0.023	1.97	5.30	98.13	30.4	2.470	27.830	8.1	30.300	0.35	0.10
A522919	45.53	0.222	22.95	< 0.01	< 0.01	0.01	0.03	0.01	1.58	0.024	2.09	4.38	97.94	30.1	2.118	28.131	7.0	30.249	-0.41	0.07
A522920	0.57	0.007	0.06	0.02	0.01	0.07	0.04	0.01	< 0.01	< 0.003	< 0.003	-0.50	99.82	56.8	0.092	56.955	0.2	57.047	-0.45	
A522921	52.42	0.229	18.10	< 0.01	< 0.01	0.02	0.03	0.01	2.02	0.030	2.98	3.15	97.44	26.9	1.426	25.708	5.3	27.134	-0.80	0.09
A522922	51.23	0.202	20.57	< 0.01	< 0.01	0.02	0.03	0.01	1.49	0.023	1.72	4.10	98.22	30.4	2.679	27.758	8.8	30.437	-0.26	0.08
A522923	39.44	0.234	25.16	< 0.01	< 0.01	0.02	0.04	< 0.01	1.23	0.018	1.54	6.73	98.70	30.3	3.334	27.089	11.0	30.423	-0.48	0.10
A522924	51.18	0.233	20.28	< 0.01	< 0.01	0.01	0.03	< 0.01	1.73	0.028	1.86	3.84	97.65	30.4	2.626	27.633	8.6	30.259	0.39	0.13
A522925	42.50	0.213	24.18	< 0.01	< 0.01	0.01	0.04	< 0.01	1.20	0.023	1.58	4.99	98.33	30.2	2.749	27.806	9.1	30.555	-1.02	0.12
A522926	38.78	0.165	25.98	< 0.01	< 0.01	0.01	0.04	0.01	0.99	0.019	1.71	6.37	97.68	30.2	3.065	27.351	10.1	30.416	-0.72	0.10
A522927	57.68	0.140	17.09	< 0.01	< 0.01	0.01	0.05	0.01	1.19	0.021	1.68	3.61	97.99	30.2	2.576	27.712	8.5	30.288	-0.14	0.07
A522928	49.58	0.216	19.47	< 0.01	< 0.01	0.01	0.04	< 0.01	1.62	0.020	2.21	3.97	97.34	30.3	1.954	28.002	6.4	29.955	1.13	0.09
A522929	50.72	0.164	19.03	< 0.01	< 0.01	0.01	0.04	< 0.01	1.28	0.024	2.28	4.29	97.34	26.4	1.865	24.656	7.1	26.521	-0.41	0.13
A522930	49.65	0.156	20.25	< 0.01	< 0.01	0.02	0.04	0.01	1.25	0.022	1.46	4.57	97.91	30.1	2.289	28.046	7.6	30.335	-0.70	0.10
A522931	42.75	0.236	21.84	< 0.01	< 0.01	0.02	0.04	0.01	1.96	0.028	2.87	3.54	97.19	30.3	1.438	28.899	4.7	30.337	-0.14	0.07
A522932	49.08	0.213	18.73	< 0.01	< 0.01	0.02	0.10	0.01	1.75	0.033	2.24	3.83	97.77	30.2	1.332	29.156	4.4	30.488	-1.06	0.08

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
A522933	53.21	0.161	17.71	< 0.01	< 0.01	0.02	0.04	< 0.01	1.50	0.026	2.50	3.21	96.98	30.1	1.821	28.440	6.0	30.261	-0.38	0.11
A522934	59.54	0.204	15.03	< 0.01	< 0.01	0.01	0.04	0.01	1.74	0.029	2.62	2.25	97.51	30.2	1.716	28.454	5.7	30.170	0.13	0.16
A522935	58.53	0.217	15.41	< 0.01	< 0.01	0.01	0.04	0.01	1.89	0.029	2.66	2.40	96.86	30.3	1.653	28.980	5.5	30.633	-1.06	0.09
A522936	53.09	0.156	18.95	< 0.01	< 0.01	0.01	0.04	< 0.01	1.20	0.024	2.38	3.68	97.64	30.3	1.951	28.383	6.4	30.334	-0.20	0.09
A522937	65.35	0.224	13.39	< 0.01	< 0.01	0.01	0.04	0.01	1.78	0.028	2.27	1.15	97.09	30.4	1.785	28.668	5.9	30.453	-0.23	0.11
A522938	47.71	0.157	22.06	< 0.01	< 0.01	0.02	0.03	0.01	0.92	0.021	1.77	4.54	98.47	30.4	2.719	27.918	8.9	30.636	-0.75	
A522939	59.54	0.189	15.63	< 0.01	< 0.01	0.02	0.04	< 0.01	1.40	0.026	2.72	2.29	97.38	28.5	1.653	26.866	5.8	28.519	-0.09	0.05
A522940.1	12.20	0.166	5.00	7.85	2.45	2.82	1.11	0.44	1.07	0.065	0.237	0.57	99.48							
A522940.2	13.15	0.127	32.16	2.06	0.11	0.26	0.13	0.02	0.20	0.008	1.44	10.71	98.98							
A522940.3	54.47	0.223	17.94	0.15	< 0.01	0.02	0.04	< 0.01	1.46	0.023	2.01	4.18	99.50	10.0	0.798	27.646	7.9	30.008	0.25	0.06
A522941	52.50	0.209	19.29	0.33	< 0.01	< 0.01	0.04	0.02	1.66	0.029	3.00	3.15	98.69	30.3	1.725	29.152	5.7	30.877	-2.04	0.05
A522942	53.90	0.196	18.44	< 0.01	< 0.01	0.02	0.04	0.01	1.61	0.026	2.78	3.05	98.56	30.2	1.618	29.346	5.4	30.964	-2.52	0.03
A522943	49.20	0.238	20.32	0.51	< 0.01	0.01	0.04	0.01	1.64	0.023	2.60	3.78	98.79	30.1	1.824	28.751	6.1	30.575	-1.51	
A522944	53.46	0.195	18.95	< 0.01	< 0.01	0.02	0.04	< 0.01	1.44	0.024	2.44	2.98	98.37	30.2	1.773	29.109	5.9	30.882	-2.22	
A522945	53.17	0.215	18.57	< 0.01	0.09	0.02	0.04	< 0.01	1.76	0.024	2.99	2.95	97.86	30.2	1.581	29.049	5.2	30.629	-1.40	
A522946	45.77	0.244	22.54	< 0.01	< 0.01	0.03	0.04	< 0.01	1.61	0.023	1.99	4.36	98.16	30.3	2.020	28.540	6.7	30.560	-0.97	0.09
A522947	42.08	0.195	23.97	< 0.01	< 0.01	0.02	0.03	< 0.01	1.16	0.022	1.52	5.78	98.83	26.8	1.883	25.292	7.0	27.174	-1.27	0.11
A522948	44.87	0.254	22.16	< 0.01	< 0.01	0.02	0.04	0.01	1.71	0.022	2.13	4.38	97.71	27.0	1.599	26.093	5.9	27.692	-2.67	0.12
A522949	42.26	0.156	23.78	< 0.01	< 0.01	0.01	0.04	0.01	1.04	0.021	1.77	5.48	98.78	30.2	2.645	27.513	8.8	30.157	0.07	0.14
A522950	49.17	0.205	20.57	< 0.01	< 0.01	0.01	0.04	0.01	1.27	0.024	2.32	3.80	97.53	27.2	1.690	25.329	6.2	27.019	0.49	0.14
A522951	46.56	0.208	21.46	< 0.01	< 0.01	0.02	0.04	0.01	1.37	0.020	2.42	4.45	97.61	30.1	1.788	28.768	5.9	30.556	-1.40	0.18
A522952	52.24	0.255	19.03	< 0.01	< 0.01	0.01	0.04	0.01	2.00	0.026	1.85	3.68	97.59	26.5	1.899	24.584	7.2	26.483	0.05	0.12
A522953	54.20	0.210	17.92	< 0.01	< 0.01	0.01	0.05	0.01	1.78	0.029	2.22	3.49	97.57	30.3	2.142	28.334	7.1	30.476	-0.57	0.08
A522954	42.56	0.249	21.72	< 0.01	< 0.01	0.01	0.04	< 0.01	2.11	0.030	2.55	4.89	96.89	22.9	1.486	21.853	6.5	23.340	-1.72	0.08
A522955	46.67	0.224	20.93	< 0.01	< 0.01	0.01	0.04	< 0.01	1.81	0.029	2.63	4.70	97.18	30.4	1.861	28.364	6.1	30.225	0.51	0.03
A522956	44.28	0.246	22.09	< 0.01	< 0.01	0.01	0.03	0.01	1.35	0.023	1.97	5.24	98.33	30.5	2.767	27.904	9.1	30.672	-0.66	0.11
A522957	43.15	0.185	22.93	< 0.01	< 0.01	0.01	0.03	< 0.01	1.48	0.027	2.16	5.33	98.71	30.2	2.584	27.757	8.6	30.341	-0.39	0.07
A522958	65.82	0.192	12.71	< 0.01	< 0.01	0.02	0.04	< 0.01	1.82	0.033	2.93	1.08	97.65	30.2	1.612	28.551	5.3	30.163	-0.03	0.09
A522959	65.94	0.158	13.04	< 0.01	< 0.01	0.02	0.03	0.01	2.10	0.030	2.95	0.85	97.30	28.3	1.601	26.740	5.7	28.341	-0.14	0.11
A522960 A	0.56	0.005	0.03	0.02	< 0.01	0.04	0.03	< 0.01	< 0.01	< 0.003	< 0.003	-0.14	100.4	52.0	0.076	51.711	0.1	51.787	0.44	
A522961	68.44	0.302	10.66	< 0.01	< 0.01	0.02	0.04	< 0.01	3.17	0.040	3.88	-0.26	96.04	28.2	1.191	26.718	4.2	27.909	0.97	0.04
A522962	68.95	0.203	11.74	< 0.01	< 0.01	0.01	0.04	0.01	1.83	0.031	3.07	0.54	96.70	22.7	1.148	21.272	5.1	22.420	1.03	0.05
A522963	56.37	0.258	17.08	< 0.01	< 0.01	0.01	0.04	0.01	1.90	0.024	2.89	3.10	96.75	29.2	1.497	27.526	5.1	29.024	0.71	0.04
A522964	65.42	0.173	13.31	< 0.01	< 0.01	0.01	0.04	< 0.01	1.44	0.021	2.67	1.90	96.80	29.9	1.810	27.807	6.1	29.617	0.99	0.03
A522965	65.37	0.159	12.33	< 0.01	< 0.01	0.02	0.04	< 0.01	1.90	0.029	3.04	1.13	96.98	22.3	1.042	21.321	4.7	22.362	-0.36	0.03
A522966	65.31	0.216	12.31	< 0.01	< 0.01	0.02	0.04	0.01	2.33	0.038	3.39	1.04	96.47	22.5	0.986	21.490	4.4	22.475	-0.10	0.03
A522967														60.3	0.025	59.861	0.0	59.886	0.68	
A522968														53.9	0.010	52.825	0.0	52.836	2.03	
A522969														60.4	0.059	60.046	0.1	60.104	0.56	
A522970	59.52	0.162	16.11	< 0.01	< 0.01	0.01	0.04	0.01	1.16	0.027	1.21	3.24	98.21	30.4	2.769	27.524	9.1	30.293	0.23	0.08
A522971	47.27	0.136	23.05	< 0.01	< 0.01	0.01	0.03	< 0.01	1.38	0.017	1.71	6.16	98.03	25.7	2.290	23.054	8.9	25.344	1.20	0.03
A522972	61.19	0.182	15.27	< 0.01	< 0.01	0.01	0.04	< 0.01	1.59	0.030	1.71	2.66	97.95	27.1	2.038	25.005	7.5	27.043	0.11	0.03
A522973	59.37	0.177	16.61	< 0.01	< 0.01	0.01	0.03	< 0.01	1.31	0.026	1.63	3.36	98.39	23.3	1.741	21.437	7.5	23.178	0.37	0.12
A522974	57.73	0.221	17.68	0.30	< 0.01	< 0.01	0.04	0.01	1.65	0.025	1.37	4.22	99.37	30.1	1.542	28.524	5.1	30.066	-0.60	0.16
A522975	61.25	0.213	16.01	0.15	< 0.01	0.02	0.04	0.02	1.64	0.031	1.63	3.21	99.31	30.2	2.133	28.021	7.1	30.153	0.27	0.18
A522976	60.24	0.210	16.80	0.11	< 0.01	< 0.01	0.07	0.04	1.40	0.032	1.42	4.25	99.56	30.3	2.985	27.555	9.9	30.540	-0.93	
A522977	52.33	0.218	19.92	0.25	< 0.01	0.03	0.03	0.02	1.43	0.023	2.26	4.43	99.15	30.1	2.213	28.238	7.4	30.450	-1.23	
A522978	52.17	0.200	19.44	0.16	< 0.01	0.01	0.04	0.02	1.78	0.028	2.54	3.63	98.70	30.2	2.129	28.280	7.1	30.409	-0.76	
A522979	50.79	0.260	20.06	0.35	< 0.01	0.03	0.04	0.01	1.89	0.026	2.15	3.63	99.27	27.0	2.050	25.022	7.6	27.071	-0.32	
A522980.1	12.14	0.172	5.01	7.81	2.18	2.76	1.10	0.44	1.05	0.066	0.232	0.52	98.79							
A522980.2	13.18	0.125	32.27	2.09	0.08	0.16	0.13	0.02	0.20	0.008	1.45	10.80	99.12							

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
A522980.3	48.85	0.242	20.61	0.26	< 0.01	< 0.01	0.04	0.02	1.50	0.022	2.01	4.35	99.31	30.0	2.379	27.325	7.9	29.704	1.11	
A522981	52.81	0.227	19.63	0.23	< 0.01	0.03	0.03	0.02	1.67	0.023	2.39	3.39	99.41	30.2	2.201	28.187	7.3	30.388	-0.73	
A522982	47.58	0.260	20.88	0.19	< 0.01	< 0.01	0.04	0.01	2.04	0.023	2.47	3.68	98.18	30.3	1.923	28.870	6.3	30.793	-1.60	
A522983	39.24	0.256	26.50	0.34	< 0.01	< 0.01	0.04	0.01	1.59	0.022	1.69	5.18	98.25	27.5	2.383	25.606	8.7	27.989	-1.66	
A522984	51.99	0.250	18.15	0.74	0.02	0.04	0.08	0.01	1.76	0.029	1.99	3.06	98.33	30.2	1.706	28.516	5.6	30.222	0.03	
A522985	52.14	0.235	18.88	0.34	< 0.01	0.01	0.03	0.02	2.11	0.032	1.89	4.05	98.46	30.3	2.133	27.952	7.0	30.086	0.84	
A522986	51.78	0.229	18.66	0.66	< 0.01	0.01	0.03	0.02	2.00	0.032	2.03	3.91	98.81	30.1	2.217	28.560	7.4	30.778	-2.34	
A522987	51.76	0.229	20.82	0.44	< 0.01	0.02	0.02	0.02	1.64	0.029	1.81	3.45	98.42	30.2	2.448	28.040	8.1	30.489	-0.99	
A522988	50.09	0.211	20.94	0.37	< 0.01	0.02	0.03	0.01	1.71	0.030	2.63	3.85	99.13	30.2	2.130	28.246	7.0	30.376	-0.44	
A522989	50.74	0.258	19.76	0.76	< 0.01	0.03	0.03	0.01	2.13	0.028	3.47	2.75	98.12	29.7	1.799	28.187	6.1	29.986	-1.04	
A522990	45.37	0.217	21.67	0.40	< 0.01	0.04	0.03	0.01	1.70	0.024	2.37	4.18	98.61	30.2	2.545	27.820	8.4	30.365	-0.65	
A522991	44.38	0.179	24.23	0.25	< 0.01	< 0.01	0.03	0.01	1.30	0.025	1.83	5.65	98.83	30.3	2.768	26.608	9.1	29.376	2.96	
A522992	40.39	0.133	25.57	0.11	< 0.01	< 0.01	0.02	0.01	1.01	0.021	1.33	7.38	99.54	30.1	4.056	26.123	13.4	30.179	-0.95	
A522993	37.87	0.158	27.69	0.09	< 0.01	< 0.01	0.02	0.02	1.09	0.020	1.37	7.13	98.74	30.2	3.719	26.688	12.3	30.407	-0.61	
A522994	46.58	0.268	22.83	0.20	< 0.01	0.01	0.03	0.03	1.68	0.021	1.23	5.59	99.07	30.2	3.342	26.747	11.1	30.088	0.45	
A522995	51.80	0.268	20.31	0.21	< 0.01	0.03	0.03	0.02	1.62	0.026	1.47	4.28	99.37	30.1	2.885	27.162	9.6	30.046	0.17	
A522996	42.74	0.253	25.10	0.28	< 0.01	< 0.01	0.03	0.02	1.96	0.026	2.47	5.33	98.62	30.1	2.083	28.517	6.9	30.600	-1.69	
A522997	49.93	0.316	20.27	0.62	< 0.01	< 0.01	0.03	0.01	3.08	0.035	3.24	2.24	97.65	30.2	0.981	29.601	3.2	30.582	-1.14	
A522998	44.75	0.163	21.52	0.19	2.56	0.12	0.03	0.03	1.35	0.022	1.98	6.70	98.89	30.1	2.899	27.551	10.2	30.574	-0.76	
A522999	57.06	0.170	17.60	< 0.01	< 0.01	0.02	0.04	< 0.01	1.23	0.032	2.11	2.85	97.88	30.1	2.295	28.213	7.6	30.508	-1.30	
A523000	0.51	0.006	0.02	0.02	< 0.01	0.07	0.04	0.01	0.01	< 0.003	< 0.003	0.35	99.76	30.2	0.048	30.080	0.2	30.128	0.14	
A522960 B	0.59	0.006	< 0.01	0.03	< 0.01	0.09	0.05	0.01	< 0.01	< 0.003	< 0.003	0.15	99.38	45.3	0.125	45.014	0.3	45.139	0.36	

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.01	0.01	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
NIST 694 Meas	11.54	1.92	0.74	0.013	0.35	43.46	0.88	0.57	0.119	30.27									1675					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
DNC-1 Meas	47.04	18.59	9.85	0.147	10.01	11.26	1.91	0.23	0.483	0.05			106	142	16	31	37		156					
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148.0					
GBW 07113 Meas	71.31	12.76	3.20	0.140	0.13	0.58	2.40	5.34	0.276	0.03			496	39	45	5	424	4	< 5					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
MICA-FE Meas																						34.42	19.44	25.64
MICA-FE Cert																						34.4	19.5	25.6
MICA-FE Meas																						34.30	19.37	25.81
MICA-FE Cert																						34.4	19.5	25.6
CHR-BKG Meas																						15.20	12.84	13.75
CHR-BKG Cert																						15.27	12.91	13.87
IF-G Meas																						41.22	0.15	55.83
IF-G Cert																						41.2	0.150	55.8
IF-G Meas																						41.22	0.15	55.83
IF-G Cert																						41.2	0.150	55.8
LKSD-4 Meas																								
LKSD-4 Cert																								
BE-N Meas																						38.19	10.10	
BE-N Cert																						38.2	10.1	
BE-N Meas																						38.25	10.00	
BE-N Cert																						38.2	10.1	
BaSO4 Meas																								
BaSO4 Cert																								
W-2a Meas	52.18	15.12	10.69	0.165	6.23	10.91	2.20	0.63	1.073	0.12			174	192	19	35	96	< 1	275					
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262					
OREAS 13P Meas																				0.225				
OREAS 13P Cert																				0.226				
OREAS 14P Meas																								
OREAS 14P Cert																								
OREAS 14P Meas																								
OREAS 14P Cert																								
SY-4 Meas	50.03	20.61	6.20	0.107	0.51	7.95	6.99	1.69	0.286	0.11			350	1207	117	< 1	521	3	< 5					
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0					
Oreas 73a (Fusion) Meas																						36.38	2.36	
Oreas 73a (Fusion) Cert																						36.4	2.38	
Oreas 74a (Fusion) Meas																						32.49	2.25	
Oreas 74a (Fusion) Cert																						32.4	2.21	
Oreas 75a (Fusion) Meas																						27.20	1.88	
Oreas 75a (Fusion) Cert																						27.3	1.99	
Oreas 75a (Fusion) Meas																						27.50	2.00	
Oreas 75a (Fusion) Cert																						27.3	1.99	
BIR-1a Meas	48.03	15.95	11.43	0.172	9.62	13.46	1.80	0.02	0.982	0.02			7	108	14	44	16	< 1	336					
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310					
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
A521260 Orig																								
A521260 Dup																								
A521265 Orig	37.77	1.31	8.20	0.127	37.89	1.02	< 0.01	< 0.01	0.016	< 0.01	11.63	97.98	< 2	< 2	< 1	11	14	< 1	46	0.213	0.202			

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.01	0.01	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
A521265 Dup	38.71	1.34	8.32	0.131	38.63	1.03	< 0.01	< 0.01	0.016	< 0.01	11.63	99.82	< 2	< 2	< 1	11	2	< 1	49	0.212	0.206			
A521265 Orig	37.77	1.31	8.20	0.127	37.89	1.02	< 0.01	< 0.01	0.016	< 0.01	11.63	97.98	< 2	< 2	< 1	11	14	< 1	46					
A521265 Dup	38.71	1.34	8.32	0.131	38.63	1.03	< 0.01	< 0.01	0.016	< 0.01	11.63	99.82	< 2	< 2	< 1	11	2	< 1	49					
A521278 Orig																						14.63	0.37	59.17
A521278 Split																						13.59	0.37	61.28
A521280 Orig																								
A521280 Dup																								
A521281 Orig																						21.38	0.70	47.33
A521281 Dup																						20.86	0.67	47.60
A521282 Orig	37.79	1.34	8.11	0.105	38.71	1.01	< 0.01	< 0.01	0.015	< 0.01	12.43	99.52	< 2	< 2	< 1	11	2	< 1	49	0.190	0.210			
A521282 Dup	37.51	1.33	8.15	0.105	39.21	1.01	< 0.01	< 0.01	0.015	< 0.01	12.43	99.76	< 2	< 2	< 1	11	< 2	< 1	48	0.180	0.211			
A521282 Orig	37.79	1.34	8.11	0.105	38.71	1.01	< 0.01	< 0.01	0.015	< 0.01	12.43	99.52	< 2	< 2	< 1	11	2	< 1	49					
A521282 Dup	37.51	1.33	8.15	0.105	39.21	1.01	< 0.01	< 0.01	0.015	< 0.01	12.43	99.76	< 2	< 2	< 1	11	< 2	< 1	48					
A521290 Orig																								
A521290 Dup																								
A522901 Orig	37.84	0.67	7.40	0.112	39.33	0.36	< 0.01	< 0.01	0.005	0.03	13.35	99.11	< 2	< 2	< 1	11	2	< 1	34	0.199	0.217			
A522901 Dup	38.15	0.68	7.61	0.114	40.48	0.36	< 0.01	< 0.01	0.004	0.01	13.35	100.8	< 2	< 2	< 1	11	< 2	< 1	35	0.226	0.222			
A522901 Orig	37.84	0.67	7.40	0.112	39.33	0.36	< 0.01	< 0.01	0.005	0.03	13.35	99.11	< 2	< 2	< 1	11	2	< 1	34					
A522901 Dup	38.15	0.68	7.61	0.114	40.48	0.36	< 0.01	< 0.01	0.004	0.01	13.35	100.8	< 2	< 2	< 1	11	< 2	< 1	35					
A522902 Orig																								
A522902 Dup																								
A522913 Orig																								
A522913 Dup																								
A522916 Orig	38.67	0.70	9.21	0.139	39.23	1.37	< 0.01	< 0.01	0.019	0.01	11.33	100.7	< 2	< 2	< 1	11	3	< 1	35	0.203	0.208			
A522916 Dup	38.13	0.70	7.62	0.138	38.96	1.34	< 0.01	< 0.01	0.020	0.01	11.33	98.26	< 2	< 2	< 1	10	8	< 1	34	0.165	0.209			
A522916 Orig	38.67	0.70	9.21	0.139	39.23	1.37	< 0.01	< 0.01	0.019	0.01	11.33	100.7	< 2	< 2	< 1	11	3	< 1	35					
A522916 Dup	38.14	0.70	7.70	0.137	39.35	1.30	< 0.01	< 0.01	0.019	0.02	11.33	98.69	< 2	< 2	< 1	10	13	< 1	31					
A522920 Orig	99.46	0.31	0.57	0.006	0.07	0.02	0.02	0.05	0.032	< 0.01	0.09	100.6	29	4	1	< 1	66	< 1	< 5	< 0.010	< 0.010			
A522920 Split	98.29	0.31	0.56	0.006	0.06	0.02	0.01	0.05	0.031	< 0.01	0.23	99.56	31	3	2	< 1	54	< 1	< 5	< 0.010	< 0.010			
A522924 Orig																								
A522924 Dup																								
A522927 Orig																						15.34	0.54	57.80
A522927 Dup																						16.53	0.60	57.57
A522930 Orig																						19.70	0.82	49.65
A522930 Split																						17.25	0.57	56.29
A522933 Orig	38.88	1.37	8.41	0.105	38.46	0.86	0.01	< 0.01	0.014	< 0.01	11.71	99.84	< 2	< 2	< 1	11	2	< 1	50	0.181	0.211			
A522933 Dup	38.62	1.34	8.39	0.104	38.43	0.87	0.01	< 0.01	0.014	< 0.01	11.71	99.50	< 2	< 2	< 1	11	< 2	< 1	50	0.191	0.203			
A522933 Orig	38.88	1.37	8.41	0.105	38.46	0.86	0.01	< 0.01	0.014	< 0.01	11.71	99.84	< 2	< 2	< 1	11	2	< 1	50					
A522933 Dup	38.62	1.34	8.39	0.104	38.43	0.87	0.01	< 0.01	0.014	< 0.01	11.71	99.50	< 2	< 2	< 1	11	< 2	< 1	50					
A522934 Orig																								
A522934 Dup																								
A522948 Orig	38.99	1.07	8.74	0.165	38.90	1.69	0.01	< 0.01	0.013	< 0.01	11.06	100.6	< 2	< 2	< 1	12	< 2	< 1	48	0.192	0.217	21.51	0.65	44.87
A522948 Split	39.16	1.10	8.61	0.163	37.66	1.59	< 0.01	< 0.01	0.013	< 0.01	11.20	99.50	< 2	< 2	< 1	12	< 2	< 1	48	0.181	0.230	20.19	0.61	47.09
A522950 Orig	38.81	1.04	8.91	0.166	39.84	0.89	0.01	< 0.01	0.012	0.03	11.24	100.9	< 2	< 2	< 1	12	4	< 1	44	0.207	0.188			
A522950 Dup	37.99	1.02	8.71	0.162	39.20	0.87	< 0.01	< 0.01	0.012	< 0.01	11.24	99.23	< 2	< 2	< 1	12	2	< 1	43	0.202	0.182			
A522950 Dup	37.99	1.02	8.71	0.162	39.20	0.87	< 0.01	< 0.01	0.012	< 0.01	11.24	99.23	< 2	< 2	< 1	12	2	< 1	43					
A522954 Orig																								
A522954 Dup																								
A522965 Orig	38.21	1.20	6.66	0.075	38.73	0.37	0.02	< 0.01	0.008	< 0.01	13.13	98.40	< 2	< 2	< 1	9	5	< 1	38	0.176	0.220			
A522965 Dup	39.52	1.24	7.17	0.076	38.98	0.38	0.02	< 0.01	0.008	0.01	13.13	100.5	< 2	< 2	< 1	9	3	< 1	40	0.197	0.220			
A522972 Orig																						14.43	0.39	61.18
A522972 Dup																						15.39	0.41	61.20
A522978 Orig	38.45	0.95	7.55	0.091	38.98	0.57	< 0.01	< 0.01	0.007	< 0.01	12.48	99.08	< 2	< 2	< 1	9	3	< 1	35	0.215	0.245	18.49	0.29	52.17
A522978 Split	37.98	0.98	7.23	0.093	38.55	0.56	< 0.01	< 0.01	0.007	< 0.01	12.30	97.69	< 2	< 2	< 1	10	2	< 1	37	0.211	0.236	17.83	0.25	52.86
A522979 Orig	37.70	0.85	8.13	0.137	38.65	0.86	< 0.01	< 0.01	0.010	< 0.01	11.38	97.73	< 2	< 2	< 1	8	3	< 1	33	0.188	0.257	19.90	0.20	50.79
A522979 Split	38.05	0.82	8.01	0.136	38.76	0.88	< 0.01	< 0.01	0.010	< 0.01	11.27	97.93	< 2	< 2	< 1	9	4	< 1	32	0.206	0.226	20.67	0.25	50.24
A522982 Orig	38.65	0.66	8.30	0.142	40.79	0.53	< 0.01	< 0.01	0.008	< 0.01	10.69	99.77	< 2	< 2	< 1	8	3	< 1	25	0.211	0.217			

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.01	0.01	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
A522982 Dup	38.49	0.66	8.31	0.142	40.84	0.53	< 0.01	< 0.01	0.008	0.02	10.69	99.71	< 2	< 2	< 1	8	4	< 1	26	0.232	0.219			
A522999 Orig	38.96	1.25	8.59	0.110	37.98	1.41	< 0.01	< 0.01	0.015	0.02	12.15	100.5	< 2	< 2	< 1	13	3	< 1	45	0.207	0.234			
A522999 Dup	38.16	1.23	8.52	0.108	37.46	1.40	< 0.01	< 0.01	0.015	0.02	12.15	99.08	< 2	< 2	< 1	12	3	< 1	45	0.193	0.230			
A523000 Orig	99.89	0.30	0.53	0.005	0.03	0.03	0.01	0.04	0.031	< 0.01	0.12	101.0	28	3	2	< 1	68	< 1	< 5	< 0.010	< 0.010			
A523000 Split	99.23	0.30	0.52	0.005	0.04	0.02	0.01	0.05	0.029	< 0.01	0.13	100.3	28	3	1	< 1	59	< 1	< 5	< 0.010	< 0.010			
A523000 Orig	99.87	0.32	0.41	0.004	0.06	0.08	0.03	0.05	0.030	< 0.01	0.12	101.0	24	6	1	< 1	48	< 1	5			99.87	0.32	0.41
A523000 Dup	100.00	0.31	0.40	0.004	0.06	0.07	0.04	0.05	0.029	< 0.01	0.12	> 101.0	24	6	1	< 1	48	< 1	6			100.00	0.31	0.40
A523000 Orig	99.89	0.30	0.53	0.005	0.03	0.03	0.01	0.04	0.031	< 0.01	0.12	101.0	28	3	2	< 1	68	< 1	< 5					
A523000 Split	99.23	0.30	0.52	0.005	0.04	0.02	0.01	0.05	0.029	< 0.01	0.13	100.3	28	3	1	< 1	59	< 1	< 5	< 0.010	< 0.010			
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
NIST 694 Meas													
NIST 694 Cert													
DNC-1 Meas													
DNC-1 Cert													
GBW 07113 Meas													
GBW 07113 Cert													
MICA-FE Meas	0.350	4.56	0.51	0.51	8.80	2.50	0.42	0.02	0.026	0.004			
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350			
MICA-FE Meas	0.354	4.54	0.51	0.51	8.78	2.52	0.42	0.02	0.026	0.004			
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350			
CHR-BKG Meas	0.136	23.15	0.06			0.14		19.7		0.199			
CHR-BKG Cert	0.14	23.47	0.07			0.14		20		0.201			
IF-G Meas	0.041	1.89	1.53	0.05	0.02	0.03	0.06	0.01		< 0.003			
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225			
IF-G Meas	0.041	1.89	1.53	0.05	0.02	0.03	0.06	0.01		< 0.003			
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225			
LKSD-4 Meas													0.93
LKSD-4 Cert													0.990
BE-N Meas	0.200	13.21	13.90	3.12	1.39	2.63	1.08	0.04	0.042	0.027			
BE-N Cert	0.200	13.1	13.9	3.18	1.39	2.61	1.05	0.0360	0.042	0.0267			
BE-N Meas	0.202	13.20	13.94	3.12	1.39	2.68	1.08	0.04	0.042	0.027			
BE-N Cert	0.200	13.1	13.9	3.18	1.39	2.61	1.05	0.0360	0.042	0.0267			
BaSO4 Meas													13.6
BaSO4 Cert													14.0
W-2a Meas													
W-2a Cert													
OREAS 13P Meas										0.224			
OREAS 13P Cert										0.226			
OREAS 14P Meas										2.11			
OREAS 14P Cert										2.10			
OREAS 14P Meas										2.10			
OREAS 14P Cert										2.10			
SY-4 Meas													
SY-4 Cert													
Oreas 73a (Fusion) Meas		32.52						0.20		1.44			
Oreas 73a (Fusion) Cert		32.5						0.20		1.44			
Oreas 74a (Fusion) Meas		27.88						0.19		3.24			
Oreas 74a (Fusion) Cert		27.9						0.18		3.24			
Oreas 75a (Fusion) Meas		22.33						0.16		5.25			
Oreas 75a (Fusion) Cert		22.3						0.16		5.25			
Oreas 75a (Fusion) Meas		22.51						0.15		5.25			
Oreas 75a (Fusion) Cert		22.3						0.16		5.25			
BIR-1a Meas													
BIR-1a Cert													
OREAS 13b (4-Acid) Meas													1.19
OREAS 13b (4-Acid) Cert													1.20
OREAS 13b (4-Acid) Meas													1.11
OREAS 13b (4-Acid) Cert													1.20
A521260 Orig													0.08
A521260 Dup													0.08
A521265 Orig													

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
A521265 Dup													
A521265 Orig													
A521265 Dup													
A521278 Orig	0.239	15.91	0.55	< 0.01	0.01	0.04	< 0.01	1.85	0.027	3.60	1.43	97.77	
A521278 Split	0.235	14.73	< 0.01	< 0.01	0.02	0.04	< 0.01	1.90	0.031	3.80	1.14	97.11	0.08
A521280 Orig													0.09
A521280 Dup													0.08
A521281 Orig	0.158	20.75	1.04	< 0.01	0.02	0.04	< 0.01	1.28	0.026	1.88	4.80	99.37	
A521281 Dup	0.158	20.41	1.36	< 0.01	0.02	0.04	< 0.01	1.27	0.023	1.87	4.80	99.05	
A521282 Orig													
A521282 Dup													
A521282 Orig													
A521282 Dup													
A521290 Orig													0.18
A521290 Dup													0.19
A522901 Orig													
A522901 Dup													
A522901 Orig													
A522901 Dup													
A522902 Orig													0.04
A522902 Dup													0.05
A522913 Orig													0.07
A522913 Dup													0.07
A522916 Orig													
A522916 Dup													
A522916 Orig													
A522916 Dup													
A522920 Orig													
A522920 Split													
A522924 Orig													0.13
A522924 Dup													0.13
A522927 Orig	0.140	17.22	< 0.01	< 0.01	0.01	0.05	0.01	1.21	0.021	1.87	3.61	97.82	
A522927 Dup	0.140	16.97	< 0.01	< 0.01	0.02	0.05	0.01	1.18	0.021	1.50	3.61	98.16	
A522930 Orig	0.156	20.25	< 0.01	< 0.01	0.02	0.04	0.01	1.25	0.022	1.46	4.57	97.91	
A522930 Split	0.157	17.50	< 0.01	< 0.01	0.02	0.03	0.01	1.36	0.024	1.91	3.43	98.56	
A522933 Orig													
A522933 Dup													
A522933 Orig													
A522933 Dup													
A522934 Orig													0.16
A522934 Dup													0.17
A522948 Orig	0.254	22.16	< 0.01	< 0.01	0.02	0.04	0.01	1.71	0.022	2.13	4.38	97.71	0.12
A522948 Split	0.266	20.85	< 0.01	< 0.01	0.02	0.04	0.01	1.85	0.027	2.65	4.35	97.96	0.10
A522950 Orig													
A522950 Dup													
A522950 Dup													
A522954 Orig													0.08
A522954 Dup													0.08
A522965 Orig													0.02
A522965 Dup													0.03
A522972 Orig	0.179	15.35	< 0.01	< 0.01	0.01	0.04	0.01	1.59	0.030	1.73	2.66	97.54	
A522972 Dup	0.184	15.19	< 0.01	< 0.01	0.02	0.03	< 0.01	1.59	0.030	1.68	2.66	98.35	
A522978 Orig	0.200	19.44	0.16	< 0.01	0.01	0.04	0.02	1.78	0.028	2.54	3.63	98.70	
A522978 Split	0.200	19.23	0.16	< 0.01	0.03	0.03	< 0.01	1.70	0.023	2.40	3.02	97.71	
A522979 Orig	0.260	20.06	0.35	< 0.01	0.03	0.04	0.01	1.89	0.026	2.15	3.63	99.27	
A522979 Split	0.264	20.25	< 0.01	< 0.01	0.02	0.04	< 0.01	1.78	0.027	1.96	3.63	99.12	
A522982 Orig													

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
A522982 Dup													
A522999 Orig													
A522999 Dup													
A523000 Orig													
A523000 Split													
A523000 Orig	0.004	0.06	0.08	0.03	0.05	0.03	< 0.01	< 0.01	< 0.003	0.008		100.8	
A523000 Dup	0.004	0.06	0.07	0.04	0.05	0.03	< 0.01	< 0.01	< 0.003	0.008		101.0	
A523000 Orig													
A523000 Split													
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	
Method Blank													< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	

Quality Analysis ... *Innovative Technologies*

Date Submitted: 06-Sep-11
Invoice No.: A11-9727
Invoice Date: 04-Dec-11
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road
Suite 2
Sudbury Ontario P3C 4Y9
Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

270 Pulp samples and 246 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT **A11-9727**

Code 4B (1-10) Major Elements Fusion ICP(WRA)
Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (1-10) Whole Rock Analysis-XRF
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID
Code Weight Report Received and Pulp Weights

Notes:
Total includes all elements in % oxide to the left of total.

Samples missing data were insufficient for analysis.

CERTIFIED BY :

Eric Hoffman Ph.D.
President/General Manager

SCC Accredited LAB 265
LAB 266 Accrédité CCN

ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1.905.648.9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID(Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
523654	37.57	1.61	8.82	0.115	36.51	1.40	0.02	< 0.01	0.021	0.02	12.39	98.49	< 2	< 2	< 1	11	3	< 1	53	0.195	0.230	523654	21.73	1.02
523655	37.55	1.53	8.36	0.119	36.78	1.47	0.02	< 0.01	0.020	0.03	12.33	98.19	< 2	< 2	1	11	2	< 1	49	0.200	0.232	523655	24.67	1.02
523656	38.25	1.79	7.07	0.057	37.29	0.60	0.02	< 0.01	0.018	0.02	12.50	97.61	< 2	< 2	< 1	10	2	< 1	48	0.189	0.229	523656	24.55	1.23
523657	39.32	1.54	8.05	0.147	37.19	1.93	0.02	< 0.01	0.016	< 0.01	11.10	99.32	< 2	< 2	1	12	7	< 1	48	0.186	0.218	523657	19.96	1.49
523658	38.70	1.78	7.89	0.117	36.60	1.93	0.02	< 0.01	0.019	0.01	11.11	98.19	< 2	< 2	< 1	11	3	< 1	51	0.191	0.221	523658	19.54	1.58
523659	38.70	1.52	7.99	0.128	36.55	2.12	0.02	< 0.01	0.020	0.02	12.25	99.32	< 2	< 2	< 1	11	3	< 1	53	0.169	0.216	523659	20.82	1.10
523660-1	50.19	16.44	11.66	0.165	4.92	7.82	2.33	2.85	1.176	0.41	0.94	98.91	749	535	20	25	83	2	343	0.219	0.826	523660	49.08	16.08
523660-2																						523660	36.20	2.49
523660-3																						523660	18.93	0.58
523661	38.09	1.83	8.14	0.101	37.21	1.21	< 0.01	< 0.01	0.019	0.01	12.75	99.37	< 2	< 2	1	12	3	< 1	50	0.199	0.231	523661	22.46	1.28
523662	38.33	1.84	8.13	0.105	36.57	1.97	0.02	< 0.01	0.022	0.01	13.17	100.2	< 2	2	1	11	2	< 1	57	0.191	0.221	523662	21.54	1.19
523663	39.29	1.61	8.20	0.132	37.24	2.08	0.04	< 0.01	0.020	0.02	11.55	100.2	< 2	< 2	1	12	< 2	< 1	53	0.165	0.225	523663	21.80	1.31
523664	37.69	1.54	7.18	0.098	37.19	1.11	< 0.01	< 0.01	0.019	0.02	14.42	99.27	< 2	3	< 1	11	9	< 1	46	0.193	0.222	523664	22.68	1.00
523665	38.55	1.87	8.53	0.090	37.01	0.68	0.01	< 0.01	0.019	0.02	13.34	100.1	< 2	< 2	1	10	< 2	< 1	50	0.210	0.225	523665	23.09	1.04
523666	39.32	1.72	8.33	0.107	36.69	1.90	0.02	< 0.01	0.022	0.01	11.98	100.1	< 2	< 2	< 1	11	2	< 1	51	0.180	0.222	523666	20.18	0.92
523667	39.27	1.43	7.15	0.127	38.45	0.59	< 0.01	< 0.01	0.017	0.01	12.29	99.34	< 2	< 2	< 1	9	5	< 1	37	0.183	0.213	523667	26.56	1.01
523668	38.90	1.88	7.48	0.076	37.25	1.20	0.02	< 0.01	0.020	0.02	13.08	99.93	< 2	< 2	< 1	13	3	< 1	51	0.196	0.212	523668	20.12	0.38
523669	36.98	1.52	8.24	0.122	36.08	1.16	0.02	< 0.01	0.019	0.03	13.45	97.62	< 2	3	< 1	10	4	< 1	46	0.187	0.216	523669	18.62	0.66
523670	37.98	1.65	7.36	0.094	37.10	1.51	< 0.01	< 0.01	0.019	0.02	14.02	99.77	< 2	3	< 1	11	< 2	< 1	48	0.195	0.210	523670	27.33	1.01
523671	37.84	1.84	7.58	0.071	37.38	1.33	0.01	< 0.01	0.020	0.03	13.62	99.73	< 2	2	1	10	< 2	< 1	47	0.182	0.209	523671	22.06	0.88
523672	38.10	1.69	7.65	0.088	38.22	0.95	0.02	< 0.01	0.015	0.02	13.44	100.2	< 2	< 2	< 1	10	2	< 1	45	0.187	0.213	523672	23.69	0.92
523673	36.49	1.80	7.74	0.079	35.67	2.55	0.01	< 0.01	0.019	0.02	14.50	98.88	< 2	3	1	10	< 2	< 1	53	0.189	0.200	523673	21.27	1.02
523674	37.69	1.67	8.07	0.099	36.97	0.97	0.03	0.01	0.017	0.02	13.09	98.64	< 2	3	< 1	11	< 2	< 1	49	0.204	0.221	523674	26.00	1.11
523675	38.39	1.73	7.98	0.100	38.01	0.78	< 0.01	< 0.01	0.017	0.01	13.23	100.3	2	3	< 1	12	< 2	< 1	51	0.201	0.223	523675	26.95	1.17
523676	37.59	1.60	8.43	0.106	36.72	1.56	0.02	< 0.01	0.019	< 0.01	14.21	100.3	< 2	3	< 1	12	4	< 1	49	0.215	0.219	523676	24.94	1.15
523677	39.91	1.74	8.31	0.131	35.21	3.65	0.05	< 0.01	0.024	0.01	10.72	99.77	< 2	< 2	1	14	3	< 1	56	0.186	0.239	523677	21.96	1.17
523678	39.15	1.65	8.15	0.117	37.84	1.43	0.02	< 0.01	0.019	< 0.01	12.25	100.6	< 2	< 2	< 1	12	< 2	< 1	52	0.173	0.227	523678	19.61	1.19
523679	39.64	1.81	7.55	0.094	37.01	1.93	0.02	< 0.01	0.020	0.02	11.51	99.62	2	< 2	< 1	13	< 2	< 1	54	0.215	0.237	523679	26.67	1.41
523680	97.56	0.30	0.94	0.009	0.08	0.02	0.02	0.04	0.029	0.02	-0.01	99.02	23	4	3	< 1	48	< 1	< 5	< 0.010	< 0.010	523680	97.50	0.13
523681	37.65	1.37	7.73	0.095	37.74	0.99	0.01	< 0.01	0.013	0.03	13.77	99.40	< 2	< 2	< 1	10	2	< 1	41	0.223	0.229	523681	24.20	0.93
523682	36.99	1.59	7.69	0.063	36.89	2.07	0.01	< 0.01	0.016	0.02	14.34	99.69	< 2	< 2	< 1	12	2	< 1	46	0.197	0.218	523682	22.62	1.02
523683	37.60	1.20	7.37	0.127	37.04	1.83	0.02	< 0.01	0.018	< 0.01	12.43	97.66	< 2	< 2	1	10	< 2	< 1	42	0.185	0.213	523683	24.40	1.02
523684	38.16	1.43	8.07	0.143	37.07	2.34	0.02	< 0.01	0.018	< 0.01	12.85	100.1	< 2	< 2	< 1	11	2	< 1	43	0.204	0.217	523684	26.22	1.00
523685	37.85	1.79	7.19	0.098	37.27	1.56	0.02	< 0.01	0.018	0.02	13.69	99.50	< 2	< 2	< 1	11	3	< 1	50	0.190	0.218	523685	24.79	1.06
523686	23.10	1.26	33.74	0.185	23.08	1.03	0.03	0.05	0.035	0.01	11.26	93.79	< 2	< 2	< 1	5	4	< 1	105	2.605	1.261	523686	23.86	0.87
523687	38.59	1.31	8.76	0.164	37.23	2.16	0.03	< 0.01	0.020	0.01	10.75	99.03	< 2	< 2	< 1	12	2	< 1	44	0.195	0.218	523687	22.64	1.00
523688	36.94	1.29	8.23	0.099	37.71	0.98	0.02	< 0.01	0.014	0.02	13.59	98.91	< 2	< 2	< 1	9	2	< 1	43	0.202	0.232	523688	22.89	0.78
523689	37.03	0.89	8.21	0.136	38.44	0.31	0.03	0.01	0.013	0.01	13.63	98.73	< 2	< 2	< 1	7	3	< 1	29	0.214	0.262	523689	16.76	0.56
523690	39.93	1.06	7.33	0.119	38.81	0.08	0.02	< 0.01	0.007	0.01	12.36	99.73	< 2	< 2	< 1	6	2	< 1	17	0.212	0.204	523690	19.34	1.01
523691	37.71	1.52	8.69	0.103	37.28	1.07	0.02	< 0.01	0.017	0.01	13.78	100.2	< 2	2	< 1	10	< 2	< 1	44	0.206	0.231	523691	19.10	0.85
523692	37.47	1.08	8.59	0.140	37.80	0.69	0.02	< 0.01	0.019	0.02	13.86	99.69	< 2	2	< 1	9	7	< 1	36	0.212	0.227	523692	24.52	0.75
523693	37.94	1.37	8.62	0.148	37.31	1.83	0.02	< 0.01	0.018	< 0.01	12.50	99.77	< 2	< 2	< 1	10	2	< 1	49	0.200	0.214	523693	22.81	0.82
523694	38.40	1.61	8.18	0.109	37.58	1.60	0.02	< 0.01	0.018	< 0.01	13.06	100.6	< 2	4	< 1	11	9	< 1	52	0.200	0.220	523694	26.68	0.98
523695	37.93	1.53	8.08	0.112	37.15	1.53	0.04	0.01	0.017	< 0.01	12.77	99.17	< 2	4	< 1	11	6	< 1	49	0.193	0.222	523695	22.53	0.68
523696	37.74	1.18	8.08	0.118	38.14	1.33	0.03	0.01	0.015	< 0.01	13.28	99.94	< 2	2	< 1	9	3	< 1	37	0.206	0.215	523696	25.35	0.54
523697	37.07	0.98	7.32	0.076	39.88	0.06	0.01	< 0.01	0.007	0.01	13.92	99.35	< 2	< 2	< 1	7	2	< 1	29	0.222	0.223	523697	26.54	0.53
523698	37.77	0.86	7.79	0.112	40.45	0.30	0.01	< 0.01	0.008	0.02	13.59	100.9	< 2	< 2	< 1	9	2	< 1	30	0.199	0.215	523698	24.20	0.36
523699	36.99	0.88	8.52	0.088	38.77	0.49	0.01	< 0.01	0.006	< 0.01	13.75	99.51	< 2	< 2	< 1	9	< 2	< 1	35	0.221	0.226	523699	22.62	0.33
523700-1	49.64	15.86	11.80	0.165	4.89	7.84	2.30	2.81	1.189	0.46	0.88	97.83	729	529	20	26	108	2	342	0.224	0.829	523700	49.04	15.77
523700-2																						523700	36.12	2.51
523700-3																						523700	18.97	0.61

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID(Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
523701	36.95	0.78	8.04	0.117	38.85	0.38	0.03	0.01	0.005	< 0.01	13.45	98.62	< 2	< 2	< 1	11	4	< 1	31	0.226	0.229	523701	18.24	0.39
523702	36.35	0.60	7.35	0.154	37.62	1.35	0.02	< 0.01	0.005	< 0.01	14.21	97.66	< 2	< 2	< 1	9	3	< 1	27	0.198	0.219	523702	25.34	0.43
523703	36.80	0.98	9.75	0.072	36.94	0.43	0.02	< 0.01	0.007	< 0.01	13.44	98.45	< 2	< 2	< 1	9	5	< 1	38	0.232	0.232	523703	17.18	0.41
523704	38.07	1.09	7.28	0.079	38.46	0.55	0.04	0.01	0.007	< 0.01	13.67	99.25	< 2	< 2	< 1	9	3	< 1	31	0.240	0.227	523704	22.19	0.58
523705	37.67	0.83	7.75	0.110	39.11	0.75	0.01	< 0.01	0.007	< 0.01	13.32	99.57	< 2	< 2	< 1	9	3	< 1	28	0.203	0.233	523705	21.51	0.53
523706	37.56	0.79	8.14	0.112	39.16	0.59	0.02	< 0.01	0.007	< 0.01	14.10	100.5	< 2	< 2	< 1	8	10	< 1	25	0.238	0.243	523706	20.92	0.38
523707	37.84	0.90	7.82	0.087	38.82	0.31	0.02	< 0.01	0.007	< 0.01	13.66	99.47	< 2	< 2	< 1	8	6	< 1	27	0.232	0.223	523707	23.15	0.45
523708	37.86	0.88	8.19	0.102	38.46	0.88	0.01	< 0.01	0.005	< 0.01	12.92	99.32	< 2	< 2	< 1	11	4	< 1	38	0.230	0.221	523708	22.64	0.52
523709	38.04	0.80	8.43	0.136	38.76	1.28	0.02	< 0.01	0.005	< 0.01	12.05	99.52	< 2	< 2	< 1	10	4	< 1	36	0.216	0.242	523709	23.63	0.44
523710	37.53	0.89	8.11	0.091	39.01	0.31	0.02	< 0.01	0.006	< 0.01	13.82	99.81	< 2	< 2	< 1	10	3	< 1	32	0.240	0.238	523710	23.73	0.50
523711	37.77	0.86	7.13	0.107	38.61	0.76	0.02	< 0.01	0.005	< 0.01	13.17	98.43	< 2	< 2	< 1	10	3	< 1	34	0.199	0.217	523711	22.29	0.40
523712	38.44	0.87	7.89	0.129	38.92	1.52	0.02	< 0.01	0.005	< 0.01	12.33	100.1	< 2	< 2	< 1	11	6	< 1	38	0.213	0.245	523712	16.65	0.31
523713	37.86	0.63	8.38	0.171	38.01	1.76	0.01	< 0.01	0.004	< 0.01	12.63	99.47	< 2	< 2	< 1	10	3	< 1	37	0.217	0.220	523713	24.08	0.30
523714	36.89	0.84	8.74	0.072	38.56	0.20	0.02	< 0.01	0.005	< 0.01	13.60	98.94	< 2	< 2	< 1	12	3	< 1	35	0.242	0.228	523714	20.51	0.30
523715	37.15	0.80	9.38	0.088	38.26	0.38	0.03	< 0.01	0.005	< 0.01	13.26	99.35	< 2	< 2	< 1	11	3	< 1	34	0.235	0.227	523715	16.73	0.30
523716	36.83	0.60	8.38	0.152	38.51	0.76	0.02	< 0.01	0.004	< 0.01	12.26	97.51	< 2	< 2	< 1	9	5	< 1	25	0.240	0.225	523716	20.58	0.67
523717	37.71	0.87	7.56	0.080	39.58	0.31	0.03	0.01	0.005	< 0.01	13.82	100.00	< 2	< 2	< 1	9	6	< 1	33	0.242	0.233	523717	19.27	0.35
523718	37.53	0.72	8.16	0.130	38.77	0.83	0.03	< 0.01	0.005	< 0.01	13.37	99.55	< 2	< 2	< 1	11	3	< 1	29	0.235	0.229	523718	15.11	0.32
523719	37.71	0.55	8.55	0.168	39.86	1.46	0.03	< 0.01	0.004	< 0.01	12.39	100.7	< 2	< 2	< 1	9	4	< 1	29	0.236	0.239	523719	16.30	0.65
523720	99.13	0.29	0.49	0.006	0.04	0.02	0.02	0.05	0.032	< 0.01	0.16	100.2	27	4	1	< 1	57	< 1	< 5	< 0.010	< 0.010	523720	98.54	0.22
523721	38.04	0.92	7.40	0.068	39.10	0.50	0.01	< 0.01	0.005	< 0.01	13.92	99.97	< 2	< 2	< 1	9	3	< 1	39	0.231	0.238	523721	18.90	0.55
523722	37.78	0.74	8.13	0.113	38.97	1.13	0.02	< 0.01	0.005	< 0.01	13.49	100.4	2	< 2	< 1	10	4	< 1	35	0.252	0.228	523722	15.64	0.40
523723	37.81	0.86	8.06	0.105	39.87	0.48	0.02	< 0.01	0.004	< 0.01	13.20	100.4	< 2	< 2	< 1	10	3	< 1	35	0.239	0.236	523723	17.66	0.51
523724	38.80	1.08	8.56	0.148	38.12	2.10	< 0.01	< 0.01	0.013	< 0.01	11.83	100.7	< 2	< 2	< 1	11	3	< 1	40	0.216	0.222	523724	17.20	0.52
523725	37.80	0.98	8.50	0.148	37.55	1.82	< 0.01	< 0.01	0.013	< 0.01	12.38	99.21	< 2	< 2	< 1	11	7	< 1	39	0.222	0.222	523725	16.62	0.45
523726	36.84	0.88	8.83	0.096	39.76	0.12	0.01	< 0.01	0.009	< 0.01	13.53	100.1	< 2	< 2	< 1	10	11	< 1	33	0.261	0.243	523726	22.21	0.54
523727	37.68	0.88	7.90	0.104	39.58	0.09	0.02	< 0.01	0.007	< 0.01	13.54	99.81	< 2	< 2	< 1	9	3	< 1	35	0.247	0.235	523727	18.72	0.45
523728	36.55	0.85	9.09	0.115	39.13	0.08	0.01	< 0.01	0.013	< 0.01	13.51	99.35	< 2	< 2	< 1	10	4	< 1	36	0.249	0.234	523728	23.13	0.51
523729	38.75	0.79	7.70	0.127	39.95	0.79	0.02	< 0.01	0.005	< 0.01	12.14	100.3	< 2	< 2	< 1	10	4	< 1	29	0.224	0.228	523729	23.49	0.59
523730	38.22	0.45	7.94	0.142	40.81	0.13	0.02	< 0.01	0.004	< 0.01	12.01	99.72	< 2	< 2	< 1	9	4	< 1	20	0.236	0.234	523730	19.20	0.55
523731	38.35	0.64	8.35	0.125	40.54	0.05	0.01	< 0.01	0.014	< 0.01	11.86	99.94	< 2	< 2	< 1	8	4	< 1	24	0.250	0.252	523731	27.12	0.59
523732	37.15	0.59	8.31	0.099	40.14	0.22	0.02	< 0.01	0.005	< 0.01	13.22	99.76	< 2	< 2	< 1	7	3	< 1	24	0.237	0.238	523732	26.31	0.45
523733	38.30	0.60	7.74	0.106	40.48	0.36	< 0.01	< 0.01	0.004	< 0.01	11.63	99.25	< 2	< 2	< 1	8	3	< 1	28	0.238	0.226	523733	24.65	0.71
523734	38.56	0.68	7.64	0.130	39.90	1.07	< 0.01	< 0.01	0.005	0.01	11.18	99.18	< 2	< 2	< 1	9	3	< 1	35	0.230	0.227	523734	24.56	0.44
523735	39.21	0.64	7.93	0.134	39.92	1.18	< 0.01	< 0.01	0.004	< 0.01	10.97	99.99	< 2	< 2	< 1	10	5	< 1	32	0.236	0.216	523735	23.86	0.41
523736	38.52	0.56	8.29	0.139	40.26	0.97	< 0.01	< 0.01	0.005	< 0.01	11.18	99.92	< 2	< 2	< 1	9	4	< 1	28	0.242	0.234	523736	20.16	0.61
523737	37.03	0.65	8.17	0.111	39.01	0.34	0.01	< 0.01	0.004	< 0.01	13.26	98.60	< 2	< 2	< 1	8	3	< 1	30	0.246	0.230	523737	19.33	0.65
523738	38.67	0.85	7.97	0.126	39.62	0.41	0.02	< 0.01	0.009	< 0.01	12.35	100.0	< 2	< 2	< 1	9	4	< 1	31	0.239	0.234	523738	20.05	0.69
523739	45.20	12.00	9.43	0.180	8.87	18.38	0.81	0.04	1.817	0.45	3.19	100.4	61	601	25	21	156	< 1	169	0.031	0.029	523739		
523740-1	48.28	15.69	11.58	0.164	4.99	7.58	2.30	2.77	1.182	0.42	0.86	95.82	713	520	21	26	106	2	340	0.255	0.954	523740	48.94	16.11
523740-2																						523740	36.29	2.45
523740-3																						523740	19.00	0.59
523741	42.39	8.25	8.15	0.121	25.62	3.79	1.02	0.02	0.424	0.10	9.90	99.78	53	104	8	18	45	< 1	101	0.134	0.143	523741		
523742	40.30	0.72	6.88	0.078	35.21	0.99	0.02	< 0.01	0.007	< 0.01	13.63	97.84	6	12	< 1	5	4	< 1	19	0.229	0.218	523742	26.57	0.94
523743	39.22	7.14	8.71	0.121	26.61	6.14	0.03	0.07	0.427	0.09	10.68	99.24	21	314	8	17	36	< 1	123	0.153	0.152	523743	33.02	2.25
523744	39.14	7.29	7.92	0.130	25.63	9.88	< 0.01	< 0.01	0.439	0.08	9.67	100.2	4	30	9	19	35	< 1	128	0.143	0.137	523744	31.82	2.29
523745	37.92	1.02	8.16	0.119	37.71	0.50	< 0.01	< 0.01	0.018	< 0.01	14.01	99.45	3	5	< 1	9	5	< 1	38	0.227	0.215	523745	26.04	0.59
523746	38.50	1.31	8.56	0.104	38.09	0.05	< 0.01	< 0.01	0.016	< 0.01	13.32	99.95	< 2	< 2	< 1	10	4	< 1	42	0.233	0.239	523746	22.99	0.62
523747	38.51	1.35	8.26	0.097	38.85	0.13	0.01	< 0.01	0.014	< 0.01	12.93	100.2	< 2	< 2	< 1	8	3	< 1	37	0.234	0.230	523747	19.37	0.65
523748	38.02	0.90	8.45	0.136	39.78	0.09	0.01	< 0.01	0.011	0.01	13.05	100.5	< 2	< 2	< 1	9	< 2	< 1	33	0.215	0.236	523748	24.52	0.64
523749	35.82	0.44	8.86	0.118	39.67	0.11	0.01	< 0.01	0.004	< 0.01	14.10	99.14	< 2	< 2	< 1	4	< 2	< 1	20	0.195	0.219	523749	23.32	0.24

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID(Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
523750	38.84	1.80	7.99	0.097	36.44	2.03	0.01	< 0.01	0.090	< 0.01	11.95	99.27	< 2	2	2	12	2	< 1	61	0.191	0.201	523750	23.30	1.02
522751	36.91	0.36	7.77	0.137	41.56	0.02	< 0.01	< 0.01	0.003	< 0.01	12.20	98.96	< 2	< 2	< 1	3	< 2	< 1	13	0.230	0.235	522751	13.32	0.61
522752	37.92	1.37	8.26	0.125	37.47	1.29	< 0.01	< 0.01	0.017	0.03	12.94	99.41	< 2	5	< 1	11	< 2	< 1	44	0.199	0.212	522752	26.30	1.03
522753	38.59	1.45	7.79	0.195	35.75	3.26	0.02	< 0.01	0.021	0.02	12.28	99.39	< 2	7	< 1	11	< 2	< 1	50	0.179	0.195	522753	25.24	1.41
522754	38.16	1.71	7.95	0.120	36.32	1.92	0.01	< 0.01	0.021	0.01	13.03	99.25	< 2	9	< 1	11	6	< 1	53	0.185	0.203	522754	26.18	1.16
522755	38.54	1.68	7.68	0.131	36.63	2.18	0.01	< 0.01	0.022	< 0.01	13.07	99.97	< 2	10	< 1	11	2	< 1	53	0.177	0.204	522755	23.40	1.18
522756	37.85	1.62	8.21	0.083	36.92	1.58	< 0.01	< 0.01	0.019	0.02	13.60	99.90	< 2	9	< 1	11	< 2	< 1	49	0.183	0.209	522756	24.44	0.97
522757	37.64	1.41	7.99	0.133	38.26	0.92	< 0.01	< 0.01	0.019	0.02	13.73	100.1	< 2	5	< 1	10	< 2	< 1	43	0.193	0.211	522757	25.59	0.72
522758	36.85	1.34	7.93	0.132	38.31	1.00	< 0.01	< 0.01	0.021	0.01	14.16	99.74	< 2	< 2	< 1	10	< 2	< 1	50	0.183	0.203	522758	21.93	0.68
522759	36.34	0.63	8.14	0.118	40.16	0.14	< 0.01	< 0.01	0.005	< 0.01	14.15	99.71	< 2	< 2	< 1	4	< 2	< 1	18	0.205	0.220	522759	17.39	0.44
522760	97.78	0.30	0.61	0.007	0.04	0.02	0.02	0.05	0.029	< 0.01	0.09	98.94	24	7	< 1	< 1	54	< 1	< 5	< 0.010	< 0.010	522760	98.01	0.38
522761	35.39	0.41	8.08	0.101	39.30	0.19	0.01	< 0.01	0.002	< 0.01	13.98	97.48	< 2	2	< 1	3	< 2	< 1	12	0.237	0.228	522761	15.21	0.27
522762	36.54	0.43	8.06	0.097	40.87	0.09	0.02	< 0.01	0.002	< 0.01	14.67	100.8	< 2	< 2	< 1	4	4	< 1	14	0.136	0.260	522762	15.85	0.35
522763	39.39	0.86	7.10	0.088	36.67	0.10	0.01	< 0.01	0.008	0.02	13.39	97.64	3	3	< 1	6	7	< 1	28	0.204	0.228	522763	19.04	0.68
522764	37.84	1.13	8.25	0.144	36.86	2.14	0.02	< 0.01	0.013	< 0.01	12.87	99.27	< 2	< 2	< 1	10	< 2	< 1	38	0.181	0.203	522764	18.96	1.04
522765	37.70	1.23	7.46	0.156	37.28	2.18	0.01	< 0.01	0.017	0.01	12.37	98.42	< 2	< 2	< 1	10	< 2	< 1	40	0.170	0.198	522765	22.37	1.18
522766	39.59	1.45	7.47	0.168	37.85	2.12	0.01	< 0.01	0.020	< 0.01	10.76	99.43	< 2	< 2	1	12	6	< 1	41	0.200	0.233	522766	24.56	1.25
522767	37.54	1.20	6.91	0.125	38.19	1.47	0.02	< 0.01	0.016	< 0.01	12.78	98.25	< 2	< 2	< 1	11	< 2	< 1	47	0.174	0.209	522767	19.10	0.89
522768	35.79	0.36	8.62	0.139	41.77	0.07	0.02	< 0.01	0.004	< 0.01	12.72	99.49	< 2	< 2	< 1	6	< 2	< 1	16	0.211	0.229	522768	16.48	0.63
522769	36.76	0.81	8.06	0.111	40.84	0.34	< 0.01	< 0.01	0.008	< 0.01	13.33	100.3	< 2	< 2	< 1	7	< 2	< 1	28	0.229	0.219	522769	20.88	0.76
522770	38.21	1.33	7.64	0.120	36.70	1.21	0.01	< 0.01	0.016	0.02	13.49	98.74	< 2	< 2	< 1	11	4	< 1	49	0.189	0.226	522770	20.75	0.95
522771	36.05	0.47	7.06	0.123	41.61	0.10	0.01	< 0.01	0.004	0.02	12.43	97.88	< 2	< 2	< 1	3	5	< 1	8	0.225	0.218	522771	22.32	0.63
522772	37.12	1.24	7.86	0.127	37.37	1.40	< 0.01	< 0.01	0.018	< 0.01	13.11	98.25	< 2	< 2	< 1	10	< 2	< 1	46	0.195	0.211	522772	24.98	0.98
522773	37.61	1.51	7.33	0.074	37.38	0.53	0.01	< 0.01	0.018	< 0.01	13.17	97.63	< 2	< 2	< 1	10	< 2	< 1	41	0.205	0.206	522773	21.74	1.01
522774	38.17	1.43	9.54	0.126	36.63	1.03	0.02	< 0.01	0.021	0.01	11.83	98.82	< 2	< 2	< 1	12	3	< 1	52	0.197	0.249	522774	15.97	0.92
522775	38.49	1.62	7.65	0.123	36.66	0.99	0.01	< 0.01	0.019	< 0.01	12.03	97.61	< 2	< 2	< 1	10	< 2	< 1	47	0.199	0.198	522775	25.16	1.21
522776	38.86	1.46	7.78	0.110	37.32	0.91	0.02	< 0.01	0.018	< 0.01	12.66	99.13	< 2	< 2	< 1	10	< 2	< 1	43	0.202	0.200	522776	24.62	0.78
522777	38.66	1.51	8.08	0.098	37.56	0.69	0.01	< 0.01	0.019	0.01	12.69	99.33	< 2	< 2	< 1	12	< 2	< 1	46	0.195	0.213	522777	26.89	0.89
522778	39.64	1.54	8.12	0.163	38.39	1.61	0.02	< 0.01	0.020	0.02	11.37	100.9	< 2	< 2	< 1	12	< 2	< 1	50	0.181	0.209	522778	24.23	1.22
522779	38.59	1.54	7.50	0.113	37.68	1.05	< 0.01	< 0.01	0.019	0.01	11.94	98.46	< 2	< 2	< 1	10	< 2	< 1	45	0.186	0.213	522779	23.85	1.01
522780-1	49.47	15.14	12.13	0.168	4.81	8.03	2.17	2.71	1.207	0.42	0.87	97.13	726	537	20	26	106	2	350	0.225	1.008	522780	49.18	16.20
522780-2																						522780	36.37	2.45
522780-3																						522780	18.88	0.62
522781	38.38	1.59	7.99	0.080	36.92	0.79	0.01	< 0.01	0.018	0.01	12.43	98.24	< 2	< 2	< 1	11	< 2	< 1	49	0.177	0.209	522781	27.27	0.97
522782	39.31	1.35	8.19	0.179	37.38	1.18	0.01	< 0.01	0.018	< 0.01	11.37	98.99	< 2	< 2	< 1	11	< 2	< 1	41	0.191	0.200	522782	26.58	1.19
522783	38.62	1.88	7.77	0.076	36.97	0.72	0.01	< 0.01	0.020	< 0.01	12.52	98.61	< 2	< 2	< 1	11	< 2	< 1	49	0.190	0.209	522783	19.24	0.98
522784	41.41	5.64	9.03	0.123	23.58	11.93	0.11	< 0.01	0.575	0.02	6.92	99.33	< 2	15	11	20	28	< 1	173	0.109	0.120	522784	15.29	1.33
522785	48.63	14.12	11.21	0.185	6.29	11.64	4.36	0.28	1.335	0.15	0.76	98.96	12	126	30	38	75	< 1	333	< 0.010	0.017	522785		
522786	37.75	0.85	8.43	0.111	39.15	0.26	0.02	< 0.01	0.005	0.01	11.78	98.37	< 2	< 2	< 1	9	< 2	< 1	31	0.213	0.199	522786	18.06	0.41
522787	37.65	1.05	7.68	0.132	39.05	1.13	0.02	< 0.01	0.017	< 0.01	12.13	98.86	< 2	< 2	< 1	9	< 2	< 1	38	0.180	0.201	522787	22.93	0.65
522788	37.71	1.28	7.75	0.128	38.23	1.02	0.01	< 0.01	0.020	< 0.01	12.64	98.80	< 2	< 2	< 1	9	< 2	< 1	43	0.172	0.205	522788	22.95	1.05
522789	39.21	1.50	8.03	0.134	36.19	2.85	0.03	< 0.01	0.020	0.01	10.77	98.74	< 2	< 2	< 1	12	< 2	< 1	57	0.165	0.212	522789	25.27	1.51
522790	38.01	1.39	7.83	0.076	37.59	0.23	< 0.01	< 0.01	0.026	< 0.01	13.05	98.22	< 2	< 2	< 1	5	< 2	< 1	35	0.156	0.215	522790	27.68	1.36
522791	38.72	0.98	8.44	0.170	38.35	1.05	< 0.01	< 0.01	0.010	< 0.01	11.82	99.56	< 2	< 2	< 1	10	< 2	< 1	34	0.183	0.200	522791	25.38	0.74
522792	38.89	1.25	8.06	0.165	36.72	2.38	0.02	< 0.01	0.016	< 0.01	11.41	98.92	< 2	< 2	< 1	11	< 2	< 1	45	0.164	0.195	522792	27.50	1.12
522793	38.01	1.63	7.21	0.101	37.40	0.97	0.01	< 0.01	0.020	0.02	12.45	97.82	< 2	< 2	< 1	12	< 2	< 1	49	0.149	0.206	522793	18.88	1.13
522794	39.62	1.52	8.17	0.147	37.45	2.25	0.03	< 0.01	0.019	< 0.01	10.74	99.95	< 2	< 2	< 1	11	< 2	< 1	45	0.208	0.202	522794	22.12	1.74
522795	39.54	1.61	7.63	0.132	36.66	1.96	0.02	< 0.01	0.019	< 0.01	10.98	98.56	< 2	< 2	< 1	11	3	< 1	48	0.190	0.247	522795	23.17	1.70
522796	38.73	1.66	8.47	0.106	37.53	0.85	0.01	< 0.01	0.019	< 0.01	12.40	99.77	< 2	< 2	1	11	< 2	< 1	55	0.193	0.243	522796	21.17	1.26
522797	39.30	1.49	8.03	0.136	37.91	1.78	0.01	< 0.01	0.014	0.01	11.74	100.4	3	< 2	1	11	6	< 1	48	0.231	0.224	522797	23.69	1.11
522798	38.66	1.76	8.49	0.083	37.85	1.01	< 0.01	< 0.01	0.016	< 0.01	12.62	100.5	2	< 2	2	12	3	< 1	56	0.235	0.229	522798	21.72	1.16

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID(Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
522799	39.85	1.74	8.12	0.121	37.47	2.16	0.02	< 0.01	0.021	< 0.01	10.40	99.91	2	< 2	1	12	3	< 1	56	0.228	0.229	522799	22.46	1.96
522800	99.22	0.33	0.78	0.008	0.10	0.03	0.03	0.05	0.031	0.01	0.14	100.7	25	4	2	< 1	55	< 1	< 5	< 0.010	< 0.010	522800	97.83	0.37
522801	39.78	1.75	7.93	0.122	36.98	2.07	0.02	< 0.01	0.020	< 0.01	11.47	100.1	2	< 2	2	12	3	< 1	53	0.225	0.217	522801	21.74	1.51
522802	38.96	1.88	8.04	0.105	38.18	1.20	0.02	< 0.01	0.019	< 0.01	12.55	101.0	< 2	< 2	1	11	< 2	< 1	51	0.183	0.223	522802	20.78	1.14
522803	39.17	1.59	7.73	0.126	38.00	1.98	0.02	< 0.01	0.019	< 0.01	10.21	98.85	< 2	< 2	< 1	12	2	< 1	55	0.174	0.217	522803	24.08	1.79
522804	38.16	1.39	7.75	0.155	38.14	1.83	0.02	< 0.01	0.020	< 0.01	11.31	98.79	< 2	< 2	< 1	11	2	< 1	46	0.190	0.221	522804	24.21	1.12
522805	37.74	1.93	9.04	0.080	37.55	0.49	< 0.01	< 0.01	0.021	< 0.01	13.00	99.84	< 2	3	1	14	5	< 1	56	0.218	0.225	522805	19.72	1.08
522806	38.53	1.77	8.14	0.103	38.31	0.56	< 0.01	< 0.01	0.020	< 0.01	12.85	100.3	< 2	< 2	1	13	5	< 1	55	0.189	0.235	522806	20.62	1.03
522807	38.77	1.36	8.53	0.147	37.91	1.63	0.02	< 0.01	0.017	< 0.01	11.64	100.0	< 2	< 2	1	11	5	< 1	44	0.216	0.221	522807	25.31	1.01
522808	37.90	1.33	7.34	0.147	37.54	1.77	0.01	< 0.01	0.018	0.01	11.76	97.84	< 2	< 2	< 1	11	< 2	< 1	43	0.168	0.207	522808	25.39	0.98
522809	35.52	0.24	8.00	0.101	43.17	0.04	< 0.01	< 0.01	0.002	0.01	12.83	99.92	< 2	< 2	< 1	3	2	< 1	8	0.237	0.266	522809	7.97	0.69
522810	37.51	0.46	7.14	0.107	41.67	0.05	< 0.01	< 0.01	0.003	< 0.01	13.07	100.0	< 2	< 2	< 1	7	< 2	< 1	24	0.212	0.246	522810	18.52	1.07
522811	36.99	1.20	9.12	0.064	38.89	0.05	0.01	< 0.01	0.010	0.03	13.51	99.87	< 2	< 2	< 1	7	2	< 1	38	0.163	0.187	522811	15.13	0.65
522812	37.50	1.72	9.32	0.093	37.38	0.34	< 0.01	< 0.01	0.021	0.01	13.13	99.53	< 2	< 2	< 1	13	< 2	< 1	57	0.203	0.225	522812	15.91	0.96
522813	37.52	1.76	9.42	0.109	37.02	0.95	0.01	< 0.01	0.021	< 0.01	12.47	99.29	< 2	< 2	< 1	13	2	< 1	59	0.205	0.230	522813	18.44	1.11
522814	38.71	1.57	8.70	0.132	38.30	1.41	0.02	< 0.01	0.019	< 0.01	11.53	100.4	3	< 2	2	12	3	< 1	50	0.204	0.228	522814	20.45	1.15
522815	38.26	1.70	7.72	0.117	37.98	1.24	0.01	< 0.01	0.019	0.01	11.92	98.98	< 2	< 2	1	12	2	< 1	55	0.186	0.215	522815	19.59	1.18
522816	39.00	1.46	7.98	0.143	37.28	1.92	0.02	< 0.01	0.019	0.02	11.32	99.17	5	< 2	< 1	11	4	< 1	44	0.186	0.208	522816	17.87	1.06
522817	38.16	0.88	7.51	0.158	38.58	1.54	0.02	< 0.01	0.005	0.01	11.14	98.01	< 2	< 2	< 1	9	3	< 1	32	0.182	0.212	522817	16.19	0.60
522818	38.40	0.78	7.73	0.111	41.22	0.31	< 0.01	< 0.01	0.012	< 0.01	11.34	99.93	< 2	< 2	< 1	7	4	< 1	22	0.229	0.219	522818	17.57	0.91
522819	37.61	0.63	8.20	0.130	39.57	0.05	< 0.01	< 0.01	0.005	0.01	14.42	100.6	< 2	< 2	< 1	10	2	< 1	30	0.228	0.240	522819	16.62	0.89
522820-1	49.64	15.98	12.04	0.166	4.85	7.86	2.27	2.82	1.189	0.46	0.83	98.10	722	527	21	26	105	2	342	0.228	0.837	522820	48.81	16.36
522820-2																						522820	36.64	2.46
522820-3																						522820	18.62	0.54
522821	37.01	0.66	8.24	0.113	39.35	0.03	0.02	< 0.01	0.007	< 0.01	14.57	100.0	2	< 2	< 1	8	3	< 1	29	0.219	0.211	522821	16.64	0.77
522822	36.22	0.54	8.19	0.125	39.18	0.05	< 0.01	< 0.01	0.004	< 0.01	14.69	99.02	< 2	< 2	< 1	8	2	< 1	28	0.218	0.216	522822	16.40	0.52
522823	36.28	0.64	8.21	0.113	39.51	0.02	< 0.01	< 0.01	0.004	0.02	14.64	99.46	< 2	< 2	< 1	9	3	< 1	27	0.228	0.222	522823	15.26	0.63
522824	36.80	0.61	7.29	0.114	39.01	0.03	0.01	< 0.01	0.006	0.01	14.32	98.20	< 2	< 2	< 1	8	5	< 1	26	0.222	0.245	522824	13.37	0.63
522825	36.43	0.68	8.20	0.111	39.42	0.04	< 0.01	< 0.01	0.004	< 0.01	14.43	99.34	< 2	< 2	< 1	8	2	< 1	30	0.229	0.227	522825	16.18	0.69
522826	37.81	0.87	7.54	0.096	38.93	0.05	< 0.01	< 0.01	0.004	0.01	13.96	99.28	< 2	< 2	< 1	8	6	< 1	37	0.225	0.241	522826	22.42	0.91
522827	37.90	0.69	6.68	0.111	39.42	0.46	< 0.01	< 0.01	0.004	0.01	12.62	97.89	< 2	< 2	< 1	9	3	< 1	33	0.184	0.223	522827	19.14	0.65
522828	37.20	0.71	7.89	0.091	39.45	0.03	< 0.01	< 0.01	0.003	0.01	14.45	99.83	< 2	< 2	< 1	9	2	< 1	32	0.207	0.233	522828	18.11	0.77
522829	36.68	0.66	8.83	0.104	38.43	0.04	< 0.01	< 0.01	0.003	0.02	14.27	99.03	< 2	< 2	< 1	9	< 2	< 1	34	0.218	0.238	522829	18.04	0.70
522830	37.87	0.64	7.23	0.091	38.17	0.10	< 0.01	< 0.01	0.003	< 0.01	14.04	98.16	< 2	< 2	< 1	8	3	< 1	26	0.227	0.228	522830	21.68	0.66
522831	37.65	0.65	7.87	0.120	39.35	0.04	< 0.01	< 0.01	0.004	0.01	14.09	99.79	< 2	< 2	< 1	8	2	< 1	29	0.221	0.243	522831	19.80	0.72
522832	37.77	0.69	6.88	0.120	39.43	0.06	< 0.01	< 0.01	0.004	< 0.01	14.02	98.98	< 2	< 2	< 1	8	2	< 1	30	0.193	0.221	522832	19.03	0.60
522833	38.58	0.54	6.88	0.118	39.19	0.05	< 0.01	< 0.01	0.005	< 0.01	13.79	99.16	< 2	< 2	< 1	8	2	< 1	30	0.205	0.232	522833	22.55	0.52
522834	37.25	0.60	7.10	0.116	39.29	0.05	< 0.01	< 0.01	0.004	0.02	13.97	98.40	< 2	< 2	< 1	8	3	< 1	28	0.209	0.234	522834	13.92	0.75
522835	38.09	0.58	6.42	0.110	39.36	0.05	0.01	< 0.01	0.004	0.01	13.97	98.61	< 2	< 2	< 1	8	4	< 1	27	0.219	0.214	522835	14.21	0.60
522836	39.09	0.66	7.27	0.113	40.06	0.07	< 0.01	< 0.01	0.004	< 0.01	13.06	100.3	< 2	< 2	< 1	7	4	< 1	29	0.211	0.191	522836	21.74	0.59
522837	36.94	0.58	7.57	0.125	39.34	0.11	0.01	< 0.01	0.004	< 0.01	13.70	98.40	< 2	< 2	< 1	8	< 2	< 1	28	0.214	0.228	522837	15.92	0.31
522838	38.03	0.76	7.26	0.110	39.30	0.30	< 0.01	< 0.01	0.007	0.02	13.64	99.43	< 2	< 2	< 1	8	2	< 1	33	0.215	0.215	522838	22.09	0.50
522839	37.93	0.62	7.42	0.131	40.73	0.37	< 0.01	< 0.01	0.004	< 0.01	13.21	100.4	< 2	< 2	< 1	8	< 2	< 1	30	0.225	0.230	522839	20.44	0.42
522840	98.69	0.30	0.60	0.007	0.07	0.02	0.01	0.04	0.029	0.02	0.15	99.94	23	4	2	< 1	54	< 1	< 5	< 0.010	< 0.010	522840	97.97	0.33
522841	38.72	0.67	7.70	0.123	40.34	0.55	< 0.01	< 0.01	0.006	< 0.01	12.29	100.4	< 2	< 2	< 1	8	3	< 1	30	0.196	0.225	522841	20.16	0.49
522842	37.82	0.55	7.67	0.133	39.89	0.52	< 0.01	< 0.01	0.003	< 0.01	12.84	99.43	< 2	< 2	< 1	9	< 2	< 1	32	0.192	0.223	522842	16.88	0.59
522843	38.27	0.72	8.08	0.104	40.43	0.11	< 0.01	< 0.01	0.003	< 0.01	13.18	100.9	< 2	< 2	< 1	8	3	< 1	32	0.207	0.222	522843	16.90	0.66
522844	39.03	0.72	6.48	0.117	40.56	0.49	< 0.01	< 0.01	0.003	< 0.01	11.50	98.92	< 2	< 2	< 1	9	3	< 1	35	0.171	0.233	522844	17.60	0.48
522845	39.22	0.65	7.72	0.124	40.75	0.42	< 0.01	< 0.01	0.004	< 0.01	11.39	100.3	< 2	< 2	< 1	9	< 2	< 1	37	0.199	0.225	522845	17.40	0.73
522846	38.26	0.61	7.36	0.123	39.23	0.45	< 0.01	< 0.01	0.004	0.02	12.81	98.87	< 2	< 2	< 1	8	< 2	< 1	32	0.213	0.221	522846	19.64	0.75
522847	39.37	0.90	7.03	0.116	39.02	0.21	< 0.01	< 0.01	0.004	0.03	13.35	100.0	< 2	< 2	< 1	9	< 2	< 1	34	0.206	0.222	522847	18.66	0.74

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID(Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
522848	42.18	12.69	10.89	0.177	10.82	16.15	1.17	0.06	1.258	0.08	4.82	100.3	30	115	27	38	71	< 1	286	0.030	0.048	522848	20.34	5.53
522849	38.45	0.69	7.62	0.135	39.93	0.07	< 0.01	< 0.01	0.010	< 0.01	13.67	100.6	< 2	< 2	< 1	6	2	< 1	27	0.222	0.186	522849	20.41	0.59
522850	37.61	0.61	8.40	0.128	39.96	0.11	< 0.01	< 0.01	0.005	0.02	13.50	100.3	< 2	< 2	< 1	10	< 2	< 1	36	0.214	0.230	522850	17.22	0.38
522851	38.54	0.78	7.63	0.087	38.76	0.05	0.01	< 0.01	0.005	< 0.01	13.21	99.07	< 2	< 2	< 1	9	2	< 1	37	0.218	0.230	522851	10.31	0.26
522852	36.24	0.62	9.19	0.096	38.33	0.04	0.01	< 0.01	0.006	0.03	13.50	98.06	< 2	< 2	< 1	6	< 2	< 1	27	0.236	0.197	522852	10.98	0.56
522853	37.84	0.70	8.13	0.093	39.40	0.08	< 0.01	< 0.01	0.004	< 0.01	13.54	99.78	< 2	< 2	< 1	10	< 2	< 1	36	0.178	0.217	522853	22.20	0.47
522854	38.08	0.70	7.70	0.097	39.03	0.30	0.01	< 0.01	0.004	< 0.01	13.37	99.30	< 2	< 2	< 1	10	4	< 1	37	0.213	0.224	522854	8.17	0.42
522855	38.10	0.68	7.64	0.099	39.48	0.31	< 0.01	< 0.01	0.005	< 0.01	13.48	99.81	< 2	< 2	< 1	10	5	< 1	38	0.236	0.217	522855	13.10	0.32
522856	37.94	0.67	8.16	0.130	40.12	0.18	< 0.01	< 0.01	0.004	< 0.01	13.43	100.6	< 2	< 2	< 1	9	< 2	< 1	34	0.206	0.221	522856	14.13	0.22
522857	37.73	0.66	7.99	0.120	40.00	0.38	< 0.01	< 0.01	0.005	0.01	13.54	100.4	< 2	< 2	< 1	9	< 2	< 1	33	0.244	0.237	522857	17.76	0.34
522858	37.28	0.56	7.32	0.132	40.07	0.39	0.01	< 0.01	0.003	< 0.01	13.21	98.99	< 2	< 2	< 1	7	< 2	< 1	26	0.276	0.177	522858	12.15	0.24
522859	38.32	0.68	7.81	0.139	39.46	1.14	< 0.01	< 0.01	0.006	< 0.01	12.77	100.3	< 2	< 2	< 1	9	< 2	< 1	37	0.218	0.213	522859	20.26	0.36
522860-1	49.81	16.05	12.25	0.169	5.05	7.94	2.24	2.85	1.215	0.45	0.52	98.54	729	541	21	26	107	2	349	0.236	0.940	522860	48.89	16.01
522860-2																						522860	36.10	2.41
522860-3																						522860	18.80	0.52
522861	37.65	0.65	7.88	0.115	39.59	0.51	< 0.01	< 0.01	0.004	< 0.01	12.85	99.26	< 2	< 2	< 1	8	< 2	< 1	31	0.164	0.220	522861	17.25	0.43
522862	38.44	0.68	7.81	0.119	40.10	0.72	< 0.01	< 0.01	0.004	0.01	12.88	100.8	< 2	< 2	< 1	9	< 2	< 1	35	0.195	0.238	522862	19.05	0.52
522863	36.25	0.77	8.38	0.099	39.01	0.27	< 0.01	< 0.01	0.005	0.01	13.46	98.26	< 2	< 2	< 1	7	4	< 1	34	0.212	0.211	522863	16.95	0.52
522864	37.31	0.77	7.90	0.112	39.36	0.86	< 0.01	< 0.01	0.004	0.02	13.34	99.69	< 2	< 2	< 1	9	< 2	< 1	36	0.227	0.214	522864	19.20	0.55
522865	37.66	0.72	7.92	0.089	39.14	0.78	< 0.01	< 0.01	0.004	< 0.01	12.95	99.25	< 2	< 2	< 1	9	2	< 1	36	0.154	0.227	522865	18.33	0.53
522866	37.69	0.75	8.13	0.117	39.43	0.85	0.02	< 0.01	0.004	0.02	12.84	99.84	< 2	< 2	< 1	9	< 2	< 1	38	0.251	0.241	522866	16.76	0.50
522867	37.52	0.57	8.20	0.091	39.86	0.48	< 0.01	< 0.01	0.004	0.01	13.29	100.0	< 2	< 2	< 1	9	< 2	< 1	37	0.251	0.222	522867	19.32	0.58
522868	37.06	0.34	7.26	0.088	40.41	0.13	< 0.01	< 0.01	0.004	< 0.01	13.11	98.40	< 2	< 2	< 1	4	< 2	< 1	16	0.200	0.233	522868	16.70	0.51
522869	37.09	0.74	7.64	0.085	38.40	0.47	0.02	< 0.01	0.003	< 0.01	13.06	97.53	< 2	< 2	< 1	9	< 2	< 1	37	0.190	0.199	522869	14.81	0.62
522870	37.44	0.64	7.95	0.148	39.47	1.06	< 0.01	< 0.01	0.005	0.03	12.27	99.03	< 2	< 2	< 1	9	< 2	< 1	34	0.200	0.227	522870	20.43	0.53
522871	38.05	0.68	7.30	0.137	39.72	0.72	< 0.01	< 0.01	0.005	0.02	12.03	98.67	< 2	< 2	< 1	8	3	< 1	28	0.204	0.187	522871	21.47	0.52
522872	37.59	0.71	7.83	0.105	40.03	0.71	< 0.01	< 0.01	0.003	< 0.01	12.79	99.78	< 2	< 2	< 1	8	< 2	< 1	34	0.178	0.235	522872	19.70	0.50
522873	37.77	0.83	7.57	0.081	38.66	1.14	< 0.01	< 0.01	0.004	0.02	12.90	98.98	< 2	< 2	< 1	9	4	< 1	38	0.301	0.212	522873	17.11	0.37
522874	37.18	0.64	7.76	0.127	39.02	0.91	< 0.01	< 0.01	0.003	< 0.01	12.26	97.91	< 2	< 2	< 1	9	2	< 1	33	0.195	0.213	522874	19.96	0.40
522875	37.89	0.65	7.99	0.128	39.49	0.97	< 0.01	< 0.01	0.003	< 0.01	12.19	99.32	< 2	< 2	< 1	9	< 2	< 1	33	0.170	0.215	522875	18.83	0.42
522876	37.50	0.68	8.22	0.135	39.76	0.87	< 0.01	< 0.01	0.003	< 0.01	11.98	99.15	< 2	< 2	< 1	9	< 2	< 1	36	0.200	0.219	522876	20.46	0.39
522877	38.01	0.72	8.06	0.117	39.85	0.71	0.01	< 0.01	0.004	0.03	12.30	99.81	< 2	< 2	< 1	9	< 2	< 1	37	0.188	0.229	522877	18.08	0.34
522878	38.62	0.74	8.04	0.118	40.04	1.02	< 0.01	< 0.01	0.004	< 0.01	11.74	100.3	< 2	< 2	< 1	9	< 2	< 1	38	0.202	0.220	522878	16.00	0.45
522879	38.04	0.72	7.91	0.119	40.00	0.68	< 0.01	< 0.01	0.004	0.01	11.59	99.09	< 2	< 2	< 1	9	< 2	< 1	36	0.179	0.212	522879	20.76	0.58
522880	97.55	0.29	0.54	0.007	0.07	0.03	0.01	0.04	0.030	< 0.01	0.17	98.74	27	5	2	< 1	52	< 1	< 5	< 0.010	< 0.010	522880	98.83	0.31
522881	38.17	0.57	7.30	0.117	39.51	0.59	< 0.01	< 0.01	0.004	< 0.01	11.52	97.80	< 2	< 2	< 1	7	< 2	< 1	27	0.194	0.178	522881	20.97	0.38
522882	37.26	0.68	7.84	0.128	39.75	0.54	0.01	< 0.01	0.007	< 0.01	13.02	99.23	< 2	< 2	< 1	8	4	< 1	33	0.186	0.255	522882	18.45	0.40
522883	36.89	0.73	8.09	0.103	38.85	0.59	< 0.01	< 0.01	0.008	0.02	13.22	98.50	< 2	< 2	< 1	9	3	< 1	37	0.181	0.316	522883	17.87	0.50
522884	37.49	0.65	8.03	0.096	40.36	0.64	0.02	< 0.01	0.004	0.02	13.14	100.5	< 2	< 2	< 1	9	11	< 1	31	0.192	0.218	522884	17.96	0.67
522885	38.17	0.71	7.53	0.116	39.06	1.68	< 0.01	< 0.01	0.004	< 0.01	11.80	99.08	< 2	< 2	< 1	9	2	< 1	37	0.167	0.217	522885	20.52	0.43
522886	37.35	0.79	7.82	0.105	40.24	0.36	0.01	< 0.01	0.006	0.03	13.69	100.4	< 2	< 2	< 1	8	< 2	< 1	29	0.215	0.199	522886	20.85	0.57
522887	36.75	0.68	7.83	0.120	39.27	0.33	0.02	0.01	0.004	< 0.01	13.78	98.78	< 2	< 2	< 1	9	4	< 1	32	0.167	0.290	522887	21.75	0.49
522888	38.01	0.65	7.87	0.144	39.02	1.00	< 0.01	< 0.01	0.005	< 0.01	12.82	99.53	< 2	< 2	< 1	9	< 2	< 1	34	0.215	0.219	522888	17.67	0.36
522889	37.61	0.63	8.01	0.112	39.26	0.56	< 0.01	< 0.01	0.004	< 0.01	13.59	99.77	< 2	< 2	< 1	9	< 2	< 1	32	0.178	0.235	522889	20.97	0.50
522890	39.73	0.62	6.76	0.116	39.89	1.05	0.01	< 0.01	0.004	0.03	11.75	99.97	< 2	< 2	< 1	9	< 2	< 1	34	0.206	0.230	522890	17.53	0.66
522891	38.14	0.86	7.51	0.092	39.24	0.25	0.03	0.01	0.005	0.01	14.09	100.2	< 2	< 2	< 1	7	3	< 1	31	0.208	0.195	522891	17.16	0.53
522892	39.66	0.66	7.40	0.115	39.39	0.81	0.02	< 0.01	0.004	0.02	11.24	99.32	< 2	< 2	< 1	9	2	< 1	32	0.238	0.209	522892	18.72	0.50
522893	38.61	0.69	7.94	0.114	38.92	1.00	< 0.01	< 0.01	0.004	< 0.01	13.20	100.5	< 2	< 2	< 1	9	< 2	< 1	32	0.185	0.205	522893	18.72	0.49
523681 DT Split PULP Dup																								

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID(Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
523701 DT Split Prep Dup																								
523709 DT Split PULP Dup																								
523739 DT Split PULP Dup																								
523747 DT Split Prep Dup																								
522767 DT Split PULP Dup																								
522795 DT Split PULP Dup																								
522796 DT Split Prep Dup																								
523823 DT Split PULP Dup																								
522843 DT Split Prep Dup																								
522853 DT Split PULP Dup																								
522881 DT Split PULP Dup																								

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
523654	45.77	0.145	21.28	0.44	< 0.01	0.01	0.05	0.01	1.03	0.021	1.64	5.35	98.47	30.3	2.810	27.034	9.3	29.844	1.58	0.02
523655	39.45	0.168	23.74	0.53	< 0.01	0.01	0.05	0.01	1.08	0.014	1.49	6.57	98.79	30.2	2.753	26.705	9.1	29.458	2.57	0.02
523656	40.25	0.103	23.44	0.28	< 0.01	0.03	0.05	0.01	1.00	0.024	1.33	6.01	98.25	30.1	2.944	26.059	9.8	29.003	3.61	0.02
523657	45.65	0.216	19.39	0.68	< 0.01	0.03	0.05	0.01	1.92	0.029	2.33	5.80	97.54	30.3	1.209	28.865	4.0	30.075	0.62	0.01
523658	50.17	0.175	17.91	0.73	< 0.01	0.04	0.07	0.01	1.54	0.029	1.87	4.07	97.69	30.3	1.602	28.550	5.3	30.151	0.60	0.02
523659	46.87	0.162	19.72	0.68	< 0.01	0.02	0.06	< 0.01	1.17	0.021	2.03	5.16	97.81	30.1	1.744	28.097	5.8	29.841	0.71	0.02
523660-1	12.10	0.170	4.92	7.82	2.45	2.78	1.10	0.44	1.05	0.064	0.232	0.54	98.82							
523660-2	13.15	0.131	32.15	2.06	0.12	0.13	0.13	0.02	0.20	0.007	1.43	10.70	98.92							
523660-3	52.07	0.227	18.29	0.19	< 0.01	0.02	0.04	< 0.01	1.52	0.021	2.00	4.53	98.41	30.2	2.137	27.727	7.1	29.864	1.01	0.10
523661	46.13	0.132	19.28	0.32	< 0.01	0.19	0.05	0.01	1.06	0.022	2.03	4.99	97.95	30.1	2.034	27.764	6.7	29.799	1.16	0.02
523662	45.22	0.140	20.96	0.69	< 0.01	0.02	0.06	< 0.01	0.90	0.021	1.58	5.78	98.04	30.1	2.514	27.251	8.4	29.765	1.02	0.02
523663	43.98	0.208	20.79	0.95	0.05	0.09	0.05	0.01	1.40	0.023	1.87	5.60	98.12	30.2	1.734	28.184	5.7	29.917	0.95	< 0.01
523664	43.80	0.180	21.49	0.21	< 0.01	0.02	0.06	0.01	1.07	0.022	1.53	6.53	98.56	30.1	2.518	27.314	8.4	29.833	0.93	0.06
523665	41.71	0.184	20.25	0.23	< 0.01	< 0.01	0.05	0.01	0.92	0.021	0.787	7.54	100.1	30.1	2.890	26.952	9.6	29.842	1.00	0.05
523666	51.49	0.213	18.05	0.77	< 0.01	0.02	0.06	0.01	1.28	0.028	1.76	4.04	98.79	30.2	2.392	27.301	7.9	29.692	1.74	0.01
523667	35.15	0.204	25.79	0.36	0.05	0.12	0.06	0.01	1.03	0.013	1.49	7.28	99.12	30.1	3.010	26.849	10.0	29.859	0.96	0.02
523668	51.53	0.270	17.48	1.16	0.14	0.17	0.30	0.06	0.94	0.006	1.22	5.76	99.55	30.1	2.463	27.119	8.2	29.582	1.60	0.03
523669	52.58	0.174	18.13	0.29	< 0.01	0.02	0.06	0.01	1.08	0.017	1.74	4.63	98.01	30.2	2.259	27.688	7.5	29.947	0.83	0.04
523670	35.44	0.132	25.17	0.31	< 0.01	0.04	0.05	0.01	0.79	0.020	1.36	8.11	99.77	30.3	2.890	27.116	9.5	30.006	0.99	0.02
523671	45.22	0.106	21.63	0.25	< 0.01	0.02	0.06	0.01	0.91	0.018	1.60	5.44	98.19	30.2	2.536	27.462	8.4	29.998	0.63	0.03
523672	39.28	0.125	23.92	0.21	< 0.01	0.04	0.04	0.01	1.01	0.015	1.56	6.81	97.62	30.2	2.376	27.605	7.9	29.981	0.63	0.03
523673	46.44	0.100	20.76	0.59	0.05	0.02	0.04	< 0.01	0.77	0.022	1.76	5.51	98.35	30.3	2.382	27.676	7.9	30.059	0.85	0.03
523674	36.06	0.129	25.90	0.26	< 0.01	0.02	0.05	0.01	0.75	0.018	1.21	7.23	98.70	30.2	3.361	26.627	11.1	29.988	0.55	0.03
523675	34.31	0.126	26.81	0.27	0.02	0.02	0.04	0.01	0.69	0.016	1.13	7.48	99.04	30.1	3.764	25.926	12.5	29.689	1.31	0.03
523676	38.21	0.131	24.39	0.62	< 0.01	0.03	0.05	0.01	0.70	0.017	1.23	7.93	99.39	30.3	3.175	26.682	10.5	29.857	1.34	0.02
523677	45.88	0.163	20.33	1.35	0.02	0.02	0.06	0.01	1.09	0.022	1.60	4.43	98.10	30.2	1.951	27.420	6.5	29.371	2.63	0.02
523678	49.24	0.178	19.77	0.42	< 0.01	0.02	0.06	< 0.01	1.46	0.029	2.05	3.62	97.65	30.2	1.654	28.291	5.5	29.944	0.82	0.02
523679	37.68	0.167	24.27	1.67	0.01	0.02	0.06	0.01	1.12	0.026	1.12	4.51	98.75	30.1	2.337	27.522	7.8	29.858	0.89	0.02
523680	0.93	0.015	0.01	0.02	< 0.01	0.04	0.05	0.03	0.01	0.004	< 0.003	0.02	98.68	30.2	0.144	29.548	0.5	29.692	1.58	
523681	39.90	0.151	24.74	0.15	< 0.01	0.03	0.04	0.01	1.04	0.016	1.20	6.01	98.37	30.1	3.060	26.956	10.2	30.016	0.36	0.05
523682	44.99	0.115	22.31	0.18	< 0.01	0.02	0.04	0.01	1.14	0.027	1.53	4.70	98.68	30.1	2.881	27.201	9.6	30.081	0.11	
523683	36.87	0.169	23.91	1.28	0.07	0.12	0.06	0.01	1.33	0.020	2.72	5.20	97.18	30.1	1.836	27.278	6.1	29.113	3.13	
523684	34.95	0.188	26.15	0.97	0.01	0.04	0.04	< 0.01	1.21	0.020	1.89	6.39	99.08	30.2	2.146	27.731	7.1	29.878	1.04	0.02
523685	38.68	0.134	24.00	0.52	< 0.01	0.02	0.05	0.01	1.01	0.017	1.65	5.76	97.67	30.1	2.585	27.310	8.6	29.895	0.53	0.05
523686	37.99	0.197	23.93	1.13	< 0.01	< 0.01	0.05	0.01	1.38	0.023	2.38	4.87	97.44	30.1	1.663	28.104	5.5	29.767	1.08	0.02
523687	42.63	0.212	22.82	0.91	< 0.01	0.02	0.06	0.01	1.89	0.022	3.04	3.43	98.66	30.0	1.361	28.601	4.5	29.962	0.28	0.02
523688	43.44	0.131	23.56	0.25	0.01	0.03	0.04	0.01	1.11	0.019	1.29	4.91	98.48	30.1	2.804	27.232	9.3	30.036	0.05	0.08
523689	55.25	0.300	17.74	0.08	< 0.01	0.03	0.09	0.02	2.43	0.025	1.66	2.69	97.61	30.1	1.899	27.948	6.3	29.847	0.81	0.12
523690	51.16	0.261	19.10	0.07	0.01	0.03	0.04	0.01	2.40	0.021	1.55	1.97	96.97	30.1	1.278	28.371	4.3	29.649	1.36	0.03
523691	53.77	0.211	18.43	0.28	< 0.01	0.02	0.05	0.01	1.35	0.022	1.37	2.31	97.74	30.1	2.548	28.163	8.5	30.712	-1.94	0.08
523692	38.51	0.225	25.21	0.32	< 0.01	0.04	0.06	0.01	1.11	0.015	1.34	5.76	97.84	30.1	3.315	26.520	11.0	29.835	0.74	0.05
523693	43.40	0.181	23.22	1.10	< 0.01	0.01	0.04	0.01	0.87	0.018	1.48	4.55	98.50	30.1	2.555	27.356	8.5	29.910	0.69	0.04
523694	35.23	0.139	26.41	1.29	< 0.01	0.04	0.05	0.01	0.64	0.016	1.35	5.93	98.75	30.1	3.200	26.164	10.6	29.364	2.31	0.02
523695	44.13	0.153	22.67	0.90	< 0.01	0.02	0.04	0.01	0.89	0.018	1.57	5.79	99.37	30.1	2.564	27.067	8.5	29.632	1.65	0.03
523696	36.43	0.161	26.65	0.88	0.03	0.02	0.04	0.01	0.82	0.016	1.04	7.60	99.59	30.4	3.714	26.156	12.2	29.870	1.62	0.07
523697	30.34	0.111	30.65	0.06	< 0.01	0.01	0.03	0.01	0.80	0.010	1.18	9.37	99.60	30.3	4.411	25.488	14.6	29.899	1.25	0.05
523698	37.21	0.146	26.99	0.16	0.02	0.02	0.03	0.01	0.86	0.013	1.21	7.90	99.13	30.3	3.795	26.071	12.5	29.866	1.58	0.06
523699	42.82	0.133	24.14	0.22	< 0.01	0.01	0.03	0.01	1.05	0.019	1.26	6.89	99.50	30.3	3.517	26.389	11.6	29.906	1.31	0.07
523700-1	12.13	0.172	4.97	7.85	2.17	2.73	1.10	0.43	1.05	0.064	0.234	0.54	98.97							
523700-2	13.20	0.131	32.23	2.06	0.12	0.13	0.13	0.02	0.20	0.007	1.43	10.70	98.99							
523700-3	52.06	0.229	18.36	0.20	< 0.01	0.02	0.04	0.01	1.49	0.022	2.00	4.71	98.70	30.2	2.345	27.422	7.8	29.767	1.32	0.10

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
523701	51.63	0.186	19.52	0.12	< 0.01	0.02	0.03	< 0.01	1.68	0.023	1.75	4.56	98.11	30.2	2.140	27.657	7.1	29.797	1.35	0.03
523702	33.80	0.214	26.27	1.09	< 0.01	< 0.01	0.02	0.01	1.16	0.014	0.960	9.06	98.39	30.2	2.940	26.943	9.7	29.883	1.12	0.09
523703	54.74	0.116	18.99	0.15	< 0.01	< 0.01	0.03	0.01	1.04	0.024	0.618	4.88	98.77	30.6	3.652	26.704	11.9	30.355	0.75	0.15
523704	42.83	0.134	23.07	0.41	< 0.01	0.02	0.03	0.01	1.20	0.021	1.47	6.15	98.06	30.4	2.679	27.145	8.8	29.824	1.75	0.05
523705	42.54	0.176	24.04	0.31	< 0.01	0.02	0.03	0.01	1.66	0.016	1.56	6.36	98.75	30.2	2.542	27.278	8.4	29.820	1.41	0.07
523706	45.55	0.175	22.44	0.18	< 0.01	0.01	0.03	0.01	1.37	0.018	0.781	6.38	98.25	30.3	2.756	27.188	9.1	29.944	1.03	0.04
523707	40.96	0.141	24.73	0.13	0.02	0.02	0.03	0.01	1.17	0.016	1.03	7.10	98.96	30.0	3.284	26.215	10.9	29.499	1.83	0.04
523708	40.85	0.148	24.01	0.65	< 0.01	0.02	0.02	0.01	1.15	0.021	1.15	6.66	97.85	30.2	2.879	27.023	9.5	29.902	1.13	0.02
523709	38.67	0.199	25.11	1.01	< 0.01	0.02	0.03	0.01	1.42	0.019	1.49	6.64	98.64	30.1	2.487	27.070	8.3	29.557	1.82	0.03
523710	39.86	0.136	25.31	0.11	0.02	0.02	0.02	0.01	1.15	0.017	1.10	7.10	99.08	30.2	3.216	26.216	10.7	29.432	2.47	0.02
523711	43.07	0.157	23.43	0.58	0.01	0.02	0.03	0.01	1.25	0.020	1.29	6.19	98.75	30.3	2.781	26.921	9.2	29.702	1.90	0.03
523712	60.67	0.140	18.32	0.08	0.09	0.04	0.02	0.01	1.26	0.024	1.01	0.00	98.62	30.4	2.305	27.569	7.6	29.875	1.83	0.03
523713	34.88	0.254	26.05	1.88	< 0.01	0.02	0.02	< 0.01	1.44	0.020	1.63	8.07	98.61	30.3	2.111	27.723	7.0	29.834	1.50	0.09
523714	47.93	0.112	22.14	0.08	< 0.01	0.01	0.03	< 0.01	0.98	0.021	0.971	5.93	99.00	30.5	3.593	26.512	11.8	30.105	1.22	0.13
523715	57.03	0.135	18.14	0.07	< 0.01	0.04	0.03	0.01	1.19	0.024	0.983	3.75	98.43	30.3	3.057	26.838	10.1	29.896	1.45	0.11
523716	43.70	0.189	23.13	0.71	< 0.01	0.01	0.02	0.01	1.82	0.026	1.60	5.78	98.22	30.4	2.425	27.422	8.0	29.848	1.89	0.08
523717	48.57	0.140	21.91	0.19	< 0.01	0.01	0.03	0.01	1.26	0.021	1.76	5.57	99.06	30.3	2.644	27.338	8.7	29.982	0.96	0.13
523718	57.76	0.211	16.41	0.33	< 0.01	0.03	0.03	0.01	1.68	0.030	1.90	3.30	97.09	30.3	2.269	27.752	7.5	30.020	0.92	0.06
523719	53.83	0.296	17.83	0.35	< 0.01	0.01	0.03	< 0.01	2.74	0.037	1.77	2.92	96.68	30.0	1.573	27.997	5.2	29.570	1.59	0.14
523720	0.61	0.003	0.02	0.02	0.01	0.08	0.05	0.01	< 0.01	< 0.003	< 0.003	-0.24	99.32	90.9	0.205	89.274	0.2	89.479	1.53	
523721	51.00	0.148	19.76	0.20	< 0.01	0.01	0.02	0.01	1.47	0.025	1.54	4.57	98.17	30.3	2.563	27.490	8.5	30.053	0.68	0.12
523722	55.92	0.192	16.98	0.60	< 0.01	0.02	0.03	0.01	1.76	0.024	2.06	3.87	97.48	30.5	1.949	28.324	6.4	30.273	0.73	0.14
523723	50.24	0.185	20.39	0.30	< 0.01	0.04	0.03	< 0.01	1.53	0.025	1.79	4.96	97.64	30.4	2.489	27.455	8.2	29.944	1.43	0.10
523724	55.20	0.193	17.38	0.95	< 0.01	0.02	0.04	< 0.01	1.40	0.023	1.59	3.33	97.84	30.5	2.061	28.064	6.8	30.125	1.21	0.07
523725	57.75	0.190	16.08	0.60	< 0.01	0.02	0.04	< 0.01	1.45	0.032	2.00	2.88	98.09	30.2	1.875	27.800	6.2	29.675	1.60	0.07
523726	40.52	0.138	25.87	0.07	< 0.01	0.01	0.03	0.01	0.94	0.018	1.25	7.45	99.03	30.4	3.954	26.117	13.0	30.071	1.02	0.07
523727	49.68	0.191	21.03	0.07	< 0.01	0.01	0.03	0.01	1.44	0.025	1.62	5.15	98.40	30.5	2.573	27.424	8.4	29.997	1.61	0.12
523728	39.80	0.155	26.29	0.06	< 0.01	0.01	0.04	< 0.01	0.92	0.017	1.12	7.46	99.49	30.5	4.569	25.590	15.0	30.159	1.07	0.04
523729	38.78	0.249	25.19	0.19	< 0.01	0.02	0.02	< 0.01	1.87	0.027	2.00	5.85	98.23	30.3	2.162	27.444	7.1	29.606	2.14	0.03
523730	49.79	0.183	21.40	0.08	< 0.01	0.02	0.03	0.01	2.12	0.026	1.99	3.10	98.46	30.3	1.803	27.972	5.9	29.775	1.80	0.03
523731	32.75	0.162	29.84	0.07	< 0.01	0.02	0.04	0.01	1.27	0.014	1.08	6.61	99.58	30.2	3.934	25.956	13.0	29.889	1.14	0.01
523732	31.88	0.129	30.07	0.09	0.02	0.02	0.03	0.01	1.15	0.015	1.08	7.98	99.23	30.3	4.339	25.560	14.3	29.899	1.26	0.02
523733	37.38	0.136	27.50	0.16	< 0.01	0.02	0.02	0.01	1.65	0.026	1.76	5.07	99.06	30.2	2.428	27.216	8.0	29.644	2.00	0.01
523734	37.48	0.240	26.45	0.56	< 0.01	0.02	0.03	< 0.01	1.98	0.028	2.20	4.54	98.46	30.2	1.912	28.061	6.3	29.973	0.87	0.02
523735	39.25	0.239	25.93	0.58	< 0.01	0.02	0.03	< 0.01	1.92	0.027	1.95	4.45	98.63	30.2	1.906	27.958	6.3	29.864	1.09	0.02
523736	44.54	0.245	22.70	0.58	< 0.01	0.02	0.03	< 0.01	2.37	0.027	2.43	3.50	97.17	30.2	1.776	28.166	5.9	29.942	0.81	0.05
523737	47.90	0.189	21.80	0.15	< 0.01	0.02	0.02	0.01	1.59	0.025	1.77	4.73	98.18	30.1	2.545	27.247	8.5	29.792	0.89	0.06
523738	47.63	0.223	21.59	0.29	< 0.01	0.02	0.04	0.01	1.74	0.026	2.04	3.80	98.11	30.4	2.283	27.757	7.5	30.041	1.27	0.04
523739														91.4	0.008	90.739	0.0	90.747	0.73	
523740-1	12.03	0.165	4.96	7.71	2.40	2.80	1.10	0.43	1.03	0.063	0.230	0.53	98.50							
523740-2	13.12	0.132	32.47	2.08	0.10	0.16	0.12	0.02	0.20	0.009	1.43	10.69	99.27							
523740-3	52.29	0.225	18.36	0.15	< 0.01	0.01	0.04	0.01	1.54	0.021	2.04	4.81	99.04	30.2	2.536	27.214	8.4	29.750	1.56	0.09
523741														90.5	0.009	89.086	0.0	89.095	1.51	
523742	28.98	0.149	25.16	0.41	< 0.01	< 0.01	0.03	0.01	1.55	0.020	0.201	9.23	98.40	30.1	0.722	28.660	2.4	29.382	-0.64	0.09
523743	22.28	0.132	28.84	0.84	< 0.01	0.02	0.08	0.02	1.47	0.021	0.216	8.56	98.57	30.1	0.632	28.542	2.0	29.239	2.51	0.02
523744	22.21	0.139	27.54	1.76	< 0.01	< 0.01	0.09	0.02	1.11	0.020	0.213	8.66	99.23	30.2	1.135	27.754	3.8	28.933	1.32	
523745	34.07	0.271	26.20	0.08	< 0.01	< 0.01	0.03	0.01	0.79	0.018	0.212	7.91	100.5	30.1	3.844	25.554	12.8	29.398	0.61	
523746	39.19	0.299	22.76	0.02	< 0.01	< 0.01	0.03	0.01	1.03	0.019	0.284	6.87	100.1	30.3	3.571	25.897	11.7	29.683	1.87	0.05
523747	53.55	0.335	18.83	0.12	< 0.01	0.03	0.03	0.01	1.31	0.019	0.240	4.13	98.58	30.1	2.526	27.147	8.4	29.673	1.38	0.03
523748	39.13	0.237	25.69	0.03	< 0.01	< 0.01	0.02	0.01	1.07	0.022	0.205	6.82	99.11	30.1	3.910	25.334	13.0	29.245	2.02	0.03
523749	32.84	0.165	28.09	0.03	< 0.01	< 0.01	0.02	0.01	0.79	0.009	0.266	9.35	100.2	30.2	5.362	24.005	17.7	29.855	1.05	0.06

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
523750	41.76	0.249	21.85	1.02	< 0.01	0.03	0.08	0.01	1.09	0.027	0.224	5.58	98.78	30.1	3.126	26.307	10.4	29.512	1.20	0.02
522751	61.86	0.212	15.99	0.03	< 0.01	0.02	0.02	< 0.01	2.29	0.021	0.894	1.92	97.16	30.5	2.093	28.050	6.9	30.143	1.11	0.05
522752	37.07	0.192	25.75	0.18	< 0.01	0.02	0.03	0.01	0.91	0.020	0.900	6.59	98.97	30.5	4.018	25.652	13.2	29.670	2.77	0.03
522753	37.90	0.211	24.01	1.18	< 0.01	0.03	0.04	0.01	0.85	0.020	1.44	6.37	98.69	30.5	2.560	27.917	8.4	30.477	0.08	0.08
522754	38.04	0.147	24.77	0.45	< 0.01	0.03	0.04	0.01	0.75	0.016	0.942	6.43	98.93	30.5	3.249	26.874	10.7	30.123	1.13	0.03
522755	42.75	0.175	22.80	0.51	< 0.01	0.02	0.05	0.01	0.92	0.022	1.17	5.70	98.68	30.3	2.821	27.194	9.3	30.015	1.07	0.04
522756	42.25	0.142	23.84	0.29	< 0.01	0.06	0.05	0.01	0.82	0.020	0.853	4.43	98.18	30.1	3.551	26.483	11.8	30.033	0.11	0.02
522757	38.92	0.196	24.97	0.40	< 0.01	< 0.01	0.04	0.01	0.90	0.015	0.529	5.49	98.54	30.1	3.893	26.030	12.9	29.923	0.64	0.07
522758	44.38	0.187	24.28	0.51	0.01	0.02	0.04	0.01	0.76	0.016	0.831	4.91	98.56	30.0	3.665	25.972	12.2	29.637	1.13	0.12
522759	48.55	0.131	22.31	0.03	< 0.01	0.02	0.03	0.01	1.39	0.013	1.57	5.75	97.60	30.4	2.932	26.725	9.6	29.657	2.46	0.17
522760	0.59	0.009	0.03	0.02	< 0.01	0.06	0.05	0.01	< 0.01	< 0.003	< 0.003	0.09	99.25	90.7	0.371	89.872	0.4	90.243	0.49	
522761	54.52	0.112	19.71	0.03	< 0.01	0.02	0.02	0.01	1.61	0.016	1.81	4.39	97.71	30.5	2.599	27.482	8.5	30.081	1.43	0.12
522762	51.00	0.124	22.11	0.02	< 0.01	0.02	0.04	0.01	1.60	0.016	1.74	5.36	98.23	30.4	2.665	26.662	8.8	29.327	3.50	0.11
522763	52.28	0.156	18.79	0.06	< 0.01	0.02	0.04	0.01	1.59	0.020	0.942	4.16	97.73	30.4	2.334	27.709	7.7	30.043	1.11	0.20
522764	50.04	0.196	19.40	0.40	< 0.01	0.03	0.03	0.01	1.41	0.020	1.89	4.23	97.63	30.4	2.295	27.448	7.6	29.743	2.14	0.13
522765	44.38	0.177	22.57	0.54	0.01	0.02	0.05	< 0.01	1.41	0.022	1.97	3.27	97.97	30.1	1.904	27.569	6.3	29.472	1.97	0.11
522766	38.74	0.184	25.10	0.68	< 0.01	0.02	0.05	0.01	1.46	0.024	1.81	3.46	97.32	30.0	1.926	27.949	6.4	29.875	0.55	0.07
522767	47.70	0.204	19.91	0.34	< 0.01	0.03	0.05	0.01	1.85	0.031	2.70	3.86	96.63	30.6	1.564	28.520	5.1	30.084	1.60	0.05
522768	49.20	0.219	21.39	0.06	< 0.01	0.03	0.03	0.01	2.78	0.030	2.67	3.66	97.16	30.5	1.531	28.654	5.0	30.184	1.04	0.06
522769	39.95	0.152	26.05	0.11	< 0.01	0.02	0.03	0.01	1.51	0.020	1.86	6.71	98.00	30.5	2.343	27.719	7.7	30.062	1.44	0.02
522770	46.49	0.159	21.46	0.23	0.01	0.02	0.05	0.01	1.27	0.020	1.99	4.95	98.36	30.3	2.074	28.028	6.8	30.103	0.65	0.02
522771	36.21	0.204	28.23	0.07	< 0.01	0.02	0.03	0.01	2.45	0.011	3.03	4.36	97.53	30.2	1.436	28.241	4.7	29.677	1.87	0.08
522772	39.00	0.177	25.57	0.37	< 0.01	0.02	0.04	0.01	1.22	0.017	1.59	4.44	98.39	30.1	2.508	27.193	8.3	29.701	1.34	0.02
522773	45.01	0.130	22.02	0.16	< 0.01	0.03	0.05	< 0.01	1.29	0.021	2.18	4.47	98.07	30.4	2.384	27.622	7.8	30.006	1.45	0.03
522774	60.86	0.157	14.83	0.20	< 0.01	0.02	0.07	< 0.01	1.43	0.026	1.85	1.65	97.95	30.4	2.282	27.435	7.5	29.717	2.20	0.01
522775	39.38	0.142	24.90	0.42	< 0.01	0.04	0.06	0.01	1.01	0.018	1.68	3.71	97.74	30.2	2.249	27.507	7.4	29.756	1.58	0.02
522776	42.99	0.159	24.70	0.38	< 0.01	0.02	0.05	0.01	1.01	0.020	1.85	3.35	99.92	30.1	2.720	26.995	9.0	29.714	1.42	0.03
522777	35.65	0.131	26.58	0.35	0.05	0.07	0.05	0.01	0.79	0.016	1.24	5.07	97.79	30.2	3.802	25.910	12.6	29.712	1.50	0.02
522778	41.08	0.180	23.69	0.57	< 0.01	0.05	0.05	0.01	1.33	0.023	2.15	3.43	98.00	30.0	2.027	27.386	6.7	29.413	2.12	0.01
522779	44.13	0.184	23.31	0.41	< 0.01	0.02	0.05	0.01	1.46	0.021	2.07	3.14	99.65	30.2	2.225	27.517	7.4	29.741	1.49	0.04
522780-1	12.16	0.169	4.98	7.81	2.41	2.81	1.11	0.43	1.05	0.064	0.233	0.52	99.13							
522780-2	13.18	0.126	32.38	2.08	0.10	0.12	0.13	0.02	0.20	0.008	1.44	10.72	99.32							
522780-3	52.30	0.230	18.21	0.20	< 0.01	0.02	0.04	0.01	1.50	0.026	2.02	3.50	97.53	30.1	2.232	27.754	7.4	29.986	0.34	0.10
522781	37.11	0.126	26.51	0.39	< 0.01	0.02	0.04	0.01	0.86	0.019	1.33	4.40	99.05	30.4	3.740	26.202	12.3	29.942	1.54	0.03
522782	38.45	0.247	25.92	0.45	0.05	0.02	0.05	0.01	1.40	0.019	1.61	3.45	99.45	30.2	2.671	27.327	8.8	29.998	0.81	0.04
522783	52.22	0.156	18.12	0.35	< 0.01	0.02	0.04	0.01	1.25	0.029	1.96	2.98	97.29	30.5	2.345	27.713	7.7	30.058	1.59	0.02
522784	62.56	0.238	11.79	1.52	0.03	0.04	0.14	0.01	2.05	0.045	1.50	0.81	97.36	30.1	0.975	28.773	3.2	29.748	1.30	0.01
522785														90.3	0.004	89.918	0.0	89.922	0.43	
522786	52.51	0.163	19.36	0.12	< 0.01	0.03	0.03	0.01	1.54	0.024	2.27	2.71	97.20	30.4	1.987	28.412	6.5	30.400	-0.09	0.07
522787	39.33	0.196	25.32	0.44	< 0.01	0.03	0.04	0.01	1.02	0.014	1.95	6.20	98.13	30.2	1.972	27.244	6.5	29.216	3.22	0.08
522788	40.93	0.215	22.31	0.58	< 0.01	0.02	0.05	0.01	1.24	0.018	2.26	6.94	98.53	30.5	2.205	28.325	7.2	30.530	-0.14	0.03
522789	41.76	0.170	20.51	1.26	0.03	0.03	0.06	0.01	1.64	0.026	1.96	4.58	98.82	30.5	1.482	27.443	4.9	28.925	5.03	0.02
522790	31.91	0.110	27.64	0.18	< 0.01	0.02	0.06	0.01	1.01	0.022	1.55	7.61	99.14	30.3	3.571	26.563	11.8	30.134	0.44	0.02
522791	37.46	0.209	24.43	0.84	< 0.01	0.02	0.04	0.01	1.37	0.018	1.96	5.49	97.93	30.5	2.172	28.079	7.1	30.251	0.73	0.05
522792	34.42	0.193	24.62	1.87	0.06	0.16	0.05	0.01	1.32	0.019	2.20	3.76	97.30	30.3	1.618	28.217	5.3	29.834	1.70	0.02
522793	49.34	0.127	19.99	0.37	< 0.01	0.02	0.06	0.01	1.08	0.025	2.04	6.24	99.27	30.3	2.305	27.691	7.6	29.997	0.84	0.04
522794	42.11	0.203	21.44	1.21	< 0.01	0.02	0.05	0.01	1.81	0.029	3.38	2.72	96.80	30.4	1.228	28.391	4.0	29.619	2.69	0.04
522795	39.39	0.202	22.67	1.12	< 0.01	0.03	0.05	0.01	1.75	0.023	3.39	3.82	97.28	30.3	1.168	29.085	3.9	30.253	0.20	0.03
522796	45.87	0.149	20.91	0.44	< 0.01	0.02	0.06	0.01	1.22	0.025	2.14	4.44	97.66	30.4	2.248	28.407	7.4	30.655	-0.96	0.03
522797	40.26	0.183	23.53	1.22	< 0.01	0.02	0.04	0.01	1.31	0.025	2.24	4.59	98.19	30.1	2.078	27.691	6.9	29.769	1.04	0.02
522798	46.03	0.107	21.45	0.49	< 0.01	0.02	0.05	0.01	0.88	0.025	1.58	4.81	98.28	30.2	2.895	26.783	9.6	29.678	1.72	0.10

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
522799	45.19	0.164	20.78	1.40	< 0.01	0.03	0.07	0.01	1.28	0.028	1.49	3.48	98.33	30.1	1.892	27.921	6.3	29.813	1.11	0.02
522800	0.78	0.009	0.03	0.02	0.02	0.06	0.04	0.01	< 0.01	< 0.003	< 0.003	0.14	99.30	90.5	0.216	89.213	0.2	89.429	1.19	
522801	45.70	0.173	20.77	1.07	< 0.01	0.02	0.06	0.01	1.22	0.022	1.80	3.97	98.04	30.3	2.012	27.842	6.6	29.854	1.47	0.02
522802	47.33	0.167	20.54	0.54	< 0.01	0.03	0.06	0.01	1.21	0.024	2.05	4.20	98.08	30.2	2.240	27.553	7.4	29.792	1.38	0.05
522803	40.18	0.183	23.31	1.50	< 0.01	0.02	0.06	0.01	1.49	0.031	2.30	3.34	98.26	30.3	1.500	28.646	4.9	30.146	0.64	0.02
522804	39.33	0.195	23.92	1.26	< 0.01	0.02	0.05	0.01	1.33	0.022	2.09	5.12	98.61	30.0	1.880	27.954	6.3	29.834	0.63	0.02
522805	52.03	0.093	19.03	0.25	< 0.01	0.02	0.07	0.01	0.82	0.025	1.38	4.20	98.71	30.4	3.198	27.113	10.5	30.312	0.22	0.11
522806	48.38	0.136	20.27	0.32	< 0.01	0.02	0.05	0.01	1.22	0.026	1.94	4.30	98.30	30.1	2.287	27.741	7.6	30.029	0.25	0.07
522807	37.37	0.180	25.57	1.02	< 0.01	0.03	0.05	0.01	0.99	0.018	1.70	5.52	98.76	30.2	2.729	27.365	9.0	30.094	0.32	0.02
522808	35.76	0.209	25.99	1.10	< 0.01	0.02	0.05	< 0.01	1.27	0.019	2.47	5.28	98.47	30.3	1.871	28.198	6.2	30.069	0.86	0.04
522809	73.15	0.099	10.28	0.03	< 0.01	0.02	0.03	< 0.01	3.19	0.022	2.09	-0.59	96.95	30.1	1.318	28.552	4.4	29.870	0.79	0.04
522810	48.65	0.196	21.14	0.05	< 0.01	0.02	0.03	< 0.01	3.15	0.041	1.77	3.03	97.61	30.0	1.527	28.434	5.1	29.961	0.28	0.05
522811	62.43	0.124	15.18	0.05	< 0.01	0.03	0.05	0.01	1.35	0.024	1.38	2.01	98.41	30.1	2.381	27.546	7.9	29.926	0.61	0.03
522812	59.26	0.133	15.78	0.15	< 0.01	0.02	0.06	< 0.01	1.08	0.026	1.54	2.82	97.74	30.2	2.899	27.203	9.6	30.102	0.48	0.03
522813	53.08	0.140	18.47	0.41	< 0.01	0.02	0.06	0.01	1.03	0.025	1.60	3.84	98.21	30.2	2.600	27.329	8.6	29.930	0.75	0.04
522814	47.87	0.157	20.46	0.54	< 0.01	0.03	0.05	0.01	1.24	0.025	2.15	4.22	98.32	30.2	2.001	27.915	6.6	29.916	0.91	0.02
522815	44.08	0.140	20.25	0.38	< 0.01	0.01	0.04	0.01	1.01	0.025	1.95	5.03	98.65	30.3	2.100	27.920	6.9	30.163	0.56	0.02
522816	51.48	0.195	17.47	0.93	< 0.01	0.01	0.06	0.01	1.96	0.027	3.28	2.28	97.19	30.1	0.902	27.883	3.0	28.785	0.03	0.03
522817	49.54	0.264	17.69	0.72	< 0.01	< 0.01	0.03	< 0.01	2.31	0.025	3.93	1.61	96.52	30.2	1.052	28.789	3.4	29.987	0.66	0.07
522818	46.64	0.203	21.08	0.29	< 0.01	< 0.01	0.06	0.01	2.84	0.022	4.44	1.62	96.17	30.4	0.853	29.108	2.8	30.060	0.44	0.04
522819	51.86	0.324	19.00	0.01	< 0.01	0.01	0.01	0.01	1.36	0.021	0.262	5.32	100.1	30.3	3.318	26.220	10.9	29.538	2.25	0.05
522820-1	12.02	0.167	4.93	7.73	2.41	2.77	1.09	0.44	1.06	0.064	0.233	0.53	98.62							
522820-2	13.27	0.131	32.37	2.10	0.11	0.13	0.13	0.02	0.20	0.010	1.44	10.70	99.70							
522820-3	52.51	0.232	18.13	0.18	< 0.01	0.02	0.04	< 0.01	1.53	0.024	2.03	3.49	97.30	30.3	2.048	28.043	6.8	30.091	0.67	0.11
522821	53.98	0.266	19.07	0.02	< 0.01	0.02	0.02	< 0.01	1.10	0.021	0.685	5.06	98.81	30.2	3.188	25.807	10.5	29.122	3.47	0.07
522822	55.32	0.283	18.36	0.03	< 0.01	0.02	0.02	< 0.01	1.31	0.021	1.15	4.70	98.12	30.5	3.090	26.859	10.1	29.949	1.68	0.10
522823	55.82	0.268	18.79	0.02	0.03	0.02	0.02	< 0.01	1.24	0.020	0.688	4.88	98.35	30.1	3.164	26.191	10.4	29.368	1.26	0.09
522824	61.61	0.400	14.20	0.03	< 0.01	0.02	0.03	< 0.01	2.51	0.025	1.69	2.48	96.93	30.5	2.094	28.238	6.9	30.332	0.40	0.11
522825	55.17	0.272	18.59	0.02	< 0.01	0.02	0.02	0.01	1.40	0.021	1.37	4.15	97.87	30.4	3.300	26.846	10.9	30.146	0.74	0.12
522826	42.48	0.225	23.28	0.03	< 0.01	0.03	0.02	0.01	1.39	0.024	1.16	6.16	98.12	30.3	3.702	26.389	12.2	30.091	0.78	0.14
522827	50.46	0.218	19.89	0.45	< 0.01	0.02	0.02	< 0.01	1.72	0.025	1.36	3.85	97.75	30.3	2.407	26.928	7.9	29.335	3.31	0.05
522828	52.80	0.188	19.10	0.03	< 0.01	0.03	0.02	0.01	1.44	0.022	1.13	4.52	98.11	30.4	2.976	27.251	9.8	30.226	0.60	0.08
522829	53.03	0.206	19.07	0.04	< 0.01	0.03	0.03	0.01	1.40	0.023	1.13	4.42	98.09	30.4	3.421	26.788	11.3	30.208	0.51	0.06
522830	45.25	0.218	22.25	0.05	< 0.01	0.03	0.02	< 0.01	1.51	0.021	0.985	5.70	98.32	30.4	3.250	27.004	10.7	30.254	0.38	0.04
522831	47.94	0.229	21.26	0.03	< 0.01	0.02	0.03	0.01	1.53	0.019	1.59	5.23	98.36	30.5	3.185	26.980	10.5	30.165	0.96	0.09
522832	49.49	0.262	19.78	0.07	< 0.01	0.03	0.03	< 0.01	1.72	0.024	1.97	4.68	97.64	30.3	2.340	27.640	7.7	29.979	0.92	0.10
522833	42.58	0.277	23.03	0.04	< 0.01	0.03	0.02	0.01	1.68	0.020	1.99	5.62	98.28	30.5	3.021	27.472	9.9	30.493	-0.08	0.11
522834	61.26	0.231	14.59	0.03	< 0.01	0.03	0.03	0.01	1.91	0.027	2.62	2.05	97.41	30.4	1.965	28.255	6.5	30.221	0.61	0.07
522835	60.72	0.268	14.77	0.04	< 0.01	0.02	0.02	0.01	1.97	0.026	2.71	1.86	97.20	30.4	1.692	28.550	5.6	30.242	0.47	0.11
522836	45.90	0.223	22.22	0.09	< 0.01	0.03	0.03	0.01	1.31	0.022	1.89	4.26	98.28	30.4	2.730	28.315	9.0	31.045	-2.09	0.06
522837	56.22	0.272	16.71	0.09	< 0.01	0.03	0.02	0.02	2.08	0.025	2.30	3.35	97.30	30.1	1.970	27.924	6.5	29.894	0.81	0.09
522838	43.97	0.206	22.95	0.26	< 0.01	0.02	0.03	0.01	1.58	0.020	1.58	5.62	98.82	30.2	2.527	26.972	8.4	29.499	2.19	0.09
522839	46.96	0.265	21.68	0.36	< 0.01	0.02	0.03	< 0.01	2.24	0.026	2.17	3.10	97.69	30.3	2.011	27.825	6.6	29.836	1.46	0.09
522840	0.62	0.008	0.02	0.02	0.01	0.05	0.04	0.01	< 0.01	< 0.003	< 0.003	0.00	99.07	90.6	0.214	89.369	0.2	89.584	1.16	
522841	48.62	0.232	22.75	0.77	< 0.01	0.02	0.03	0.01	2.14	0.026	1.85	0.15	97.20	30.3	1.950	28.185	6.4	30.135	0.67	0.04
522842	52.62	0.212	20.75	0.27	< 0.01	0.02	0.03	0.01	1.46	0.026	1.67	3.33	97.81	30.1	1.619	28.153	5.4	29.771	0.98	0.05
522843	55.39	0.187	17.99	0.26	< 0.01	0.02	0.02	0.01	1.66	0.028	1.58	3.21	97.89	30.2	2.109	27.500	7.0	29.609	2.02	0.03
522844	54.12	0.274	18.41	0.79	< 0.01	0.02	0.03	0.01	2.56	0.035	1.91	1.41	97.60	30.3	1.655	28.437	5.5	30.093	0.84	0.02
522845	53.65	0.272	18.52	0.47	< 0.01	0.02	0.03	0.01	2.70	0.037	1.73	1.14	96.66	30.3	1.617	28.304	5.3	29.921	1.17	0.01
522846	46.16	0.248	20.96	0.30	< 0.01	0.02	0.03	0.01	2.33	0.031	1.91	4.70	97.06	30.2	1.707	27.979	5.6	29.686	1.75	0.03
522847	49.38	0.261	19.18	0.25	< 0.01	0.02	0.03	0.01	2.24	0.026	1.92	4.39	97.05	30.3	1.757	28.329	5.8	30.086	0.76	0.07

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
522848	56.11	0.277	6.84	6.87	0.35	0.04	0.57	0.04	1.61	0.043	1.11		99.73	90.7	0.298	89.742	0.3	90.040	0.68	0.02
522849	46.37	0.222	21.59	0.07	< 0.01	0.02	0.03	0.01	1.42	0.018	2.00	5.00	97.69	30.2	2.794	27.151	9.2	29.945	0.95	0.06
522850	54.35	0.169	18.93	0.22	< 0.01	0.02	0.03	0.03	1.29	0.021	1.31	4.20	98.14	30.1	3.023	27.231	10.0	30.254	-0.48	0.04
522851	71.72	0.174	10.32	0.04	0.03	0.02	0.02	0.01	1.60	0.028	2.08	0.47	97.09	30.3	2.197	27.838	7.3	30.036	0.85	0.08
522852	71.09	0.133	11.44	0.03	< 0.01	0.02	0.03	0.01	1.22	0.019	1.97	0.85	98.33	30.1	2.571	26.483	8.5	29.053	3.42	0.03
522853	42.73	0.149	24.26	0.05	< 0.01	0.02	0.02	0.01	1.05	0.018	1.60	5.86	98.40	30.5	3.605	26.704	11.8	30.309	0.56	0.02
522854	74.63	0.200	8.75	0.04	< 0.01	0.02	0.02	< 0.01	1.92	0.031	2.83	-0.36	96.65	30.5	1.941	28.358	6.4	30.298	0.61	0.04
522855	63.97	0.191	14.06	0.05	< 0.01	0.01	0.02	0.01	1.66	0.030	2.07	1.96	97.39	30.5	2.237	27.941	7.3	30.178	1.01	0.05
522856	61.51	0.217	15.83	0.05	< 0.01	0.01	0.02	< 0.01	1.78	0.023	1.95	2.50	98.21	30.3	2.422	27.574	8.0	29.996	0.87	0.03
522857	51.54	0.213	20.52	0.08	< 0.01	0.02	0.02	0.01	1.62	0.023	2.15	4.19	98.46	30.6	2.805	27.191	9.2	29.995	1.92	0.02
522858	65.81	0.180	13.80	0.08	< 0.01	0.01	0.02	0.01	1.63	0.021	2.45	1.33	97.72	30.4	1.826	28.311	6.0	30.136	0.74	0.02
522859	48.03	0.202	21.51	0.38	< 0.01	0.02	0.02	< 0.01	1.58	0.019	2.20	3.23	97.79	30.4	2.518	27.776	8.3	30.294	0.42	0.03
522860-1	12.04	0.165	5.03	7.74	2.38	2.81	1.10	0.44	1.05	0.062	0.230	0.56	98.50							
522860-2	13.13	0.125	32.03	2.08	0.10	0.14	0.13	0.03	0.20	0.008	1.43	10.89	98.80							
522860-3	52.45	0.229	18.16	0.16	< 0.01	0.02	0.04	< 0.01	1.54	0.028	2.02	3.30	97.22	30.3	1.997	27.587	6.6	29.584	2.34	0.10
522861	52.70	0.180	19.93	0.17	< 0.01	0.02	0.02	0.01	1.79	0.022	2.39	3.70	98.60	30.3	2.444	28.913	8.1	31.357	-3.62	0.02
522862	47.98	0.183	21.87	0.27	< 0.01	0.02	0.02	0.01	1.67	0.020	1.82	4.76	98.16	30.4	2.553	27.239	8.4	29.791	1.95	0.03
522863	54.94	0.148	18.99	0.11	< 0.01	0.02	0.02	0.01	1.40	0.020	1.55	2.76	97.41	30.1	2.727	27.003	9.1	29.730	1.18	0.02
522864	48.13	0.152	21.97	0.29	< 0.01	0.02	0.02	< 0.01	1.44	0.023	1.93	4.23	97.92	30.2	2.499	27.500	8.3	30.000	0.54	0.03
522865	50.30	0.155	20.69	0.27	< 0.01	0.02	0.02	0.01	1.64	0.021	1.68	4.01	97.61	30.3	2.578	27.211	8.5	29.789	1.84	0.01
522866	53.16	0.180	19.14	0.26	< 0.01	0.02	0.02	0.01	1.80	0.025	1.95	3.39	97.15	30.3	2.349	27.749	7.8	30.098	0.54	0.02
522867	47.88	0.101	22.48	0.26	< 0.01	0.02	0.02	0.03	1.20	0.023	1.97	4.41	98.29	30.1	2.951	26.740	9.8	29.692	1.52	0.03
522868	40.01	0.062	19.80	0.06	< 0.01	0.01	0.02	< 0.01	1.11	0.011	1.40	19.02	98.72	30.3	2.282	27.758	7.5	30.041	0.93	0.02
522869	57.99	0.142	16.07	0.11	< 0.01	0.02	0.02	0.01	2.09	0.029	2.21	2.71	96.78	30.1	1.941	28.105	6.5	30.046	0.09	< 0.01
522870	42.65	0.211	23.95	0.51	< 0.01	0.01	0.03	< 0.01	2.13	0.021	2.23	4.99	97.64	30.2	2.045	28.107	6.8	30.152	0.18	0.03
522871	41.44	0.191	24.16	0.37	< 0.01	0.02	0.03	0.01	1.96	0.023	2.49	4.68	97.33	30.4	1.643	28.579	5.4	30.222	0.57	0.02
522872	44.84	0.180	22.89	0.38	< 0.01	0.02	0.02	0.01	2.26	0.026	2.19	4.70	97.67	30.2	2.106	27.195	7.0	29.301	2.86	0.03
522873	53.42	0.149	18.61	0.51	< 0.01	0.01	0.03	0.01	1.96	0.028	2.70	3.29	98.14	30.1	1.857	27.523	6.2	29.380	2.42	0.02
522874	44.35	0.186	22.46	0.53	< 0.01	0.01	0.02	0.01	2.26	0.029	2.44	5.07	97.68	30.2	1.569	28.457	5.2	30.027	0.45	0.02
522875	47.01	0.190	21.11	0.51	< 0.01	0.02	0.02	< 0.01	2.39	0.028	2.62	4.51	97.61	30.2	1.523	28.684	5.0	30.208	0.10	0.01
522876	44.15	0.199	23.36	0.43	< 0.01	0.01	0.02	0.01	2.02	0.029	2.23	4.55	97.83	30.1	1.832	28.254	6.1	30.086	0.02	0.03
522877	50.04	0.187	20.24	0.29	< 0.01	0.02	0.03	0.01	2.30	0.028	2.47	3.85	97.84	30.2	1.879	28.038	6.2	29.916	0.85	0.03
522878	53.43	0.220	17.31	0.59	< 0.01	0.02	0.03	< 0.01	3.13	0.038	3.09	2.59	96.83	30.3	1.063	28.979	3.5	30.041	0.71	0.02
522879	43.43	0.188	21.26	0.52	0.02	0.02	0.04	0.02	2.52	0.031	2.54	4.33	96.25	30.1	1.179	27.820	3.9	28.999	3.70	0.02
522880	0.54	0.007	0.08	0.03	0.01	0.05	0.05	0.01	< 0.01	< 0.003	< 0.003	0.17	100.1	90.4	0.142	89.655	0.2	89.797	0.69	0.02
522881	41.44	0.199	23.38	0.49	0.01	0.03	0.03	< 0.01	2.55	0.028	3.09	4.54	97.14	30.1	1.025	28.951	3.4	29.976	0.56	< 0.01
522882	46.06	0.230	21.12	0.26	< 0.01	0.02	0.04	< 0.01	3.27	0.034	2.70	4.37	96.90	30.0	1.434	28.527	4.8	29.961	0.29	0.01
522883	49.58	0.208	20.07	0.20	0.05	0.02	0.03	< 0.01	3.15	0.034	1.72	4.37	97.80	30.4	2.334	27.940	7.7	30.274	0.36	< 0.01
522884	49.01	0.097	20.36	0.21	0.05	0.02	0.02	< 0.01	1.71	0.027	2.37	4.49	96.99	30.4	1.675	28.605	5.5	30.280	0.33	0.01
522885	42.87	0.169	22.70	0.85	0.01	0.02	0.03	< 0.01	2.20	0.031	2.15	5.01	96.99	30.6	1.652	28.847	5.4	30.499	0.21	< 0.01
522886	42.82	0.150	24.09	0.18	0.04	0.02	0.04	0.01	1.87	0.024	1.98	5.90	98.54	30.4	1.826	28.551	6.0	30.377	0.17	< 0.01
522887	40.98	0.129	25.14	0.13	< 0.01	0.01	0.02	< 0.01	0.96	0.016	1.07	7.56	98.23	30.4	3.695	26.475	12.2	30.170	0.76	0.02
522888	53.55	0.196	17.20	0.23	< 0.01	0.02	0.03	0.01	2.00	0.029	2.38	3.23	96.84	30.5	1.890	28.666	6.2	30.556	-0.07	0.03
522889	43.14	0.181	23.71	0.15	< 0.01	0.02	0.02	0.01	1.75	0.022	1.82	5.83	98.07	30.5	2.579	27.611	8.5	30.189	1.01	0.02
522890	50.31	0.319	18.13	0.57	< 0.01	0.02	0.03	< 0.01	3.97	0.047	2.64	2.53	96.71	30.4	0.947	27.758	3.1	28.705	5.61	0.01
522891	56.13	0.154	15.64	0.13	< 0.01	0.01	0.03	< 0.01	1.92	0.028	2.86	2.87	97.44	30.3	1.256	28.630	4.1	29.886	1.52	0.01
522892	48.34	0.228	20.41	0.67	0.03	0.02	0.03	< 0.01	2.61	0.037	2.10	3.04	96.74	30.5	1.344	28.912	4.4	30.257	0.68	0.01
522893	48.12	0.169	21.02	0.66	0.03	0.02	0.03	0.01	1.53	0.025	1.85	5.01	97.67	30.1	2.051	27.999	6.8	30.049	0.22	0.04
523681 DT Split PULP Dup																				

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
523701 DT Split Prep Dup																				
523709 DT Split PULP Dup																				
523739 DT Split PULP Dup																				
523747 DT Split Prep Dup																				
522767 DT Split PULP Dup																				
522795 DT Split PULP Dup																				
522796 DT Split Prep Dup																				
523823 DT Split PULP Dup																				
522843 DT Split Prep Dup																				
522853 DT Split PULP Dup																				
522881 DT Split PULP Dup																				

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
NIST 694 Meas	11.34	1.93	0.76	0.013	0.36	44.14	0.90	0.55	0.117	30.24									1678					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
NIST 694 Meas	11.62	1.91	0.75	0.013	0.34	43.22	0.87	0.55	0.117	30.22									1683					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
DNC-1 Meas	46.89	18.99	10.18	0.147	9.99	11.17	1.98	0.23	0.488	0.06			106	145	17	31	37		155	0.024	0.032			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148.0	0.025	0.027			
DNC-1 Meas	47.26	18.64	10.00	0.148	10.05	11.47	1.91	0.22	0.483	0.05			105	146	17	31	39		154					
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148.0					
GBW 07113 Meas	73.00	12.95	3.20	0.142	0.14	0.55	2.55	5.45	0.284	0.04			505	40	44	5	424	4	< 5					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
GBW 07113 Meas	72.23	13.01	3.20	0.140	0.14	0.58	2.52	5.44	0.283	0.02			502	42	45	5	402	4	< 5					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
MICA-FE Meas																						34.30	19.37	25.81
MICA-FE Cert																						34.4	19.5	25.6
MICA-FE Meas																						34.30	19.37	25.81
MICA-FE Cert																						34.4	19.5	25.6
CHR-BKG Meas																						15.32	12.88	13.82
CHR-BKG Cert																						15.27	12.91	13.87
IF-G Meas																						41.22	0.15	55.83
IF-G Cert																						41.2	0.150	55.8
IF-G Meas																						41.22	0.15	55.83
IF-G Cert																						41.2	0.150	55.8
LKSD-4 Meas																								
LKSD-4 Cert																								
BE-N Meas																						38.25	10.00	
BE-N Cert																						38.2	10.1	
BE-N Meas																						38.25	10.00	
BE-N Cert																						38.2	10.1	
BaSO4 Meas																								
BaSO4 Cert																								
W-2a Meas	52.09	14.88	11.16	0.164	6.18	10.75	2.23	0.61	1.063	0.12			172	192	20	35	90	< 1	275	0.011	< 0.010			
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262	0.00700	0.00920			
W-2a Meas	52.76	15.51	10.65	0.167	6.29	11.05	2.24	0.63	1.088	0.13			174	197	19	36	89	< 1	275					
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262					
OREAS 13P Meas																				0.226				
OREAS 13P Cert																				0.226				
OREAS 14P Meas																								
OREAS 14P Cert																								
OREAS 14P Meas																								
OREAS 14P Cert																								
SY-4 Meas	49.01	19.96	6.17	0.108	0.50	8.06	6.82	1.60	0.284	0.12			341	1203	113	< 1	530	3	< 5	< 0.010	< 0.010			
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0	0.000	0.001			
SY-4 Meas	49.51	20.36	6.17	0.106	0.51	8.03	6.88	1.63	0.282	0.19			340	1187	117	1	522	3	< 5					
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0					
Oreas 73a (Fusion) Meas																						36.46	2.36	
Oreas 73a (Fusion) Cert																						36.4	2.38	
Oreas 74a (Fusion) Meas																						32.56	2.15	
Oreas 74a (Fusion) Cert																						32.4	2.21	
Oreas 75a (Fusion) Meas																						27.40	1.95	
Oreas 75a (Fusion) Cert																						27.3	1.99	
Oreas 75a (Fusion) Meas																						27.30	2.00	
Oreas 75a (Fusion) Cert																						27.3	1.99	
BIR-1a Meas	48.28	15.95	11.85	0.171	9.56	13.31	1.90	0.02	0.988	0.02			7	109	13	44	17	< 1	342	0.035	0.024			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310	0	0			

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
BIR-1a Meas	47.68	15.87	11.07	0.171	9.61	13.35	1.85	0.02	0.943	0.04			7	110	14	43	16	< 1	335					
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310					
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
BCR-2 Meas	53.65	13.17	13.88		3.45	6.77	3.18	1.82	2.227	0.35			693	338	31	32	180		427		< 0.010			
BCR-2 Cert	54.1	13.5	13.8		3.59	7.12	3.16	1.79	2.26	0.35			683	346	37	33	188		416		0			
BCR-2 Meas	54.38	13.59	13.54		3.53	7.03	3.13	1.81	2.316	0.35			699	346	32	33	175		428					
BCR-2 Cert	54.1	13.5	13.8		3.59	7.12	3.16	1.79	2.26	0.35			683	346	37	33	188		416					
523663 Orig																								
523663 Dup																								
523668 Orig	21.18	1.21	39.34	0.135	19.82	0.37	0.02	0.02	0.043	< 0.01	13.08	95.21	40	5	5	7	17	< 1	119					
523668 Dup	38.90	1.88	7.48	0.076	37.25	1.20	0.02	< 0.01	0.020	0.02	13.08	99.93	< 2	< 2	< 1	13	3	< 1	51	0.196	0.212			
523673 Orig																								
523673 Dup																								
523681 Orig																				0.223	0.229	24.20	0.93	39.90
523681 Split	38.60	1.36	7.68	0.097	37.47	1.19	0.02	< 0.01	0.013	0.02	13.99	100.5	< 2	< 2	< 1	9	6	< 1	34	0.205	0.205	23.62	0.92	41.76
523685 Orig	37.80	1.77	7.71	0.099	37.51	1.57	0.02	< 0.01	0.019	0.02	13.69	100.2	< 2	< 2	< 1	11	2	< 1	51	0.213	0.222			
523685 Dup	37.90	1.81	6.66	0.098	37.02	1.54	0.02	< 0.01	0.018	0.01	13.69	98.78	< 2	< 2	< 1	11	4	< 1	50	0.166	0.214			
523693 Orig																								
523693 Dup																								
523701 Orig																				0.226	0.229	18.24	0.39	51.63
523701 Split	37.07	0.75	7.90	0.114	37.87	0.37	0.02	< 0.01	0.005	0.02	13.42	97.56	< 2	< 2	< 1	10	3	< 1	24	0.207	0.209	16.21	0.33	61.15
523703 Orig																								
523703 Dup																								
523709 Orig																				0.216	0.242	23.63	0.44	38.67
523709 Split	38.65	0.80	7.80	0.133	38.31	1.27	0.02	< 0.01	0.006	< 0.01	12.12	99.11	< 2	< 2	< 1	10	2	< 1	37	0.206	0.212	23.66	0.35	41.66
523713 Orig																								
523713 Dup																								
523715 Orig	36.81	0.79	9.36	0.088	37.99	0.37	0.03	< 0.01	0.005	< 0.01	13.26	98.71	< 2	< 2	< 1	11	3	< 1	34	0.238	0.226			
523715 Dup	37.49	0.81	9.41	0.089	38.53	0.38	0.03	< 0.01	0.005	< 0.01	13.26	100.00	< 2	< 2	< 1	11	3	< 1	35	0.233	0.228			
523723 Orig																								
523723 Dup																								
523724 Orig																						17.21	0.63	54.89
523724 Dup																						17.20	0.42	55.51
523732 Orig	36.97	0.59	8.34	0.099	39.80	0.22	0.02	< 0.01	0.005	< 0.01	13.22	99.27	< 2	< 2	< 1	7	3	< 1	24	0.229	0.241			
523732 Dup	37.34	0.60	8.29	0.099	40.47	0.22	0.02	< 0.01	0.005	< 0.01	13.22	100.3	< 2	< 2	< 1	7	3	< 1	23	0.244	0.236			
523733 Orig																								
523733 Dup																								
523739 Orig	44.58	12.41	9.37	0.179	8.98	18.14	0.86	0.04	1.821	0.46	3.03	99.87	62	612	24	20	160	< 1	168	0.031	0.029	44.96	12.41	9.37
523739 Split	44.31	12.31	9.17	0.174	8.19	18.94	0.75	0.04	1.809	0.43	3.23	99.35	57	654	24	21	156	< 1	168	0.030	0.026	44.69	12.31	9.17
523739 Split	45.28	12.41	9.20	0.174	8.23	18.54	0.76	0.04	1.843	0.41	3.08	99.97	56	642	24	21	148	< 1	167					
523747 Orig																				0.234	0.230	19.37	0.65	53.55
523747 Split	39.49	1.36	7.86	0.095	37.54	0.13	< 0.01	< 0.01	0.015	0.01	13.03	99.54	< 2	< 2	< 1	8	3	< 1	38	0.211	0.206	28.36	0.77	33.25
522755 Orig																								
522755 Dup																								
522760 Orig	98.17	0.29	0.61	0.007	0.04	0.02	0.02	0.05	0.028	< 0.01	0.09	99.33	24	7	< 1	< 1	54	< 1	< 5					
522760 Dup	97.39	0.30	0.61	0.007	0.03	0.02	0.02	0.05	0.029	< 0.01	0.09	98.55	24	7	< 1	< 1	54	< 1	< 5					
522762 Orig																		< 1						
522762 Dup	36.54	0.43	8.06	0.097	40.87	0.09	0.02	< 0.01	0.002	< 0.01	14.67	100.8	< 2	< 2	< 1	4	4	< 1	14	0.136	0.260			
522762 Dup																		< 1						
522766 Orig																								
522766 Dup																								
522767 Orig																				0.174	0.209	19.10	0.89	47.70
522767 Split	38.95	1.19	7.69	0.128	38.34	1.46	0.01	< 0.01	0.016	0.01	12.71	100.5	< 2	< 2	< 1	11	3	< 1	42	0.190	0.211	21.82	0.85	43.14
522767 Split																								
522776 Orig																								

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
522776 Dup																								
522779 Orig	38.68	1.56	7.53	0.113	37.77	1.04	0.01	< 0.01	0.019	0.01	11.94	98.67	< 2	< 2	< 1	10	< 2	< 1	44	0.177	0.214			
522779 Dup	38.51	1.53	7.47	0.113	37.58	1.06	< 0.01	< 0.01	0.019	0.01	11.94	98.24	< 2	< 2	< 1	10	< 2	< 1	47	0.194	0.211			
522787 Orig																								
522787 Dup																								
522795 Orig																						23.17	1.70	39.39
522795 Split	40.66	1.57	7.80	0.140	37.44	2.24	0.03	< 0.01	0.019	0.01	10.94	100.9	< 2	< 2	< 1	11	2	< 1	45	0.193	0.203	18.19	1.42	49.39
522795 Orig	39.35	1.60	7.43	0.130	36.25	1.92	0.02	< 0.01	0.019	< 0.01	10.98	97.71	< 2	< 2	< 1	11	3	< 1	48					
522795 Dup	39.74	1.61	7.83	0.133	37.07	2.00	0.02	< 0.01	0.019	< 0.01	10.98	99.40	< 2	< 2	2	11	3	< 1	49	0.190	0.247			
522796 Orig																						21.17	1.26	45.87
522796 Split	40.66	1.60	7.62	0.133	37.01	2.08	0.03	< 0.01	0.019	0.02	11.16	100.3	< 2	< 2	< 1	11	2	< 1	46	0.185	0.199	24.01	1.60	38.93
522796 Orig	38.53	1.66	8.39	0.106	37.68	0.84	0.01	< 0.01	0.019	< 0.01	12.40	99.64	< 2	< 2	2	11	< 2	< 1	55	0.205	0.242			
522796 Dup	38.94	1.66	8.54	0.107	37.37	0.86	0.01	< 0.01	0.020	< 0.01	12.40	99.90	< 2	< 2	1	12	2	< 1	54	0.182	0.245			
522797 Orig																								
522797 Dup																								
522805 Dup	37.74	1.93	9.04	0.080	37.55	0.49	< 0.01	< 0.01	0.021	< 0.01	13.00	99.84	< 2	3	1	14	5	< 1	56					
522808 Orig																								
522808 Dup																								
522812 Orig	37.14	1.71	8.75	0.093	37.41	0.35	< 0.01	< 0.01	0.021	0.01	13.13	98.62	2	< 2	< 1	13	3	< 1	56	0.196	0.225			
522812 Dup	37.86	1.74	9.88	0.093	37.35	0.33	< 0.01	< 0.01	0.021	0.01	13.13	100.4	< 2	< 2	< 1	13	< 2	< 1	59	0.210	0.225			
522818 Orig																								
522818 Dup																								
522823 Orig																				0.228	0.222	15.66	0.63	55.82
522823 Split	36.71	0.62	8.23	0.115	39.06	0.03	< 0.01	< 0.01	0.004	0.03	14.85	99.66	< 2	< 2	< 1	8	5	< 1	26	0.222	0.224	18.70	0.52	48.58
522828 Orig																								
522828 Dup																								
522829 Orig	36.86	0.66	8.90	0.105	38.49	0.04	< 0.01	< 0.01	0.003	0.03	14.27	99.36	< 2	< 2	< 1	9	2	< 1	34	0.197	0.242			
522829 Dup	36.49	0.66	8.76	0.103	38.36	0.04	< 0.01	< 0.01	0.003	0.01	14.27	98.70	< 2	< 2	< 1	9	< 2	< 1	34	0.240	0.234			
522838 Orig																								
522838 Dup																								
522843 Orig																				0.207	0.222	16.90	0.66	55.39
522843 Split	38.68	0.70	8.03	0.104	39.76	0.12	< 0.01	< 0.01	0.003	< 0.01	13.27	100.7	< 2	< 2	< 1	8	2	< 1	27	0.198	0.204	15.68	0.66	58.42
522848 Orig	42.10	12.59	10.79	0.175	10.75	16.02	1.18	0.06	1.245	0.06	4.82	99.80	30	115	27	38	71	< 1	282					
522848 Dup	42.26	12.79	11.00	0.179	10.88	16.27	1.17	0.06	1.270	0.09	4.82	100.8	30	116	27	39	72	< 1	290					
522849 Orig																								
522849 Dup																								
522853 Orig																				0.178	0.217	22.20	0.47	42.73
522853 Split	37.80	0.70	7.96	0.089	37.69	0.08	< 0.01	< 0.01	0.004	0.04	13.91	98.27	< 2	< 2	< 1	10	4	< 1	28	0.195	0.201	19.22	0.41	46.83
522859 Orig	38.63	0.68	7.86	0.140	39.70	1.15	< 0.01	< 0.01	0.006	< 0.01	12.77	101.0	< 2	< 2	< 1	9	< 2	< 1	37	0.210	0.212			
522859 Dup	38.02	0.68	7.77	0.137	39.22	1.13	< 0.01	< 0.01	0.005	< 0.01	12.77	99.72	< 2	< 2	< 1	9	< 2	< 1	36	0.227	0.214			
522867 Orig																						19.52	0.60	47.71
522867 Dup																						19.12	0.55	48.05
522869 Orig																								
522869 Dup																								
522876 Orig	37.58	0.68	8.26	0.135	39.58	0.87	< 0.01	< 0.01	0.003	< 0.01	11.98	99.09	< 2	< 2	< 1	9	3	< 1	36	0.206	0.220			
522876 Dup	37.41	0.68	8.19	0.134	39.93	0.87	< 0.01	< 0.01	0.003	< 0.01	11.98	99.20	< 2	< 2	< 1	9	< 2	< 1	37	0.194	0.219			
522879 Orig																								
522879 Dup																								
522881 Orig																				0.194	0.178	20.97	0.38	41.44
522881 Split	39.32	0.58	7.61	0.121	40.00	0.59	< 0.01	< 0.01	0.005	0.01	11.88	100.1	< 2	< 2	< 1	8	3	< 1	21	0.194	0.172	22.55	0.54	39.75
522889 Orig																								
522889 Dup																								
522891 Orig																				0.208	0.195			
522891 Split	37.97	0.86	7.36	0.091	37.62	0.24	0.03	0.01	0.005	0.02	14.07	98.28	< 2	< 2	< 1	7	3	< 1	26	0.200	0.183			
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank																						< 0.01	< 0.01	< 0.01
Method Blank																								

Quality Control																								
Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
Method Blank																						< 0.01	< 0.01	< 0.01

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	% Loss Mass	Calculated Start Mass	Magnetic Fraction	Non-Mag Fraction	Start Mass	Weight % Magnetics	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	g	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
NIST 694 Meas																			
NIST 694 Cert																			
NIST 694 Meas																			
NIST 694 Cert																			
DNC-1 Meas																			
DNC-1 Cert																			
DNC-1 Meas																			
DNC-1 Cert																			
GBW 07113 Meas																			
GBW 07113 Cert																			
GBW 07113 Meas																			
GBW 07113 Cert																			
MICA-FE Meas	0.354	4.54	0.51	0.51	8.78	2.52	0.42	0.02	0.026	0.004									
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350									
MICA-FE Meas	0.354	4.54	0.51	0.51	8.78	2.52	0.42	0.02	0.026	0.004									
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350									
CHR-BKG Meas	0.138	23.42	0.06			0.13		19.9		0.198									
CHR-BKG Cert	0.14	23.47	0.07			0.14		20		0.201									
IF-G Meas	0.041	1.89	1.53	0.05	0.02	0.03	0.06	0.01		< 0.003									
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225									
IF-G Meas	0.041	1.89	1.53	0.05	0.02	0.03	0.06	0.01		< 0.003									
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225									
LKSD-4 Meas																			0.91
LKSD-4 Cert																			0.990
BE-N Meas	0.202	13.20	13.94	3.12	1.39	2.68	1.08	0.04	0.042	0.027									
BE-N Cert	0.200	13.1	13.9	3.18	1.39	2.61	1.05	0.0360	0.042	0.0267									
BE-N Meas	0.202	13.20	13.94	3.12	1.39	2.68	1.08	0.04	0.042	0.027									
BE-N Cert	0.200	13.1	13.9	3.18	1.39	2.61	1.05	0.0360	0.042	0.0267									
BaSO4 Meas																			13.6
BaSO4 Cert																			14.0
W-2a Meas																			
W-2a Cert																			
W-2a Meas																			
W-2a Cert																			
OREAS 13P Meas										0.227									
OREAS 13P Cert										0.226									
OREAS 14P Meas										2.10									
OREAS 14P Cert										2.10									
OREAS 14P Meas										2.10									
OREAS 14P Cert										2.10									
SY-4 Meas																			
SY-4 Cert																			
SY-4 Meas																			
SY-4 Cert																			
Oreas 73a (Fusion) Meas		32.52						0.20		1.43									
Oreas 73a (Fusion) Cert		32.5						0.20		1.44									
Oreas 74a (Fusion) Meas		28.02						0.18		3.22									
Oreas 74a (Fusion) Cert		27.9						0.18		3.24									
Oreas 75a (Fusion) Meas		22.15						0.15		5.25									
Oreas 75a (Fusion) Cert		22.3						0.16		5.25									
Oreas 75a (Fusion) Meas		22.51						0.15		5.24									
Oreas 75a (Fusion) Cert		22.3						0.16		5.25									
BIR-1a Meas																			

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	% Loss Mass	Calculated Start Mass	Magnetic Fraction	Non-Mag Fraction	Start Mass	Weight % Magnetics	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	g	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
BIR-1a Cert																			
BIR-1a Meas																			
BIR-1a Cert																			
OREAS 13b (4-Acid) Meas																			1.19
OREAS 13b (4-Acid) Cert																			1.20
BCR-2 Meas																			
BCR-2 Cert																			
BCR-2 Meas																			
BCR-2 Cert																			
523663 Orig																			0.01
523663 Dup																			< 0.01
523668 Orig																			
523668 Dup																			
523673 Orig																			0.03
523673 Dup																			0.03
523681 Orig	0.151	24.74	0.15	< 0.01	0.03	0.04	0.01	1.04	0.016	1.20	6.01	98.37							
523681 Split	0.149	23.25	0.13	< 0.01	0.02	0.04	0.01	1.10	0.019	1.26	6.11	98.35	-0.25	30.507	2.888	27.618	30.4	9.5	0.02
523685 Orig																			
523685 Dup																			
523693 Orig																			0.04
523693 Dup																			0.04
523701 Orig	0.186	19.52	0.12	< 0.01	0.02	0.03	< 0.01	1.68	0.023	1.75	4.56	98.11							
523701 Split	0.190	13.09	0.07	< 0.01	0.01	0.04	0.01	1.98	0.030	2.04	1.73	96.85	0.09	30.232	1.655	28.576	30.3	5.5	0.03
523703 Orig																			0.15
523703 Dup																			0.15
523709 Orig	0.199	25.11	1.01	< 0.01	0.02	0.03	0.01	1.42	0.019	1.49	6.64	98.64							
523709 Split	0.189	23.21	0.94	< 0.01	0.01	0.03	0.01	1.46	0.021	1.39	5.62	98.50	0.81	30.000	2.225	27.775	30.2	7.4	0.04
523713 Orig																			0.08
523713 Dup																			0.09
523715 Orig																			
523715 Dup																			
523723 Orig																			0.10
523723 Dup																			0.10
523724 Orig	0.199	17.52	0.97	< 0.01	0.02	0.04	< 0.01	1.45	0.024	1.69	3.33	97.94							
523724 Dup	0.187	17.24	0.92	< 0.01	0.03	0.04	0.01	1.35	0.023	1.48	3.33	97.74							
523732 Orig																			
523732 Dup																			
523733 Orig																			0.01
523733 Dup																			0.01
523739 Orig	0.179	8.98	18.14	0.86	0.04	1.82	0.46	0.03	0.030	0.030	0.00	97.22							
523739 Split	0.174	8.19	18.94	0.75	0.04	1.81	0.43	0.03	0.030	0.029	0.00	96.50	1.77	29.943	0.014	29.929	30.5	0.0	< 0.01
523739 Split																			
523747 Orig	0.335	18.83	0.12	< 0.01	0.03	0.03	0.01	1.31	0.019	0.240	4.13	98.58							0.03
523747 Split	0.219	27.60	0.10	0.01	0.02	0.03	0.01	0.82	0.014	0.238	7.79	99.23	1.46	29.992	5.175	24.817	30.4	17.0	0.04
522755 Orig																			0.03
522755 Dup																			0.04
522760 Orig																			
522760 Dup																			
522762 Orig																			
522762 Dup																			
522762 Dup																			
522766 Orig																			0.07
522766 Dup																			0.07
522767 Orig	0.204	19.91	0.34	< 0.01	0.03	0.05	0.01	1.85	0.031	2.70	3.86	96.63							0.05

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	% Loss Mass	Calculated Start Mass	Magnetic Fraction	Non-Mag Fraction	Start Mass	Weight % Magnetics	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	g	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
522767 Split	0.195	22.97	0.38	0.16	0.03	0.04	0.01	1.69	0.026	2.28	5.01	98.60	0.97	30.053	1.891	28.162	30.3	6.2	< 0.01
522767 Split																			< 0.01
522776 Orig																			0.03
522776 Dup																			0.03
522779 Orig																			
522779 Dup																			
522787 Orig																			0.08
522787 Dup																			0.08
522795 Orig	0.202	22.67	1.12	< 0.01	0.03	0.05	0.01	1.75	0.023	3.39	3.82	97.28							0.03
522795 Split	0.237	17.79	0.97	0.03	0.03	0.05	0.01	2.37	0.030	4.47	1.69	96.68	0.86	30.090	0.859	29.230	30.4	2.8	0.04
522795 Orig																			
522795 Dup																			
522796 Orig	0.149	20.91	0.44	< 0.01	0.02	0.06	0.01	1.22	0.025	2.14	4.44	97.66							0.03
522796 Split	0.209	23.50	1.22	0.02	0.02	0.06	0.01	1.74	0.022	3.17	4.05	98.56	0.77	30.236	1.276	28.960	30.5	4.2	0.03
522796 Orig																			
522796 Dup																			
522797 Orig																			0.02
522797 Dup																			0.02
522805 Dup																			
522808 Orig																			0.04
522808 Dup																			0.04
522812 Orig																			
522812 Dup																			
522818 Orig																			0.04
522818 Dup																			0.04
522823 Orig	0.268	18.89	0.03	0.03	0.02	0.02	< 0.01	1.39	0.021	0.696	4.88	98.35							0.09
522823 Split	0.251	22.41	0.03	< 0.01	0.01	0.02	0.01	1.22	0.019	0.639	6.27	98.66	1.13	30.117	3.892	26.226	30.5	12.8	0.08
522828 Orig																			0.08
522828 Dup																			0.08
522829 Orig																			
522829 Dup																			
522838 Orig																			0.10
522838 Dup																			0.09
522843 Orig	0.187	17.99	0.26	< 0.01	0.02	0.02	0.01	1.66	0.028	1.58	3.21	97.89							0.03
522843 Split	0.192	16.28	0.27	< 0.01	0.02	0.02	0.01	1.78	0.032	1.79	2.39	97.53	1.39	30.007	2.019	27.988	30.4	6.6	0.03
522848 Orig																			
522848 Dup																			
522849 Orig																			0.06
522849 Dup																			0.06
522853 Orig	0.149	24.26	0.05	< 0.01	0.02	0.02	0.01	1.05	0.018	1.60	5.86	98.40							0.02
522853 Split	0.134	23.02	0.05	0.02	0.02	0.02	0.01	0.94	0.015	1.28	5.78	97.75	1.24	29.958	3.408	26.551	30.3	11.2	0.02
522859 Orig																			0.03
522859 Dup																			0.03
522867 Orig	0.102	22.66	0.37	< 0.01	0.02	0.02	0.05	1.20	0.025	1.82	4.41	98.51							
522867 Dup	0.100	22.29	0.16	< 0.01	0.02	0.02	0.01	1.20	0.022	2.13	4.41	98.08							
522869 Orig																			0.01
522869 Dup																			< 0.01
522876 Orig																			
522876 Dup																			
522879 Orig																			0.02
522879 Dup																			0.02
522881 Orig	0.199	23.38	0.49	0.01	0.03	0.03	< 0.01	2.55	0.028	3.09	4.54	97.14							< 0.01
522881 Split	0.167	25.36	0.51	< 0.01	0.02	0.03	0.01	2.09	0.024	2.60	4.00	97.63	0.80	30.072	1.245	28.827	30.3	4.1	< 0.01
522889 Orig																			0.02
522889 Dup																			0.02
522891 Orig																			

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	% Loss Mass	Calculated Start Mass	Magnetic Fraction	Non-Mag Fraction	Start Mass	Weight % Magnetics	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	g	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
522891 Split													0.72	29.911	1.053	28.858	30.1	3.5	
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01							
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01							
Method Blank																			< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01							

Quality Analysis ... *Innovative Technologies*

Date Submitted: 29-Aug-11
Invoice No.: A11-9537 (i)
Invoice Date: 04-Dec-11
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road
Suite 2
Sudbury Ontario P3C 4Y9
Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

6 Pulp samples, 3 Pulp and Rock samples and 150 Rock samples were submitted for analysis.

The following analytical packages were requested:

REPORT **A11-9537 (i)**

Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (1-10) Whole Rock Analysis-XRF
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID
Code Weight Report Received and Pulp Weights

Notes:
Total includes all elements in % oxide to the left of total.

Samplesw with no data were insufficient for analysis

CERTIFIED BY :

Eric Hoffman Ph.D.
President/General Manager

SCC Accredited LAB 265
LAB 266 Accrédité CCN

ACTIVATION LABORATORIES LTD.

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E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
523501	41.87	4.98	9.93	0.144	19.58	17.42	0.04	0.02	0.940	0.10	5.62	100.7	4	7	19	22	59	< 1	227	0.098	0.065	523501	34.02	3.91
523502	39.52	1.17	8.71	0.116	38.51	0.16	< 0.01	< 0.01	0.016	0.02	12.71	100.9	< 2	< 2	< 1	10	4	< 1	43	0.258	0.233	523502	13.86	0.52
523503	39.42	1.10	8.64	0.130	38.50	0.06	0.02	0.02	0.014	0.01	12.14	100.1	< 2	< 2	< 1	8	3	< 1	33	0.240	0.223	523503	12.94	0.53
523504	39.51	1.16	8.41	0.147	38.97	1.24	0.03	0.02	0.013	0.01	11.23	100.7	< 2	< 2	< 1	10	3	< 1	37	0.246	0.225	523504	16.63	0.66
523505	39.29	1.22	56.97	0.105	39.26	0.58	0.03	0.01	0.011	< 0.01	12.44	100.7	< 2	< 2	< 1	11	3	< 1	43	0.227	0.244	523505	12.89	0.47
523506	38.24	1.24	7.96	0.118	37.14	0.77	0.03	0.02	0.011	< 0.01	12.46	97.99	< 2	< 2	< 1	10	3	< 1	46	0.245	0.244	523506	14.24	0.52
523507	38.07	1.38	8.88	0.102	38.28	0.06	0.09	0.04	0.013	< 0.01	12.77	99.69	< 2	< 2	< 1	10	3	< 1	43	0.247	0.262	523507	19.80	0.35
523508	38.29	1.29	7.57	0.098	38.72	0.06	0.01	< 0.01	0.011	< 0.01	12.77	98.83	< 2	< 2	< 1	10	3	< 1	44	0.228	0.252	523508	21.32	0.75
523509	36.66	1.00	9.06	0.119	37.99	0.13	0.03	0.01	0.012	< 0.01	12.90	97.91	< 2	< 2	< 1	8	3	< 1	40	0.252	0.276	523509	9.06	0.28
523510	38.28	1.16	8.21	0.123	37.90	0.54	0.10	0.05	0.008	< 0.01	11.65	98.02	< 2	< 2	< 1	10	3	< 1	40	0.262	0.233	523510	13.68	0.49
523511	37.91	1.07	8.58	0.097	37.97	0.71	0.02	0.01	0.008	< 0.01	12.82	99.20	< 2	< 2	< 1	10	2	< 1	43	0.252	0.238	523511	12.08	0.53
523512	37.77	1.15	8.48	0.095	38.77	0.43	0.03	0.01	0.008	< 0.01	12.54	99.28	< 2	< 2	< 1	9	2	< 1	39	0.262	0.232	523512	17.04	0.53
523513	37.71	0.96	8.11	0.108	39.45	0.66	0.02	< 0.01	0.009	< 0.01	11.99	99.05	< 2	< 2	< 1	9	3	< 1	39	0.232	0.227	523513	16.95	0.45
523514	37.80	1.12	8.45	0.104	37.95	0.91	0.02	< 0.01	0.008	< 0.01	12.04	98.41	< 2	< 2	< 1	11	3	< 1	44	0.222	0.243	523514	15.02	0.47
523515	38.79	1.17	8.13	0.097	38.34	0.86	0.02	< 0.01	0.008	< 0.01	12.29	99.73	< 2	< 2	< 1	11	3	< 1	44	0.227	0.233	523515	14.22	0.53
523516	38.39	0.96	8.80	0.123	39.25	0.75	0.02	< 0.01	0.008	< 0.01	12.02	100.3	< 2	< 2	< 1	12	3	< 1	38	0.225	0.234	523516	14.68	0.47
523517	39.04	1.13	8.04	0.090	39.17	0.20	< 0.01	< 0.01	0.009	0.02	13.04	100.7	< 2	< 2	< 1	12	3	< 1	42	0.254	0.246	523517	23.28	0.61
523518	41.04	5.64	9.86	0.143	23.73	10.95	0.51	0.04	0.781	0.08	6.70	99.46	5	28	16	22	47	< 1	200	0.123	0.131	523518	12.89	1.34
523519	43.30	7.85	9.09	0.132	20.37	9.50	1.20	0.15	0.732	0.07	7.46	99.85	13	66	14	20	38	< 1	183	0.110	0.104	523519	15.55	0.98
523520	99.09	0.32	0.58	0.007	0.07	0.03	0.02	0.05	0.033	0.01	0.34	100.6	22	4	2	< 1	56	< 1	< 5	< 0.010	< 0.010	523520	97.14	0.39
523521	40.31	1.03	7.93	0.105	38.12	0.08	0.03	< 0.01	0.010	0.01	11.78	99.41	< 2	< 2	< 1	10	2	< 1	36	0.228	0.212	523521	16.50	0.29
523522	39.38	0.84	8.35	0.161	39.42	0.04	0.03	< 0.01	0.010	0.02	11.94	100.2	< 2	< 2	< 1	8	2	< 1	29	0.239	0.229	523522	21.44	0.70
523523	39.96	1.36	7.34	0.089	38.20	0.08	0.01	< 0.01	0.011	0.02	12.36	99.45	< 2	< 2	< 1	9	< 2	< 1	38	0.232	0.231	523523	13.35	0.70
523524	39.58	0.96	8.06	0.127	39.23	0.36	0.01	< 0.01	0.009	0.01	12.18	100.5	< 2	< 2	< 1	9	2	< 1	32	0.227	0.202	523524	22.08	0.68
523525	39.56	1.07	8.01	0.109	39.20	0.40	0.01	< 0.01	0.009	0.02	12.23	100.6	< 2	< 2	< 1	9	3	< 1	31	0.211	0.224	523525	21.57	0.73
523526	38.32	0.91	8.10	0.137	37.45	1.38	0.01	< 0.01	0.008	< 0.01	11.64	97.96	< 2	< 2	< 1	10	2	< 1	41	0.229	0.231	523526	19.03	0.60
523527	37.77	1.04	8.12	0.090	37.75	0.97	0.02	< 0.01	0.009	< 0.01	12.80	98.58	< 2	< 2	< 1	9	< 2	< 1	39	0.263	0.233	523527	21.66	0.53
523528	37.91	0.97	8.07	0.104	38.41	0.56	0.02	0.01	0.009	< 0.01	12.47	98.55	< 2	< 2	< 1	8	< 2	< 1	33	0.240	0.232	523528	17.19	0.33
523529	37.59	1.03	7.77	0.091	37.03	0.79	0.01	< 0.01	0.010	< 0.01	13.31	97.64	< 2	< 2	< 1	8	2	< 1	38	0.247	0.258	523529	18.11	0.33
523530	39.10	1.10	8.02	0.101	37.90	0.76	0.03	0.01	0.008	< 0.01	11.86	98.91	< 2	< 2	< 1	9	2	< 1	38	0.219	0.188	523530	16.93	0.50
523531	38.63	1.23	7.73	0.094	37.18	0.71	0.02	< 0.01	0.009	< 0.01	12.41	98.04	< 2	< 2	< 1	10	3	< 1	42	0.207	0.228	523531	20.06	0.70
523532	39.85	1.14	7.58	0.124	37.44	1.58	0.02	< 0.01	0.010	< 0.01	11.28	99.03	< 2	< 2	< 1	10	2	< 1	41	0.233	0.229	523532	18.89	0.70
523533	38.50	1.07	7.96	0.104	38.28	0.41	0.02	0.01	0.010	< 0.01	12.63	98.99	< 2	< 2	< 1	10	3	< 1	39	0.231	0.222	523533	26.90	0.80
523534	37.63	1.17	8.14	0.081	37.59	0.08	0.03	0.01	0.027	< 0.01	13.05	97.82	< 2	< 2	< 1	10	4	< 1	45	0.232	0.227	523534	22.43	0.89
523535	37.60	1.11	8.05	0.081	38.16	0.07	< 0.01	< 0.01	0.027	< 0.01	12.96	98.07	< 2	< 2	< 1	10	4	< 1	44	0.233	0.229	523535	30.07	0.79
523536	36.96	1.15	7.78	0.085	38.64	0.07	0.02	< 0.01	0.015	< 0.01	13.09	97.83	< 2	< 2	< 1	8	< 2	< 1	39	0.260	0.258	523536	20.04	0.85
523537	37.72	0.93	8.44	0.121	38.50	0.15	0.02	< 0.01	0.007	< 0.01	12.21	98.11	< 2	< 2	< 1	10	3	< 1	34	0.251	0.211	523537	14.15	0.22
523538	37.48	0.86	7.77	0.124	39.02	0.62	0.01	< 0.01	0.007	0.02	11.75	97.67	< 2	< 2	< 1	9	2	< 1	34	0.238	0.243	523538	14.65	0.11
523539	37.78	0.91	7.56	0.106	40.22	0.29	0.02	0.01	0.006	0.01	11.56	98.49	< 2	< 2	< 1	8	3	< 1	29	0.221	0.225	523539	18.51	0.27
523540-1	49.94	15.62	12.37	0.166	4.98	7.99	2.34	2.82	1.210	0.43	0.93	98.79	742	529	22	26	108	2	343	0.226	0.997	523540	49.11	16.09
523540-2																						523540	36.02	2.42
523540-3																						523540	18.27	0.58
523541	36.95	0.83	9.00	0.131	39.91	0.52	0.03	0.02	0.010	0.04	11.02	98.46	3	< 2	< 1	10	4	< 1	30	0.250	0.244	523541	11.98	0.31
523542	37.67	0.82	8.64	0.136	38.29	0.53	0.01	< 0.01	0.007	< 0.01	11.57	97.69	< 2	< 2	< 1	9	3	< 1	33	0.271	0.233	523542	11.66	0.20
523543	37.19	0.93	7.63	0.100	39.58	0.58	0.02	< 0.01	0.008	0.03	11.93	98.00	< 2	< 2	< 1	9	3	< 1	33	0.226	0.239	523543	10.24	0.16
523544	37.71	0.90	7.93	0.117	40.78	0.54	0.01	< 0.01	0.007	0.03	11.66	99.70	< 2	< 2	< 1	9	3	< 1	31	0.234	0.206	523544	12.43	1.16
523545	37.00	1.01	7.49	0.084	40.35	0.58	0.02	< 0.01	0.007	0.03	12.67	99.25	< 2	< 2	< 1	10	< 2	< 1	34	0.255	0.245	523545	12.54	0.54
523546	38.24	0.84	8.77	0.142	38.52	1.44	0.01	< 0.01	0.007	< 0.01	10.75	98.74	< 2	< 2	< 1	9	3	< 1	38	0.253	0.231	523546	12.09	0.75
523547	37.68	1.29	7.95	0.071	38.11	0.20	0.03	0.01	0.007	0.01	12.86	98.22	< 2	< 2	< 1	9	4	< 1	46	0.217	0.247	523547	11.26	0.90
523548	36.86	0.87	8.95	0.120	38.27	0.61	0.01	< 0.01	0.007	< 0.01	12.33	98.03	< 2	< 2	< 1	12	4	< 1	38	0.228	0.246	523548	11.59	0.48
523549	38.67	0.97	7.82	0.135	39.24	0.66	0.02	0.02	0.006	0.01	11.31	98.87	< 2	< 2	< 1	8	5	< 1	33	0.231	0.205	523549	14.44	0.45

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
523550	38.02	1.30	7.50	0.083	39.00	0.49	0.01	< 0.01	0.007	0.01	12.80	99.23	< 2	< 2	< 1	11	3	< 1	44	0.211	0.241	523550	14.24	0.81
523551	38.73	0.88	7.36	0.146	38.45	1.14	0.03	0.02	0.007	< 0.01	11.51	98.26	< 2	< 2	< 1	10	2	< 1	39	0.160	0.226	523551	14.43	0.47
523552	38.12	1.00	7.70	0.110	38.92	0.72	0.02	< 0.01	0.007	< 0.01	12.48	99.09	< 2	< 2	< 1	9	3	< 1	38	0.215	0.226	523552	18.04	0.34
523553	37.79	0.92	8.15	0.138	38.88	0.90	0.02	< 0.01	0.007	0.01	11.50	98.33	< 2	< 2	< 1	10	3	< 1	38	0.247	0.235	523553	13.02	0.47
523554	38.08	1.01	8.57	0.125	38.30	0.83	0.05	0.02	0.007	0.02	11.63	98.64	< 2	< 2	< 1	11	3	< 1	38	0.234	0.217	523554	9.50	0.13
523555	37.47	0.96	8.29	0.121	38.26	0.99	0.02	< 0.01	0.007	< 0.01	11.80	97.94	< 2	< 2	< 1	10	3	< 1	37	0.217	0.221	523555	12.12	0.58
523556	37.49	1.00	7.39	0.087	38.49	0.68	0.01	< 0.01	0.009	0.01	12.87	98.04	< 2	< 2	< 1	10	3	< 1	37	0.214	0.263	523556	11.16	0.47
523557	37.68	0.94	7.74	0.102	39.05	1.55	0.02	< 0.01	0.008	0.01	12.98	100.1	< 2	< 2	< 1	8	3	< 1	30	0.210	0.229	523557	15.39	0.57
523558	38.04	0.80	8.12	0.120	40.42	0.40	0.01	< 0.01	0.008	< 0.01	11.58	99.52	< 2	< 2	< 1	9	2	< 1	28	0.230	0.222	523558	12.17	0.72
523559	37.41	0.92	7.54	0.104	39.03	0.39	0.01	< 0.01	0.007	< 0.01	12.31	98.45	< 2	< 2	< 1	9	2	< 1	28	0.168	0.223	523559	59.06	0.99
523560	98.59	0.35	0.53	0.007	0.26	0.04	0.04	0.05	0.031	< 0.01	0.66	100.5	27	4	2	< 1	53	< 1	< 5	0.013	< 0.010	523560	97.61	0.33
523561	38.00	0.89	8.15	0.127	38.75	0.85	0.02	< 0.01	0.008	< 0.01	12.25	99.06	< 2	< 2	< 1	8	5	< 1	31	0.229	0.233	523561	14.16	0.45
523562	37.82	0.93	8.36	0.126	39.25	0.64	0.04	0.01	0.007	< 0.01	12.10	99.29	< 2	< 2	< 1	9	3	< 1	31	0.231	0.228	523562	14.32	0.58
523563	37.65	0.82	7.97	0.128	39.11	0.78	0.01	< 0.01	0.008	< 0.01	11.93	98.41	< 2	< 2	< 1	8	2	< 1	29	0.216	0.222	523563	18.95	0.69
523564	37.77	0.95	8.18	0.115	37.79	0.88	0.03	< 0.01	0.011	< 0.01	12.39	98.12	< 2	< 2	< 1	9	4	< 1	30	0.223	0.231	523564	15.45	0.76
523565	37.70	1.06	7.74	0.102	39.35	0.64	0.04	0.01	0.007	< 0.01	12.91	99.57	< 2	< 2	< 1	8	< 2	< 1	32	0.246	0.221	523565	20.33	0.57
523566	37.38	0.84	7.51	0.113	37.96	1.49	0.02	< 0.01	0.007	< 0.01	13.66	98.99	< 2	< 2	< 1	9	4	< 1	31	0.225	0.219	523566	21.26	0.29
523567	37.93	1.07	7.70	0.097	38.67	0.36	0.01	< 0.01	0.007	< 0.01	13.43	99.27	< 2	< 2	< 1	9	3	< 1	32	0.225	0.208	523567	20.61	0.22
523568	37.50	1.06	7.66	0.101	39.45	0.35	0.03	< 0.01	0.009	0.01	13.20	99.36	< 2	< 2	< 1	9	3	< 1	35	0.230	0.229	523568	17.49	0.60
523569	37.50	1.08	8.22	0.110	38.28	0.68	0.09	0.03	0.009	< 0.01	12.69	98.70	< 2	< 2	< 1	8	2	< 1	30	0.229	0.212	523569	18.92	0.58
523570	38.30	0.92	7.91	0.112	39.61	0.65	0.02	< 0.01	0.008	< 0.01	12.58	100.1	< 2	< 2	< 1	8	2	< 1	32	0.224	0.207	523570	18.95	0.71
523571	37.26	1.18	7.57	0.079	38.02	0.93	0.03	0.01	0.009	< 0.01	13.67	98.78	< 2	< 2	< 1	8	3	< 1	36	0.258	0.243	523571	16.48	1.45
523572	37.51	0.98	7.25	0.093	39.44	0.22	0.02	< 0.01	0.007	< 0.01	13.39	98.92	< 2	< 2	< 1	8	2	< 1	30	0.260	0.214	523572	17.49	1.38
523573	37.86	1.16	6.82	0.087	37.90	1.10	0.02	< 0.01	0.010	< 0.01	14.42	99.40	< 2	< 2	< 1	5	2	< 1	36	0.222	0.164	523573	19.73	0.68
523574	36.92	0.84	8.40	0.128	38.09	0.84	0.01	< 0.01	0.006	< 0.01	13.60	98.85	< 2	< 2	< 1	10	< 2	< 1	35	0.221	0.227	523574	16.25	0.97
523575	37.50	1.24	7.60	0.090	37.97	1.02	0.04	0.02	0.011	0.01	13.91	99.40	< 2	< 2	< 1	5	< 2	< 1	36	0.234	0.177	523575	13.00	0.49
523576	36.91	1.07	7.79	0.076	36.77	1.31	0.03	0.01	0.011	< 0.01	14.19	98.17	< 2	< 2	< 1	9	2	< 1	35	0.231	0.240	523576	11.16	0.53
523577	37.18	0.77	8.07	0.118	38.60	0.43	0.01	< 0.01	0.008	< 0.01	13.22	98.43	< 2	< 2	< 1	9	2	< 1	28	0.228	0.209	523577	22.12	0.38
523578	38.34	1.29	8.11	0.136	37.49	1.42	0.02	< 0.01	0.014	< 0.01	11.80	98.62	< 2	< 2	< 1	11	3	< 1	47	0.212	0.217	523578	16.82	0.66
523579	37.93	1.33	8.37	0.122	37.03	0.93	0.01	< 0.01	0.014	0.01	12.32	98.08	< 2	< 2	< 1	12	17	< 1	49	0.226	0.236	523579	14.81	0.71
523580-1	48.85	14.84	11.94	0.163	4.85	7.92	2.25	2.73	1.143	0.42	0.97	96.07	711	505	21	25	109	2	337	0.225	0.974	523580	49.24	16.30
523580-2																						523580	36.42	2.38
523580-3																						523580	18.33	0.69
523581	37.97	1.31	8.14	0.136	37.76	0.69	0.02	< 0.01	0.015	< 0.01	12.67	98.71	2	< 2	< 1	11	3	< 1	45	0.183	0.224	523581	14.04	0.51
523582	37.93	1.43	7.74	0.101	38.22	0.22	0.01	< 0.01	0.014	< 0.01	12.91	98.58	2	< 2	< 1	12	2	< 1	45	0.236	0.232	523582	12.80	0.57
523583	38.46	1.22	8.70	0.136	38.31	0.54	< 0.01	< 0.01	0.014	0.01	12.43	99.83	< 2	< 2	< 1	12	3	< 1	45	0.257	0.228	523583	13.04	0.62
523584	38.54	1.32	8.08	0.132	37.83	0.98	0.01	< 0.01	0.013	< 0.01	12.12	99.02	< 2	< 2	< 1	12	2	< 1	47	0.193	0.216	523584	17.68	0.76
523585	37.66	1.53	8.16	0.083	37.64	0.43	0.01	< 0.01	0.013	0.01	12.85	98.40	< 2	< 2	< 1	10	2	< 1	48	0.223	0.214	523585	12.98	0.45
523586	38.37	1.60	7.99	0.074	38.31	0.19	0.02	< 0.01	0.013	< 0.01	12.94	99.54	< 2	< 2	< 1	11	2	< 1	48	0.225	0.235	523586	14.33	0.48
523587	37.27	1.15	8.53	0.130	37.37	1.02	< 0.01	< 0.01	0.014	0.02	13.74	99.24	< 2	< 2	< 1	10	3	< 1	40	0.214	0.232	523587	20.18	0.46
523588	37.28	1.05	7.62	0.143	37.20	0.64	0.03	0.01	0.014	< 0.01	13.60	97.59	< 2	< 2	< 1	9	3	< 1	35	0.182	0.243	523588	23.66	0.43
523589	37.19	1.18	8.48	0.127	37.08	1.45	0.01	< 0.01	0.013	< 0.01	13.58	99.11	< 2	< 2	< 1	10	3	< 1	42	0.211	0.216	523589	25.66	0.85
523590	38.20	0.99	7.45	0.129	39.29	0.24	< 0.01	< 0.01	0.007	0.02	12.81	99.16	< 2	< 2	< 1	6	2	< 1	24	0.228	0.175	523590	16.97	0.68
523591	37.28	1.15	8.16	0.120	37.03	1.49	0.02	< 0.01	0.014	< 0.01	14.01	99.27	< 2	< 2	< 1	9	2	< 1	38	0.225	0.220	523591	22.45	0.47
523592	37.15	1.16	8.19	0.117	37.09	1.16	0.01	< 0.01	0.013	< 0.01	13.43	98.35	< 2	< 2	< 1	7	2	< 1	36	0.227	0.271	523592	22.62	0.64
523593	37.86	1.26	6.83	0.126	36.60	1.48	< 0.01	< 0.01	0.013	0.02	14.10	98.30	3	< 2	< 1	10	4	< 1	45	0.214	0.218	523593	25.96	0.55
523594	36.89	1.13	7.51	0.119	35.68	1.86	0.02	< 0.01	0.012	< 0.01	15.97	99.20	2	3	< 1	10	3	< 1	44	0.271	0.220	523594	18.44	0.52
523595	37.36	1.04	8.44	0.133	36.19	1.39	0.03	0.01	0.012	< 0.01	15.10	99.72	< 2	< 2	< 1	11	4	< 1	43	0.261	0.228	523595	18.17	0.39
523596	34.75	1.08	6.84	0.093	35.23	0.97	0.05	< 0.01	0.009	< 0.01	20.44	99.46	< 2	2	< 1	9	3	< 1	38	0.239	0.210	523596	20.45	1.06
523597	36.59	1.37	6.98	0.089	35.57	1.45	0.02	< 0.01	0.014	< 0.01	16.68	98.78	5	15	< 1	10	4	< 1	42	0.255	0.213	523597	16.99	0.67
523598	34.69	1.38	6.65	0.080	33.86	1.84	0.05	0.01	0.011	< 0.01	21.58	100.2	2	12	< 1	10	3	< 1	43	0.446	0.201	523598	5.78	0.81

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
523599	36.62	1.46	6.83	0.082	35.22	1.00	0.03	< 0.01	0.014	< 0.01	18.91	100.2	3	11	1	10	3	< 1	48	0.237	0.196	523599	5.63	0.28
523600	96.63	0.33	0.79	0.008	0.09	0.03	0.03	0.05	0.030	< 0.01	0.29	98.29	27	4	2	< 1	55	< 1	< 5	< 0.010	< 0.010	523600	97.88	0.41
523601	37.82	1.17	7.75	0.129	36.35	1.39	0.02	< 0.01	0.013	< 0.01	15.65	100.3	2	7	< 1	11	4	< 1	47	0.251	0.213	523601	20.54	0.58
523602	36.59	1.18	7.34	0.100	35.59	0.79	0.03	< 0.01	0.011	< 0.01	18.21	99.87	2	7	< 1	10	3	< 1	41	0.256	0.220	523602	7.25	0.10
523603	38.87	1.33	8.19	0.127	37.81	1.19	0.03	0.01	0.013	< 0.01	12.42	99.99	< 2	3	< 1	11	3	< 1	45	0.274	0.239	523603	21.56	0.79
523604	32.70	1.60	5.67	0.080	30.71	1.01	0.05	0.04	0.016	< 0.01	27.39	99.26	3	16	< 1	8	3	< 1	37	0.235	0.185	523604	12.24	1.02
523605	35.36	1.25	6.08	0.097	32.43	1.15	0.02	< 0.01	0.014	< 0.01	23.37	99.79	2	12	< 1	8	3	< 1	36	0.231	0.190	523605	8.59	0.86
523606	35.64	1.25	6.74	0.095	35.95	0.35	0.04	0.01	0.014	< 0.01	20.34	100.5	2	9	< 1	9	2	< 1	40	0.262	0.215	523606	11.77	0.38
523607	30.90	0.82	6.47	0.105	31.42	0.76	0.04	0.02	0.011	< 0.01	28.11	98.66	3	14	< 1	7	4	< 1	29	0.235	0.162	523607	4.57	0.47
523608	34.10	1.24	7.40	0.113	35.64	0.32	0.03	0.03	0.012	< 0.01	20.68	99.56	< 2	9	1	8	3	< 1	36	0.253	0.204	523608	6.98	0.55
523609	43.54	12.05	13.72	0.191	5.67	11.65	2.91	0.27	1.814	0.15	7.08	99.05	10	133	39	39	106	< 1	403	< 0.010	< 0.010	523609		
523610	37.28	1.03	7.98	0.135	37.27	0.48	0.02	< 0.01	0.010	< 0.01	15.46	99.68	< 2	4	< 1	9	3	< 1	36	0.264	0.225	523610	20.19	0.49
523611	38.46	1.16	7.58	0.130	38.14	1.05	0.02	< 0.01	0.009	0.02	13.79	100.4	< 2	< 2	< 1	9	3	< 1	37	0.259	0.233	523611	20.74	0.56
523612	37.40	1.04	8.06	0.122	38.21	0.60	0.01	< 0.01	0.010	< 0.01	14.48	99.96	< 2	< 2	< 1	9	3	< 1	37	0.287	0.232	523612	20.27	0.52
523613	37.94	1.19	8.16	0.104	37.79	0.86	0.04	0.02	0.015	< 0.01	14.12	100.2	< 2	4	< 1	10	3	< 1	43	0.273	0.233	523613	18.00	0.58
523614	38.46	1.09	8.00	0.133	37.66	1.59	0.01	< 0.01	0.011	0.01	13.60	100.6	2	3	< 1	10	2	< 1	47	0.270	0.243	523614	20.22	0.55
523615	37.65	1.07	7.60	0.129	37.03	1.69	0.02	< 0.01	0.011	< 0.01	13.59	98.81	< 2	3	< 1	11	3	< 1	46	0.252	0.227	523615	19.58	0.67
523616	37.32	1.46	7.17	0.076	35.79	0.26	0.03	< 0.01	0.020	< 0.01	17.97	100.1	< 2	6	< 1	9	4	< 1	41	0.273	0.236	523616	8.23	0.82
523617	39.32	8.30	11.42	0.156	18.55	9.41	1.30	0.25	1.172	0.09	9.46	99.42	20	192	23	27	63	< 1	280	0.105	0.096	523617	5.97	1.44
523618	36.05	1.11	7.41	0.134	35.33	0.72	0.03	< 0.01	0.011	0.01	17.72	98.53	< 2	5	< 1	10	3	< 1	44	0.260	0.219	523618	9.88	0.63
523619	37.17	5.09	8.10	0.112	29.94	4.14	0.07	0.03	0.425	0.05	14.07	99.20	3	26	8	19	24	< 1	122	0.165	0.141	523619	6.02	1.53
523620-1	49.27	15.09	12.12	0.164	4.85	8.02	2.21	2.72	1.175	0.42	0.95	96.99	702	504	21	25	105	2	338	0.224	0.990	523620	49.30	16.11
523620-2																						523620	36.50	2.36
523620-3																						523620	18.63	0.66
523621	37.64	1.28	8.26	0.109	37.54	0.92	0.03	0.01	0.012	< 0.01	14.50	100.3	< 2	< 2	< 1	8	3	< 1	41	0.248	0.203	523621	16.94	0.62
523622	38.25	1.11	8.09	0.120	38.17	1.06	0.02	< 0.01	0.010	< 0.01	13.66	100.5	< 2	< 2	< 1	10	3	< 1	42	0.280	0.237	523622	22.66	0.69
523623	37.95	1.19	8.49	0.110	37.74	1.22	0.03	0.01	0.010	< 0.01	13.46	100.2	< 2	< 2	< 1	10	3	< 1	44	0.276	0.229	523623	21.66	0.72
523624	37.73	1.25	7.96	0.100	37.61	1.01	0.03	0.01	0.010	< 0.01	13.86	99.59	< 2	< 2	< 1	9	2	< 1	44	0.261	0.246	523624	19.06	0.59
523625	38.18	1.09	8.10	0.122	38.47	1.11	0.03	0.01	0.009	< 0.01	13.11	100.2	< 2	< 2	< 1	10	3	< 1	42	0.238	0.235	523625	18.35	0.53
523626	36.75	1.23	9.32	0.090	37.25	0.94	0.04	0.02	0.009	< 0.01	13.79	99.43	< 2	< 2	< 1	12	3	< 1	47	0.262	0.240	523626	14.04	0.51
523627	37.52	1.11	7.76	0.125	37.52	1.69	0.02	< 0.01	0.009	< 0.01	13.26	99.03	2	< 2	< 1	10	2	< 1	43	0.277	0.236	523627	21.29	0.62
523628	37.49	1.21	6.88	0.108	37.57	1.21	0.03	0.01	0.009	< 0.01	13.53	98.05	2	< 2	< 1	11	2	< 1	47	0.232	0.244	523628	19.64	0.47
523629	37.45	1.20	7.66	0.114	37.57	1.36	0.02	< 0.01	0.009	< 0.01	13.47	98.88	< 2	< 2	< 1	9	2	< 1	42	0.285	0.232	523629	21.49	0.64
523630	37.98	1.23	8.11	0.105	37.79	1.21	0.03	0.01	0.010	< 0.01	13.46	99.93	< 2	< 2	< 1	10	2	< 1	45	0.273	0.218	523630	20.56	0.62
523631	37.51	1.22	8.02	0.113	37.31	1.57	0.03	< 0.01	0.010	< 0.01	13.55	99.34	< 2	< 2	< 1	10	< 2	< 1	46	0.259	0.230	523631	21.79	0.57
523632	38.22	1.45	6.61	0.087	38.34	1.52	0.03	0.02	0.010	< 0.01	13.84	100.1	2	< 2	1	8	3	< 1	47	0.258	0.231	523632	20.05	0.72
523633	37.87	1.14	7.99	0.113	38.03	1.38	0.01	< 0.01	0.011	< 0.01	13.37	99.94	< 2	< 2	< 1	10	2	< 1	43	0.262	0.228	523633	18.60	0.60
523634	37.11	1.21	8.17	0.083	37.37	1.20	0.02	0.01	0.009	< 0.01	13.62	98.82	< 2	< 2	< 1	10	3	< 1	45	0.271	0.249	523634	19.43	0.60
523635	37.79	1.28	7.91	0.089	37.41	1.16	0.06	0.03	0.009	< 0.01	13.63	99.38	< 2	< 2	< 1	11	3	< 1	45	0.259	0.243	523635	21.48	0.55
523636	37.62	1.10	8.47	0.118	37.89	1.56	0.01	< 0.01	0.010	< 0.01	13.65	100.5	< 2	< 2	< 1	11	2	< 1	43	0.259	0.230	523636	23.94	0.50
523637	37.45	1.05	7.80	0.125	37.38	1.26	0.02	< 0.01	0.009	< 0.01	14.15	99.25	2	< 2	< 1	8	4	< 1	36	0.288	0.215	523637	26.10	0.53
523638	36.34	1.30	44.56	0.098	37.00	1.23	0.05	0.02	0.008	< 0.01	16.92	99.48	2	< 2	< 1	8	3	< 1	43	0.501	0.219	523638	19.46	0.62
523639	33.74	1.14	8.02	0.097	35.92	0.57	0.04	0.01	0.008	< 0.01	18.40	97.95	< 2	< 2	< 1	7	2	< 1	38	0.226	0.234	523639	15.04	0.82
523640	99.16	0.32	0.53	0.007	0.10	0.03	0.03	0.05	0.031	0.02	0.26	100.5	25	4	2	< 1	56	< 1	< 5	0.012	< 0.010	523640	97.90	0.37
523641	37.20	1.24	7.53	0.113	36.98	1.21	0.03	0.01	0.010	0.01	16.22	100.6	< 2	2	< 1	10	4	< 1	42	0.244	0.228	523641	16.33	0.06
523642	38.14	1.22	7.33	0.104	37.95	1.04	0.02	< 0.01	0.009	0.02	14.01	99.85	< 2	3	< 1	9	2	< 1	40	0.220	0.229	523642	17.46	0.44
523643	35.65	1.14	6.89	0.086	36.21	1.35	0.03	< 0.01	0.009	0.01	19.30	100.7	< 2	4	< 1	9	3	< 1	41	0.223	0.199	523643	10.94	0.63
523644	31.95	1.13	7.40	0.119	35.87	1.32	0.05	< 0.01	0.009	< 0.01	22.82	100.7	< 2	4	< 1	9	2	< 1	40	0.218	0.198	523644	13.34	0.69
523645	37.81	1.19	7.89	0.117	36.90	1.91	0.02	< 0.01	0.011	0.02	14.22	100.1	< 2	< 2	< 1	11	2	< 1	49	0.232	0.223	523645	23.97	0.66
523646	38.34	1.22	8.77	0.086	37.56	1.03	< 0.01	< 0.01	0.010	0.01	13.39	100.4	< 2	< 2	< 1	11	3	< 1	45	0.230	0.224	523646	21.15	0.50
523647	38.57	1.39	7.22	0.096	37.86	1.21	0.05	0.02	0.010	0.02	13.96	100.4	< 2	< 2	< 1	9	< 2	< 1	45	0.243	0.206	523647	22.61	0.51

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
523648	38.00	1.32	7.96	0.107	37.09	1.83	0.03	0.01	0.010	0.02	13.91	100.3	< 2	< 2	< 1	9	2	< 1	43	0.248	0.226	523648	22.84	0.59
523649	38.31	1.23	7.97	0.092	38.39	0.90	0.02	< 0.01	0.010	0.01	13.72	100.7	< 2	< 2	< 1	11	4	< 1	47	0.234	0.232	523649	20.21	0.48
523650	38.29	1.19	8.02	0.111	37.44	1.79	0.02	< 0.01	0.010	< 0.01	13.91	100.8	< 2	< 2	< 1	10	< 2	< 1	44	0.243	0.227	523650	24.11	0.55
523651	38.45	1.25	8.14	0.099	38.22	1.04	0.02	< 0.01	0.010	0.01	13.47	100.7	< 2	< 2	< 1	11	3	< 1	43	0.242	0.229	523651	20.72	0.52
523652	36.98	1.12	36.64	0.117	36.27	3.49	0.02	< 0.01	0.010	0.02	15.25	100.6	< 2	2	< 1	8	< 2	< 1	44	0.209	0.220	523652	25.90	0.53
523653	37.76	1.24	7.79	0.106	36.42	1.78	0.02	< 0.01	0.010	0.02	14.02	99.16	< 2	< 2	< 1	10	2	< 1	46	0.227	0.230	523653	23.14	0.54

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.010	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
523501	24.84	0.149	16.04	14.37	< 0.01	0.02	0.98	0.08	0.239	0.060	0.271	4.26	99.24	30.1	3.333	26.606	11.1	29.939	0.51	0.03
523502	63.31	0.239	14.09	0.18	< 0.01	< 0.01	0.04	0.01	1.471	0.030	1.899	1.90	97.55	30.0	2.415	27.440	8.0	29.855	0.59	0.02
523503	64.56	0.287	13.49	0.05	< 0.01	< 0.01	0.04	0.01	1.801	0.030	1.828	1.61	97.18	30.1	2.359	27.586	7.8	29.945	0.64	0.03
523504	55.58	0.263	17.14	0.38	< 0.01	< 0.01	0.03	0.01	1.635	0.026	2.139	2.79	97.28	30.1	1.667	28.139	5.5	29.806	0.93	0.03
523505	56.97	0.259	13.20	0.19	< 0.01	< 0.01	0.03	< 0.01	1.815	0.030	1.943		84.01	30.1	1.149	28.229	3.8	29.378	2.44	
523506	60.73	0.233	14.85	0.32	< 0.01	< 0.01	0.03	0.01	1.629	0.022	2.458	2.13	97.17	30.1	1.898	28.051	6.3	29.948	0.39	0.08
523507	50.17	0.214	21.07	0.08	< 0.01	< 0.01	0.04	0.01	1.306	0.022	1.722	4.57	99.35	30.2	3.061	27.051	10.1	30.112	0.20	
523508	46.30	0.214	21.70	0.12	< 0.01	< 0.01	0.03	0.01	1.430	0.024	1.590	4.73	98.22	30.1	2.331	27.789	7.7	30.120	0.01	0.02
523509	72.26	0.294	10.03	0.08	< 0.01	< 0.01	0.05	0.01	2.158	0.030	2.760	0.07	97.08	30.1	1.964	28.206	6.5	30.170	-0.24	0.04
523510	60.90	0.265	16.04	0.20	< 0.01	< 0.01	0.03	0.01	1.984	0.031	2.864	2.22	98.71	29.9	1.762	28.139	5.9	29.901	0.02	
523511	64.60	0.201	13.53	0.12	< 0.01	< 0.01	0.03	< 0.01	1.622	0.024	2.644	1.78	97.16	30.2	2.019	28.084	6.7	30.103	0.23	0.06
523512	52.40	0.173	19.78	0.17	< 0.01	< 0.01	0.02	0.01	1.189	0.021	2.062	4.37	97.76	30.1	2.728	27.320	9.1	30.048	0.08	0.03
523513	52.61	0.188	19.78	0.21	< 0.01	< 0.01	0.03	0.01	1.402	0.020	2.277	3.69	97.62	30.0	2.083	26.996	6.9	29.079	3.18	0.05
523514	59.19	0.188	16.51	0.27	< 0.01	< 0.01	0.02	< 0.01	1.450	0.022	2.246	2.31	97.70	30.1	2.076	27.956	6.9	30.033	0.31	0.06
523515	60.50	0.184	15.61	0.25	< 0.01	< 0.01	0.03	0.01	1.518	0.023	2.168	2.47	97.51	30.1	2.013	28.004	6.7	30.018	0.36	0.06
523516	59.53	0.222	16.16	0.25	< 0.01	< 0.01	0.03	0.01	1.689	0.023	1.704	2.56	97.33	30.1	2.225	26.935	7.4	29.159	3.13	0.06
523517	40.37	0.177	24.91	0.17	< 0.01	< 0.01	0.02	< 0.01	1.088	0.021	0.900	6.83	98.38	30.1	3.375	26.557	11.2	29.932	0.67	0.07
523518	65.10	0.287	10.06	2.19	0.09	0.01	0.19	0.02	2.031	0.039	2.328	0.41	96.99	30.3	0.890	28.462	2.9	29.352	2.99	0.08
523519	63.45	0.298	12.11	1.98	< 0.01	0.01	0.08	0.02	1.76	0.020	1.81	0.62	98.69	61.6	0.230	60.265	0.4	60.495	1.86	
523520	0.69	0.007	0.06	0.03	0.02	0.08	0.05	0.01	< 0.01	< 0.003	< 0.003	0.34	98.81	58.3	0.386	57.384	0.7	57.770	0.96	
523521	60.42	0.339	16.11	0.07	< 0.01	< 0.01	0.04	0.01	1.765	0.030	0.687	2.93	99.19	30.1	2.063	27.236	6.8	29.299	2.76	
523522	44.73	0.313	22.76	0.06	< 0.01	< 0.01	0.03	0.01	1.540	0.017	1.243	4.96	97.80	30.2	2.840	27.098	9.4	29.938	0.79	0.04
523523	64.23	0.366	13.26	0.06	< 0.01	< 0.01	0.05	0.01	2.420	0.033	0.864	2.32	97.66	30.7	1.783	28.968	5.8	30.751	-0.12	0.07
523524	44.22	0.228	22.72	0.24	< 0.01	< 0.01	0.03	0.01	1.272	0.017	1.554	4.98	98.03	30.3	2.708	27.384	8.9	30.092	0.56	0.03
523525	45.02	0.208	22.57	0.19	< 0.01	< 0.01	0.02	< 0.01	1.334	0.016	1.388	5.02	98.07	30.5	3.031	27.492	9.9	30.523	-0.05	0.03
523526	49.91	0.171	20.08	0.32	< 0.01	< 0.01	0.02	0.01	1.245	0.018	1.780	4.48	97.66	30.2	2.303	28.090	7.6	30.393	-0.80	0.05
523527	44.23	0.266	22.41	1.07	< 0.01	< 0.01	0.02	0.01	1.655	0.019	1.708	4.14	97.72	30.2	2.051	27.448	6.8	29.499	2.16	
523528	54.98	0.220	18.90	0.21	< 0.01	< 0.01	0.03	0.01	1.607	0.021	1.820	3.28	98.60	30.4	1.892	28.203	6.2	30.095	0.98	
523529	53.71	0.187	19.33	0.16	< 0.01	< 0.01	0.02	0.02	1.416	0.019	1.293	4.64	99.24	30.2	1.835	27.539	6.1	29.374	2.75	
523530	55.39	0.190	17.90	0.44	< 0.01	< 0.01	0.02	< 0.01	1.409	0.021	2.591	2.31	95.76	30.1	1.808	28.078	6.0	29.886	0.60	0.04
523531	47.98	0.188	20.99	0.23	0.02	0.03	0.04	0.01	1.375	0.021	1.808	4.51	97.96	30.0	2.156	27.369	7.2	29.525	1.71	0.05
523532	50.42	0.230	18.03	1.13	< 0.01	0.04	0.04	0.01	1.947	0.027	2.799	2.61	96.87	30.2	1.542	28.535	5.1	30.076	0.38	0.08
523533	33.03	0.188	27.48	0.18	< 0.01	0.04	0.08	0.02	1.053	0.018	1.186	7.53	98.50	30.0	3.478	25.727	11.6	29.205	2.67	0.07
523534	43.49	0.168	22.56	0.10	0.11	0.05	0.08	0.03	0.889	0.024	1.609	5.74	98.17	30.0	2.242	27.153	7.5	29.396	2.03	0.04
523535	25.69	0.144	29.88	0.11	0.11	0.05	0.08	0.03	0.564	0.017	1.038	9.54	98.11	30.4	3.906	26.205	12.8	30.110	0.97	0.03
523536	50.58	0.198	19.74	0.12	0.09	0.05	0.08	0.02	1.108	0.034	1.104	4.94	98.95	30.1	2.912	27.047	9.7	29.959	0.62	0.05
523537	61.69	0.240	15.62	0.13	< 0.01	0.04	0.09	0.03	1.703	0.033	2.926	1.92	98.79	30.0	1.937	28.025	6.4	29.962	0.26	0.06
523538	58.90	0.250	15.95	0.22	0.08	0.06	0.09	0.02	2.230	0.033	3.092	1.96	97.64	30.0	1.457	27.620	4.9	29.077	3.13	0.10
523539	49.89	0.236	20.26	0.18	0.08	0.05	0.07	0.02	1.936	0.026	2.929	3.33	97.79	30.0	1.750	27.992	5.8	29.743	0.97	0.04
523540-1	12.10	0.168	4.98	7.90	2.50	2.81	1.08	0.41	1.05	0.065	0.236	0.79	99.30							
523540-2	13.09	0.125	32.13	2.06	0.06	0.11	0.12	0.02	0.21	0.007	1.44	12.30	100.1							
523540-3	52.54	0.224	18.61	0.23	< 0.01	0.02	0.04	0.01	1.46	0.020	2.00	3.99	97.98	31.0	2.410	28.463	7.8	30.873	0.30	0.11
523541	64.84	0.223	13.59	0.16	0.13	0.04	0.07	0.03	2.332	0.037	2.438	0.97	97.15	30.2	1.713	28.353	5.7	30.066	0.43	0.03
523542	66.56	0.306	12.49	0.23	0.02	0.04	0.09	0.02	2.825	0.041	2.949	0.49	97.92	30.1	1.475	28.581	4.9	30.056	0.05	0.04
523543	65.13	0.232	12.35	0.28	0.10	0.05	0.10	0.02	2.770	0.042	5.064	0.34	96.88	30.4	1.249	29.069	4.1	30.318	0.11	0.04
523544	64.96	0.195	13.01	0.19	0.11	0.05	0.08	0.02	1.970	0.019	3.454	0.63	98.28	30.3	1.228	29.050	4.0	30.278	0.19	0.03
523545	62.47	0.204	14.03	0.15	< 0.01	0.06	0.08	0.01	1.949	0.033	4.213	1.24	97.52	30.1	1.390	28.755	4.6	30.146	-0.32	0.04
523546	65.21	0.268	12.38	0.42	0.15	0.04	0.06	0.03	2.558	0.036	3.407	0.19	97.59	30.0	1.327	28.733	4.4	30.060	-0.10	0.04
523547	67.91	0.174	11.68	0.10	0.06	0.08	0.08	0.01	1.731	0.036	2.796	0.93	97.75	30.2	1.906	28.498	6.3	30.404	-0.75	0.03
523548	67.26	0.253	12.41	0.15	0.01	0.05	0.06	0.02	2.107	0.037	2.243	1.01	97.68	30.3	1.945	27.835	6.4	29.780	1.87	0.03
523549	61.60	0.255	14.10	0.29	0.03	0.06	0.07	0.02	2.174	0.034	3.538	0.87	97.93	30.4	1.261	29.017	4.1	30.278	0.35	0.02

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.010	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
523550	61.38	0.179	14.42	0.15	0.06	0.03	0.07	0.02	1.765	0.027	2.423	1.94	97.51	30.0	1.628	28.313	5.4	29.940	0.22	0.03
523551	60.89	0.259	14.74	0.40	0.04	0.07	0.07	0.02	1.990	0.027	2.947	1.14	97.49	26.9	1.122	25.747	4.2	26.869	0.27	0.04
523552	52.41	0.204	18.13	0.36	0.02	0.05	0.07	0.03	1.635	0.028	3.106	3.17	97.59	11.1	0.326	10.240	2.9	10.566	4.60	0.03
523553	64.26	0.271	12.94	0.39	0.23	0.04	0.10	0.03	2.382	0.036	3.457	0.56	98.19	30.2	1.274	28.767	4.2	30.041	0.68	0.03
523554	74.21	0.229	9.25	0.17	0.12	0.04	0.07	0.03	2.066	0.039	2.885	-0.69	98.05	30.5	1.544	28.934	5.1	30.477	0.21	0.04
523555	66.54	0.222	12.30	0.27	0.16	0.04	0.08	0.03	1.929	0.037	2.804	0.72	97.83	30.5	1.632	28.454	5.4	30.086	1.24	0.04
523556	68.54	0.232	11.57	0.12	< 0.01	0.04	0.11	0.02	2.421	0.033	2.425	0.85	97.99	30.2	1.678	28.517	5.5	30.195	0.16	0.07
523557	58.23	0.191	16.36	0.27	0.05	0.04	0.09	0.01	1.778	0.034	2.559	2.77	98.34	30.1	1.676	28.273	5.6	29.949	0.34	0.07
523558	63.64	0.218	13.44	0.19	0.08	0.04	0.11	0.03	2.285	0.022	3.588	0.83	97.36	30.0	1.320	28.622	4.4	29.943	0.23	0.05
523559	33.99	0.280	0.36	0.14	< 0.01	0.05	0.05	0.04	0.082	0.014	0.110		95.17	27.8	1.467	26.247	5.3	27.713	0.18	
523560	0.62	0.010	0.26	0.04	0.02	0.08	0.05	0.01	< 0.01	< 0.003	< 0.003	0.66	99.70	24.0	0.032	23.482	0.1	23.514	2.11	
523561	60.36	0.240	14.79	0.17	0.09	0.05	0.08	0.02	2.107	0.038	2.778	1.96	97.29	30.4	1.760	28.541	5.8	30.302	0.30	0.05
523562	60.42	0.218	15.31	0.17	0.08	0.04	0.08	0.02	2.025	0.023	2.701	2.09	98.69	30.7	1.720	29.072	5.6	30.792	-0.45	0.04
523563	49.50	0.227	19.80	0.25	< 0.01	0.04	0.07	0.02	1.746	0.024	2.627	3.64	97.58	30.5	1.689	28.876	5.5	30.566	-0.34	0.06
523564	57.67	0.229	15.87	0.20	0.04	0.05	0.09	0.02	1.936	0.030	2.662	2.62	97.63	30.4	1.615	29.025	5.3	30.640	-0.86	0.05
523565	47.99	0.162	20.78	0.21	0.02	0.03	0.07	0.02	1.430	0.035	1.799	5.01	98.46	30.8	2.212	28.760	7.2	30.972	-0.63	0.06
523566	45.27	0.229	22.02	0.29	0.10	0.06	0.08	0.03	1.518	0.021	1.976	5.74	98.88	30.5	2.052	28.576	6.7	30.628	-0.43	0.10
523567	47.79	0.167	21.03	0.20	< 0.01	0.05	0.08	0.02	1.265	0.024	1.555	5.30	98.31	30.9	2.822	27.875	9.1	30.697	0.51	0.08
523568	53.49	0.186	17.56	0.22	0.23	0.06	0.07	0.03	1.724	0.025	2.088	4.32	98.09	30.6	2.031	28.040	6.6	30.071	1.59	0.05
523569	52.20	0.179	19.64	0.36	0.16	0.05	0.10	0.03	1.354	0.007	1.725	4.35	99.65	30.1	2.120	28.132	7.0	30.251	-0.47	0.07
523570	49.97	0.181	20.11	0.40	0.12	0.05	0.08	0.02	1.546	0.026	2.077	4.76	99.00	30.2	1.908	28.377	6.3	30.285	-0.31	0.06
523571	57.12	0.169	16.49	0.48	0.03	0.06	0.08	0.02	1.580	0.018	1.412	3.62	99.01	30.1	2.097	28.207	7.0	30.304	-0.78	0.09
523572	50.62	0.194	18.98	0.11	0.03	0.05	0.07	0.03	1.826	0.016	2.342	4.55	97.69	30.1	1.788	28.542	5.9	30.330	-0.89	0.07
523573	47.77	0.201	19.94	0.39	0.03	0.06	0.08	0.03	1.327	0.015	1.784	5.53	97.57	30.0	2.243	27.632	7.5	29.875	0.46	0.06
523574	60.31	0.137	16.02	0.37	0.09	0.06	0.09	0.03	0.793	0.018	1.081	3.74	99.96	30.3	1.859	28.347	6.1	30.206	0.26	0.16
523575	66.65	0.117	12.90	0.38	0.04	0.04	0.06	0.01	0.725	0.017	1.031	2.50	97.96	30.4	1.991	28.608	6.5	30.598	-0.53	0.16
523576	69.86	0.171	11.28	0.58	< 0.01	0.02	0.05	0.01	1.560	0.028	0.960	2.11	98.32	30.3	1.972	28.377	6.5	30.349	-0.14	0.13
523577	42.46	0.164	23.39	0.29	0.06	0.05	0.07	0.03	1.265	0.017	1.796	6.55	98.64	30.3	2.255	28.105	7.4	30.360	-0.11	0.13
523578	56.28	0.200	16.28	0.46	0.11	0.05	0.08	0.02	1.566	0.026	2.782	2.75	98.08	30.0	1.650	28.488	5.5	30.138	-0.29	0.04
523579	61.21	0.206	14.26	0.28	0.17	0.05	0.07	0.02	1.539	0.033	2.528	2.04	97.93	30.3	1.902	28.104	6.3	30.007	0.95	0.05
523580-1	12.08	0.166	4.98	7.85	2.46	2.77	1.08	0.44	1.05	0.061	0.232	0.79	99.51							
523580-2	12.99	0.129	32.12	2.05	0.07	0.11	0.12	< 0.01	0.19	0.007	1.45	12.30	100.3							
523580-3	52.61	0.225	18.86	0.23	< 0.01	0.02	0.05	0.01	1.42	0.019	2.00	3.41	97.87	30.7	2.661	27.849	8.7	30.511	0.48	
523581	62.97	0.201	13.62	0.12	< 0.01	0.03	0.04	< 0.01	1.541	0.027	2.288	1.84	97.23	30.4	1.710	28.390	5.6	30.100	0.91	0.05
523582	66.70	0.162	12.54	0.05	< 0.01	0.01	0.04	0.01	1.172	0.024	1.974	1.55	97.60	30.4	2.310	27.519	7.6	29.829	1.82	0.07
523583	64.91	0.194	13.17	0.11	< 0.01	0.01	0.04	0.01	1.632	0.029	2.429	1.60	97.79	31.0	1.744	29.149	5.6	30.893	0.27	0.06
523584	55.03	0.193	16.51	0.33	0.05	0.06	0.06	0.01	1.340	0.020	2.051	3.30	97.39	31.0	1.935	29.131	6.2	31.065	-0.27	0.04
523585	67.06	0.136	12.89	0.10	< 0.01	0.02	0.04	0.01	1.142	0.026	1.935	1.76	98.55	30.1	1.932	28.065	6.4	29.997	0.38	0.07
523586	63.74	0.140	14.21	0.08	< 0.01	0.01	0.05	0.01	1.306	0.025	1.569	2.48	98.43	30.3	2.110	28.051	7.0	30.162	0.49	0.13
523587	49.95	0.200	20.48	0.09	< 0.01	0.01	0.04	0.01	1.122	0.014	1.787	5.13	99.47	30.7	2.609	28.144	8.5	30.754	-0.24	0.06
523588	41.60	0.246	23.83	0.12	< 0.01	0.01	0.04	0.01	1.211	0.015	1.357	6.84	99.37	30.1	3.252	26.668	10.8	29.921	0.67	0.06
523589	35.42	0.171	25.69	0.31	< 0.01	0.01	0.04	0.01	0.739	0.013	1.262	7.97	98.14	30.0	3.605	26.209	12.0	29.814	0.66	0.05
523590	52.33	0.309	18.55	0.06	< 0.01	0.01	0.03	< 0.01	1.676	0.016	2.852	3.96	97.44	30.7	1.673	28.411	5.4	30.084	2.08	0.05
523591	39.55	0.180	23.18	0.83	< 0.01	< 0.01	0.03	0.01	0.739	0.010	0.897	7.78	96.13	30.7	3.396	26.810	11.1	30.206	1.61	
523592	38.72	0.218	23.64	1.65	< 0.01	0.02	0.04	< 0.01	1.258	0.012	1.111	7.88	97.81	30.6	3.818	24.351	12.5	28.169	7.95	0.04
523593	35.60	0.196	25.46	1.44	< 0.01	0.01	0.04	0.01	0.807	0.013	0.944	8.75	99.78	30.4	3.547	26.434	11.7	29.981	1.31	0.06
523594	49.48	0.388	17.70	0.88	< 0.01	0.01	0.06	0.01	2.688	0.033	0.571	6.43	97.21	30.9	0.863	29.495	2.8	30.358	1.76	0.09
523595	50.74	0.375	17.95	0.84	< 0.01	0.01	0.05	0.01	2.353	0.028	0.629	6.13	97.68	30.3	1.028	29.149	3.4	30.176	0.38	0.07
523596	30.04	0.184	23.88	0.86	0.01	< 0.01	0.10	0.01	5.404	0.054	0.982		83.03	30.1	0.236	29.341	0.8	29.578	1.68	
523597	54.13	0.214	16.47	0.47	< 0.01	0.02	0.06	0.01	2.501	0.032	0.317	5.79	97.67	30.1	0.777	29.063	2.6	29.840	1.01	0.07
523598	71.74	0.118	4.75	0.13	0.03	< 0.01	0.09	< 0.01	6.794	0.068	0.105		83.44	30.3	0.133	29.500	0.4	29.633	2.22	

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.010	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
523599	78.74	0.051	7.69	0.23	< 0.01	< 0.01	0.08	0.04	2.640	0.053	0.180		95.61	30.0	0.507	29.092	1.7	29.599	1.43	
523600	0.69	0.012	0.07	0.04	0.01	0.06	0.05	0.01	< 0.01	< 0.003	< 0.003	0.29	99.52	30.1	0.138	28.896	0.5	29.034	3.41	
523601	43.41	0.216	21.15	1.55	< 0.01	0.01	0.04	0.01	1.546	0.020	0.262	9.28	98.61	30.1	1.227	28.655	4.1	29.883	0.67	0.05
523602	76.04	0.103	7.62	0.14	< 0.01	< 0.01	0.05	0.01	3.434	0.048	0.171	1.59	96.56	30.6	0.721	29.681	2.4	30.402	0.63	
523603	43.12	0.207	22.10	0.86	< 0.01	0.01	0.04	0.01	1.464	0.023	0.996	7.18	98.36	30.1	1.786	28.137	5.9	29.923	0.47	0.04
523604	59.29	0.091	11.38	0.39	< 0.01	0.01	0.14	0.03	4.501	0.061	0.635		89.79	30.2	0.140	29.528	0.5	29.667	1.86	
523605	71.09	0.060	7.42	0.20	< 0.01	0.02	0.11	< 0.01	4.652	0.059	0.565	2.64	96.27	30.5	0.471	29.398	1.5	29.869	1.92	
523606	60.19	0.079	14.27	0.14	< 0.01	< 0.01	0.06	0.01	2.285	0.028	0.295		89.51	30.8	0.483	30.102	1.6	30.585	0.77	
523607	76.91	0.040	4.85	0.12	< 0.01	0.01	0.09	0.01	4.419	0.054	0.317		91.86	30.5	0.345	29.522	1.1	29.867	2.17	
523608	72.74	0.077	9.50	0.11	< 0.01	0.02	0.06	< 0.01	2.625	0.043	0.164	4.72	97.59	30.2	0.810	28.897	2.7	29.707	1.69	0.03
523609														30.8	0.020	29.819	0.1	29.838	3.16	
523610	47.67	0.222	20.45	0.27	0.01	0.05	0.03	0.01	1.546	0.022	0.163	7.36	98.48	30.7	1.606	29.206	5.2	30.813	-0.23	0.03
523611	44.85	0.261	21.27	1.24	< 0.01	0.02	0.03	0.01	1.271	0.017	0.340	7.44	98.05	30.1	2.403	27.724	8.0	30.127	0.02	0.06
523612	43.93	0.243	22.33	0.84	< 0.01	0.03	0.03	< 0.01	1.094	0.015	0.357	8.80	98.46	31.0	3.423	27.682	11.0	31.105	-0.35	0.08
523613	52.31	0.203	18.64	0.62	< 0.01	0.04	0.04	0.01	1.299	0.021	0.303	6.07	98.14	30.0	2.544	27.440	8.5	29.984	0.09	0.06
523614	46.61	0.249	20.12	1.43	< 0.01	0.03	0.03	0.01	1.471	0.025	0.431	6.96	98.14	30.3	2.225	27.950	7.3	30.175	0.43	0.04
523615	46.73	0.251	19.89	1.63	< 0.01	0.01	0.04	0.01	1.423	0.022	0.544	7.04	97.84	30.3	1.909	28.428	6.3	30.338	-0.08	0.05
523616	74.56	0.056	7.41	0.10	< 0.01	0.02	0.10	< 0.01	4.172	0.060	0.297	1.12	96.94	30.2	0.627	28.879	2.1	29.506	2.27	
523617	74.89	0.086	3.26	1.41	0.10	0.02	0.25	0.03	2.866	0.059	0.230		90.61	30.1	0.382	29.583	1.3	29.965	0.31	
523618	68.28	0.219	9.90	0.15	< 0.01	0.05	0.05	< 0.01	4.394	0.052	0.192	2.92	96.72	30.2	0.712	29.260	2.4	29.972	0.78	0.05
523619	67.62	0.121	5.29	0.48	< 0.01	< 0.01	0.40	0.02	5.205	0.110	0.278		87.07	30.3	0.235	29.652	0.8	29.887	1.24	
523620-1	12.11	0.168	4.98	7.86	2.44	2.82	1.08	0.42	1.05	0.062	0.237	0.79	99.43							
523620-2	12.92	0.130	32.02	2.10	0.07	0.10	0.12	0.02	0.19	0.007	1.44	12.30	100.3							
523620-3	52.13	0.224	18.40	0.25	< 0.01	0.04	0.04	0.01	1.38	0.020	1.99	3.07	96.85	30.3	2.454	27.657	8.1	30.111	0.73	
523621	53.64	0.178	18.12	0.97	< 0.01	0.02	0.03	0.01	1.005	0.017	0.761	6.29	98.60	30.1	2.635	27.521	8.7	30.156	-0.05	0.05
523622	39.50	0.212	23.33	1.26	< 0.01	0.02	0.03	0.01	1.122	0.015	1.409	7.69	97.95	30.3	3.500	26.709	11.6	30.209	0.19	0.06
523623	44.50	0.174	22.28	0.29	< 0.01	0.02	0.03	< 0.01	1.094	0.018	1.467	6.08	98.33	30.1	3.263	26.741	10.8	30.004	0.34	0.06
523624	49.99	0.212	19.46	0.10	< 0.01	0.02	0.03	< 0.01	1.443	0.021	2.023	5.09	98.04	30.5	2.688	27.409	8.8	30.097	1.20	0.08
523625	51.50	0.196	18.79	0.16	< 0.01	0.04	0.03	< 0.01	1.546	0.021	2.012	4.25	97.43	30.9	2.180	28.567	7.1	30.747	0.41	0.06
523626	62.47	0.152	14.65	0.12	0.01	0.03	0.03	< 0.01	1.245	0.023	1.159	3.26	97.70	30.1	2.833	27.347	9.4	30.179	-0.36	0.18
523627	44.32	0.215	22.19	0.24	< 0.01	0.02	0.04	< 0.01	1.546	0.018	1.991	5.69	98.18	30.4	2.452	28.046	8.1	30.499	-0.21	0.05
523628	47.85	0.185	20.78	0.56	< 0.01	0.03	0.03	0.01	1.279	0.020	1.770	5.23	97.85	30.1	2.421	27.730	8.0	30.151	-0.00	0.04
523629	44.16	0.191	22.04	0.71	< 0.01	0.02	0.03	0.01	1.163	0.018	1.834	6.09	98.40	30.1	2.553	27.514	8.5	30.068	0.05	0.04
523630	48.52	0.151	20.95	0.15	< 0.01	0.02	0.03	0.01	0.930	0.019	1.611	5.38	98.95	30.3	2.629	27.316	8.7	29.946	1.04	0.05
523631	45.79	0.179	21.88	0.24	< 0.01	0.01	0.03	< 0.01	1.190	0.017	1.246	5.72	98.66	30.5	2.770	27.825	9.1	30.595	-0.41	0.08
523632	48.31	0.163	20.19	0.40	0.02	0.10	0.04	0.01	1.218	0.020	1.997	5.22	98.46	30.2	1.954	28.313	6.5	30.268	-0.34	0.08
523633	51.49	0.158	19.23	1.08	< 0.01	0.02	0.04	0.01	1.033	0.018	1.473	4.95	98.70	30.1	2.415	27.800	8.0	30.215	-0.34	0.07
523634	47.75	0.140	19.71	2.05	0.01	0.02	0.04	0.01	1.047	0.018	1.220	6.53	98.57	30.1	3.360	26.940	11.2	30.300	-0.62	0.06
523635	42.18	0.151	22.15	1.60	< 0.01	< 0.01	0.03	0.01	0.985	0.018	1.181	7.26	97.60	30.0	3.311	26.369	11.0	29.681	1.17	
523636	38.86	0.178	24.08	1.78	< 0.01	0.02	0.03	0.01	0.793	0.016	1.066	8.00	99.27	30.7	3.663	26.838	11.9	30.501	0.51	0.04
523637	32.67	0.227	26.63	1.67	< 0.01	0.01	0.03	0.01	0.787	0.014	0.927	9.49	99.10	30.8	4.063	26.695	13.2	30.758	0.16	0.05
523638	44.56	0.298	20.33	0.72	< 0.01	< 0.01	0.03	< 0.01	2.131	0.026	0.264	8.74	87.11	30.8	0.837	29.866	2.7	30.703	0.16	
523639	55.85	0.488	16.14	0.19	< 0.01	< 0.01	0.05	0.01	2.216	0.022	0.309	6.43	97.57	30.2	0.952	29.185	3.2	30.137	0.13	
523640	0.52	0.009	0.09	0.03	0.02	0.07	0.05	0.01	< 0.01	< 0.003	< 0.003	0.26	99.34	30.2	0.111	29.967	0.4	30.079	0.33	
523641	54.53	0.284	18.25	0.62	< 0.01	< 0.01	0.04	0.02	1.888	0.035	0.323		92.38	30.2	1.082	28.806	3.6	29.888	1.15	
523642	50.22	0.206	19.49	1.19	< 0.01	0.02	0.04	0.01	1.409	0.018	0.709	7.59	98.80	30.3	1.953	28.464	6.5	30.417	-0.48	0.03
523643	65.14	0.093	11.54	0.32	< 0.01	< 0.01	0.05	0.01	3.468	0.042	0.308		92.54	30.4	0.528	29.845	1.7	30.374	0.04	
523644	42.64	0.270	16.72	0.56	< 0.01	< 0.01	0.07	0.02	4.111	0.038	0.559		79.02	30.2	0.342	29.663	1.1	30.005	0.76	
523645	37.71	0.182	24.08	1.77	< 0.01	0.01	0.03	0.01	0.944	0.018	0.896	9.15	99.43	30.6	2.214	28.486	7.2	30.701	-0.29	0.03
523646	46.68	0.138	21.31	1.37	< 0.01	0.02	0.04	0.01	0.855	0.016	0.637	6.74	99.47	30.4	3.563	27.365	11.7	30.928	-1.69	0.06
523647	41.66	0.164	22.64	1.94	< 0.01	0.02	0.03	< 0.01	0.780	0.013	1.124	7.63	99.12	30.2	2.677	27.454	8.9	30.130	0.28	0.06

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.010	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
523648	44.29	0.163	21.90	1.13	0.01	0.04	0.03	0.01	0.917	0.015	1.024	6.34	99.30	30.4	3.268	26.381	10.7	29.649	2.60	0.06
523649	48.31	0.150	20.51	0.27	< 0.01	0.02	0.03	0.01	1.033	0.017	1.605	5.40	98.04	30.4	2.916	26.928	9.6	29.844	1.70	0.05
523650	39.90	0.168	24.27	0.30	< 0.01	0.01	0.04	0.01	0.971	0.015	1.293	7.08	98.72	30.2	3.247	27.095	10.7	30.343	-0.41	0.04
523651	48.74	0.152	21.08	0.16	< 0.01	0.02	0.03	0.01	1.101	0.019	1.429	5.36	99.34	30.0	2.890	27.265	9.6	30.155	-0.40	0.06
523652	36.64	0.197	25.79	0.45	< 0.01	< 0.01	0.02	< 0.01	0.688	0.011	0.838		89.53	30.8	3.628	26.580	11.8	30.207	1.85	
523653	42.03	0.168	22.99	0.17	< 0.01	0.02	0.04	0.01	0.923	0.019	1.274	6.64	97.96	30.0	3.350	26.486	11.1	29.835	0.70	0.06

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
NIST 694 Meas	11.47	1.91	0.75	0.013	0.35	43.48	0.88	0.56	0.118	30.18									1676					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
NIST 694 Meas	11.43	1.92	0.76	0.013	0.36	44.70	0.88	0.55	0.118	30.22									1685					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
DNC-1 Meas	46.83	18.41	9.79	0.146	10.01	11.32	1.90	0.23	0.487	0.08			106	140	15	31	34		155	0.025	0.026			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148.0	0.025	0.027			
DNC-1 Meas	47.17	18.74	9.91	0.146	9.92	10.96	1.95	0.23	0.479	0.06			106	142	16	31	34		152		0.026			
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148.0		0.027			
GBW 07113 Meas	72.32	12.61	3.17	0.140	0.14	0.58	2.42	5.38	0.277	0.05			494	39	45	6	399	4	< 5					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
GBW 07113 Meas	71.86	12.75	3.19	0.140	0.14	0.55	2.46	5.39	0.280	0.04			499	40	44	5	383	4	< 5					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
CHR-BKG Meas																						15.30	12.84	13.75
CHR-BKG Cert																						15.27	12.91	13.87
CHR-BKG Meas																						15.08	12.94	13.89
CHR-BKG Cert																						15.27	12.91	13.87
IF-G Meas																						41.22	0.15	55.83
IF-G Cert																						41.2	0.150	55.8
LKSD-4 Meas																								
LKSD-4 Cert																								
BaSO4 Meas																								
BaSO4 Cert																								
W-2a Meas	52.61	15.39	10.65	0.166	6.25	10.91	2.23	0.63	1.076	0.13			175	194	19	35	86	< 1	274	< 0.010	< 0.010			
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262	0.00700	0.00920			
W-2a Meas	52.23	15.30	10.93	0.167	6.24	10.69	2.22	0.62	1.088	0.13			174	194	20	36	84	< 1	274		< 0.010			
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262		0.00920			
OREAS 13P Meas																				0.223				
OREAS 13P Cert																				0.226				
OREAS 13P Meas																				0.225				
OREAS 13P Cert																				0.226				
OREAS 13P Meas																				0.220				
OREAS 13P Cert																				0.226				
OREAS 14P Meas																								
OREAS 14P Cert																								
SY-4 Meas	49.77	20.72	6.24	0.108	0.51	7.96	7.03	1.70	0.285	0.13			348	1215	116	< 1	530	3	< 5	< 0.010	< 0.010			
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0	0.000	0.001			
SY-4 Meas	49.66	20.25	6.29	0.107	0.50	7.81	6.95	1.67	0.289	0.12			345	1207	118	< 1	548	3	6					
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0					
Oreas 73a (Fusion) Meas																						36.46	2.36	
Oreas 73a (Fusion) Cert																						36.4	2.38	
Oreas 74a (Fusion) Meas																						32.60	2.11	
Oreas 74a (Fusion) Cert																						32.4	2.21	
Oreas 75a (Fusion) Meas																						27.30	2.00	
Oreas 75a (Fusion) Cert																						27.3	1.99	
BIR-1a Meas	47.82	15.70	11.16	0.171	9.52	13.37	1.82	0.02	0.974	0.02			8	107	13	43	16	< 1	336	0.018	0.035			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310	0	0			
BIR-1a Meas	48.00	15.70	11.42	0.171	9.48	13.04	1.84	0.02	0.961	0.02			8	107	13	43	15	< 1	332		0.036			
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310		0			
MICA-Mg Meas																						38.22	14.98	9.36
MICA-Mg Cert																						38.30	15.20	9.46
SCH-1 Meas																						8.68	0.88	86.40
SCH-1 Cert																						8.09	0.962	86.84
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
BCR-2 Meas	53.93	13.48	14.05		3.50	6.99	3.04	1.78	2.232	0.35			696	338	32	33	167		432					
BCR-2 Cert	54.1	13.5	13.8		3.59	7.12	3.16	1.79	2.26	0.35			683	346	37	33	188		416					
523512 Orig																								
523512 Dup																								
523515 Orig	38.37	1.17	8.16	0.097	37.57	0.81	0.03	0.01	0.008	< 0.01	12.29	98.52	< 2	< 2	< 1	11	3	< 1	44	0.246	0.234			
523515 Dup	39.22	1.17	8.10	0.097	39.11	0.92	0.02	< 0.01	0.008	< 0.01	12.29	100.9	< 2	< 2	< 1	11	3	< 1	44	0.208	0.233			
523515 Orig	38.37	1.17	8.16	0.097	37.57	0.81	0.02	< 0.01	0.008	< 0.01		98.52	< 2	< 2	< 1	11	3	< 1	44					
523515 Dup	39.22	1.17	8.10	0.097	39.11	0.92	0.02	< 0.01	0.008	< 0.01		100.9	< 2	< 2	< 1	11	3	< 1	44					
523525 Orig																								
523525 Dup																								
523530 Orig																						16.83	0.47	55.42
523530 Dup																						17.03	0.52	55.36
523532 Orig	40.27	1.16	7.49	0.124	37.50	1.56	0.02	< 0.01	0.010	< 0.01	11.28	99.43	< 2	< 2	< 1	10	2	< 1	41	0.223	0.226			
523532 Dup	39.43	1.12	7.67	0.125	37.37	1.61	0.02	< 0.01	0.010	< 0.01	11.28	98.63	< 2	< 2	< 1	10	2	< 1	41	0.242	0.232			
523532 Orig	40.27	1.16	7.49	0.124	37.50	1.56	0.02	< 0.01	0.010	< 0.01		99.43	< 2	< 2	< 1	10	2	< 1	41					
523532 Dup	39.43	1.12	7.67	0.125	37.37	1.61	0.02	< 0.01	0.010	< 0.01		98.63	< 2	< 2	< 1	10	2	< 1	41					
523537 Orig																								
523537 Dup																								
523540-1 Orig	49.94	15.62	12.37	0.166	4.98	7.99	2.34	2.82	1.210	0.43		98.79	742	529	22	26	108	2	343	0.226				
523546 Orig	38.24	0.84	8.77	0.142	38.52	1.44	0.01	< 0.01	0.007	< 0.01	10.75	98.74	< 2	< 2	< 1	9	3	< 1	38	0.253	0.231			
523546 Orig	38.24	0.84	8.77	0.142	38.52	1.44	0.01	< 0.01	0.007	< 0.01		98.74	< 2	< 2	< 1	9	3	< 1	38					
523547 Orig																								
523547 Dup																								
523548 Orig	36.86	0.87	8.95	0.120	38.27	0.61	0.01	< 0.01	0.007	< 0.01	12.33	98.03	< 2	< 2	< 1	12	4	< 1	38	0.228	0.246			
523548 Split	38.19	0.93	8.52	0.117	38.47	0.72	0.02	< 0.01	0.007	0.02	12.56	99.55	< 2	< 2	< 1	11	7	< 1	38	0.236	0.246			
523548 Split	38.19	0.93	8.52	0.117	38.47	0.72	0.02	< 0.01	0.007	0.02		99.55	< 2	< 2	< 1	11	7	< 1	38					
523551 Orig	38.57	0.85	8.22	0.145	38.97	1.18	0.03	< 0.01	0.007	0.02		99.50	3	2	< 1	10	4	< 1	36	0.113				
523551 Dup	38.25	0.83	8.21	0.146	39.33	1.17	0.02	< 0.01	0.007	0.02		99.50	< 2	< 2	< 1	10	3	< 1	35	0.108				
523557 Orig																								
523557 Dup																								
523561 Orig	37.99	0.89	8.20	0.127	38.49	0.86	0.01	< 0.01	0.008	0.01	12.25	98.83	< 2	< 2	< 1	8	2	< 1	30	0.236	0.233			
523561 Dup	38.01	0.89	8.11	0.128	39.01	0.85	0.02	< 0.01	0.008	< 0.01	12.25	99.30	< 2	< 2	< 1	8	7	< 1	32	0.223	0.234			
523562 Orig																						14.50	0.59	60.78
523562 Dup																						14.15	0.58	60.05
523568 Orig																								
523568 Dup																								
523578 Orig	38.60	1.31	8.18	0.137	37.69	1.43	0.02	< 0.01	0.014	< 0.01	11.80	99.17	< 2	< 2	< 1	11	2	< 1	47	0.211	0.218			
523578 Dup	38.08	1.27	8.05	0.135	37.28	1.41	0.02	< 0.01	0.014	< 0.01	11.80	98.07	< 2	< 2	< 1	11	3	< 1	47	0.213	0.217			
523580-1 Dup	48.85	14.84	11.94	0.163	4.85	7.92	2.25	2.73	1.143	0.42		96.07	711	505	21	25	109	2	337	0.225				
523588 Orig																								
523588 Dup																								
523592 Orig	37.37	1.16	8.30	0.118	37.61	1.16	0.01	< 0.01	0.013	0.02	13.43	99.20	< 2	< 2	< 1	7	2	< 1	37	0.238	0.271			
523592 Dup	36.93	1.15	8.09	0.117	36.58	1.15	0.01	< 0.01	0.013	< 0.01	13.43	97.49	2	< 2	< 1	7	2	< 1	35	0.217	0.271			
523596 Orig	34.75	1.08	6.84	0.093	35.23	0.97	0.05	< 0.01	0.009	< 0.01	20.44	99.46	< 2	2	< 1	9	3	< 1	38	0.239	0.210			
523596 Split	34.68	1.10	6.77	0.091	35.06	1.17	0.05	< 0.01	0.009	0.01	20.22	99.15	< 2	3	< 1	8	< 2	< 1	38	0.221	0.203			
523596 Split	34.68	1.10	6.77	0.091	35.06	1.17	0.05	< 0.01	0.009	0.01		99.15	< 2	3	< 1	8	< 2	< 1	38					
523607 Orig	30.74	0.82	6.50	0.104	31.38	0.76	0.04	0.02	0.011	< 0.01	28.11	98.49	3	14	< 1	7	4	< 1	30	0.228	0.162			
523607 Dup	31.06	0.82	6.43	0.105	31.46	0.77	0.04	0.02	0.011	< 0.01	28.11	98.84	3	14	< 1	7	3	< 1	29	0.241	0.162			
523607 Orig	30.74	0.82	6.50	0.104	31.38	0.76	0.04	0.02	0.011	< 0.01		98.49	3	14	< 1	7	4	< 1	30					
523607 Dup	31.06	0.82	6.43	0.105	31.46	0.77	0.04	0.02	0.011	< 0.01		98.84	3	14	< 1	7	3	< 1	29					
523614 Orig																								
523614 Dup																								
523620-1 Dup	49.27	15.09	12.12	0.164	4.85	8.02	2.21	2.72	1.175	0.42		96.99	702	504	21	25	105	2	338	0.224				
523624 Orig	37.70	1.25	7.87	0.099	37.33	0.99	0.03	0.01	0.010	< 0.01	13.86	99.17	< 2	< 2	< 1	9	2	< 1	43	0.263	0.241			
523624 Dup	37.77	1.24	8.06	0.101	37.89	1.03	0.03	0.01	0.010	0.01	13.86	100.0	< 2	< 2	< 1	9	2	< 1	45	0.258	0.250			
523624 Orig	37.70	1.25	7.87	0.099	37.33	0.99	0.03	0.01	0.010	< 0.01		99.17	< 2	< 2	< 1	9	2	< 1	43					
523624 Dup	37.77	1.24	8.06	0.101	37.89	1.03	0.03	0.01	0.010	0.01		100.0	< 2	< 2	< 1	9	2	< 1	45					

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
523626 Orig																								
523626 Dup																								
523636 Orig																								
523636 Dup																								
523638 Orig	36.34	1.30	6.51	0.098	37.00	1.23	0.05	0.02	0.008	< 0.01		99.48	2	< 2	< 1	8	3	< 1	43	0.257				
523638 Dup	36.57	1.29	6.45	0.097	37.04	1.24	0.05	0.02	0.008	< 0.01		99.68	2	< 2	< 1	8	4	< 1	42	0.268				
523638 Orig	36.34	1.30	6.51	0.098	37.00	1.23	0.05	0.02	0.008	< 0.01		99.48	2	< 2	< 1	8	3	< 1	43					
523638 Dup	36.57	1.29	6.45	0.097	37.04	1.24	0.05	0.02	0.008	< 0.01		99.68	2	< 2	< 1	8	4	< 1	42					
523645 Orig	37.81	1.19	7.89	0.117	36.90	1.91	0.02	< 0.01	0.011	0.02	14.22	100.1	< 2	< 2	< 1	11	2	< 1	49	0.232	0.223			
523645 Split	37.57	1.18	7.88	0.116	36.38	1.95	0.02	< 0.01	0.011	0.01	14.43	99.56	< 2	< 2	< 1	11	< 2	< 1	47	0.237	0.218			
523645 Orig	37.81	1.19	7.89	0.117	36.90	1.91	0.02	< 0.01	0.011	0.02		100.1	< 2	< 2	< 1	11	2	< 1	49					
523645 Split	37.57	1.18	7.88	0.116	36.38	1.95	0.02	< 0.01	0.011	0.01		99.56	< 2	< 2	< 1	11	< 2	< 1	47					
523650 Orig																								
523650 Dup																								
523652 Orig	36.98	1.12	7.35	0.117	36.27	3.49	0.02	< 0.01	0.010	0.02	15.25	100.6	< 2	2	< 1	8	< 2	< 1	44	0.209	0.220	25.78	0.53	36.64
523652 Dup			36.63																			26.01	0.53	36.63
523652 Orig			36.64																					
523653 Orig	37.95	1.25	7.96	0.108	36.60	1.79	0.02	< 0.01	0.010	0.02	14.02	99.72	< 2	< 2	< 1	10	2	< 1	47	0.213	0.237			
523653 Dup	37.57	1.23	7.62	0.105	36.23	1.77	0.01	< 0.01	0.010	0.02	14.02	98.60	< 2	< 2	< 1	10	2	< 1	46	0.242	0.223			
523653 Orig	37.95	1.25	7.96	0.108	36.60	1.79	0.02	< 0.01	0.010	0.02		99.72	< 2	< 2	< 1	10	2	< 1	47					
523653 Dup	37.57	1.23	7.62	0.105	36.23	1.77	0.01	< 0.01	0.010	0.02		98.60	< 2	< 2	< 1	10	2	< 1	46					
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	% Loss Mass	Calculated Start Mass	Magnetic Fraction	Non-Mag Fraction	Start Mass	Weight % Magnetics	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	g	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.010	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
NIST 694 Meas																			
NIST 694 Cert																			
NIST 694 Meas																			
NIST 694 Cert																			
DNC-1 Meas																			
DNC-1 Cert																			
DNC-1 Meas																			
DNC-1 Cert																			
GBW 07113 Meas																			
GBW 07113 Cert																			
GBW 07113 Meas																			
GBW 07113 Cert																			
CHR-BKG Meas	0.138	23.26	0.06			0.14		19.9		0.199									
CHR-BKG Cert	0.14	23.47	0.07			0.14		20		0.201									
CHR-BKG Meas	0.132	23.27	0.06			0.14		198837.000		0.196									
CHR-BKG Cert	0.14	23.47	0.07			0.14		20		0.201									
IF-G Meas	0.041	1.89	1.53	0.05	0.02	0.03	0.06	205.198		< 0.003									
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225									
LKSD-4 Meas																			0.99
LKSD-4 Cert																			0.990
BaSO4 Meas																			13.1
BaSO4 Cert																			14.0
W-2a Meas																			
W-2a Cert																			
W-2a Meas																			
W-2a Cert																			
OREAS 13P Meas										0.228									
OREAS 13P Cert										0.226									
OREAS 13P Meas																			
OREAS 13P Cert																			
OREAS 13P Meas																			
OREAS 13P Cert																			
OREAS 14P Meas										2.10									
OREAS 14P Cert										2.10									
SY-4 Meas																			
SY-4 Cert																			
SY-4 Meas																			
SY-4 Cert																			
Oreas 73a (Fusion) Meas		32.52						0.198		1.432									
Oreas 73a (Fusion) Cert		32.5						0.20		1.44									
Oreas 74a (Fusion) Meas		27.99						0.185		3.208									
Oreas 74a (Fusion) Cert		27.9						0.18		3.24									
Oreas 75a (Fusion) Meas		22.51						0.150		5.243									
Oreas 75a (Fusion) Cert		22.3						0.16		5.25									
BIR-1a Meas																			
BIR-1a Cert																			
BIR-1a Meas																			
BIR-1a Cert																			
MICA-Mg Meas	0.250	20.38	0.07	0.02	9.92	1.65	0.01	< 0.010		0.006									
MICA-Mg Cert	0.26	20.40	0.08	0.12	10.00	1.63	0.01	0		0									
SCH-1 Meas	0.997	0.07		0.15	0.04	0.08	0.14												
SCH-1 Cert	1.003	0.033		0.026	0.031	0.052	0.124												
OREAS 13b (4-Acid) Meas																			1.19

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	% Loss Mass	Calculated Start Mass	Magnetic Fraction	Non-Mag Fraction	Start Mass	Weight % Magnetics	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	g	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.010	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
OREAS 13b (4-Acid) Cert																			1.20
BCR-2 Meas																			
BCR-2 Cert																			
523512 Orig																			0.03
523512 Dup																			0.03
523515 Orig																			
523515 Dup																			
523515 Orig																			
523515 Dup																			
523525 Orig																			0.03
523525 Dup																			0.03
523530 Orig	0.189	17.84	0.44	< 0.01	< 0.01	0.02	0.01	1.416	0.022	2.672	2.31	92.43							
523530 Dup	0.190	17.95	0.45	< 0.01	< 0.01	0.02	< 0.01	1.402	0.021	2.511	2.31	99.08							
523532 Orig																			
523532 Dup																			
523532 Orig																			
523532 Dup																			
523537 Orig																			0.06
523537 Dup																			0.05
523540-1 Orig																			
523546 Orig																			
523546 Orig																			
523547 Orig																			0.03
523547 Dup																			0.03
523548 Orig																			
523548 Split													2.39	29.902	1.735	28.166	30.6	5.7	
523548 Split																			
523551 Orig																			
523551 Dup																			
523557 Orig																			0.08
523557 Dup																			0.07
523561 Orig																			
523561 Dup																			
523562 Orig	0.214	15.39	0.17	0.14	0.05	0.09	0.04	2.011	0.028	2.498	2.09	98.08							
523562 Dup	0.221	15.23	0.17	0.02	0.03	0.06	0.01	2.038	0.019	2.903	2.09	99.31							
523568 Orig																			0.05
523568 Dup																			0.05
523578 Orig																			0.03
523578 Dup																			0.04
523580-1 Dup																			
523588 Orig																			0.06
523588 Dup																			0.06
523592 Orig																			
523592 Dup																			
523596 Orig																			
523596 Split													2.06	29.776	0.025	29.751	30.4	0.1	
523596 Split																			
523607 Orig																			
523607 Dup																			
523607 Orig																			
523607 Dup																			
523614 Orig																			0.04
523614 Dup																			0.04
523620-1 Dup																			
523624 Orig																			

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	% Loss Mass	Calculated Start Mass	Magnetic Fraction	Non-Mag Fraction	Start Mass	Weight % Magnetics	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	g	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.010	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
523624 Dup																			
523624 Orig																			
523624 Dup																			
523626 Orig																			0.19
523626 Dup																			0.18
523636 Orig																			0.03
523636 Dup																			0.04
523638 Orig																			
523638 Dup																			
523638 Orig																			
523638 Dup																			
523645 Orig																			
523645 Split													0.78	30.079	1.889	28.190	30.3	6.2	
523645 Orig																			
523645 Split																			
523650 Orig																			0.04
523650 Dup																			0.04
523652 Orig	0.197	25.81	0.45	< 0.01	< 0.01	0.02	< 0.01	0.684	0.011	0.826		89.44							
523652 Dup	0.198	25.78	0.45	< 0.01	< 0.01	0.02	< 0.01	0.692	0.011	0.849		89.63							
523652 Orig																			
523653 Orig																			
523653 Dup																			
523653 Orig																			
523653 Dup																			
Method Blank																			< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01							

Quality Analysis ... *Innovative Technologies*

Date Submitted: 07-Nov-11
Invoice No.: A11-13080
Invoice Date: 12-Dec-11
Your Reference: DECAR

Caracle Creek International Consulting
17 Frood Road
Suite 2
Sudbury Ontario P3C 4Y9
Canada

ATTN: Senior Project Geologist Elisabeth Ro

CERTIFICATE OF ANALYSIS

15 Pulp samples and 216 Rock samples were submitted for analysis.

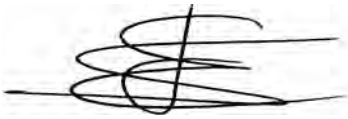
The following analytical packages were requested:

Code 4B (11+) Major Elements Fusion ICP(WRA)
Code 4C (11+) Whole Rock Analysis-XRF
Code 8-Davis Tube Magnetic Separation Davis Tube
Code Client ID Client ID

REPORT **A11-13080**

Notes:
Total includes all elements in % oxide to the left of total.

CERTIFIED BY :



Emmanuel Eseme , Ph.D.
Quality Control

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Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
546797	38.06	1.02	8.66	0.099	38.54	0.93	< 0.01	< 0.01	0.013	< 0.01	12.68	100.00	2	7	< 1	10	3	< 1	34	0.253	0.239	546797	12.24	0.33
546798	38.00	0.99	8.62	0.189	37.01	2.28	< 0.01	< 0.01	0.011	< 0.01	10.83	97.92	< 2	6	< 1	11	3	< 1	47	0.189	0.239	546798	14.74	0.24
546799	38.73	1.23	8.14	0.130	36.14	1.87	< 0.01	< 0.01	0.010	< 0.01	12.03	98.27	< 2	5	< 1	12	2	< 1	50	0.193	0.231	546799	10.95	0.33
546800	99.42	0.29	0.76	0.008	0.05	0.05	0.02	0.05	0.030	< 0.01	0.11	100.8	26	7	1	< 1	51	< 1	5	< 0.010	< 0.010	546800	98.84	0.25
546801	38.44	1.25	8.62	0.130	37.49	1.61	< 0.01	< 0.01	0.012	< 0.01	11.77	99.32	< 2	6	1	12	2	< 1	49	0.191	0.253	546801	12.17	0.46
546802	38.85	1.27	8.34	0.109	38.31	1.31	< 0.01	< 0.01	0.011	< 0.01	12.02	100.2	< 2	3	< 1	11	3	< 1	48	0.191	0.239	546802	14.91	0.46
546803	37.92	1.23	8.05	0.107	37.56	1.10	< 0.01	< 0.01	0.011	< 0.01	12.44	98.42	< 2	3	2	10	2	< 1	50	0.214	0.246	546803	9.01	0.28
546804	37.06	0.86	8.65	0.141	39.17	0.72	< 0.01	< 0.01	0.010	< 0.01	12.36	98.98	< 2	3	< 1	9	3	< 1	32	0.132	0.241	546804	11.17	0.38
546805	37.45	1.12	8.52	0.118	38.45	0.95	0.02	< 0.01	0.010	< 0.01	11.80	98.45	< 2	2	< 1	10	< 2	< 1	39	0.134	0.207	546805	9.53	0.31
546806	38.07	1.14	7.52	0.115	39.41	0.37	0.01	< 0.01	0.010	< 0.01	12.87	99.52	< 2	< 2	< 1	10	< 2	< 1	42	0.200	0.219	546806	16.92	0.41
546807	37.52	0.96	8.33	0.141	38.66	1.57	0.02	< 0.01	0.010	< 0.01	11.32	98.52	< 2	3	< 1	10	2	< 1	38	0.132	0.211	546807	15.12	0.34
546808	36.28	0.86	9.03	0.131	38.48	0.59	< 0.01	< 0.01	0.008	< 0.01	12.18	97.57	< 2	< 2	< 1	11	2	< 1	35	0.149	0.228	546808	11.20	0.24
546809	38.47	0.92	8.49	0.146	39.22	0.95	0.01	< 0.01	0.008	< 0.01	11.59	99.82	< 2	< 2	< 1	10	4	< 1	38	0.148	0.214	546809	10.82	0.16
546810	36.68	0.75	8.72	0.137	40.14	0.29	< 0.01	< 0.01	0.008	< 0.01	11.55	98.27	< 2	< 2	< 1	6	2	< 1	27	0.140	0.302	546810	10.23	0.33
546811	37.39	0.96	8.13	0.117	38.71	0.79	0.02	< 0.01	0.009	< 0.01	11.83	97.96	< 2	< 2	< 1	10	< 2	< 1	36	0.142	0.230	546811	12.78	0.49
546812	37.82	1.06	8.36	0.112	38.78	0.57	0.02	< 0.01	0.009	< 0.01	11.88	98.64	< 2	< 2	< 1	11	2	< 1	38	0.143	0.223	546812	12.03	0.34
546813	38.45	1.37	7.90	0.063	38.45	0.20	< 0.01	< 0.01	0.009	< 0.01	12.76	99.20	< 2	< 2	< 1	11	< 2	< 1	48	0.225	0.242	546813	10.46	0.26
546814	37.19	1.01	8.85	0.101	38.22	0.36	0.01	< 0.01	0.009	< 0.01	12.39	98.13	< 2	< 2	< 1	9	3	< 1	40	0.135	0.243	546814	11.16	0.27
546815	38.46	1.24	8.11	0.078	38.74	0.17	0.03	0.02	0.009	< 0.01	12.70	99.56	< 2	< 2	< 1	8	2	< 1	44	0.196	0.241	546815	11.63	0.35
546816	38.33	0.96	8.27	0.135	39.05	0.44	0.02	< 0.01	0.008	0.02	12.43	99.67	< 2	< 2	< 1	10	2	< 1	36	0.137	0.247	546816	16.32	0.46
546817	37.50	0.89	7.60	0.129	38.75	0.87	0.02	< 0.01	0.008	< 0.01	11.92	97.69	< 2	< 2	< 1	10	2	< 1	36	0.133	0.210	546817	12.22	0.29
546818	38.27	1.00	8.28	0.110	39.21	0.45	0.03	0.01	0.009	< 0.01	11.52	98.88	< 2	< 2	< 1	9	3	< 1	39	0.185	0.232	546818	12.28	0.30
546819	38.08	1.05	7.63	0.118	38.28	0.66	< 0.01	< 0.01	0.008	0.01	12.00	97.86	< 2	< 2	< 1	10	3	< 1	36	0.144	0.225	546819	13.14	0.61
546820.1	48.32	15.76	11.14	0.164	4.86	7.79	2.24	2.67	1.171	0.39	1.57	96.08	698	510	20	25	95	2	335	0.228	1.015	546820	49.19	15.95
546820.2																						546820	36.28	2.47
546820.3																						546820	18.61	0.49
546821	37.91	1.15	7.02	0.085	38.23	0.51	0.02	< 0.01	0.010	0.01	12.69	97.64	2	< 2	< 1	9	2	< 1	39	0.147	0.232	546821	14.24	0.52
546822	38.15	1.00	7.02	0.107	39.63	0.31	< 0.01	< 0.01	0.007	< 0.01	12.74	98.99	< 2	< 2	< 1	7	2	< 1	30	0.126	0.221	546822	16.90	0.89
546823	37.43	0.92	7.94	0.122	38.65	0.76	< 0.01	< 0.01	0.007	< 0.01	12.41	98.24	< 2	< 2	< 1	9	3	< 1	39	0.133	0.222	546823	16.04	0.83
546824	38.49	1.05	7.52	0.135	39.77	0.42	0.02	< 0.01	0.007	< 0.01	12.24	99.65	< 2	< 2	< 1	8	2	< 1	31	0.149	0.220	546824	13.25	0.97
546825	38.16	0.88	9.38	0.102	39.34	0.73	< 0.01	< 0.01	0.007	< 0.01	11.95	100.5	< 2	< 2	< 1	11	< 2	< 1	43	0.216	0.284	546825	9.21	0.42
546826	38.29	1.04	8.06	0.073	38.71	1.21	< 0.01	< 0.01	0.008	< 0.01	11.53	98.92	< 2	< 2	< 1	12	2	< 1	46	0.215	0.250	546826	10.15	0.41
546827	37.26	1.09	9.02	0.056	37.91	0.63	0.01	< 0.01	0.008	< 0.01	12.40	98.38	< 2	< 2	< 1	13	3	< 1	45	0.254	0.261	546827	8.75	0.32
546828	38.11	0.95	8.30	0.126	39.10	1.14	< 0.01	< 0.01	0.008	< 0.01	11.38	99.13	< 2	< 2	< 1	11	< 2	< 1	41	0.121	0.244	546828	16.19	0.33
546829	38.69	0.96	8.36	0.141	39.46	1.39	0.02	< 0.01	0.007	< 0.01	10.71	99.75	< 2	< 2	< 1	11	3	< 1	42	0.134	0.240	546829	13.17	0.40
546830	38.21	1.03	8.28	0.105	39.12	1.11	< 0.01	< 0.01	0.007	< 0.01	11.42	99.28	< 2	< 2	< 1	11	2	< 1	47	0.213	0.255	546830	15.36	0.23
546831	37.97	0.82	9.13	0.178	39.56	1.24	< 0.01	< 0.01	0.007	< 0.01	11.76	100.7	< 2	< 2	< 1	10	2	< 1	36	0.127	0.228	546831	17.27	0.77
546832	39.54	0.85	8.25	0.121	40.33	1.20	0.01	< 0.01	0.007	< 0.01	9.83	100.1	< 2	< 2	< 1	10	2	< 1	41	0.124	0.235	546832	17.95	0.43
546833	38.97	0.90	7.43	0.117	39.86	1.12	0.02	< 0.01	0.007	< 0.01	10.28	98.71	< 2	< 2	< 1	11	2	< 1	44	0.121	0.236	546833	17.50	0.59
546834	38.41	0.96	8.02	0.122	39.20	1.42	< 0.01	< 0.01	0.007	< 0.01	12.09	100.2	< 2	< 2	< 1	11	2	< 1	45	0.136	0.235	546834	10.80	0.31
546835	38.15	0.82	8.37	0.137	39.01	1.51	< 0.01	< 0.01	0.007	< 0.01	11.59	99.61	< 2	< 2	< 1	11	< 2	< 1	41	0.137	0.230	546835	16.58	0.54
546836	38.14	0.96	8.17	0.109	39.22	1.17	< 0.01	< 0.01	0.007	< 0.01	11.85	99.63	< 2	< 2	< 1	9	3	< 1	42	0.247	0.250	546836	15.68	0.41
546837	37.19	0.83	7.82	0.132	38.47	1.48	0.01	< 0.01	0.006	0.01	12.48	98.43	< 2	< 2	< 1	10	< 2	< 1	36	0.136	0.222	546837	17.79	0.46
546838	38.78	0.89	8.03	0.128	38.71	0.94	0.01	< 0.01	0.007	< 0.01	11.73	99.24	< 2	< 2	< 1	10	7	< 1	39	0.243	0.217	546838	12.72	0.34
546839	38.30	0.97	8.27	0.120	39.73	0.51	< 0.01	< 0.01	0.007	0.01	11.92	99.84	< 2	< 2	< 1	11	2	< 1	36	0.134	0.233	546839	19.51	0.49
546840	99.16	0.32	0.55	0.006	0.13	0.03	0.01	0.05	0.033	< 0.01	0.34	100.6	33	5	1	< 1	58	< 1	< 5	< 0.010	< 0.010	546840	97.75	0.28
546841	38.43	0.82	7.29	0.113	39.54	0.86	< 0.01	< 0.01	0.007	< 0.01	11.16	98.24	< 2	< 2	< 1	9	< 2	< 1	38	0.130	0.214	546841	13.34	0.30
546842	38.33	0.85	7.83	0.126	39.05	1.25	0.01	< 0.01	0.008	< 0.01	11.21	98.67	< 2	< 2	< 1	10	< 2	< 1	39	0.128	0.239	546842	16.43	0.40
546843	39.28	0.76	7.57	0.112	39.52	0.41	< 0.01	< 0.01	0.006	< 0.01	10.51	98.19	< 2	< 2	< 1	8	3	< 1	37	0.199	0.237	546843	18.32	0.62
546844	37.97	1.21	8.73	0.114	38.08	0.64	0.02	< 0.01	0.017	< 0.01	12.34	99.14	< 2	< 2	< 1	11	35	< 1	42	0.188	0.266	546844	11.69	0.70
546845	39.30	1.02	7.69	0.113	39.88	1.57	0.01	< 0.01	0.008	0.01	9.69	99.29	< 2	< 2	< 1	10	2	< 1	43	0.211	0.252	546845	18.86	0.81

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
546846	39.56	0.97	7.65	0.107	40.19	1.37	0.01	< 0.01	0.008	< 0.01	10.17	100.0	< 2	< 2	< 1	10	< 2	< 1	39	0.213	0.262	546846	22.26	0.99
546847	38.54	0.93	7.66	0.107	38.96	1.24	0.01	< 0.01	0.008	< 0.01	9.83	97.39	< 2	< 2	< 1	10	3	< 1	38	0.255	0.251	546847	19.21	1.01
546848	39.00	0.91	7.90	0.117	40.79	1.25	0.01	< 0.01	0.008	< 0.01	8.91	98.90	< 2	< 2	< 1	9	< 2	< 1	38	0.213	0.266	546848	23.96	1.24
546849	39.55	0.98	8.34	0.117	40.71	1.09	0.01	< 0.01	0.007	< 0.01	8.97	100.6	< 2	< 2	< 1	10	2	< 1	42	0.267	0.257	546849	26.33	1.72
546850	39.56	0.89	7.53	0.109	40.85	0.77	< 0.01	< 0.01	0.007	< 0.01	10.40	100.1	< 2	< 2	< 1	9	< 2	< 1	41	0.216	0.270	546850	21.42	0.99
546851	40.27	0.93	8.18	0.119	41.63	1.17	< 0.01	< 0.01	0.008	< 0.01	7.29	99.61	< 2	< 2	< 1	9	2	< 1	39	0.222	0.263	546851	27.99	1.60
546852	38.50	0.75	7.56	0.116	40.47	0.71	0.01	< 0.01	0.010	< 0.01	10.11	98.25	< 2	< 2	< 1	8	2	< 1	33	0.187	0.279	546852	19.38	0.72
546853	39.46	0.86	7.71	0.118	40.55	1.01	< 0.01	< 0.01	0.009	< 0.01	9.09	98.82	< 2	< 2	< 1	9	< 2	< 1	38	0.200	0.264	546853	19.24	1.15
546854	37.24	0.86	7.55	0.112	38.85	0.77	< 0.01	< 0.01	0.007	< 0.01	14.15	99.55	< 2	< 2	< 1	9	< 2	< 1	38	0.210	0.256	546854	16.82	1.04
546855	37.07	0.87	7.59	0.117	38.46	0.78	< 0.01	< 0.01	0.007	< 0.01	14.34	99.23	< 2	< 2	< 1	9	< 2	< 1	39	0.203	0.256	546855	16.28	0.90
546856	38.74	0.90	7.77	0.119	39.97	1.20	0.01	< 0.01	0.007	< 0.01	9.55	98.28	< 2	< 2	< 1	9	2	< 1	40	0.219	0.255	546856	22.95	1.10
546857	38.98	1.30	8.37	0.153	37.34	2.43	0.02	< 0.01	0.019	< 0.01	12.23	100.8	< 2	< 2	< 1	12	< 2	< 1	47	0.169	0.250	546857	12.86	0.42
546858	37.56	1.35	8.28	0.084	38.01	0.10	< 0.01	< 0.01	0.016	< 0.01	13.57	98.99	< 2	< 2	< 1	9	2	< 1	45	0.211	0.273	546858	16.46	0.63
546859	38.15	0.78	8.35	0.125	39.52	0.30	0.01	< 0.01	0.008	< 0.01	11.22	98.46	< 2	< 2	< 1	9	< 2	< 1	30	0.211	0.249	546859	10.22	0.67
546860.1	49.15	15.57	11.53	0.164	4.83	7.89	2.26	2.70	1.172	0.43	0.85	96.78	702	514	21	25	103	2	337	0.245	1.029	546860	49.09	16.18
546860.2																						546860	36.35	2.37
546860.3																						546860	18.22	0.57
546861	37.77	0.53	7.62	0.133	41.11	0.24	< 0.01	< 0.01	0.006	< 0.01	11.87	99.30	< 2	< 2	< 1	5	2	< 1	18	0.195	0.211	546861	16.08	0.93
546862	37.78	0.51	7.63	0.105	41.68	0.08	< 0.01	< 0.01	0.005	< 0.01	11.50	99.30	< 2	< 2	< 1	6	< 2	< 1	23	0.217	0.263	546862	12.16	1.08
546863	37.34	0.35	7.90	0.147	42.79	0.07	< 0.01	< 0.01	0.004	< 0.01	10.17	98.79	< 2	< 2	< 1	3	9	< 1	14	0.215	0.246	546863	6.58	1.67
546864	36.00	0.30	6.69	0.079	42.04	0.04	0.01	< 0.01	0.003	< 0.01	13.12	98.30	< 2	< 2	< 1	3	< 2	< 1	14	0.241	0.258	546864	7.32	0.89
546865	35.72	0.09	7.40	0.095	42.00	0.01	< 0.01	< 0.01	0.001	0.01	13.84	99.19	< 2	< 2	< 1	3	< 2	< 1	14	0.222	0.259	546865	2.17	0.33
546866	36.12	0.35	8.10	0.117	42.18	0.05	< 0.01	< 0.01	0.004	0.03	11.08	98.05	< 2	< 2	< 1	5	< 2	< 1	19	0.233	0.263	546866	12.58	0.77
546867	35.42	0.09	7.83	0.103	42.24	0.02	< 0.01	< 0.01	0.001	< 0.01	13.64	99.35	< 2	< 2	< 1	3	< 2	< 1	15	0.218	0.267	546867	1.87	0.23
546868	35.76	0.08	7.01	0.095	40.80	0.02	< 0.01	< 0.01	0.001	0.01	13.69	97.48	< 2	< 2	< 1	3	< 2	< 1	14	0.200	0.241	546868	1.58	0.55
546869	35.51	0.10	8.81	0.075	40.85	0.03	< 0.01	< 0.01	0.001	< 0.01	13.85	99.24	< 2	< 2	< 1	3	< 2	< 1	16	0.217	0.255	546869	2.74	0.38
546870	36.05	0.10	7.59	0.099	41.19	0.02	< 0.01	< 0.01	0.002	0.03	13.94	99.03	< 2	< 2	< 1	4	< 2	< 1	17	0.217	0.246	546870	3.66	0.54
546871	36.28	0.09	6.36	0.106	41.51	0.13	< 0.01	< 0.01	0.002	< 0.01	13.16	97.65	< 2	< 2	< 1	4	< 2	< 1	15	0.178	0.238	546871	4.52	0.49
546872	36.02	0.14	7.63	0.076	40.99	0.18	< 0.01	< 0.01	0.002	0.01	12.72	97.77	< 2	< 2	< 1	4	< 2	< 1	20	0.214	0.248	546872	5.56	0.79
546873	35.88	0.13	7.88	0.084	41.63	0.02	< 0.01	< 0.01	0.002	< 0.01	13.26	98.89	< 2	< 2	< 1	4	< 2	< 1	17	0.219	0.256	546873	3.61	0.52
546874	37.29	0.46	8.19	0.122	39.93	0.32	< 0.01	< 0.01	0.004	< 0.01	12.00	98.33	< 2	< 2	< 1	7	< 2	< 1	26	0.201	0.229	546874	15.53	1.21
546875	36.97	0.56	7.78	0.108	40.28	0.27	< 0.01	< 0.01	0.004	< 0.01	12.54	98.52	< 2	< 2	< 1	7	< 2	< 1	29	0.207	0.236	546875	21.25	0.96
546876	37.90	0.87	7.81	0.126	37.76	1.71	< 0.01	< 0.01	0.012	0.06	12.69	98.95	< 2	< 2	< 1	10	< 2	< 1	40	0.194	0.228	546876	16.73	0.47
546877	36.60	0.39	7.94	0.100	41.55	0.11	< 0.01	< 0.01	0.004	< 0.01	12.17	98.86	< 2	3	2	8	2	< 1	19	0.229	0.240	546877	16.36	0.47
546878	35.69	0.12	7.47	0.073	41.55	0.02	< 0.01	< 0.01	0.001	< 0.01	13.54	98.48	< 2	< 2	< 1	4	< 2	< 1	16	0.221	0.244	546878	2.24	0.68
546879	36.92	0.21	8.33	0.120	41.63	0.04	< 0.01	< 0.01	0.002	0.02	10.67	97.95	< 2	< 2	< 1	5	< 2	< 1	17	0.211	0.257	546879	8.38	0.68
546880	98.53	0.30	0.40	0.003	0.04	0.02	0.01	0.05	0.031	0.01	0.14	99.53	26	5	1	< 1	59	< 1	7	< 0.010	< 0.010	546880	97.95	0.23
546881	38.21	1.25	7.55	0.099	37.24	1.44	< 0.01	< 0.01	0.018	0.03	12.80	98.65	< 2	< 2	< 1	11	< 2	< 1	55	0.178	0.236	546881	19.43	0.57
546882	37.37	0.27	7.68	0.085	41.60	0.04	< 0.01	< 0.01	0.003	< 0.01	12.32	99.38	< 2	< 2	< 1	5	< 2	< 1	18	0.215	0.258	546882	6.88	0.76
546883	38.16	1.01	8.06	0.120	38.17	1.37	0.01	< 0.01	0.014	0.02	12.72	99.66	< 2	< 2	< 1	11	< 2	< 1	46	0.174	0.234	546883	22.28	0.47
546884	37.26	1.09	7.67	0.110	37.49	1.37	0.01	< 0.01	0.016	< 0.01	12.95	97.97	< 2	< 2	< 1	10	3	< 1	39	0.182	0.233	546884	18.25	0.43
546885	36.04	0.81	8.24	0.113	38.38	0.09	< 0.01	< 0.01	0.008	< 0.01	13.96	97.65	< 2	< 2	< 1	7	< 2	< 1	31	0.184	0.274	546885	22.02	0.82
546886	37.75	0.78	7.85	0.113	39.83	0.66	< 0.01	< 0.01	0.007	< 0.01	12.46	99.48	< 2	< 2	< 1	9	3	< 1	35	0.202	0.249	546886	15.28	0.45
546887	38.11	1.12	9.05	0.125	39.23	0.73	< 0.01	< 0.01	0.018	< 0.01	11.66	100.5	< 2	< 2	< 1	11	< 2	< 1	35	0.252	0.253	546887	19.24	0.54
546888	38.08	1.30	8.09	0.143	37.28	0.98	0.01	< 0.01	0.015	< 0.01	12.30	98.22	< 2	< 2	< 1	12	3	< 1	48	0.163	0.229	546888	15.10	0.64
546889	38.68	0.71	7.09	0.096	41.06	0.09	0.01	< 0.01	0.005	< 0.01	12.19	99.95	< 2	< 2	< 1	5	3	< 1	24	0.244	0.237	546889	14.12	0.80
546890	38.05	0.47	8.95	0.169	41.32	0.13	0.03	0.01	0.003	0.01	10.31	99.46	< 2	< 2	< 1	7	3	< 1	23	0.247	0.257	546890	9.02	0.71
546891	38.54	1.19	8.01	0.143	37.72	1.14	0.01	< 0.01	0.013	< 0.01	12.16	98.94	< 2	< 2	< 1	11	2	< 1	50	0.233	0.248	546891	18.17	0.51
546892	40.64	1.41	8.98	0.123	35.58	2.20	0.01	< 0.01	0.015	< 0.01	10.18	99.14	< 2	< 2	< 1	12	5	< 1	43	0.205	0.253	546892	13.08	0.49
546893	38.91	0.80	9.26	0.205	39.25	1.27	0.01	< 0.01	0.009	< 0.01	10.50	100.2	< 2	< 2	1	12	2	< 1	42	0.262	0.241	546893	11.89	0.45
546894	38.15	1.02	8.90	0.157	38.10	1.52	0.01	< 0.01	0.011	< 0.01	11.91	99.78	< 2	< 2	< 1	13	< 2	< 1	46	0.264	0.241	546894	14.27	0.32

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
546895	37.84	1.05	8.51	0.154	37.21	1.55	0.01	< 0.01	0.011	< 0.01	11.91	98.25	< 2	< 2	3	12	2	< 1	44	0.266	0.232	546895	19.60	0.44
546896	37.17	1.03	8.05	0.141	40.20	0.43	0.02	< 0.01	0.007	< 0.01	11.78	98.85	< 2	< 2	< 1	9	< 2	< 1	32	0.240	0.199	546896	14.86	0.44
546897	38.71	1.33	8.58	0.085	38.36	0.67	0.01	< 0.01	0.009	< 0.01	11.90	99.66	< 2	< 2	< 1	11	< 2	< 1	48	0.268	0.242	546897	11.28	0.44
546898	37.97	0.94	9.33	0.168	39.07	0.82	0.01	< 0.01	0.009	< 0.01	10.57	98.88	< 2	< 2	< 1	13	< 2	< 1	40	0.247	0.233	546898	13.33	0.45
546899	38.50	1.05	8.14	0.139	38.42	1.57	0.01	< 0.01	0.010	< 0.01	10.86	98.70	< 2	< 2	< 1	10	< 2	< 1	44	0.238	0.247	546899	15.82	0.48
546900.1	49.25	15.78	10.53	0.164	4.91	7.90	2.22	2.67	1.175	0.34	0.91	95.84	701	517	22	24	91	2	326	0.220	1.020	546900	49.18	16.05
546900.2																						546900	36.57	2.36
546900.3																						546900	18.44	0.53
546901	38.61	1.16	8.03	0.109	38.49	1.16	0.02	< 0.01	0.011	< 0.01	11.34	98.92	< 2	< 2	< 1	11	< 2	< 1	45	0.253	0.264	546901	7.84	0.24
546902	37.39	0.97	8.07	0.123	38.76	0.61	0.01	< 0.01	0.010	< 0.01	12.10	98.03	8	< 2	< 1	8	< 2	< 1	33	0.244	0.216	546902	16.97	0.38
546903	38.44	1.08	7.91	0.113	38.98	0.76	< 0.01	< 0.01	0.009	< 0.01	11.87	99.17	3	< 2	< 1	9	< 2	< 1	39	0.265	0.271	546903	11.86	0.49
546904	38.01	1.09	7.88	0.104	39.08	0.45	< 0.01	< 0.01	0.009	< 0.01	11.87	98.50	< 2	< 2	< 1	9	< 2	< 1	41	0.228	0.252	546904	14.62	0.45
546905	38.16	0.96	8.09	0.126	38.99	0.65	0.01	< 0.01	0.009	< 0.01	11.39	98.39	< 2	< 2	< 1	10	< 2	< 1	37	0.268	0.257	546905	14.17	0.52
546906	39.23	1.18	7.70	0.107	39.30	0.47	0.01	< 0.01	0.009	< 0.01	11.06	99.08	< 2	< 2	< 1	10	< 2	< 1	44	0.292	0.276	546906	12.60	0.65
546907	38.75	1.08	7.95	0.122	39.43	0.44	0.01	< 0.01	0.008	< 0.01	10.66	98.44	< 2	< 2	< 1	9	< 2	< 1	36	0.256	0.224	546907	11.36	0.38
546908	39.70	1.19	7.82	0.118	38.45	0.49	< 0.01	< 0.01	0.010	0.01	11.07	98.87	< 2	< 2	< 1	10	< 2	< 1	38	0.195	0.260	546908	14.54	0.52
546909	40.27	1.31	7.65	0.121	39.73	0.24	0.02	< 0.01	0.010	0.02	11.26	100.6	< 2	< 2	< 1	9	< 2	< 1	39	0.289	0.243	546909	12.84	0.58
546910	39.83	1.27	8.98	0.149	38.32	0.57	< 0.01	< 0.01	0.013	0.02	10.42	99.57	< 2	< 2	< 1	11	6	< 1	45	0.208	0.303	546910	13.96	0.62
546911	39.19	1.31	7.94	0.121	38.32	1.30	0.01	< 0.01	0.011	< 0.01	10.74	98.95	< 2	< 2	< 1	12	< 2	< 1	51	0.242	0.276	546911	16.07	0.60
546912	38.42	1.11	7.83	0.114	38.64	0.55	< 0.01	< 0.01	0.009	< 0.01	11.77	98.45	< 2	< 2	< 1	10	< 2	< 1	43	0.277	0.236	546912	11.85	0.29
546913	37.73	1.10	8.30	0.136	38.04	1.02	0.01	< 0.01	0.008	< 0.01	10.99	97.35	< 2	< 2	< 1	10	< 2	< 1	45	0.250	0.258	546913	12.13	0.32
546914	37.44	1.33	7.31	0.078	37.48	0.59	< 0.01	< 0.01	0.015	< 0.01	13.04	97.30	< 2	< 2	< 1	10	2	< 1	48	0.262	0.242	546914	15.03	0.54
546915	37.98	1.21	7.45	0.110	38.86	0.50	0.01	< 0.01	0.012	< 0.01	12.52	98.66	< 2	< 2	< 1	11	2	< 1	46	0.246	0.243	546915	11.10	0.44
546916	38.41	1.05	8.11	0.135	38.16	1.18	0.01	< 0.01	0.009	< 0.01	11.39	98.45	< 2	< 2	< 1	11	2	< 1	45	0.262	0.257	546916	9.67	0.44
546917	37.82	1.22	7.32	0.089	38.07	1.10	0.03	0.01	0.008	< 0.01	12.40	98.07	< 2	2	< 1	10	< 2	< 1	43	0.266	0.235	546917	8.56	0.32
546918	38.69	1.01	8.59	0.158	38.39	1.23	0.03	0.02	0.008	< 0.01	11.72	99.85	< 2	< 2	< 1	10	< 2	< 1	40	0.210	0.258	546918	12.65	0.33
546919	36.86	1.12	7.67	0.108	38.40	0.91	0.02	< 0.01	0.008	< 0.01	12.17	97.27	< 2	< 2	< 1	9	< 2	< 1	45	0.272	0.259	546919	9.90	0.48
546920	98.04	0.31	0.64	0.007	0.13	0.06	0.03	0.05	0.029	< 0.01	0.13	99.44	23	6	2	< 1	49	< 1	6	< 0.010	< 0.010	546920	98.54	0.26
546921	38.79	1.06	7.78	0.107	39.49	1.17	0.02	< 0.01	0.009	< 0.01	11.56	99.98	< 2	< 2	< 1	10	2	< 1	43	0.264	0.260	546921	8.49	0.42
546922	37.62	0.91	8.03	0.138	40.07	0.47	0.02	< 0.01	0.009	< 0.01	12.40	99.68	< 2	< 2	< 1	7	4	< 1	33	0.245	0.362	546922	11.14	1.32
546923	38.01	1.20	7.91	0.080	39.20	1.14	0.02	< 0.01	0.010	< 0.01	13.05	100.6	< 2	< 2	< 1	10	5	< 1	49	0.245	0.276	546923	12.94	0.43
546924	38.03	1.03	8.32	0.132	39.83	0.59	0.03	< 0.01	0.009	< 0.01	12.35	100.3	< 2	< 2	< 1	10	< 2	< 1	38	0.259	0.267	546924	14.51	0.50
546925	36.88	0.90	8.22	0.123	39.47	0.52	0.02	< 0.01	0.008	< 0.01	13.30	99.45	< 2	< 2	< 1	8	< 2	< 1	32	0.245	0.256	546925	14.38	0.39
546926	38.51	1.13	6.76	0.094	39.86	0.67	0.02	< 0.01	0.008	< 0.01	11.83	98.88	< 2	< 2	< 1	8	< 2	< 1	41	0.256	0.222	546926	11.28	0.42
546927	38.31	1.59	7.53	0.058	38.89	1.16	0.02	< 0.01	0.010	< 0.01	12.86	100.4	< 2	< 2	< 1	11	< 2	< 1	59	0.268	0.270	546927	14.12	0.60
546928	37.82	1.19	7.50	0.107	38.63	1.08	0.03	< 0.01	0.008	< 0.01	12.52	98.89	< 2	< 2	< 1	11	< 2	< 1	45	0.259	0.232	546928	15.72	0.60
546929	37.17	1.17	7.32	0.091	37.54	0.88	0.02	< 0.01	0.007	< 0.01	13.52	97.72	< 2	< 2	< 1	9	< 2	< 1	49	0.255	0.243	546929	17.37	0.76
546930	36.70	1.11	8.46	0.122	37.25	1.74	0.07	0.03	0.011	< 0.01	12.68	98.17	< 2	< 2	< 1	10	< 2	< 1	49	0.264	0.392	546930	8.03	0.36
546931	37.82	1.09	7.23	0.091	39.05	0.63	0.03	< 0.01	0.009	< 0.01	12.73	98.68	< 2	< 2	< 1	8	< 2	< 1	36	0.258	0.206	546931	8.95	0.31
546932	38.73	0.81	7.75	0.124	40.03	0.73	0.02	< 0.01	0.008	< 0.01	10.84	99.05	< 2	< 2	< 1	9	< 2	< 1	33	0.265	0.242	546932	11.93	0.32
546933	39.29	0.88	7.20	0.102	40.74	0.91	0.02	< 0.01	0.007	< 0.01	10.47	99.61	< 2	< 2	< 1	7	< 2	< 1	33	0.275	0.198	546933	11.33	0.51
546934	38.54	1.00	7.26	0.110	39.04	1.21	0.02	< 0.01	0.009	< 0.01	11.88	99.08	< 2	< 2	< 1	8	< 2	< 1	39	0.258	0.223	546934	14.54	0.76
546935	38.62	1.05	7.30	0.105	39.05	1.07	0.01	< 0.01	0.009	< 0.01	11.92	99.14	< 2	< 2	< 1	9	5	< 1	40	0.197	0.221	546935	11.27	0.60
546936	39.64	0.92	7.24	0.104	39.82	1.06	0.02	< 0.01	0.008	< 0.01	10.35	99.17	< 2	< 2	< 1	9	21	< 1	35	0.196	0.230	546936	18.05	0.80
546937	38.54	1.00	8.50	0.117	39.96	0.99	0.01	< 0.01	0.010	< 0.01	9.85	98.99	< 2	< 2	< 1	9	3	< 1	40	0.199	0.258	546937	10.96	0.55
547241	39.11	1.60	7.22	0.058	38.00	0.06	0.01	< 0.01	0.019	< 0.01	12.91	98.99	< 2	< 2	< 1	10	< 2	< 1	49	0.198	0.247	547241	14.30	0.50
547242	38.71	0.97	7.63	0.122	38.20	0.61	< 0.01	< 0.01	0.009	0.01	12.27	98.53	< 2	< 2	< 1	10	2	< 1	43	0.189	0.267	547242	16.42	0.38
547243	38.45	1.88	7.69	0.089	36.76	0.39	< 0.01	< 0.01	0.021	< 0.01	12.35	97.64	< 2	< 2	< 1	12	< 2	< 1	60	0.205	0.248	547243	17.19	0.90
547244	38.23	1.65	7.54	0.093	37.60	0.31	0.01	< 0.01	0.015	< 0.01	12.37	97.83	< 2	< 2	< 1	11	< 2	< 1	55	0.188	0.263	547244	17.68	0.86
547245	39.53	1.68	7.65	0.122	36.72	1.92	0.04	< 0.01	0.019	< 0.01	10.00	97.70	< 2	< 2	< 1	12	2	< 1	55	0.188	0.246	547245	14.87	1.34
547246	39.64	1.37	7.92	0.152	36.99	2.09	0.02	< 0.01	0.018	< 0.01	9.70	97.91	< 2	< 2	< 1	12	2	< 1	50	0.191	0.245	547246	11.80	1.05

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
547247	39.33	1.38	7.19	0.120	37.75	1.70	0.04	< 0.01	0.019	< 0.01	10.05	97.57	< 2	< 2	1	13	< 2	< 1	44	0.198	0.221	547247	12.98	1.17
547248	38.54	1.90	8.14	0.080	37.34	0.87	0.02	< 0.01	0.020	< 0.01	12.06	98.98	< 2	< 2	< 1	12	4	< 1	58	0.210	0.235	547248	16.65	0.83
547249	38.88	1.65	9.68	0.131	37.89	0.98	0.01	< 0.01	0.022	< 0.01	11.47	100.7	< 2	< 2	< 1	13	7	< 1	49	0.233	0.240	547249	12.76	0.71
547250	37.77	1.68	9.30	0.075	36.81	0.85	0.02	< 0.01	0.022	< 0.01	11.96	98.50	< 2	< 2	< 1	13	3	< 1	60	0.211	0.260	547250	9.83	0.57
547251	39.87	1.34	8.04	0.183	36.26	3.36	0.03	< 0.01	0.020	< 0.01	9.83	98.94	2	< 2	< 1	12	< 2	< 1	46	0.181	0.262	547251	16.99	1.30
547252	38.13	1.50	7.90	0.127	37.72	0.31	0.04	0.02	0.017	< 0.01	12.19	97.96	< 2	< 2	< 1	12	2	< 1	51	0.201	0.251	547252	17.51	1.02
547253	38.16	1.55	8.91	0.162	37.97	1.73	0.03	< 0.01	0.019	< 0.01	9.89	98.42	< 2	< 2	< 1	11	6	< 1	50	0.189	0.235	547253	19.89	1.21
547254	37.87	1.48	7.94	0.105	38.20	0.50	0.02	< 0.01	0.019	< 0.01	11.83	97.98	< 2	< 2	< 1	12	< 2	< 1	48	0.214	0.250	547254	16.03	0.97
547255	38.25	1.58	8.28	0.112	37.27	0.97	0.02	< 0.01	0.020	< 0.01	10.98	97.49	< 2	< 2	< 1	11	< 2	< 1	52	0.208	0.250	547255	16.43	0.89
547256	38.32	1.59	7.39	0.113	38.18	0.36	0.01	< 0.01	0.018	< 0.01	12.80	98.80	< 2	< 2	< 1	11	< 2	< 1	53	0.186	0.253	547256	17.45	1.07
547257	38.89	11.51	14.59	0.243	11.90	11.71	2.05	0.21	2.011	0.14	5.48	98.75	10	37	38	49	105	< 1	484	< 0.010	0.010	547257		
547258	38.99	1.33	7.61	0.128	38.85	0.28	0.04	< 0.01	0.040	0.01	12.11	99.40	2	< 2	< 1	9	3	< 1	41	0.225	0.256	547258	15.94	0.64
547259	39.14	1.22	7.80	0.116	40.11	0.09	0.02	< 0.01	0.017	< 0.01	12.32	100.8	< 2	< 2	< 1	8	< 2	< 1	37	0.209	0.247	547259	15.59	0.58
547260.1	49.08	15.69	11.51	0.164	4.88	7.88	2.20	2.72	1.173	0.42	0.78	96.67	698	513	21	25	103	2	337	0.241	1.026	547260	48.92	16.17
547260.2																						547260	36.19	2.47
547260.3																						547260	18.55	0.63
547261	39.10	2.10	8.05	0.077	35.91	1.27	0.02	< 0.01	0.025	< 0.01	11.77	98.33	< 2	< 2	< 1	13	< 2	< 1	66	0.172	0.244	547261	15.34	0.86
547262	39.67	1.40	7.46	0.121	38.22	1.22	0.04	< 0.01	0.019	< 0.01	9.94	98.09	< 2	< 2	< 1	10	< 2	< 1	44	0.182	0.256	547262	18.20	0.99
547263	38.20	1.67	8.80	0.092	37.75	0.17	0.02	< 0.01	0.027	< 0.01	12.03	98.77	< 2	< 2	< 1	11	< 2	< 1	49	0.195	0.257	547263	14.68	0.75
547264	38.42	1.24	7.33	0.087	40.34	0.24	0.03	0.01	0.006	< 0.01	12.24	99.94	< 2	< 2	< 1	9	12	< 1	36	0.216	0.234	547264	13.47	0.73
547265	40.07	0.92	8.16	0.142	40.14	0.65	0.06	0.02	0.010	< 0.01	8.45	98.64	< 2	< 2	< 1	10	< 2	< 1	38	0.202	0.256	547265	24.70	0.76
547266	39.04	1.65	7.51	0.106	37.76	0.69	0.02	< 0.01	0.021	< 0.01	11.61	98.42	< 2	< 2	< 1	11	< 2	< 1	47	0.176	0.285	547266	19.64	1.03
547267	39.30	1.66	8.32	0.149	35.99	1.93	0.03	< 0.01	0.020	< 0.01	10.22	97.62	< 2	< 2	< 1	12	< 2	< 1	54	0.178	0.244	547267	19.49	1.08
547268	40.79	1.72	7.80	0.094	36.63	1.10	0.02	< 0.01	0.019	< 0.01	11.01	99.19	< 2	< 2	< 1	12	2	< 1	56	0.197	0.242	547268	12.89	0.77
547269	45.45	12.77	11.22	0.184	10.81	10.56	2.94	0.19	1.324	0.10	3.88	99.42	34	92	24	37	65	< 1	357	0.035	0.043	547269		
547270	43.36	12.06	13.99	0.234	9.61	11.16	2.93	0.22	1.881	0.12	3.22	98.78	11	59	36	45	97	< 1	468	0.010	< 0.010	547270		
547271	40.94	14.88	13.08	0.205	7.58	11.87	2.12	0.31	1.685	0.13	5.21	98.02	64	95	34	41	88	< 1	443	0.011	< 0.010	547271		
547272	38.46	2.26	7.20	0.085	36.75	0.47	0.02	< 0.01	0.023	< 0.01	12.29	97.56	< 2	< 2	< 1	9	2	< 1	60	0.186	0.223	547272	20.39	0.90
547273	40.04	1.72	7.78	0.140	36.80	1.63	0.03	< 0.01	0.025	< 0.01	10.43	98.60	< 2	< 2	< 1	12	2	< 1	55	0.160	0.251	547273	18.02	1.04
547274	39.49	1.62	8.58	0.128	38.49	0.56	0.02	< 0.01	0.020	< 0.01	10.80	99.73	< 2	< 2	< 1	10	< 2	< 1	49	0.191	0.245	547274	14.78	0.82
547275	39.19	1.74	7.96	0.104	37.61	0.54	0.01	< 0.01	0.020	< 0.01	11.59	98.76	2	3	< 1	8	< 2	< 1	48	0.186	0.264	547275	16.57	1.00
547276	40.93	6.64	11.34	0.174	23.64	7.31	1.06	0.11	0.980	0.08	6.82	99.09	5	26	18	31	48	< 1	276	0.099	0.153	547276	10.50	1.15
547277	39.43	1.96	8.06	0.117	37.45	1.08	0.03	< 0.01	0.019	< 0.01	11.37	99.54	< 2	< 2	< 1	11	2	< 1	56	0.199	0.245	547277	16.16	1.08
547278	39.63	1.55	7.75	0.133	37.38	1.97	0.03	< 0.01	0.023	< 0.01	10.10	98.59	< 2	< 2	< 1	12	< 2	< 1	55	0.162	0.246	547278	11.97	1.01
547279	39.45	1.49	7.99	0.134	38.39	2.13	0.05	0.01	0.020	< 0.01	8.83	98.50	< 2	< 2	< 1	12	< 2	< 1	52	0.183	0.247	547279	17.75	1.27
547280	99.19	0.33	0.66	0.008	0.20	0.03	0.03	0.05	0.031	< 0.01	0.33	100.9	25	3	1	< 1	51	< 1	5	< 0.010	< 0.010	547280	98.22	0.32
547281	39.18	2.08	7.81	0.093	38.09	0.83	0.03	0.01	0.018	0.01	12.17	100.3	< 2	< 2	< 1	9	< 2	< 1	54	0.157	0.234	547281	16.82	0.99
547282	38.95	1.39	8.03	0.144	37.36	2.25	0.03	< 0.01	0.019	< 0.01	10.24	98.42	< 2	< 2	< 1	11	< 2	< 1	50	0.188	0.248	547282	13.91	0.90
547283	39.23	1.59	7.69	0.102	38.19	0.78	0.02	< 0.01	0.017	< 0.01	11.86	99.51	< 2	< 2	< 1	11	2	< 1	52	0.185	0.244	547283	16.46	0.68
547284	40.10	1.66	8.45	0.133	38.18	1.28	0.03	< 0.01	0.018	< 0.01	10.92	100.8	< 2	< 2	< 1	11	< 2	< 1	50	0.191	0.247	547284	17.70	0.94
547285	39.76	1.79	8.42	0.126	38.10	1.87	0.03	< 0.01	0.021	< 0.01	9.93	100.1	< 2	< 2	< 1	12	2	< 1	58	0.190	0.239	547285	17.67	1.33
547286	40.60	1.58	8.09	0.125	39.15	1.90	0.03	< 0.01	0.019	< 0.01	9.11	100.6	< 2	< 2	< 1	11	2	< 1	53	0.198	0.252	547286	15.33	1.52
547287	39.67	1.85	8.13	0.117	38.40	1.23	0.02	< 0.01	0.019	< 0.01	10.43	99.87	< 2	< 2	< 1	10	< 2	< 1	52	0.192	0.239	547287	15.25	1.14
547288	40.36	1.75	7.93	0.120	37.89	1.56	0.03	< 0.01	0.019	< 0.01	10.30	99.96	3	< 2	< 1	11	2	< 1	54	0.196	0.243	547288	15.96	1.35
547289	39.36	1.68	7.47	0.103	38.94	0.32	< 0.01	< 0.01	0.016	< 0.01	12.40	100.3	< 2	< 2	< 1	11	2	< 1	51	0.206	0.247	547289	18.69	1.10
547290	39.16	1.36	8.07	0.132	38.21	1.50	0.03	< 0.01	0.019	< 0.01	10.90	99.39	< 2	< 2	< 1	11	< 2	< 1	46	0.184	0.240	547290	16.56	1.35
547291	38.11	1.80	7.93	0.089	37.71	0.67	0.02	< 0.01	0.019	< 0.01	12.14	98.48	< 2	< 2	< 1	12	< 2	< 1	57	0.199	0.239	547291	16.33	0.87
547292	38.96	1.52	8.16	0.116	38.93	0.58	0.02	< 0.01	0.016	< 0.01	11.81	100.1	< 2	< 2	< 1	12	< 2	< 1	52	0.195	0.245	547292	16.34	0.85
547293	38.25	1.51	7.54	0.108	36.38	2.65	0.03	0.02	0.020	< 0.01	12.21	98.73	< 2	< 2	2	11	3	< 1	55	0.215	0.239	547293	25.78	1.84
547294	40.02	1.32	8.07	0.124	38.84	2.71	0.03	< 0.01	0.019	< 0.01	9.48	100.6	< 2	< 2	< 1	12	< 2	< 1	56	0.205	0.258	547294	19.54	2.42
547295	39.52	1.29	8.06	0.126	38.45	2.54	0.03	< 0.01	0.019	< 0.01	9.79	99.83	< 2	< 2	< 1	12	< 2	< 1	53	0.204	0.252	547295	20.19	2.39

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Ni	Cr	Client ID (Davis Tube)	SiO2	Al2O3
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	-	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010		0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	Client ID	FUS-XRF	FUS-XRF
547296	38.95	1.49	7.46	0.110	36.88	2.37	0.03	< 0.01	0.018	< 0.01	10.50	97.81	< 2	< 2	< 1	12	< 2	< 1	54	0.188	0.250	547296	14.10	1.14
547297	38.13	1.16	8.38	0.116	39.16	0.94	0.01	< 0.01	0.013	< 0.01	12.73	100.6	< 2	< 2	1	9	< 2	< 1	40	0.202	0.258	547297	17.54	0.68
547298	37.39	0.87	8.24	0.116	40.31	0.19	< 0.01	< 0.01	0.011	< 0.01	12.43	99.58	< 2	< 2	< 1	6	3	< 1	24	0.197	0.284	547298	17.64	0.80
547299	38.09	1.51	8.17	0.115	36.69	1.66	0.02	< 0.01	0.022	< 0.01	11.77	98.04	< 2	< 2	< 1	13	< 2	< 1	58	0.165	0.251	547299	17.47	0.83
547300.1	49.31	15.67	11.58	0.165	4.86	7.89	2.21	2.74	1.175	0.43	0.77	96.81	698	512	20	25	105	2	338	0.244	1.026	547300	49.20	15.90
547300.2																						547300	36.50	2.44
547300.3																						547300	18.87	0.53
547301	38.55	1.44	8.86	0.121	38.26	1.32	0.02	< 0.01	0.018	< 0.01	11.39	99.99	< 2	< 2	< 1	9	< 2	< 1	46	0.220	0.292	547301	17.27	0.84
547302	38.55	1.44	7.90	0.122	37.73	1.91	0.03	< 0.01	0.021	< 0.01	12.00	99.70	< 2	< 2	< 1	11	< 2	< 1	48	0.203	0.251	547302	20.95	0.80
547303	39.37	1.34	7.43	0.100	39.53	0.40	0.01	< 0.01	0.012	< 0.01	11.79	99.98	< 2	< 2	< 1	8	3	< 1	37	0.201	0.217	547303	20.89	0.94
547304	39.15	1.65	8.47	0.123	38.47	1.77	0.02	< 0.01	0.019	< 0.01	11.05	100.7	< 2	< 2	< 1	11	< 2	< 1	56	0.189	0.257	547304	16.45	0.84
547305	39.19	1.40	8.44	0.154	39.26	1.49	0.02	< 0.01	0.018	0.01	10.73	100.7	< 2	< 2	< 1	12	< 2	< 1	51	0.201	0.249	547305	18.74	0.70
547306	39.29	1.30	6.72	0.091	40.05	0.33	0.05	0.02	0.023	< 0.01	12.86	100.7	< 2	< 2	< 1	7	2	< 1	40	0.198	0.252	547306	17.16	0.76
547307	39.43	1.45	8.01	0.136	37.80	2.23	0.02	< 0.01	0.019	< 0.01	11.39	100.5	< 2	< 2	< 1	12	2	< 1	51	0.202	0.257	547307	18.53	0.85
547308	37.68	0.61	8.87	0.157	40.95	0.16	< 0.01	< 0.01	0.006	< 0.01	11.56	100.0	< 2	< 2	< 1	9	< 2	< 1	33	0.208	0.259	547308	16.54	0.66
547309	39.59	1.65	8.09	0.099	37.68	1.61	0.02	< 0.01	0.021	< 0.01	11.81	100.6	< 2	< 2	< 1	11	3	< 1	52	0.207	0.244	547309	15.45	0.59
547310	39.54	1.78	7.34	0.099	38.31	1.15	0.02	< 0.01	0.020	< 0.01	12.24	100.5	< 2	< 2	< 1	11	< 2	< 1	50	0.185	0.240	547310	13.68	0.62
547311	39.88	1.81	7.56	0.109	37.77	1.40	0.02	< 0.01	0.021	< 0.01	11.80	100.4	< 2	< 2	< 1	12	< 2	< 1	55	0.204	0.243	547311	18.14	0.76
547312	38.72	1.55	8.24	0.138	36.55	2.74	0.03	< 0.01	0.021	< 0.01	11.72	99.72	< 2	< 2	< 1	13	3	< 1	55	0.192	0.260	547312	16.03	0.76
547313	38.92	1.52	8.19	0.134	37.85	1.80	0.02	< 0.01	0.021	< 0.01	12.31	100.8	< 2	< 2	1	11	< 2	< 1	53	0.171	0.242	547313	16.77	0.68
547314	39.29	1.79	7.87	0.096	37.74	1.41	0.01	< 0.01	0.020	< 0.01	11.87	100.1	< 2	< 2	< 1	11	2	< 1	52	0.182	0.248	547314	19.55	0.95
547315	40.07	1.57	8.30	0.119	37.80	1.62	0.02	< 0.01	0.019	< 0.01	11.28	100.8	< 2	< 2	1	13	4	< 1	50	0.200	0.214	547315	18.14	0.69
547316	39.56	1.63	7.39	0.124	37.72	1.88	0.02	< 0.01	0.021	< 0.01	11.92	100.3	< 2	< 2	< 1	12	< 2	< 1	53	0.179	0.230	547316	18.40	0.66
547317	38.85	1.57	8.46	0.130	38.20	1.82	0.02	< 0.01	0.021	< 0.01	11.66	100.7	< 2	< 2	< 1	12	2	< 1	54	0.208	0.239	547317	16.11	0.62
547318	38.78	1.50	7.71	0.123	38.19	1.51	0.01	< 0.01	0.018	< 0.01	11.67	99.53	< 2	< 2	< 1	11	< 2	< 1	48	0.192	0.247	547318	17.67	0.83
547319	39.28	1.72	7.51	0.093	38.13	1.20	0.01	< 0.01	0.019	< 0.01	11.91	99.89	< 2	< 2	< 1	12	< 2	< 1	56	0.183	0.247	547319	19.09	0.86
547320	98.53	0.29	0.58	0.005	0.05	0.02	< 0.01	0.04	0.032	< 0.01	0.12	99.69	26	6	< 1	< 1	51	< 1	5	< 0.010	< 0.010	547320	98.74	0.29

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
546797	63.84	0.165	13.06	0.17	< 0.01	< 0.01	0.07	0.01	2.37	0.029	2.20	1.11	97.98	30.1	1.481	28.056	4.9	29.537	2.01	0.04
546798	57.25	0.269	15.42	0.50	< 0.01	< 0.01	0.05	0.01	2.69	0.039	2.66	1.67	96.54	30.2	1.089	27.897	3.6	28.986	4.01	0.05
546799	68.12	0.175	10.77	0.29	< 0.01	< 0.01	0.05	0.01	2.00	0.035	1.93	0.53	97.27	30.5	1.224	28.152	4.0	29.376	3.58	0.03
546800	0.78	0.008	0.04	0.05	0.01	0.07	0.05	0.01	< 0.01	< 0.003	< 0.003	0.16	100.3	30.8	0.097	29.482	0.3	29.579	3.83	
546801	62.36	0.203	13.12	0.30	< 0.01	< 0.01	0.05	0.01	2.39	0.035	2.23	1.04	96.85	30.2	1.348	28.124	4.5	29.472	2.57	0.03
546802	58.71	0.166	16.25	0.32	< 0.01	< 0.01	0.05	< 0.01	1.78	0.030	1.79	2.81	97.99	30.5	1.674	28.354	5.5	30.028	1.51	0.03
546803	70.73	0.146	10.10	0.23	< 0.01	< 0.01	0.04	0.01	1.74	0.037	1.73	0.25	97.98	30.9	1.357	28.350	4.4	29.707	3.76	0.03
546804	64.92	0.263	11.87	0.19	< 0.01	0.02	0.06	< 0.01	3.49	0.037	3.25	0.89	96.46	30.3	1.143	28.222	3.8	29.364	3.18	0.03
546805	72.21	0.155	9.64	0.16	0.01	0.05	0.06	< 0.01	2.11	0.036	2.98	-0.22	97.04	30.6	1.121	28.794	3.7	29.915	2.32	0.03
546806	53.50	0.142	18.85	0.18	< 0.01	< 0.01	0.04	0.01	1.35	0.026	1.33	4.39	98.08	30.4	1.742	27.589	5.7	29.332	3.59	0.11
546807	52.90	0.271	16.90	0.45	< 0.01	0.05	0.06	0.01	3.52	0.040	4.52	2.30	96.39	30.7	0.738	28.760	2.4	29.498	4.03	0.07
546808	67.50	0.187	12.86	0.16	< 0.01	0.05	0.05	0.01	2.32	0.036	2.48	0.32	97.40	30.7	1.513	28.852	4.9	30.365	1.21	0.04
546809	64.56	0.268	11.82	0.24	0.04	0.06	0.06	0.02	3.44	0.044	4.51	0.85	96.90	30.7	0.844	29.174	2.7	30.018	2.36	0.04
546810	65.92	0.223	11.61	0.21	< 0.01	0.04	0.06	0.01	2.83	0.036	3.71	1.15	96.31	30.3	1.238	28.768	4.1	30.006	1.10	0.05
546811	56.83	0.384	14.63	0.14	0.01	0.23	0.08	0.01	5.41	0.044	3.73	0.96	95.73	30.2	1.036	27.837	3.4	28.873	4.45	0.04
546812	64.85	0.157	13.44	0.17	< 0.01	0.05	0.04	0.01	1.85	0.031	2.79	1.65	97.40	30.8	1.545	28.826	5.0	30.371	1.29	0.03
546813	68.36	0.089	11.17	0.06	< 0.01	< 0.01	0.04	0.01	1.26	0.030	1.25	0.95	98.50	30.2	1.750	27.844	5.8	29.594	2.06	0.10
546814	67.50	0.136	12.38	0.09	< 0.01	0.04	0.05	0.01	1.77	0.034	2.07	1.38	96.88	30.9	1.918	28.600	6.2	30.519	1.13	0.03
546815	62.69	0.124	14.07	0.05	< 0.01	< 0.01	0.04	0.01	1.33	0.028	1.46	3.20	98.60	30.4	1.976	27.900	6.5	29.876	1.67	0.04
546816	56.01	0.225	17.49	0.20	0.03	0.04	0.04	0.01	2.35	0.029	2.68	2.91	98.80	30.6	1.549	27.653	5.1	29.202	4.49	0.05
546817	62.70	0.227	13.83	0.29	< 0.01	0.04	0.04	< 0.01	2.71	0.033	3.52	0.98	96.86	30.5	1.085	28.163	3.6	29.248	3.97	0.05
546818	64.00	0.176	14.29	0.11	< 0.01	< 0.01	0.03	0.01	1.98	0.029	2.02	1.48	98.01	30.7	1.561	28.729	5.1	30.289	1.43	0.03
546819	60.25	0.212	13.99	0.19	< 0.01	0.02	0.05	0.01	2.76	0.038	3.60	1.35	96.17	30.1	1.086	28.648	3.6	29.733	1.33	1.39
546820.1	12.00	0.168	4.98	7.79	2.43	2.74	1.10	0.43	1.05	0.060	0.233	0.87	99.00							
546820.2	13.18	0.128	32.40	2.09	0.10	0.13	0.12	0.02	0.20	0.006	1.45	11.04	99.61							
546820.3	54.23	0.233	17.12	0.19	< 0.01	0.07	0.04	0.01	1.58	0.027	2.03	4.19	98.79	30.3	2.170	27.008	7.2	29.178	3.64	0.11
546821	57.57	0.186	15.78	0.21	< 0.01	0.06	0.05	< 0.01	2.49	0.035	3.45	2.65	97.18	30.2	1.277	28.256	4.2	29.534	2.31	0.04
546822	50.20	0.209	18.80	0.15	< 0.01	0.05	0.04	0.01	2.69	0.035	3.27	3.83	97.05	30.2	1.104	28.194	3.7	29.299	2.90	0.03
546823	50.82	0.225	17.62	0.28	0.09	0.49	0.05	0.01	3.00	0.040	4.15	3.32	96.97	30.6	0.943	29.221	3.1	30.164	1.56	0.04
546824	58.45	0.228	14.21	0.15	< 0.01	0.06	0.05	0.01	2.80	0.041	4.54	1.03	95.71	30.7	0.880	28.873	2.9	29.753	3.21	0.03
546825	71.08	0.171	10.47	0.14	< 0.01	< 0.01	0.04	< 0.01	2.44	0.038	2.44	0.06	96.78	30.2	1.718	27.693	5.7	29.411	2.72	0.04
546826	69.01	0.136	11.28	0.21	< 0.01	< 0.01	0.03	0.01	2.12	0.041	2.19	0.06	96.86	30.7	1.391	28.420	4.5	29.810	2.98	0.03
546827	75.11	0.096	9.59	0.10	< 0.01	0.03	0.04	0.01	1.66	0.040	2.18	0.12	98.04	30.4	2.080	27.763	6.8	29.842	1.91	0.04
546828	54.92	0.206	17.32	0.39	< 0.01	< 0.01	0.04	0.01	2.76	0.037	2.87	3.01	98.01	30.8	1.307	28.225	4.2	29.531	4.19	0.02
546829	58.51	0.256	13.37	0.50	< 0.01	< 0.01	0.05	0.01	4.27	0.054	4.94	0.05	95.49	30.7	0.669	29.213	2.2	29.881	2.59	0.03
546830	52.08	0.175	17.21	0.26	< 0.01	< 0.01	0.04	0.01	2.74	0.038	2.34	2.59	97.54	30.4	1.164	28.789	3.8	29.953	1.44	0.03
546831	51.18	0.333	17.83	0.95	< 0.01	0.04	0.09	0.01	3.33	0.066	3.45	2.35	97.60	30.7	0.573	29.503	1.9	30.077	2.01	0.07
546832	46.77	0.322	19.17	1.16	< 0.01	< 0.01	0.06	0.02	4.77	0.061	4.93	0.38	95.95	30.3	0.632	28.870	2.1	29.502	2.61	0.01
546833	49.94	0.301	18.32	1.01	< 0.01	0.01	0.06	0.01	4.13	0.056	4.46	0.00	96.37	30.0	0.662	29.258	2.2	29.919	0.31	0.01
546834	62.05	0.243	11.92	0.42	< 0.01	0.02	0.04	0.02	3.84	0.048	6.48	-0.60	95.55	30.6	0.585	29.474	1.9	30.059	1.67	0.05
546835	48.96	0.263	18.21	0.75	< 0.01	0.02	0.05	0.01	3.69	0.046	5.21	1.82	96.11	30.0	0.739	28.264	2.5	29.003	3.34	0.04
546836	51.81	0.203	17.33	0.26	< 0.01	< 0.01	0.04	0.01	3.18	0.037	3.13	2.14	95.71	30.0	0.826	29.117	2.8	29.943	0.24	0.05
546837	44.76	0.235	19.69	0.75	< 0.01	0.01	0.05	0.01	3.11	0.043	5.08	4.00	95.93	29.9	0.711	28.126	2.4	28.837	3.59	0.07
546838	56.70	0.283	13.80	0.33	< 0.01	0.01	0.06	0.02	3.92	0.044	5.60	1.52	95.26	30.0	0.594	28.723	2.0	29.317	2.36	0.06
546839	43.44	0.121	21.29	0.21	< 0.01	0.01	0.03	0.01	0.25	0.004	0.224	12.07	100.4	30.0	0.596	28.727	2.0	29.324	2.30	0.20
546840	0.72	0.005	0.03	0.05	< 0.01	0.04	0.07	0.02	< 0.01	< 0.003	< 0.003	0.19	99.15	29.0	0.073	28.109	0.3	28.182	2.86	
546841	49.84	0.376	14.80	0.83	< 0.01	0.02	0.08	0.03	5.53	0.079	8.85	-0.10	93.79	29.0	0.393	27.715	1.4	28.108	3.15	0.05
546842	45.99	0.368	15.71	1.74	< 0.01	0.02	0.09	0.04	4.90	0.056	6.74	1.97	94.26	30.0	0.352	28.955	1.2	29.307	2.39	0.04
546843	50.21	0.269	19.46	0.40	< 0.01	0.02	0.04	0.01	3.34	0.047	2.23	1.80	96.74	30.0	0.869	28.241	2.9	29.111	2.98	0.03
546844	68.65	0.264	12.71	0.10	< 0.01	< 0.01	0.04	0.01	2.80	0.027	1.09	1.11	99.15	30.1	1.476	28.031	4.9	29.507	2.04	0.04
546845	49.51	0.301	20.32	0.60	< 0.01	< 0.01	0.07	0.02	3.53	0.045	2.11	1.86	97.98	30.1	0.872	28.468	2.9	29.340	2.59	0.06

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
546846	45.89	0.285	21.45	0.39	< 0.01	0.01	0.05	0.01	2.87	0.039	1.06	3.01	98.23	30.2	1.408	27.892	4.7	29.300	2.88	0.02
546847	46.92	0.312	20.98	0.41	< 0.01	0.02	0.05	0.01	3.69	0.047	1.85	1.80	96.30	30.2	0.829	28.339	2.7	29.168	3.34	0.03
546848	36.48	0.299	25.69	0.93	< 0.01	0.03	0.05	< 0.01	3.78	0.040	1.51	2.92	96.92	30.5	0.946	28.301	3.1	29.247	4.22	0.03
546849	31.95	0.258	28.61	0.22	< 0.01	0.05	0.04	< 0.01	2.99	0.038	1.04	4.55	97.78	30.1	0.877	28.462	2.9	29.339	2.41	0.02
546850	42.14	0.359	23.48	0.36	< 0.01	0.05	0.05	0.01	3.68	0.040	2.01	2.33	96.92	30.1	1.142	28.463	3.8	29.606	1.73	0.05
546851	30.05	0.253	31.32	0.27	0.01	0.07	0.05	0.01	2.59	0.035	0.970	2.93	98.15	30.1	0.814	27.923	2.7	28.737	4.64	< 0.01
546852	45.25	0.331	21.13	0.43	0.01	0.05	0.09	0.01	4.62	0.045	2.15	2.29	96.51	30.1	0.907	28.522	3.0	29.429	2.13	0.03
546853	44.84	0.368	21.55	1.05	< 0.01	0.03	0.06	0.01	4.54	0.042	2.90	0.51	96.28	30.3	0.870	28.782	2.9	29.653	2.28	0.03
546854	47.68	0.480	17.95	0.32	< 0.01	0.05	0.07	0.01	4.58	0.052	2.63	3.99	95.66	30.3	0.812	28.796	2.7	29.608	2.19	0.05
546855	48.48	0.509	18.51	0.32	< 0.01	0.02	0.07	0.01	4.38	0.049	2.47	4.19	96.17	31.1	0.819	28.924	2.6	29.743	4.30	0.12
546856	39.04	0.304	25.65	0.39	< 0.01	0.05	0.05	0.01	3.24	0.042	1.50	2.29	96.61	30.2	1.174	28.403	3.9	29.577	1.92	0.02
546857	62.92	0.214	14.57	0.42	< 0.01	0.03	0.05	0.01	1.61	0.026	2.06	2.08	97.25	30.0	1.546	27.371	5.1	28.916	3.74	0.05
546858	57.07	0.128	17.71	0.05	< 0.01	< 0.01	0.04	0.01	1.01	0.024	1.15	3.79	98.04	31.6	2.813	27.306	8.9	30.118	4.69	0.05
546859	67.58	0.196	12.96	0.06	< 0.01	0.02	0.04	0.01	2.42	0.035	2.52	0.05	96.77	30.2	1.623	28.140	5.4	29.763	1.60	0.04
546860.1	12.08	0.170	4.99	7.77	2.44	2.83	1.10	0.44	1.07	0.060	0.236	0.86	99.32							
546860.2	13.24	0.128	32.40	2.07	0.12	0.14	0.12	0.02	0.20	0.004	1.45	11.11	99.72							
546860.3	54.08	0.221	17.35	0.15	< 0.01	0.03	0.02	< 0.01	1.57	0.018	2.03	4.38	98.63	6.45	0.493	5.692	7.6	6.185	4.04	0.03
546861	49.26	0.223	20.31	0.12	< 0.01	0.01	0.03	0.01	3.04	0.021	3.61	2.49	96.12	30.4	0.960	29.355	3.2	30.315	0.14	0.10
546862	57.98	0.152	15.87	0.04	< 0.01	0.04	0.03	0.01	3.79	0.039	3.99	0.95	96.09	31.7	1.120	29.775	3.5	30.896	2.62	0.07
546863	61.99	0.204	8.80	0.02	< 0.01	0.06	0.07	0.05	5.10	0.044	6.04	4.20	94.60	30.0	0.668	29.129	2.2	29.797	0.75	0.12
546864	70.98	0.088	9.26	0.01	< 0.01	0.01	0.03	0.01	4.36	0.033	2.83	0.51	96.26	30.7	1.018	28.448	3.3	29.465	4.03	0.05
546865	90.00	0.112	2.71	0.01	< 0.01	< 0.01	0.02	< 0.01	2.09	0.015	1.47	-1.71	97.17	30.3	1.406	28.460	4.6	29.866	1.59	0.01
546866	57.95	0.130	16.50	0.03	< 0.01	0.01	0.03	0.01	3.65	0.036	3.14	1.17	95.98	31.2	0.996	30.071	3.2	31.068	0.32	0.10
546867	92.49	0.117	2.43	0.01	< 0.01	0.01	0.01	0.01	1.80	0.016	1.49	-1.73	98.70	30.5	1.583	27.995	5.2	29.578	3.10	0.02
546868	90.97	0.115	2.37	0.02	< 0.01	< 0.01	0.02	0.02	1.56	0.016	1.56	-0.76	97.90	30.2	1.471	28.357	4.9	29.828	1.24	0.04
546869	89.24	0.059	3.07	0.01	< 0.01	< 0.01	0.01	0.01	2.17	0.018	1.62	-2.20	97.08	30.2	1.867	27.580	6.2	29.447	2.40	0.07
546870	84.52	0.095	4.75	0.01	< 0.01	< 0.01	0.02	0.02	2.99	0.029	1.29	-0.30	97.53	30.3	1.485	27.598	4.9	29.083	3.90	0.05
546871	84.16	0.115	5.24	0.03	< 0.01	< 0.01	0.01	0.01	2.10	0.020	1.40	-0.81	97.24	30.7	1.619	26.958	5.3	28.577	6.97	0.02
546872	81.23	0.074	6.49	0.08	< 0.01	< 0.01	0.02	0.01	2.48	0.031	1.25	-0.69	97.29	30.4	1.533	28.754	5.0	30.287	0.46	0.01
546873	86.73	0.086	4.46	0.01	< 0.01	< 0.01	0.02	0.01	2.22	0.024	1.38	-1.54	97.47	30.3	1.623	27.984	5.4	29.607	2.13	0.02
546874	48.72	0.235	18.86	0.17	< 0.01	0.03	0.03	0.01	4.34	0.041	3.88	2.12	95.17	30.7	0.919	29.332	3.0	30.251	1.40	0.07
546875	36.28	0.201	26.07	0.17	< 0.01	0.04	0.02	0.01	3.05	0.030	2.69	5.86	96.62	31.1	1.441	29.488	4.6	30.930	0.56	0.06
546876	48.15	0.242	19.97	0.41	< 0.01	0.04	0.04	0.01	2.96	0.031	3.05	3.91	95.99	30.2	1.003	28.802	3.3	29.805	1.42	0.10
546877	49.82	0.166	20.83	0.04	< 0.01	0.04	0.03	< 0.01	3.06	0.037	2.85	3.00	96.68	30.3	1.268	28.158	4.2	29.426	2.76	0.08
546878	88.60	0.073	3.05	0.06	< 0.01	0.01	0.02	0.02	2.46	0.022	2.09	-1.51	97.68	30.0	1.445	27.553	4.8	28.998	3.43	0.01
546879	71.50	0.100	9.91	0.03	< 0.01	0.01	0.02	0.01	3.07	0.032	2.99	-0.60	96.11	30.9	1.227	28.617	4.0	29.844	3.49	0.05
546880	0.72	0.006	0.04	0.05	0.01	0.07	0.05	0.01	< 0.01	< 0.003	< 0.003	0.12	99.25	31.1	0.085	30.684	0.3	30.769	1.06	
546881	46.25	0.208	21.56	0.49	< 0.01	0.03	0.05	0.01	2.09	0.032	2.19	4.97	97.87	30.7	1.520	28.288	5.0	29.808	2.82	0.10
546882	74.78	0.087	8.49	0.02	< 0.01	0.01	0.03	0.01	3.28	0.033	2.81	-0.61	96.53	30.2	1.205	28.329	4.0	29.534	2.08	0.06
546883	41.67	0.196	24.10	0.46	< 0.01	0.04	0.04	0.01	1.68	0.023	1.74	5.79	98.49	30.1	1.866	27.261	6.2	29.128	3.21	0.05
546884	47.19	0.189	21.45	0.32	0.01	0.05	0.04	0.01	1.74	0.020	2.61	4.88	97.18	31.2	1.628	28.747	5.2	30.375	2.80	0.08
546885	37.06	0.182	27.08	0.06	< 0.01	0.03	0.03	0.01	1.84	0.020	1.44	7.51	98.09	30.8	2.824	27.447	9.2	30.271	1.61	0.11
546886	59.08	0.192	16.53	0.22	< 0.01	0.03	0.05	0.01	1.76	0.025	2.05	2.36	98.02	30.1	2.238	26.799	7.4	29.036	3.68	0.05
546887	49.11	0.188	21.27	0.20	< 0.01	0.01	0.04	< 0.01	1.48	0.019	1.72	3.64	97.43	30.8	2.528	27.847	8.2	30.375	1.44	0.05
546888	57.72	0.198	15.74	0.27	< 0.01	0.04	0.04	< 0.01	2.05	0.028	2.64	2.09	96.55	30.5	1.555	28.268	5.1	29.823	2.29	0.05
546889	56.99	0.202	16.37	0.03	< 0.01	0.03	0.02	0.01	2.90	0.023	3.53	1.32	96.33	30.4	1.453	28.557	4.8	30.011	1.13	0.07
546890	69.78	0.147	10.48	0.03	< 0.01	0.02	0.02	< 0.01	2.94	0.035	3.55	-0.53	96.19	30.9	1.242	29.176	4.0	30.418	1.46	0.09
546891	49.87	0.229	18.95	0.33	< 0.01	0.01	0.04	0.01	2.31	0.029	3.46	2.97	96.87	30.5	1.220	28.536	4.0	29.757	2.43	0.08
546892	67.28	0.258	11.31	1.12	< 0.01	0.01	0.10	0.01	1.92	0.037	1.57	0.10	97.25	30.0	2.106	26.706	7.0	28.812	4.10	0.05
546893	64.62	0.252	12.64	0.23	< 0.01	0.01	0.04	0.01	2.64	0.035	3.32	0.44	96.57	30.1	1.267	28.376	4.2	29.644	1.60	0.08
546894	60.11	0.199	15.13	0.46	< 0.01	0.02	0.04	0.01	2.00	0.032	2.32	1.87	96.76	30.5	1.579	28.558	5.2	30.137	1.07	0.09

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
546895	48.54	0.202	20.62	0.61	< 0.01	0.02	0.04	0.01	1.65	0.026	1.94	4.00	97.67	30.6	1.865	28.430	6.1	30.295	0.87	0.08
546896	53.22	0.249	17.09	0.20	< 0.01	0.06	0.05	0.01	3.17	0.036	5.67	0.66	95.71	30.4	0.828	29.109	2.7	29.937	1.39	0.13
546897	70.28	0.148	10.85	0.14	< 0.01	< 0.01	0.04	0.01	1.63	0.035	2.55	-0.17	97.21	30.2	1.899	27.971	6.3	29.869	1.00	0.04
546898	62.86	0.206	14.54	0.21	< 0.01	0.02	0.04	0.01	2.06	0.033	2.42	0.88	97.03	30.7	1.656	28.463	5.4	30.118	1.97	0.03
546899	55.87	0.259	15.85	0.67	< 0.01	0.03	0.04	0.01	2.85	0.033	3.80	0.61	96.29	30.7	1.071	29.082	3.5	30.153	1.65	0.05
546900.1	12.20	0.167	5.02	7.88	2.41	2.76	1.10	0.45	1.08	0.061	0.239	0.84	99.44							
546900.2	13.24	0.129	32.52	2.10	0.10	0.13	0.12	0.02	0.20	0.009	1.45	11.02	99.97							
546900.3	54.32	0.238	17.25	0.17	< 0.01	0.03	0.03	0.01	1.59	0.022	2.03	3.34	98.00	30.3	2.153	27.461	7.1	29.614	2.26	0.10
546901	72.16	0.234	9.93	0.19	< 0.01	0.04	0.04	0.01	3.01	0.040	3.74	-1.22	96.24	30.1	1.189	28.812	4.0	30.001	0.17	0.06
546902	51.71	0.200	19.22	0.39	< 0.01	0.02	0.05	0.01	2.07	0.023	3.57	2.09	96.67	30.4	1.159	28.876	3.8	30.035	1.09	0.14
546903	63.10	0.264	13.30	0.24	< 0.01	0.05	0.05	0.01	3.62	0.033	4.02	-0.45	96.58	30.1	1.047	28.354	3.5	29.401	2.25	0.07
546904	58.71	0.220	15.55	0.17	< 0.01	0.02	0.04	< 0.01	2.71	0.027	3.49	1.06	97.05	30.2	1.273	28.401	4.2	29.674	1.59	0.10
546905	58.11	0.236	15.79	0.20	< 0.01	0.04	0.04	0.01	3.22	0.031	3.85	0.63	96.84	30.1	1.034	28.311	3.4	29.345	2.52	0.12
546906	61.25	0.242	13.59	0.14	< 0.01	0.01	0.04	0.01	3.76	0.043	4.46	-0.57	96.21	30.1	0.934	28.824	3.1	29.758	1.00	0.08
546907	65.04	0.207	12.12	0.11	< 0.01	0.06	0.04	0.01	3.06	0.035	4.70	-0.67	96.43	30.1	0.849	28.787	2.8	29.636	1.42	0.14
546908	58.87	0.223	15.18	0.15	< 0.01	0.04	0.04	0.01	2.93	0.031	3.54	0.75	96.80	30.5	1.210	28.615	4.0	29.826	2.18	0.13
546909	60.47	0.249	14.19	0.07	< 0.01	0.04	0.04	< 0.01	3.04	0.031	3.94	0.69	96.16	30.0	1.067	28.304	3.6	29.372	2.22	0.09
546910	61.98	0.258	13.38	0.12	< 0.01	0.03	0.05	0.01	2.91	0.037	2.71	0.83	96.89	30.4	1.490	28.680	4.9	30.170	0.77	0.02
546911	56.24	0.226	15.32	0.34	< 0.01	0.06	0.05	0.01	3.08	0.041	3.35	1.43	96.80	30.1	1.142	28.170	3.8	29.312	2.74	0.08
546912	67.78	0.212	11.39	0.16	< 0.01	0.04	0.04	< 0.01	2.49	0.031	2.83	0.12	97.21	30.2	1.395	28.387	4.6	29.782	1.46	0.10
546913	66.44	0.229	11.81	0.17	< 0.01	0.01	0.04	0.01	2.85	0.032	2.87	-0.07	96.82	30.9	1.450	28.960	4.7	30.410	1.58	0.08
546914	61.67	0.158	14.22	0.12	< 0.01	0.02	0.05	0.01	1.86	0.031	2.43	1.81	97.91	30.1	1.650	28.147	5.5	29.797	0.99	0.17
546915	66.97	0.185	12.57	0.10	< 0.01	0.02	0.05	< 0.01	2.26	0.037	2.89	0.34	96.94	30.3	1.429	28.435	4.7	29.864	1.29	0.11
546916	67.72	0.236	12.32	0.21	< 0.01	0.02	0.04	< 0.01	2.97	0.039	3.22	-0.27	96.59	30.3	1.201	28.901	4.0	30.102	0.49	0.13
546917	70.91	0.172	11.24	0.11	< 0.01	0.02	0.04	0.01	2.42	0.034	3.83	-0.88	96.76	30.1	1.136	28.250	3.8	29.386	2.33	0.10
546918	60.02	0.312	13.53	0.40	< 0.01	0.02	0.04	0.01	4.10	0.042	4.07	1.13	96.65	30.7	0.782	29.466	2.5	30.247	1.41	0.13
546919	65.66	0.255	11.67	0.12	< 0.01	0.03	0.05	0.01	3.80	0.048	4.01	-0.02	95.99	30.6	0.823	29.687	2.7	30.510	0.28	0.13
546920	0.78	0.008	0.04	0.05	0.01	0.07	0.05	0.01	< 0.01	< 0.003	< 0.003	0.20	100.0	30.4	0.122	29.707	0.4	29.829	1.75	
546921	71.59	0.221	9.77	0.19	< 0.01	< 0.01	0.05	0.01	3.55	0.045	3.50	-0.53	97.24	30.6	1.072	29.121	3.5	30.193	1.26	0.11
546922	59.97	0.333	12.35	0.08	0.01	0.04	0.06	0.01	6.20	0.041	3.40	0.38	95.33	30.5	1.051	28.954	3.5	30.006	1.52	0.12
546923	62.54	0.168	14.32	0.10	< 0.01	0.01	0.04	0.01	2.21	0.033	2.72	1.80	97.30	30.7	1.625	28.854	5.3	30.478	0.83	0.09
546924	55.94	0.247	16.22	0.15	< 0.01	0.03	0.04	< 0.01	3.07	0.035	3.32	2.34	96.39	30.5	1.076	29.070	3.5	30.146	1.15	0.11
546925	58.45	0.199	15.69	0.08	< 0.01	0.08	0.04	0.01	2.71	0.026	2.75	2.42	97.21	30.6	1.336	28.189	4.4	29.524	3.55	0.11
546926	64.48	0.207	12.32	0.11	< 0.01	0.07	0.04	0.01	3.06	0.034	4.03	0.06	96.11	30.5	1.000	28.912	3.3	29.913	2.05	0.07
546927	62.70	0.142	13.62	0.09	< 0.01	0.02	0.03	0.01	2.10	0.031	2.34	1.64	97.42	30.1	1.745	28.008	5.8	29.753	1.03	0.21
546928	54.43	0.192	18.17	0.24	< 0.01	0.04	0.03	0.01	2.41	0.030	2.62	2.73	97.22	30.5	1.366	29.140	4.5	30.506	-0.07	0.14
546929	54.99	0.159	17.08	0.12	0.10	0.06	0.03	0.01	2.10	0.030	2.62	3.00	98.43	30.3	1.521	28.382	5.0	29.903	1.42	0.13
546930	68.72	0.358	9.73	0.27	< 0.01	0.02	0.06	0.01	5.66	0.049	2.51	-0.30	95.47	30.2	1.125	28.769	3.7	29.893	1.11	0.17
546931	67.61	0.259	11.28	0.12	< 0.01	0.02	0.05	0.01	3.80	0.036	3.39	-0.02	95.81	30.6	0.810	29.412	2.6	30.222	1.20	0.25
546932	58.73	0.346	12.65	0.48	< 0.01	0.03	0.05	0.01	5.02	0.047	5.68	-0.61	94.66	30.1	0.555	29.577	1.8	30.132	-0.19	0.09
546933	55.04	0.358	12.66	0.47	< 0.01	< 0.01	0.08	0.01	8.87	0.056	6.24		95.57	30.1	0.258	29.400	0.9	29.658	1.52	
546934	53.38	0.260	14.54	0.83	< 0.01	0.06	0.06	0.01	3.98	0.040	5.99	0.81	95.18	30.3	0.540	29.974	1.8	30.514	-0.82	0.10
546935	60.38	0.274	11.44	0.67	< 0.01	0.06	0.07	0.01	4.25	0.042	6.48	-0.40	95.10	30.7	0.602	30.333	2.0	30.935	-0.93	0.12
546936	47.35	0.322	18.31	0.85	< 0.01	0.08	0.09	0.01	4.65	0.047	4.16	0.91	95.62	30.7	0.568	30.053	1.9	30.621	0.11	
546937	66.14	0.289	10.78	0.29	< 0.01	0.02	0.08	< 0.01	4.25	0.046	3.12	-0.48	95.99	30.0	0.900	29.129	3.0	30.028	-0.01	0.06
547241	64.41	0.135	13.99	0.06	0.01	0.03	0.07	0.01	1.62	0.040	1.71	1.65	98.53	30.2	2.032	28.184	6.7	30.216	0.11	0.03
547242	54.97	0.278	16.77	0.33	< 0.01	0.02	0.05	0.01	2.52	0.036	2.63	2.92	97.28	30.7	1.591	29.213	5.2	30.803	-0.29	0.07
547243	57.54	0.151	16.84	0.12	< 0.01	0.02	0.08	< 0.01	1.37	0.036	1.63	3.04	98.89	30.7	2.237	28.123	7.3	30.360	1.09	0.05
547244	53.19	0.164	17.78	0.08	< 0.01	0.01	0.05	0.01	1.80	0.033	2.08	3.39	97.10	30.6	1.867	28.214	6.1	30.080	1.85	0.06
547245	59.06	0.206	14.41	0.40	< 0.01	0.03	0.06	0.01	2.33	0.037	2.83	1.40	96.96	30.1	1.095	28.366	3.6	29.461	2.21	0.04
547246	63.59	0.271	11.97	0.41	< 0.01	< 0.01	0.08	0.01	2.76	0.038	2.87		94.79	30.3	1.017	28.800	3.4	29.817	1.64	0.04

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
547247	63.85	0.214	12.32	0.34	< 0.01	0.05	0.08	< 0.01	2.28	0.039	2.40	1.08	96.79	30.2	1.279	28.647	4.2	29.927	0.96	0.06
547248	57.75	0.120	16.44	0.15	< 0.01	0.03	0.06	0.01	1.18	0.030	1.62	3.21	98.05	30.3	2.349	28.541	7.8	30.890	-1.97	0.05
547249	66.43	0.149	12.54	0.14	< 0.01	0.01	0.08	0.01	1.52	0.034	1.96	1.41	97.73	30.5	1.740	27.919	5.7	29.658	2.83	0.05
547250	73.92	0.110	9.69	0.11	< 0.01	0.02	0.08	< 0.01	1.42	0.038	2.06	0.25	98.10	30.3	2.476	27.907	8.2	30.383	-0.24	0.05
547251	54.97	0.264	15.17	1.22	< 0.01	0.04	0.06	0.01	2.48	0.029	2.48	2.00	96.95	30.3	1.275	29.229	4.2	30.504	-0.80	0.05
547252	53.47	0.206	17.55	0.09	< 0.01	0.03	0.06	< 0.01	2.03	0.031	2.19	3.46	97.59	30.2	1.688	28.552	5.6	30.240	-0.11	0.06
547253	48.86	0.179	19.50	0.84	< 0.01	0.03	0.07	0.01	1.70	0.031	2.18	3.13	97.59	30.6	1.574	29.219	5.1	30.794	-0.55	0.02
547254	58.88	0.149	15.58	0.43	< 0.01	0.03	0.06	0.01	1.53	0.029	1.89	2.18	97.74	30.3	2.015	28.101	6.6	30.116	0.67	0.06
547255	57.72	0.164	16.36	0.24	< 0.01	0.03	0.06	< 0.01	1.77	0.031	2.03	2.50	98.19	30.5	1.823	28.790	6.0	30.613	-0.29	0.03
547256	52.11	0.200	17.88	0.19	< 0.01	0.03	0.06	0.01	2.35	0.026	3.10	3.24	97.68	30.1	1.176	28.576	3.9	29.752	1.21	0.09
547257														30.1	0.058	30.038	0.2	30.096	-0.01	
547258	54.94	0.299	16.32	0.15	< 0.01	0.02	0.08	0.01	2.69	0.029	3.17	2.38	96.62	30.6	1.577	28.750	5.2	30.327	0.76	0.28
547259	55.91	0.284	16.41	0.08	< 0.01	0.04	0.06	0.01	2.56	0.027	3.31	2.52	97.34	30.4	1.583	28.905	5.2	30.488	-0.33	0.22
547260.1	12.11	0.170	4.94	7.84	2.40	2.79	1.10	0.44	1.05	0.064	0.237	0.81	99.04							
547260.2	13.13	0.132	32.26	2.06	0.12	0.14	0.12	0.02	0.20	0.007	1.45	11.15	99.45							
547260.3	54.56	0.234	17.16	0.16	< 0.01	0.02	0.04	0.01	1.63	0.025	2.03	3.13	98.15	30.1	2.068	27.901	6.9	29.969	0.47	0.11
547261	61.12	0.128	14.77	0.23	< 0.01	0.02	0.06	< 0.01	1.09	0.030	1.88	2.42	97.92	30.5	2.400	27.935	7.9	30.334	0.56	0.14
547262	51.44	0.236	16.92	1.10	< 0.01	0.04	0.07	0.01	2.48	0.032	3.75	1.19	96.42	30.1	1.185	28.768	3.9	29.952	0.64	0.10
547263	61.97	0.145	14.54	0.09	0.01	0.02	0.09	0.01	1.44	0.028	1.97	1.98	97.73	30.5	2.269	28.204	7.4	30.473	-0.05	0.10
547264	60.99	0.221	13.95	0.10	< 0.01	0.03	0.03	0.01	2.58	0.033	3.69	1.04	96.86	30.5	1.484	28.453	4.9	29.937	1.95	0.14
547265	36.44	0.317	26.74	0.58	< 0.01	0.04	0.05	0.01	3.02	0.031	4.45	0.43	97.49	30.4	1.007	28.996	3.3	30.003	1.46	0.06
547266	48.52	0.217	19.82	0.20	< 0.01	0.02	0.05	< 0.01	2.05	0.026	2.29	3.87	97.70	30.4	1.927	28.336	6.3	30.263	0.32	0.07
547267	52.62	0.223	18.05	1.02	< 0.01	0.03	0.06	0.01	1.53	0.028	1.70	2.74	98.55	30.0	2.031	27.963	6.8	29.994	0.08	0.04
547268	67.55	0.241	11.66	0.54	< 0.01	0.04	0.09	0.01	1.92	0.042	1.48	1.00	98.21	30.6	1.689	29.063	5.5	30.752	-0.50	0.02
547269														30.2	0.070	29.772	0.2	29.842	1.26	
547270														30.1	0.090	29.837	0.3	29.927	0.57	
547271														30.8	0.045	29.526	0.1	29.571	3.84	
547272	48.94	0.192	20.14	0.19	< 0.01	< 0.01	0.07	0.02	1.63	0.036	1.56	4.98	98.98	30.4	1.925	28.327	6.3	30.253	0.40	0.17
547273	52.21	0.246	17.46	0.38	< 0.01	0.03	0.07	0.01	2.10	0.032	2.90	3.02	97.49	30.2	1.531	29.051	5.1	30.582	-1.11	0.06
547274	59.51	0.230	14.41	0.13	< 0.01	0.02	0.07	< 0.01	2.10	0.034	2.80	1.93	96.79	30.3	1.519	29.081	5.0	30.600	-1.13	0.06
547275	55.57	0.268	16.06	0.11	< 0.01	0.05	0.07	< 0.01	2.33	0.034	2.13	2.80	96.92	30.1	1.938	28.761	6.4	30.699	-2.14	0.06
547276	70.86	0.245	8.14	1.40	0.06	0.02	0.17	0.01	2.33	0.055	2.92	-0.89	96.97	30.1	0.834	29.510	2.8	30.344	-0.75	0.05
547277	56.50	0.203	15.50	0.26	< 0.01	0.03	0.05	0.01	1.87	0.030	2.95	2.39	97.00	30.1	1.373	29.135	4.6	30.508	-1.42	0.08
547278	63.89	0.244	11.65	0.42	< 0.01	0.03	0.06	0.01	2.85	0.040	4.18	-0.39	95.90	30.1	0.857	29.626	2.8	30.483	-1.12	0.07
547279	51.63	0.240	17.17	0.94	< 0.01	0.14	0.07	< 0.01	2.65	0.039	3.48	1.39	96.76	30.1	0.804	29.467	2.7	30.271	-0.65	0.03
547280	0.75	0.008	0.04	0.05	0.01	0.07	0.05	0.01	< 0.01	< 0.003	< 0.003	0.33	99.86	30.2	0.085	29.676	0.3	29.760	1.30	
547281	57.31	0.149	16.10	0.15	< 0.01	0.03	0.06	0.01	1.48	0.028	2.11	3.08	98.32	30.3	1.670	28.151	5.5	29.821	1.48	0.06
547282	60.70	0.236	13.31	0.71	< 0.01	0.07	0.06	< 0.01	2.60	0.033	4.06	0.62	97.19	30.2	0.845	28.809	2.8	29.654	1.71	0.09
547283	57.96	0.184	16.28	0.14	< 0.01	0.03	0.05	0.01	1.90	0.032	2.03	2.66	98.36	30.4	1.635	28.943	5.4	30.578	-0.52	0.09
547284	54.25	0.216	16.97	0.63	< 0.01	0.03	0.06	0.01	2.24	0.032	2.65	2.39	98.08	30.5	1.143	29.400	3.8	30.543	-0.18	0.05
547285	53.06	0.176	17.54	0.35	< 0.01	0.06	0.06	0.01	2.02	0.033	2.51	2.82	97.62	30.5	1.207	29.153	4.0	30.360	0.59	0.04
547286	55.90	0.250	15.04	0.53	< 0.01	0.09	0.07	< 0.01	2.98	0.042	3.52	1.22	96.45	30.3	0.829	28.658	2.7	29.487	2.60	0.04
547287	60.10	0.214	14.54	0.27	< 0.01	0.02	0.06	< 0.01	2.00	0.030	2.06	1.94	97.57	30.2	1.510	28.922	5.0	30.432	-0.80	0.03
547288	56.78	0.220	15.48	0.38	< 0.01	0.02	0.06	0.01	2.22	0.034	2.48	2.00	96.93	30.1	1.222	29.346	4.1	30.568	-1.59	0.03
547289	51.66	0.215	18.38	0.11	< 0.01	0.04	0.06	< 0.01	1.97	0.031	2.13	3.75	98.11	30.1	1.692	28.345	5.6	30.037	0.09	0.06
547290	52.30	0.265	16.94	0.65	< 0.01	0.04	0.08	< 0.01	2.99	0.030	3.48	2.15	96.80	30.3	0.728	29.779	2.4	30.506	-0.53	0.04
547291	57.26	0.143	16.20	0.24	< 0.01	0.04	0.06	< 0.01	1.57	0.027	2.33	2.78	97.83	30.6	1.729	29.065	5.6	30.794	-0.58	0.05
547292	54.88	0.226	16.18	0.28	< 0.01	0.06	0.06	0.01	2.54	0.035	2.77	2.95	97.09	30.8	1.282	29.845	4.2	31.127	-1.01	0.03
547293	36.79	0.215	25.44	1.63	< 0.01	0.06	0.11	0.01	2.41	0.038	1.40	2.08	97.73	30.1	0.636	29.632	2.1	30.268	-0.67	< 0.01
547294	44.91	0.261	19.60	1.28	< 0.01	0.10	0.08	0.01	3.20	0.044	2.21	3.42	97.02	30.5	0.719	30.014	2.4	30.732	-0.92	0.02
547295	44.29	0.249	20.19	1.26	< 0.01	0.04	0.08	0.01	3.04	0.039	2.08	3.86	97.69	30.1	0.856	29.544	2.8	30.399	-0.89	0.02

Analyte Symbol	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Start Mass	Magnetic Fraction	Non-Mag Fraction	Weight % Magnetics	Calculated Start Mass	% Loss Mass	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%	g	g	g	%	g	%	%
Detection Limit	0.01	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01							0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	DT	DT	DT	DT	DT	DT	IR
547296	61.10	0.170	13.57	0.81	< 0.01	0.04	0.07	0.01	2.13	0.032	2.66	1.43	97.25	30.6	1.146	29.795	3.7	30.941	-1.20	0.04
547297	51.72	0.184	18.88	0.96	< 0.01	0.01	0.05	< 0.01	1.83	0.023	1.80	4.25	97.90	30.9	1.751	28.782	5.7	30.533	1.09	0.07
547298	48.75	0.237	20.26	0.11	< 0.01	0.04	0.06	< 0.01	3.22	0.026	2.07	3.88	97.02	30.8	1.610	29.268	5.2	30.878	-0.35	
547299	56.54	0.129	17.49	0.39	< 0.01	0.04	0.06	< 0.01	1.11	0.031	1.43	3.60	99.07	30.8	2.225	27.915	7.2	30.140	1.99	0.02
547300.1	12.18	0.168	4.97	7.89	2.46	2.78	1.10	0.44	1.07	0.063	0.238	0.87	99.33							
547300.2	13.22	0.134	32.35	2.09	0.12	0.13	0.13	0.02	0.20	0.006	1.46	11.22	100.0							
547300.3	54.08	0.230	17.33	0.19	< 0.01	0.03	0.04	0.01	1.59	0.025	2.08	3.57	98.52	30.2	2.200	27.528	7.3	29.728	1.56	0.11
547301	54.53	0.189	17.82	0.44	< 0.01	0.02	0.06	0.01	2.11	0.026	1.66	3.48	98.42	30.2	2.181	27.926	7.2	30.106	0.32	0.03
547302	46.11	0.191	21.07	1.66	< 0.01	0.05	0.06	0.01	1.65	0.020	2.02	4.26	98.83	30.1	1.859	28.604	6.2	30.463	-1.11	0.05
547303	46.81	0.170	21.14	0.18	< 0.01	0.03	0.05	0.01	1.75	0.024	2.25	4.22	98.46	30.4	2.008	28.795	6.6	30.803	-1.26	0.03
547304	56.76	0.183	16.25	0.95	< 0.01	0.06	0.05	< 0.01	1.94	0.030	2.60	1.87	97.94	30.6	1.531	29.229	5.0	30.759	-0.61	0.04
547305	50.46	0.231	18.92	0.53	< 0.01	0.15	0.07	< 0.01	2.22	0.033	2.65	2.79	97.49	30.2	1.271	29.042	4.2	30.313	-0.24	0.05
547306	53.65	0.146	19.17	0.16	< 0.01	0.02	0.07	0.01	2.00	0.030	2.04	3.70	98.90	30.5	2.140	28.310	7.0	30.450	0.04	0.11
547307	52.35	0.222	17.75	1.41	< 0.01	0.03	0.06	0.01	1.98	0.030	2.51	2.86	98.57	30.9	1.630	29.349	5.3	30.979	-0.23	0.04
547308	52.45	0.273	19.40	0.10	0.20	0.02	0.04	0.01	2.81	0.039	2.56	2.75	97.85	30.2	1.763	28.533	5.8	30.297	-0.44	0.12
547309	60.36	0.154	15.60	0.55	< 0.01	0.03	0.05	0.01	1.32	0.028	2.00	2.39	98.49	30.0	2.096	28.029	7.0	30.125	-0.33	0.05
547310	63.16	0.182	14.12	0.28	< 0.01	0.03	0.06	< 0.01	1.66	0.029	2.63	1.60	98.02	30.3	1.606	28.732	5.3	30.338	-0.23	0.09
547311	54.19	0.167	18.25	0.44	< 0.01	0.06	0.05	< 0.01	1.46	0.029	2.22	3.23	98.96	30.0	1.810	28.170	6.0	29.980	0.07	0.05
547312	56.46	0.186	16.34	0.88	< 0.01	0.01	0.06	< 0.01	1.61	0.028	2.64	2.71	97.71	30.0	1.577	28.628	5.3	30.204	-0.61	0.05
547313	54.30	0.222	17.85	0.57	< 0.01	0.02	0.06	< 0.01	1.72	0.025	2.94	3.07	98.20	30.1	1.709	28.510	5.7	30.220	-0.30	0.07
547314	50.41	0.150	19.93	0.55	< 0.01	0.02	0.05	0.01	1.26	0.026	2.11	3.87	98.85	30.0	2.070	27.956	6.9	30.027	0.00	0.03
547315	53.88	0.168	18.49	0.62	< 0.01	0.01	0.05	0.01	1.31	0.029	2.31	2.90	98.56	30.0	1.893	28.269	6.3	30.161	-0.47	0.03
547316	51.87	0.165	19.36	0.51	< 0.01	0.05	0.05	0.01	1.03	0.020	2.16	4.10	98.37	30.1	2.137	27.633	7.1	29.771	1.18	0.04
547317	57.19	0.186	16.93	0.53	< 0.01	0.02	0.06	< 0.01	1.37	0.024	2.29	2.77	98.08	30.1	1.806	27.679	6.0	29.485	1.93	0.04
547318	52.67	0.199	18.48	0.50	< 0.01	0.03	0.05	0.01	1.70	0.026	2.77	2.95	97.82	30.0	1.629	28.221	5.4	29.850	0.55	0.04
547319	51.00	0.149	19.58	0.42	< 0.01	0.03	0.05	0.01	1.42	0.027	2.53	3.33	98.47	30.2	1.719	28.326	5.7	30.045	0.65	0.03
547320	0.72	0.008	0.04	0.05	0.01	0.07	0.05	0.01	< 0.01	< 0.003	< 0.003	0.23	100.2	30.0	0.052	29.380	0.2	29.432	1.96	

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Cr	Ni	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
NIST 694 Meas	11.45	1.95	0.74	0.013	0.34	42.92	0.90	0.56	0.120	30.25									1669					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
NIST 694 Meas	11.57	1.89	0.72	0.010	0.32	43.30	0.87	0.55	0.114	30.21									1675					
NIST 694 Cert	11.2	1.80	0.790	0.0116	0.330	43.6	0.860	0.510	0.110	30.2									1740					
DNC-1 Meas	46.79	18.52	9.53	0.148	9.92	11.40	1.90	0.22	0.475	0.07			104	142	15	31	35		156					
DNC-1 Cert	47.15	18.34	9.97	0.150	10.13	11.49	1.890	0.234	0.480	0.070			118	144.0	18.0	31	38		148.0					
GBW 07113 Meas	71.67	12.73	3.15	0.139	0.12	0.57	2.49	5.43	0.278	0.05			498	41	43	5	393	4	7					
GBW 07113 Cert	72.8	13.0	3.21	0.140	0.160	0.590	2.57	5.43	0.300	0.0500			506	43.0	43.0	5.00	403	4.00	5.00					
MICA-FE Meas																						34.30	19.37	25.81
MICA-FE Cert																						34.4	19.5	25.6
IF-G Meas																						41.22	0.15	55.83
IF-G Cert																						41.2	0.150	55.8
LKSD-4 Meas																								
LKSD-4 Cert																								
BaSO4 Meas																								
BaSO4 Cert																								
W-2a Meas	52.32	15.18	10.78	0.166	6.26	11.14	2.19	0.61	1.079	0.12			172	192	19	35	86	< 1	276	< 0.01	0.01			
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262	0.00920	0.00700			
W-2a Meas	52.36	15.29	10.39	0.167	6.16	10.92	2.21	0.62	1.066	0.12			172	194	18	35	87	< 1	274					
W-2a Cert	52.4	15.4	10.7	0.163	6.37	10.9	2.14	0.626	1.06	0.130			182	190	24.0	36.0	94.0	1.30	262					
OREAS 13P Meas																					0.236			
OREAS 13P Cert																					0.226			
OREAS 13P Meas																					0.236			
OREAS 13P Cert																					0.226			
OREAS 13P Meas																					0.236			
OREAS 13P Cert																					0.226			
OREAS 14P Meas																								
OREAS 14P Cert																								
SY-4 Meas	49.51	20.65	6.25	0.106	0.48	8.00	6.90	1.65	0.282	0.13			341	1197	112	< 1	534	3	8					
SY-4 Cert	49.9	20.69	6.21	0.108	0.54	8.05	7.10	1.66	0.287	0.131			340	1191	119	1.1	517	2.6	8.0					
Oreas 73a (Fusion) Meas																						36.46	2.36	
Oreas 73a (Fusion) Cert																						36.4	2.38	
Oreas 74a (Fusion) Meas																						32.60	2.11	
Oreas 74a (Fusion) Cert																						32.4	2.21	
Oreas 75a (Fusion) Meas																						27.30	2.00	
Oreas 75a (Fusion) Cert																						27.3	1.99	
BIR-1a Meas	47.74	15.72	10.88	0.174	9.44	13.43	1.80	0.02	0.958	0.07			8	108	13	43	16	< 1	337					
BIR-1a Cert	47.96	15.50	11.30	0.175	9.700	13.30	1.82	0.030	0.96	0.021			6	110	16	44	18	0.58	310					
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
OREAS 13b (4-Acid) Meas																								
OREAS 13b (4-Acid) Cert																								
546806 Orig																								
546806 Dup																								
546811 Orig	37.39	0.96	8.15	0.118	38.76	0.79	0.02	< 0.01	0.009	< 0.01	11.83	98.03	< 2	< 2	< 1	10	< 2	< 1	37	0.233	0.147			
546811 Dup	37.39	0.96	8.12	0.116	38.66	0.79	0.02	< 0.01	0.009	< 0.01	11.83	97.90	< 2	< 2	< 1	10	4	< 1	35	0.226	0.138			
546816 Orig																								
546816 Dup																								
546826 Orig																								
546826 Dup																								
546828 Orig	38.35	0.96	8.43	0.126	39.03	1.15	< 0.01	< 0.01	0.008	< 0.01	11.38	99.45	< 2	< 2	< 1	11	< 2	< 1	42	0.245	0.118			
546828 Dup	37.87	0.95	8.16	0.126	39.17	1.12	< 0.01	< 0.01	0.008	< 0.01	11.38	98.80	< 2	< 2	< 1	11	< 2	< 1	40	0.243	0.124			

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Cr	Ni	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
546836 Orig																								
546836 Dup																								
546840 Orig	99.10	0.32	0.54	0.005	0.13	0.03	0.01	0.05	0.033	< 0.01	0.34	100.6	33	5	1	< 1	56	< 1	< 5	< 0.010	< 0.010			
546840 Dup	99.21	0.33	0.56	0.006	0.13	0.03	0.01	0.05	0.033	< 0.01	0.34	100.7	33	5	1	< 1	60	< 1	5	< 0.010	< 0.010			
546840 Orig	99.10	0.32	0.54	0.005	0.13	0.03	0.01	0.05	0.033	< 0.01	0.34	100.6	33	5	1	< 1	56	< 1	< 5					
546840 Dup	99.21	0.33	0.56	0.006	0.13	0.03	0.01	0.05	0.033	< 0.01	0.34	100.7	33	5	1	< 1	60	< 1	5					
546842 Orig	38.53	0.85	8.03	0.125	39.06	1.25	0.01	< 0.01	0.008	< 0.01	11.21	99.07	< 2	< 2	< 1	10	< 2	< 1	39	0.238	0.132			
546842 Dup	38.13	0.85	7.63	0.127	39.03	1.26	0.01	< 0.01	0.008	< 0.01	11.21	98.26	< 2	< 2	< 1	10	< 2	< 1	39	0.240	0.124			
546846 Orig																								
546846 Dup																								
546856 Orig																								
546856 Dup																								
546860.1 Orig	49.56	15.62	11.73	0.164	4.83	7.90	2.28	2.72	1.177	0.44	0.85	97.28	706	514	21	25	103	2	339	1.032	0.252			
546860.1 Dup	49.13	15.62	11.33	0.163	4.82	7.87	2.24	2.67	1.167	0.41	0.85	96.29	698	515	21	24	102	2	335	1.026	0.238			
546866 Orig																								
546866 Dup																								
546874 Orig	37.44	0.46	8.16	0.122	39.76	0.32	< 0.01	< 0.01	0.004	< 0.01	12.00	98.28	< 2	< 2	< 1	7	4	< 1	26	0.230	0.201			
546874 Dup	37.13	0.45	8.22	0.121	40.10	0.33	< 0.01	< 0.01	0.004	0.02	12.00	98.37	< 2	< 2	< 1	7	< 2	< 1	26	0.228	0.201			
546876 Orig																								
546876 Dup																								
546882 Orig	37.37	0.27	7.68	0.085	41.60	0.04	< 0.01	< 0.01	0.003	< 0.01	12.32	99.38	< 2	< 2	< 1	5	< 2	< 1	18	0.258	0.215			
546882 Split	37.59	0.28	7.81	0.085	42.49	0.05	< 0.01	< 0.01	0.003	< 0.01	12.34	100.6	< 2	< 2	< 1	4	2	< 1	19	0.274	0.234			
546886 Orig																								
546886 Dup																								
546888 Orig	38.05	1.28	8.18	0.145	37.46	1.01	0.01	< 0.01	0.015	< 0.01	12.30	98.45	< 2	< 2	< 1	12	3	< 1	48	0.230	0.170			
546888 Dup	38.12	1.31	8.01	0.142	37.10	0.96	0.01	< 0.01	0.015	< 0.01	12.30	97.98	< 2	< 2	< 1	12	3	< 1	49	0.228	0.156			
546892 Orig	40.64	1.41	8.98	0.123	35.58	2.20	0.01	< 0.01	0.015	< 0.01	10.18	99.14	< 2	< 2	< 1	12	5	< 1	43	0.253	0.205			
546892 Split	40.73	1.44	8.90	0.123	36.63	2.16	0.01	< 0.01	0.015	< 0.01	10.15	100.2	< 2	< 2	< 1	12	2	< 1	43	0.244	0.186			
546896 Orig																								
546903 Orig	38.24	1.08	7.89	0.112	39.02	0.75	< 0.01	< 0.01	0.009	< 0.01	11.87	99.00	5	< 2	< 1	9	< 2	< 1	38	0.268	0.268			
546903 Dup	38.64	1.09	7.92	0.113	38.93	0.76	0.01	< 0.01	0.009	< 0.01	11.87	99.34	2	< 2	< 1	9	< 2	< 1	40	0.273	0.263			
546916 Orig																								
546916 Dup																								
546934 Orig	38.65	1.00	7.28	0.111	39.37	1.21	0.02	< 0.01	0.008	< 0.01	11.88	99.54	< 2	< 2	< 1	8	< 2	< 1	40	0.223	0.265			
546934 Dup	38.42	1.00	7.25	0.110	38.72	1.20	0.02	< 0.01	0.009	< 0.01	11.88	98.61	< 2	< 2	< 1	8	< 2	< 1	39	0.223	0.251			
547244 Orig	38.23	1.65	7.54	0.093	37.60	0.31	0.01	< 0.01	0.015	< 0.01	12.37	97.83	< 2	< 2	< 1	11	< 2	< 1	55	0.263	0.188	17.68	0.86	53.19
547244 Split	39.01	1.66	7.86	0.094	39.00	0.34	0.01	< 0.01	0.016	< 0.01	12.39	100.4	< 2	< 2	< 1	11	< 2	< 1	59	0.254	0.184	20.56	0.96	46.79
547249 Orig																								
547249 Dup																								
547259 Orig																								
547259 Dup																								
547260.1 Orig	49.08	15.86	11.51	0.164	4.88	7.88	2.21	2.72	1.180	0.42	0.78	96.67	698	517	21	25	106	2	337	1.026	0.241			
547260.1 Dup	49.40	15.52	11.63	0.165	4.88	7.96	2.19	2.72	1.165	0.44	0.78	96.85	700	509	21	25	101	2	338	1.026	0.243			
547269 Orig	45.39	13.03	11.00	0.180	10.68	10.21	3.00	0.20	1.319	0.10	3.88	98.98	34	92	24	37	64	< 1	347	0.042	0.035			
547269 Dup	45.50	12.50	11.44	0.188	10.93	10.91	2.88	0.19	1.329	0.10	3.88	99.86	34	92	23	37	66	< 1	366	0.044	0.034			
547271 Orig	40.94	14.88	13.08	0.205	7.58	11.87	2.12	0.31	1.685	0.13	5.21	98.02	64	95	34	41	88	< 1	443	< 0.010	0.011			
547271 Split	41.40	15.11	13.45	0.206	7.53	11.99	2.14	0.34	1.715	0.13	5.22	99.24	65	95	33	43	91	< 1	445	< 0.010	< 0.010			
547283 Orig	38.68	1.56	7.66	0.101	37.76	0.78	0.02	< 0.01	0.017	< 0.01	11.86	98.45	< 2	< 2	< 1	11	3	< 1	51	0.242	0.191			
547283 Dup	39.78	1.63	7.72	0.102	38.62	0.79	0.03	< 0.01	0.018	< 0.01	11.86	100.6	< 2	< 2	< 1	11	2	< 1	53	0.245	0.179			
547289 Orig																								
547289 Dup																								
547291 Orig	38.11	1.80	7.93	0.089	37.71	0.67	0.02	< 0.01	0.019	< 0.01	12.14	98.48	< 2	< 2	< 1	12	< 2	< 1	57	0.239	0.199	16.33	0.87	57.26
547291 Split	38.78	1.85	7.92	0.091	38.21	0.64	0.02	< 0.01	0.020	< 0.01	12.33	99.88	< 2	< 2	< 1	12	2	< 1	54	0.228	0.118	16.08	0.78	58.15
547298 Orig	37.15	0.86	8.19	0.115	39.92	0.19	< 0.01	< 0.01	0.008	< 0.01	12.43	98.87	< 2	< 2	< 1	6	2	< 1	26	0.285	0.193			
547298 Dup	37.64	0.88	8.30	0.117	40.70	0.19	< 0.01	< 0.01	0.013	< 0.01	12.43	100.3	< 2	< 2	< 1	6	3	< 1	22	0.283	0.202			
547299 Orig																								
547299 Dup																								

Quality Control

Analyte Symbol	SiO2	Al2O3	Fe2O3(T)	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	LOI	Total	Ba	Sr	Y	Sc	Zr	Be	V	Cr	Ni	SiO2	Al2O3	Fe2O3(T)
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%
Detection Limit	0.01	0.01	0.01	0.001	0.01	0.01	0.01	0.01	0.001	0.01		0.01	2	2	1	1	2	1	5	0.010	0.010	0.01	0.01	0.01
Analysis Method	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-ICP	FUS-XRF	FUS-XRF	FUS-XRF
547300.1 Orig	49.10	15.65	11.40	0.165	4.84	7.88	2.19	2.72	1.162	0.41	0.77	96.28	694	506	20	25	98	2	334	1.026	0.236			
547300.1 Dup	49.53	15.70	11.77	0.165	4.88	7.91	2.22	2.76	1.188	0.45	0.77	97.34	703	517	20	25	112	2	342	1.027	0.252			
547320 Orig	98.53	0.29	0.58	0.005	0.05	0.02	< 0.01	0.04	0.032	< 0.01	0.12	99.69	26	6	< 1	< 1	51	< 1	5	< 0.010	< 0.010			
547320 Split	99.55	0.28	0.58	0.005	0.05	0.02	< 0.01	0.04	0.034	< 0.01	0.10	100.7	25	6	1	< 1	58	< 1	7	< 0.010	< 0.010			
Method Blank																								
Method Blank																						< 0.01	< 0.01	< 0.01

Quality Control

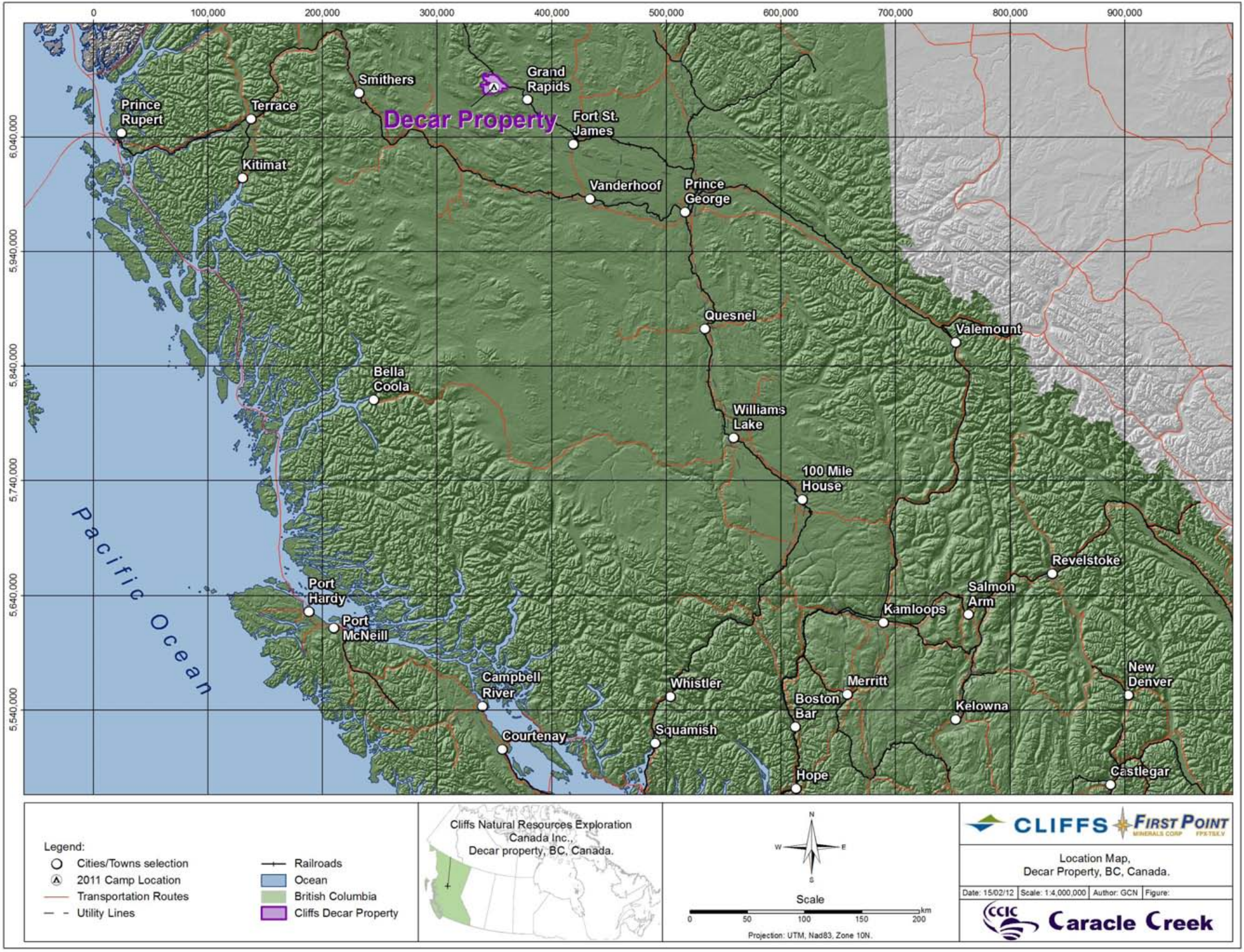
Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
NIST 694 Meas													
NIST 694 Cert													
NIST 694 Meas													
NIST 694 Cert													
DNC-1 Meas													
DNC-1 Cert													
GBW 07113 Meas													
GBW 07113 Cert													
MICA-FE Meas	0.354	4.54	0.51	0.51	8.78	2.52	0.42	0.02	0.026	0.004			
MICA-FE Cert	0.350	4.55	0.430	0.300	8.75	2.50	0.450	0.00900	0.024	0.00350			
IF-G Meas	0.041	1.89	1.53	0.05	0.02	0.03	0.06	0.01		< 0.003			
IF-G Cert	0.0420	1.89	1.55	0.0320	0.0120	0.0140	0.0630	0.000400		0.00225			
LKSD-4 Meas													0.95
LKSD-4 Cert													0.990
BaSO4 Meas													14.0
BaSO4 Cert													14.0
W-2a Meas													
W-2a Cert													
W-2a Meas													
W-2a Cert													
OREAS 13P Meas										0.228			
OREAS 13P Cert										0.226			
OREAS 13P Meas													
OREAS 13P Cert													
OREAS 13P Meas													
OREAS 13P Cert													
OREAS 14P Meas										2.10			
OREAS 14P Cert										2.10			
SY-4 Meas													
SY-4 Cert													
Oreas 73a (Fusion) Meas		32.52						0.20		1.44			
Oreas 73a (Fusion) Cert		32.5						0.20		1.44			
Oreas 74a (Fusion) Meas		27.99						0.18		3.24			
Oreas 74a (Fusion) Cert		27.9						0.18		3.24			
Oreas 75a (Fusion) Meas		22.51						0.15		5.25			
Oreas 75a (Fusion) Cert		22.3						0.16		5.25			
BIR-1a Meas													
BIR-1a Cert													
OREAS 13b (4-Acid) Meas													1.21
OREAS 13b (4-Acid) Cert													1.20
OREAS 13b (4-Acid) Meas													1.16
OREAS 13b (4-Acid) Cert													1.20
546806 Orig													0.10
546806 Dup													0.11
546811 Orig													
546811 Dup													
546816 Orig													0.05
546816 Dup													0.05
546826 Orig													0.03
546826 Dup													0.03
546828 Orig													
546828 Dup													

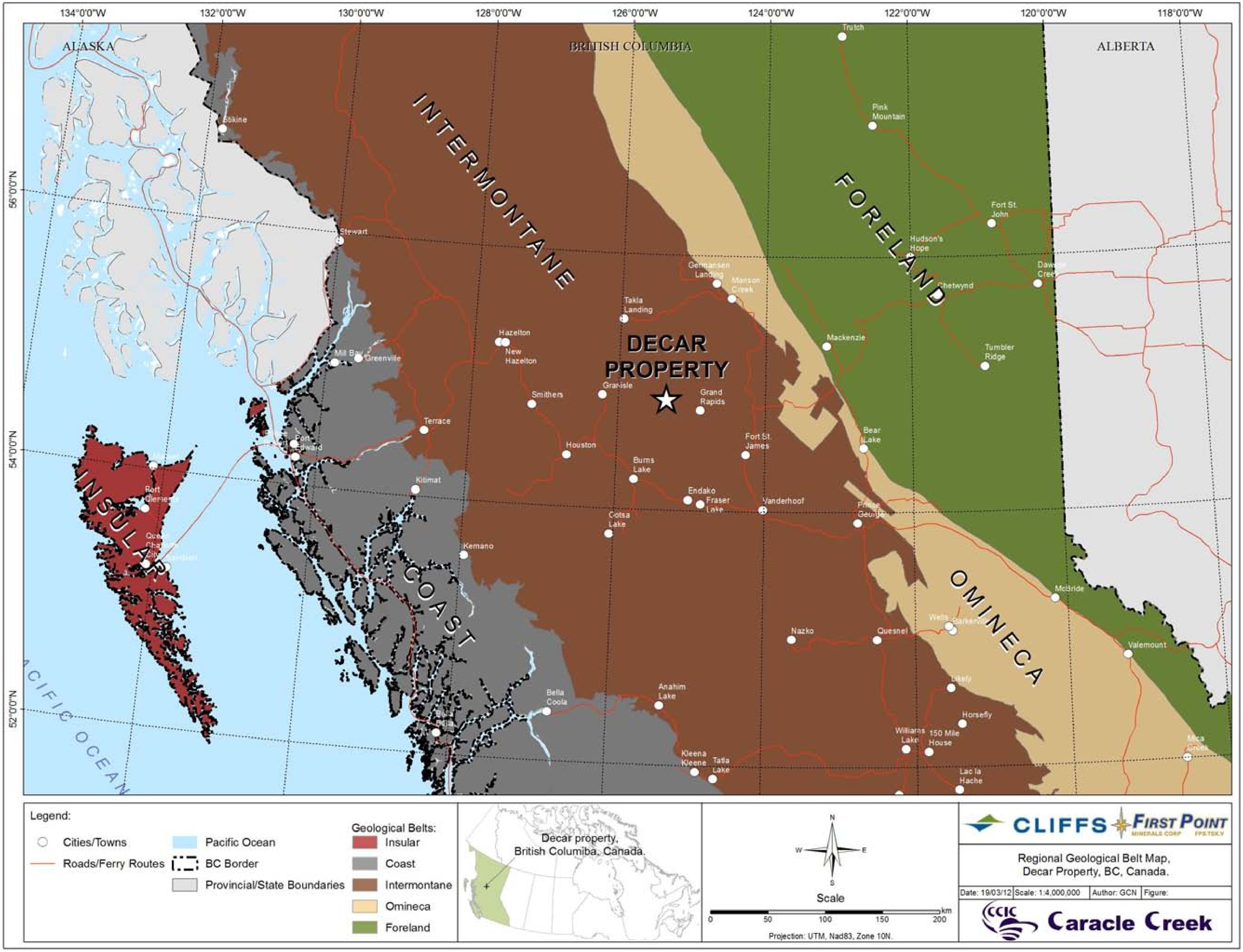
Quality Control

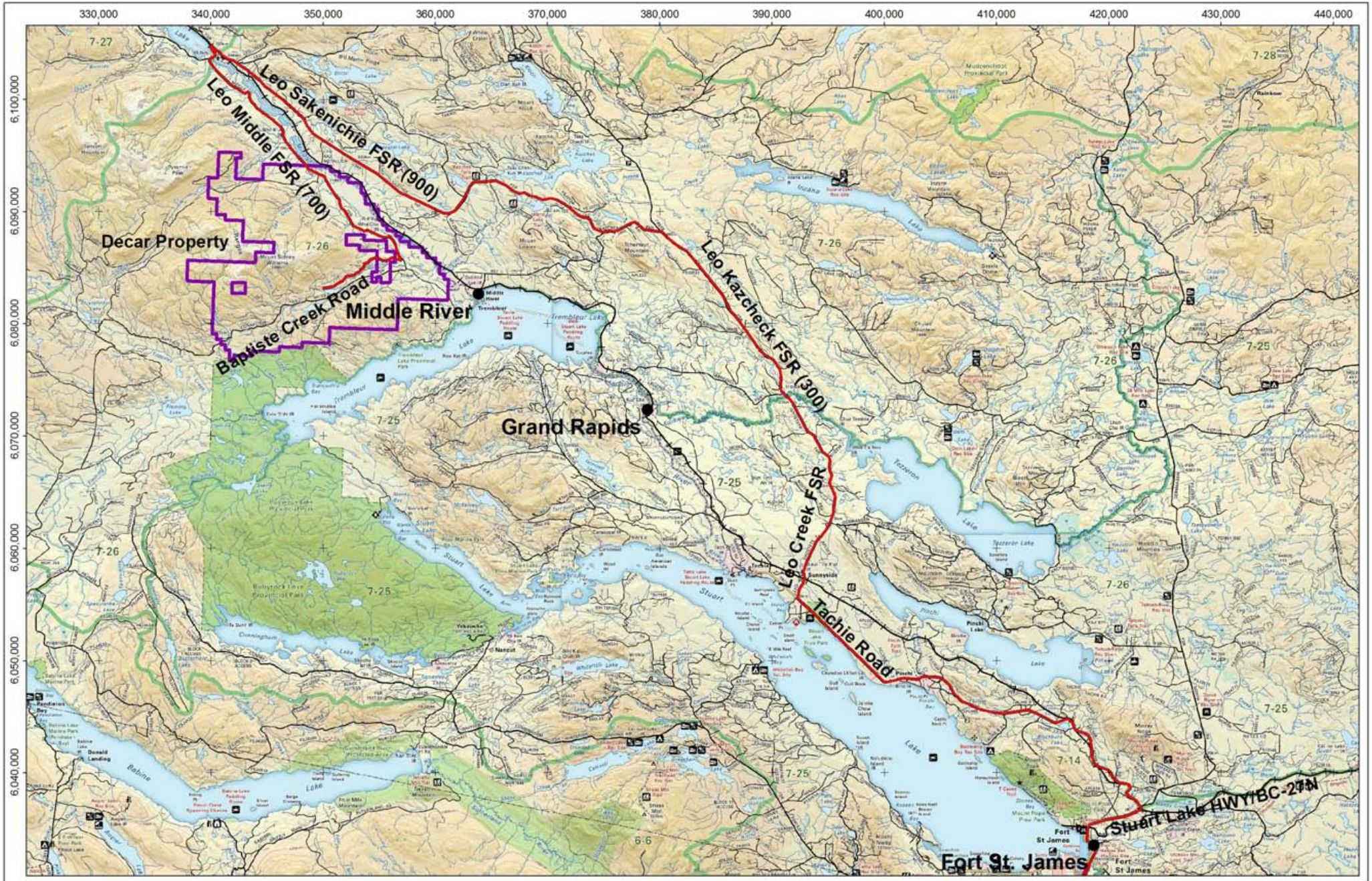
Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
546836 Orig													0.05
546836 Dup													0.05
546840 Orig													
546840 Dup													
546840 Orig													
546840 Dup													
546842 Orig													
546842 Dup													
546846 Orig													0.02
546846 Dup													0.02
546856 Orig													0.02
546856 Dup													0.01
546860.1 Orig													
546860.1 Dup													
546866 Orig													0.10
546866 Dup													0.09
546874 Orig													
546874 Dup													
546876 Orig													0.11
546876 Dup													0.10
546882 Orig													
546882 Split													0.06
546886 Orig													0.05
546886 Dup													0.05
546888 Orig													
546888 Dup													
546892 Orig													
546892 Split													0.05
546896 Orig													0.13
546903 Orig													
546903 Dup													
546916 Orig													0.13
546916 Dup													0.13
546934 Orig													
546934 Dup													
547244 Orig	0.164	17.78	0.08	< 0.01	0.01	0.05	0.01	1.80	0.033	2.08	3.39	97.10	0.06
547244 Split	0.152	20.79	0.11	< 0.01	0.05	0.05	0.01	1.54	0.032	1.65	4.89	97.53	0.06
547249 Orig													0.05
547249 Dup													0.05
547259 Orig													0.21
547259 Dup													0.24
547260.1 Orig													
547260.1 Dup													
547269 Orig													
547269 Dup													
547271 Orig													
547271 Split													
547283 Orig													
547283 Dup													
547289 Orig													0.06
547289 Dup													0.06
547291 Orig	0.143	16.20	0.24	< 0.01	0.04	0.06	< 0.01	1.57	0.027	2.33	2.78	97.83	
547291 Split	0.143	16.25	0.22	< 0.01	0.03	0.06	0.01	1.57	0.029	2.19	2.75	98.25	0.05
547298 Orig													
547298 Dup													
547299 Orig													0.02
547299 Dup													0.02

Quality Control

Analyte Symbol	MnO	MgO	CaO	Na2O	K2O	TiO2	P2O5	Cr	V2O5	Ni	LOI	Total	Total S
Unit Symbol	%	%	%	%	%	%	%	%	%	%	%	%	%
Detection Limit	0.001	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.003	0.003		0.01	0.01
Analysis Method	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	FUS-XRF	IR
547300.1 Orig													
547300.1 Dup													
547320 Orig													
547320 Split													
Method Blank													< 0.01
Method Blank	< 0.001	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.003	< 0.003	-0.01	< 0.01	


0
100,000
200,000
300,000
400,000
500,000
600,000
700,000
800,000
900,000
6,040,000
5,940,000
5,840,000
5,740,000
5,640,000
5,540,000
Smithers
Grand Rapids
Prince Rupert
Terrace
Decar Property
Fort St. James
Kitimat
Vanderhoof
Prince George
Quesnel
Valemount
Bella Coola
Williams Lake
100 Mile House
Revelstoke
Port Hardy
Salmon Arm
Port McNeill
Kamloops
New Denver
Campbell River
Whistler
Merritt
Boston Bar
Kelowna
Squamish
Courtenay
Hope
Castlegar
Pacific Ocean
Legend:
Cities/Towns selection
2011 Camp Location
Transportation Routes
Utility Lines
Railroads
Ocean
British Columbia
Cliffs Decar Property
Cliffs Natural Resources Exploration Canada Inc.,
Decar property, BC, Canada.
N
W
E
S
Scale
0
50
100
150
200
km
Projection: UTM, Nad83, Zone 10N.
CLIFFS
FIRST POINT MINERALS CORP
Location Map,
Decar Property, BC, Canada.
Date: 15/02/12
Scale: 1:4,000,000
Author: GCN
Figure:
CCIC
Caracle Creek


134°0'0"W
132°0'0"W
130°0'0"W
128°0'0"W
126°0'0"W
124°0'0"W
122°0'0"W
120°0'0"W
118°0'0"W
56°0'0"N
54°0'0"N
52°0'0"N
ALASKA
BRITISH COLUMBIA
ALBERTA
INTERMONTANE
FORELAND
DECAR PROPERTY
INSULAR
COAST
OMINECA
PACIFIC OCEAN
Trutch
Pink Mountain
Stikine
Fort St. John
Stewart
Hudson's Hope
Germansen Landing
Manson Creek
Dawson Creek
Chetwynd
Takla Landing
Hazelton
New Hazelton
Mackenzie
Tumbler Ridge
Mill Bay
Greenville
Granisle
Grand Rapids
Smithers
Terrace
Houston
Fort St. James
Bear Lake
Port Edward
Port Clements
Burns Lake
Kitimat
Endako
Fraser Lake
Vanderhoof
Prince George
Cotsa Lake
Kemano
McBride
Wells
Nazko
Quesnel
Valemount
Likely
Bella Coola
Anahim Lake
Horsefly
Williams Lake
150 Mile House
Kleena Kleene
Tatla Lake
Lac la Hache
Mica Creek
Legend:
Cities/Towns
Roads/Ferry Routes
Pacific Ocean
BC Border
Provincial/State Boundaries
Geological Belts:
Insular
Coast
Intermontane
Omineca
Foreland
Decar property, British Columiba, Canada.
N
S
E
W
Scale
0
50
100
150
200
km
Projection: UTM, Nad83, Zone 10N.
CLIFFS
FIRST POINT
MINERALS CORP
Regional Geological Belt Map,
Decar Property, BC, Canada.
Date: 19/03/12
Scale: 1:4,000,000
Author: GCN
Figure:
CCIC
Caracle Creek



Legend:

- Populated Places
- Property Access Road
- Forest Service Roads
- Rail Lines
- Cliffs Property Outline

N
W
E
S

Scale

0 5,000 10,000 15,000 m

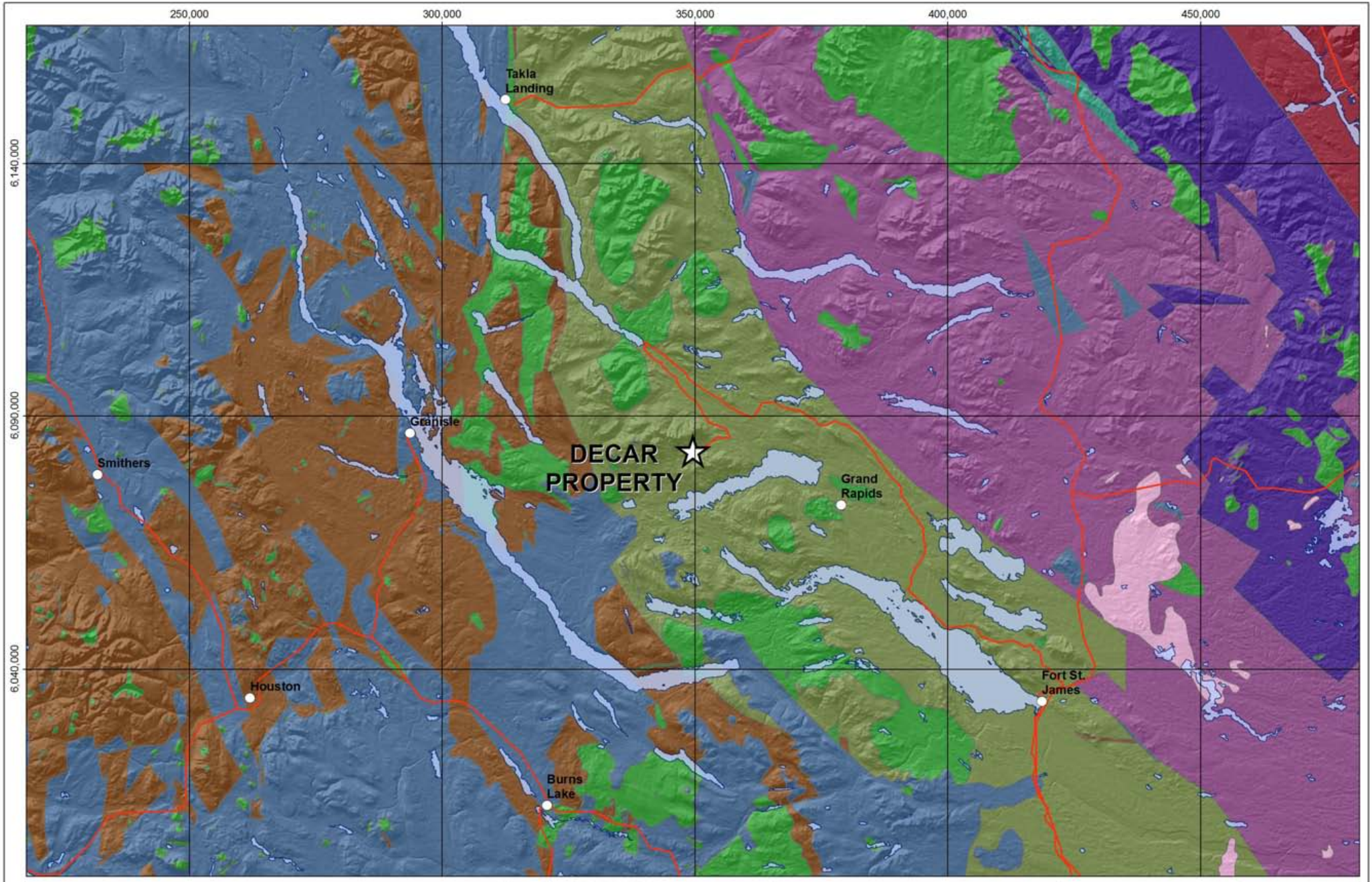
Projection: UTM, Nad83, Zone 10N.

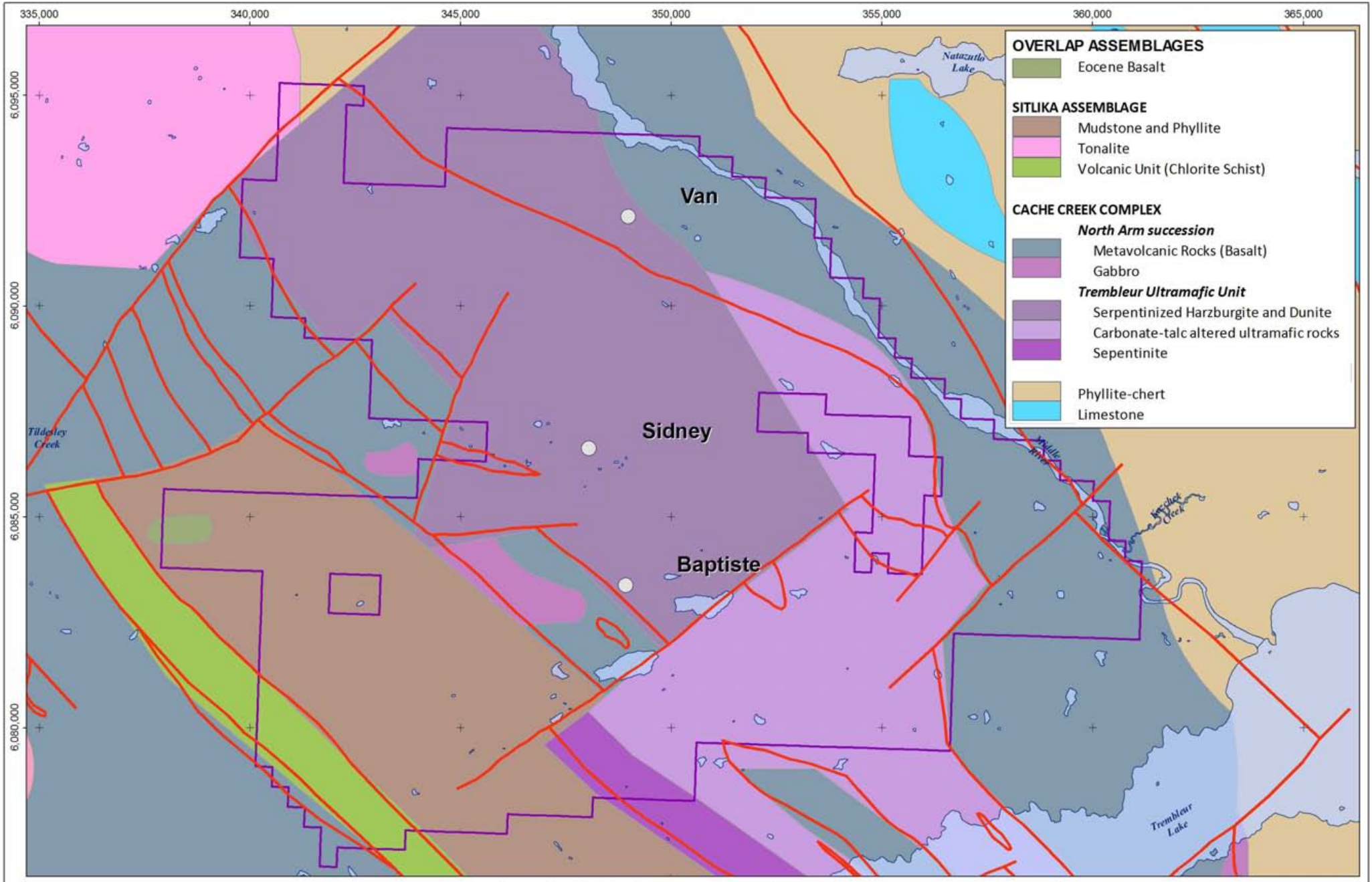
CLIFFS FIRST POINT MINERALS CORP FPX:TSX.V

Road and Access Map 2012,
Decar Property, BC, Canada.

Date: 09/04/12	Scale: 1:450,000	Author: GCN	Figure:

CCIC Caracle Creek


250,000
300,000
350,000
400,000
450,000
6,140,000
6,090,000
6,040,000
Takla Landing
Granisle
Smithers
DECAR PROPERTY
Grand Rapids
Houston
Fort St. James
Burns Lake
Legend:
Cities/Towns
HWY/Roads
Major Lakes
Geological Terranes:
Cache Creek
Cariboo/Cassiar
North America
Quesnel
Slide Mountain
Stikine
Other:
Unknown
Younger Volcanics
Overlap
Post Accretionary
Decar property, British Columiba, Canada.
N
W
E
S
Scale
0
10
20
30
40
50
km
Projection: UTM, Nad83, Zone 10N.
CLIFFS
FIRST POINT MINERALS CORP FPX:TSX.V
Regional Geological Terrane Map, Decar Property, BC, Canada.
Date: 19/03/12
Scale: 1:4,000,000
Author: GCN
Figure:
CCIC
Caracle Creek



Legend:

Prospect Locations — Geological Faults — Lakes/Ponds — Decar Property Outline

Decar property, BC, Canada.

N W E S

Scale 0 1 2 3 4 5 km

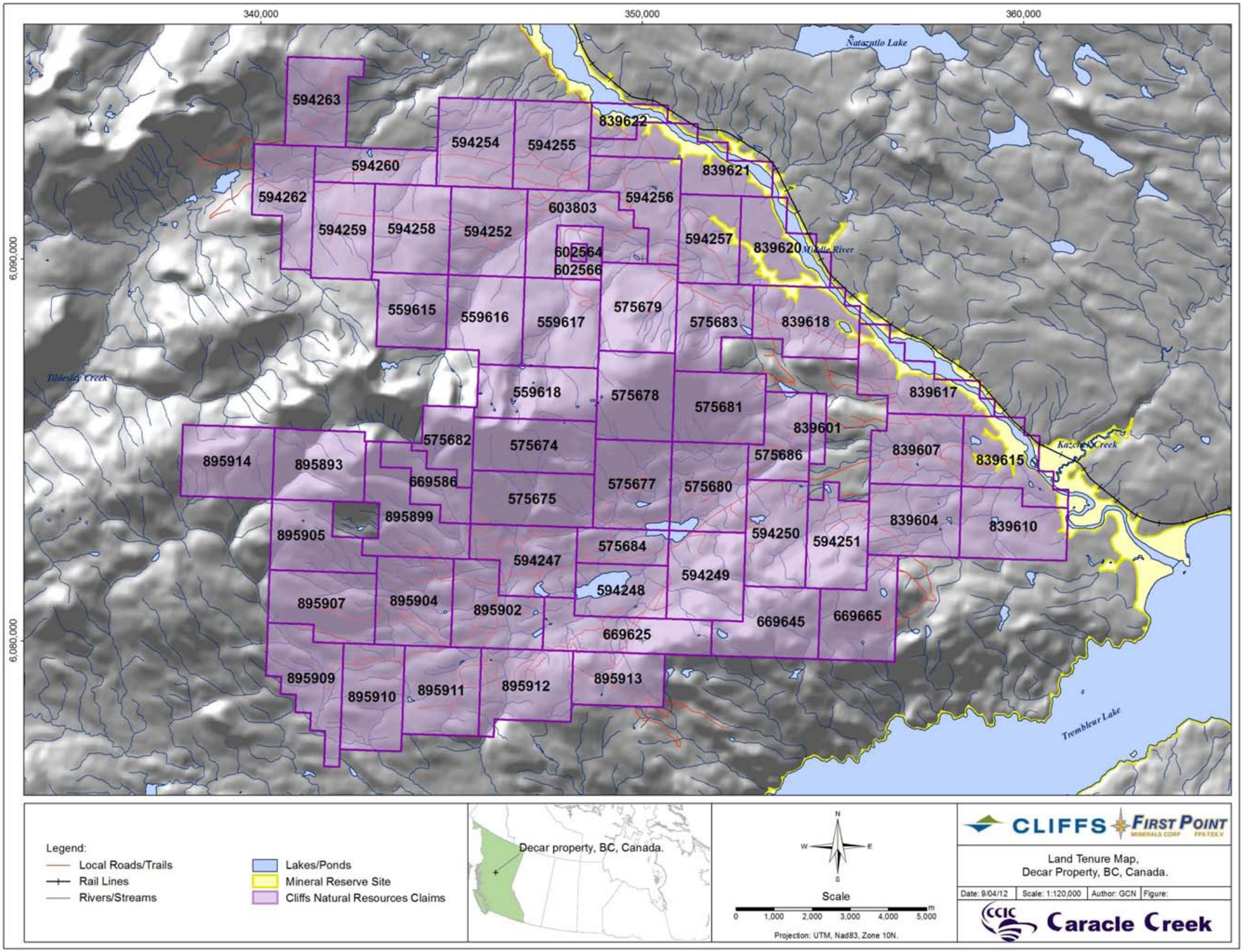
Projection: UTM, Nad83, Zone 10N.

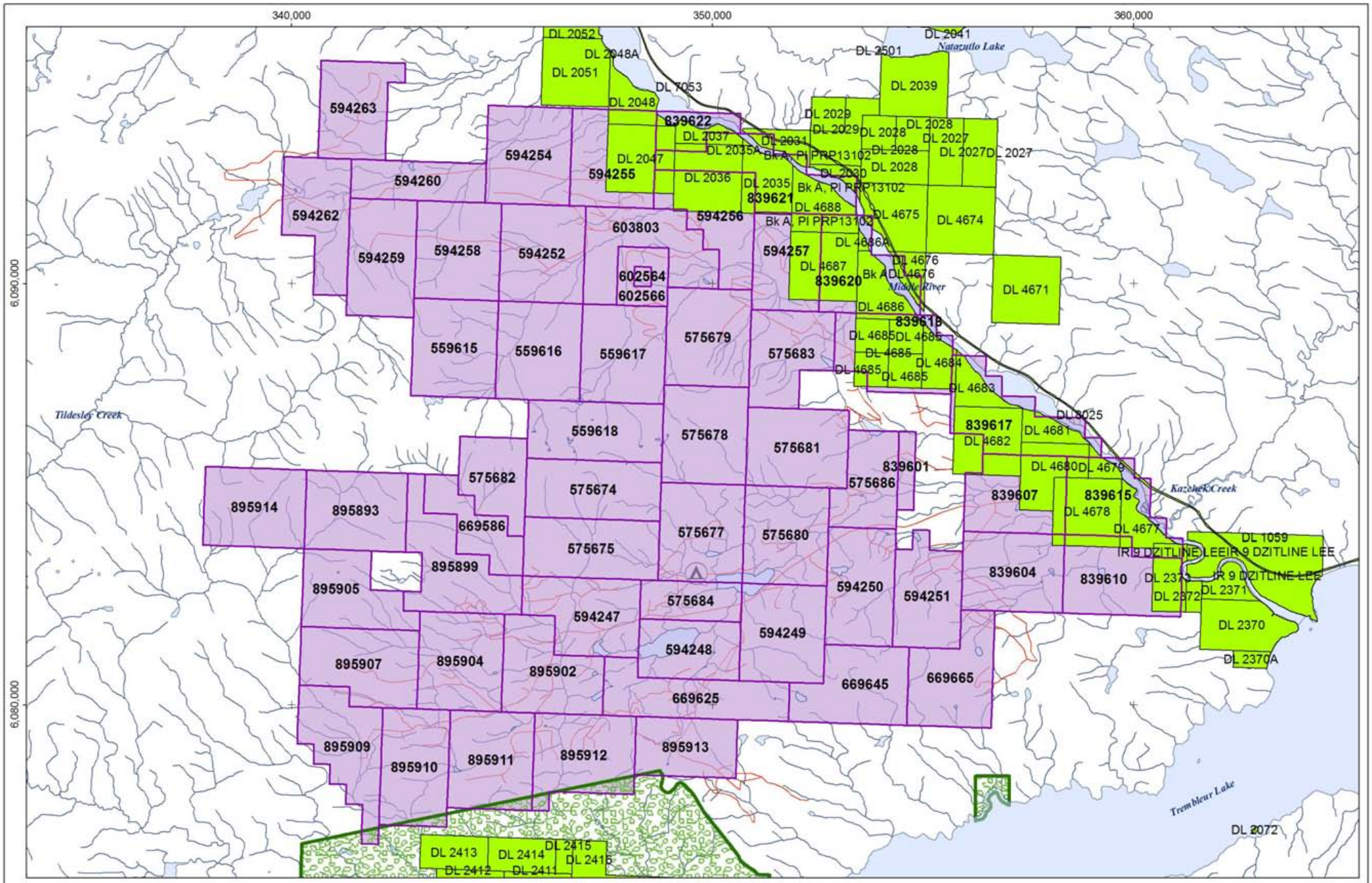
CLIFFS — FIRST POINT MINERALS CORP FPX:TSX.V

Property Geology Map,
Decar Property, BC, Canada.

Date: 10/04/12	Scale: 1:120,000	Author: GCN	Figure:

CCIC Caracle Creek


340,000
350,000
360,000
6,090,000
6,080,000
Natazulo Lake
Middle River
Kazchek Creek
Tildesley Creek
Trembleur Lake
594263
594254
594255
839622
594260
839621
594262
603803
594256
594259
594258
594252
602564
602566
594257
839620
559615
559616
559617
575679
575683
839618
559618
575678
575681
839617
839601
575682
575674
575686
839607
839615
895914
895893
669586
575677
575680
575675
895899
839604
839610
895905
594250
594251
575684
594247
594249
895907
895904
895902
594248
669645
669665
669625
895909
895910
895911
895912
895913
Legend:
Local Roads/Trails
Rail Lines
Rivers/Streams
Lakes/Ponds
Mineral Reserve Site
Cliffs Natural Resources Claims
Decar property, BC, Canada.
N
W
E
S
Scale
0
1,000
2,000
3,000
4,000
5,000
m
Projection: UTM, Nad83, Zone 10N.
CLIFFS
FIRST POINT
MINERALS CORP
FPX:TSX.V
Land Tenure Map,
Decar Property, BC, Canada.
Date: 9/04/12
Scale: 1:120,000
Author: GCN
Figure:
CCIC
Caracle Creek


340,000
350,000
360,000
6,090,000
6,080,000
DL 2052
DL 2048A
DL 2051
DL 7053
DL 2048
DL 2041
Natazutlo Lake
DL 2501
DL 2039
DL 2029
DL 2028
DL 2027
DL 2037
DL 2031
DL 2035A
Bk A, Pl PRP13102
DL 2047
DL 2036
DL 2035
DL 2030
DL 4688
DL 4675
DL 4674
DL 4686A
DL 4676
DL 4687
Bk A
DL 4671
Middle River
DL 4686
DL 4685
DL 4684
DL 4683
DL 8025
DL 4682
DL 4681
DL 4680
DL 4679
DL 4678
DL 4677
Kazchek Creek
DL 1059
IR 9 DZITLINE LEE
DL 2373
DL 2372
DL 2371
DL 2370
DL 2370A
DL 2072
Trembleur Lake
DL 2413
DL 2414
DL 2415
DL 2416
DL 2412
DL 2411
Tildesley Creek
594263
594254
594260
594255
594262
594259
594258
594252
603803
602564
602566
594256
594257
839622
839621
839620
839618
839617
839601
839607
839615
839604
839610
559615
559616
559617
575679
575683
559618
575678
575681
575682
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575686
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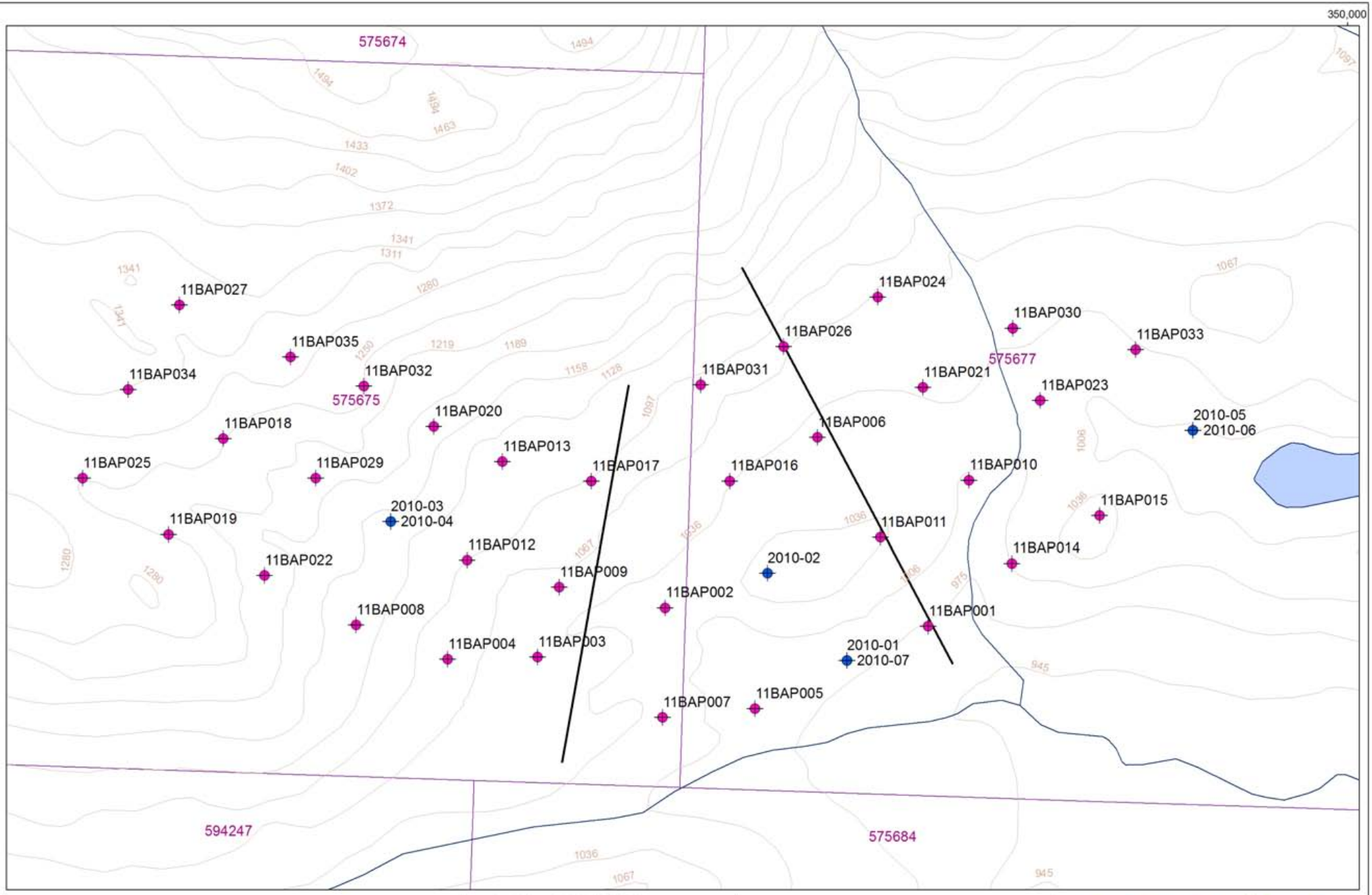
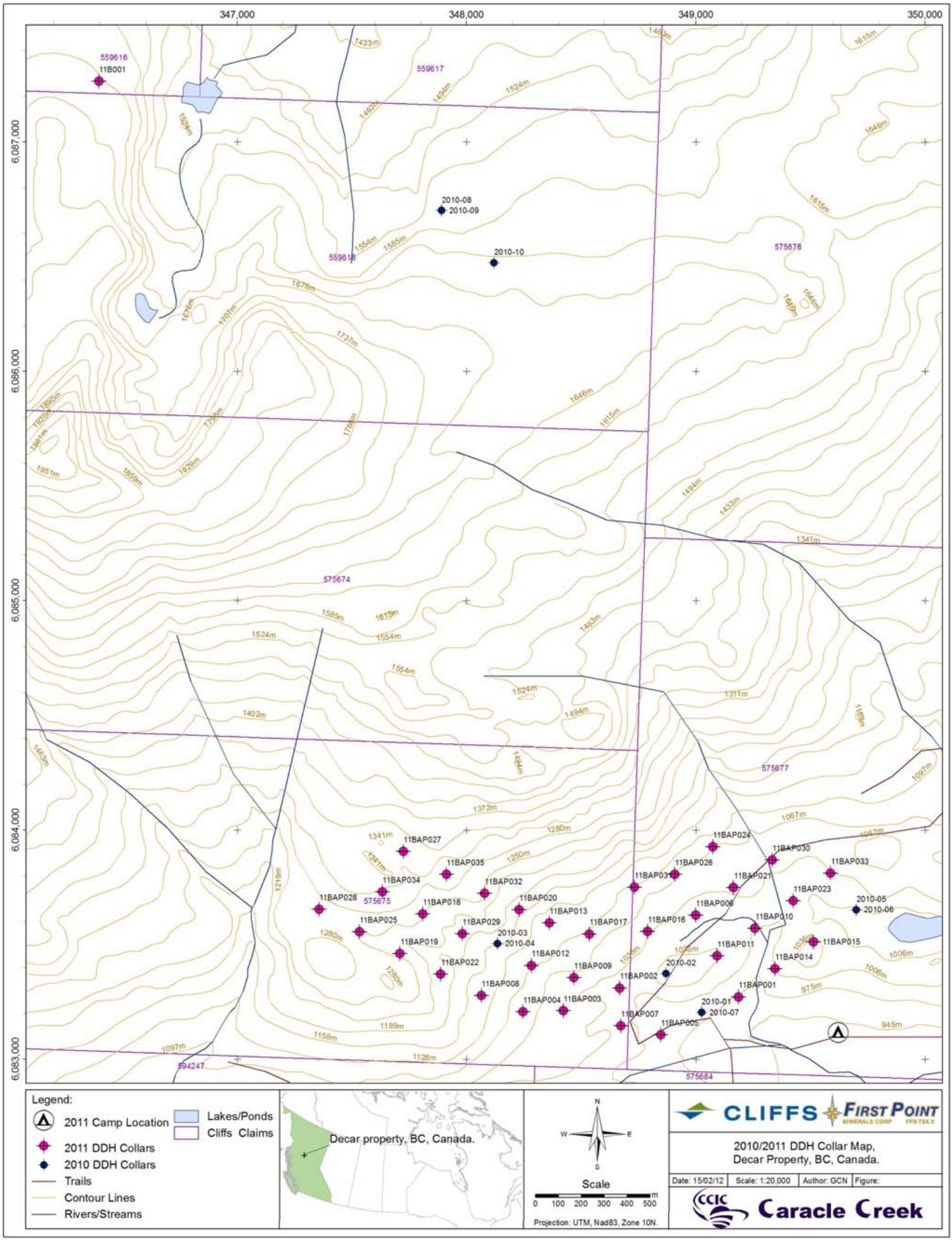
594249
594248
895907
895904
895902
669645
669665
669625
895909
895910
895911
895912
895913
Legend:
2011 Camp Location
Local Roads/Trails
Rivers/Streams
Lakes/Ponds
Provincial Park
District Lots
Cliffs Claims
Decar property, BC, Canada.
N
W
E
S
Scale
0
1,000
2,000
3,000
4,000
m
Projection: UTM, Nad83, Zone 10N.
CLIFFS
FIRST POINT
MINERALS CORP
FPX:TSX.V
Land Tenure & District Lot Map,
Decar Property, BC, Canada.
Date: 09/04/12
Scale: 1:120,000
Author: GCN
Figure:
CCIC
Caracle Creek


350,000
575674
575675
575677
594247
575684
11BAP027
11BAP035
11BAP034
11BAP032
11BAP018
11BAP020
11BAP025
11BAP029
11BAP013
11BAP017
11BAP019
2010-03
2010-04
11BAP012
11BAP022
11BAP009
11BAP008
11BAP004
11BAP003
11BAP002
11BAP007
11BAP005
2010-01
2010-07
11BAP001
11BAP024
11BAP026
11BAP030
11BAP033
11BAP031
11BAP021
11BAP023
11BAP006
2010-05
2010-06
11BAP016
11BAP010
11BAP015
11BAP011
11BAP014
2010-02
Legend:
2010 DDH Collars
2011 DDH Collars
Rivers/Streams
Contour Lines
Section Lines
Lakes/Ponds
Cliff Claims
Decar Property, BC, Canada.
N
W
E
S
Scale
0
100
200
300
400
500
m
CLIFFS
FIRST POINT
2010/2011 DDH Collar Map - Baptiste
Decar Property, BC, Canada.
Date:02/04/12
Scale: 1:10,000
Figure:
Projection: UTM, Nad83, Zone 10N.
Office/Author: Toronto/ff
CCIC
Caracle Creek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11B001
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559618
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575674
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575684
594247
2010-08
2010-09
2010-10
11BAP001
11BAP002
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11BAP030
11BAP031
11BAP032
11BAP033
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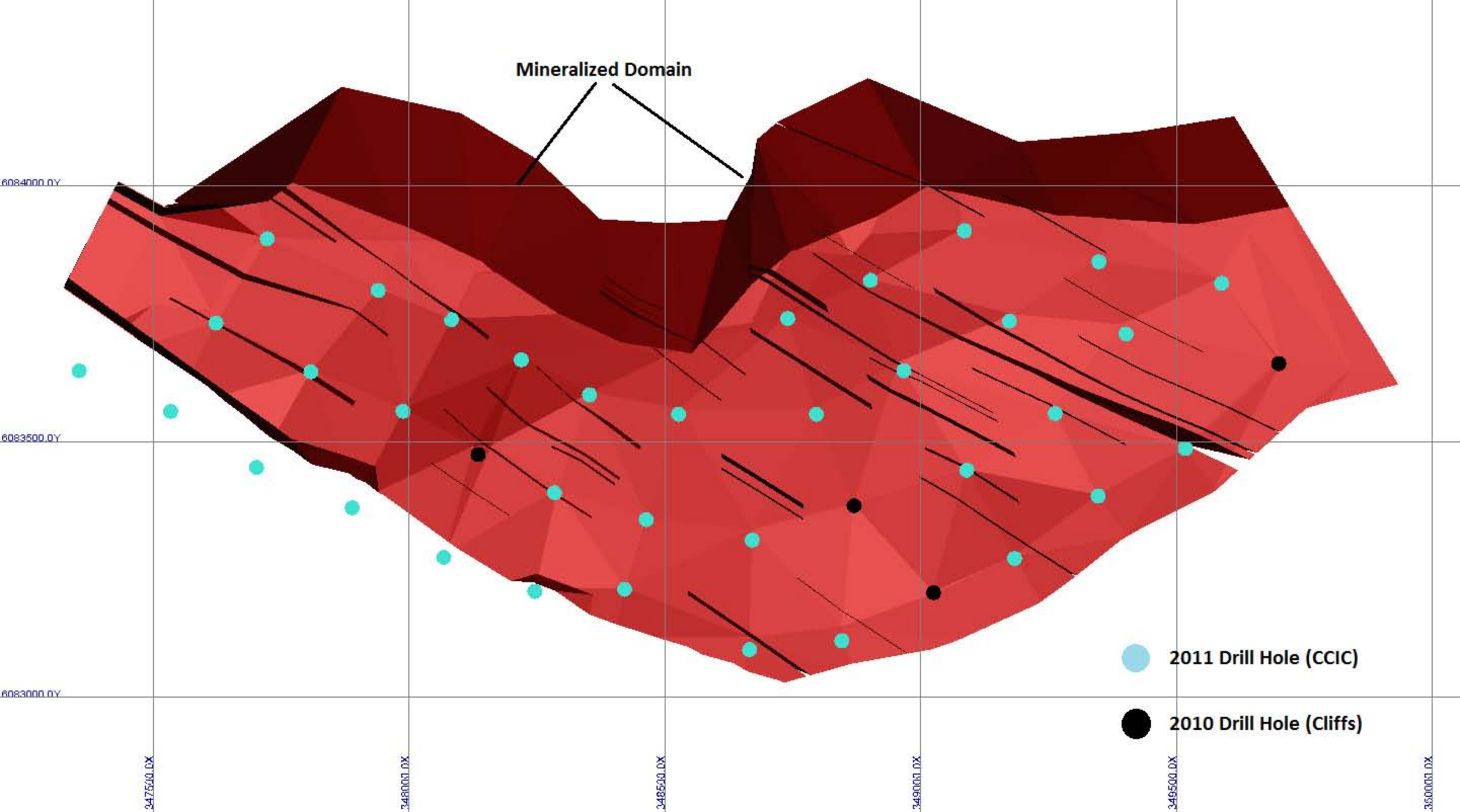
11BAP035
2010-01
2010-02
2010-03
2010-04
2010-05
2010-06
2010-07
Legend:
2011 Camp Location
2011 DDH Collars
2010 DDH Collars
Trails
Contour Lines
Rivers/Streams
Lakes/Ponds
Cliffs Claims
Decar property, BC, Canada.
N
W
E
S
Scale
0 100 200 300 400 500 m
Projection: UTM, Nad83, Zone 10N.
CLIFFS
FIRST POINT MINERALS CORP FPX:TSX.V
2010/2011 DDH Collar Map,
Decar Property, BC, Canada.
Date: 15/02/12
Scale: 1:20,000
Author: GCN
Figure:
CCIC
Caracle Creek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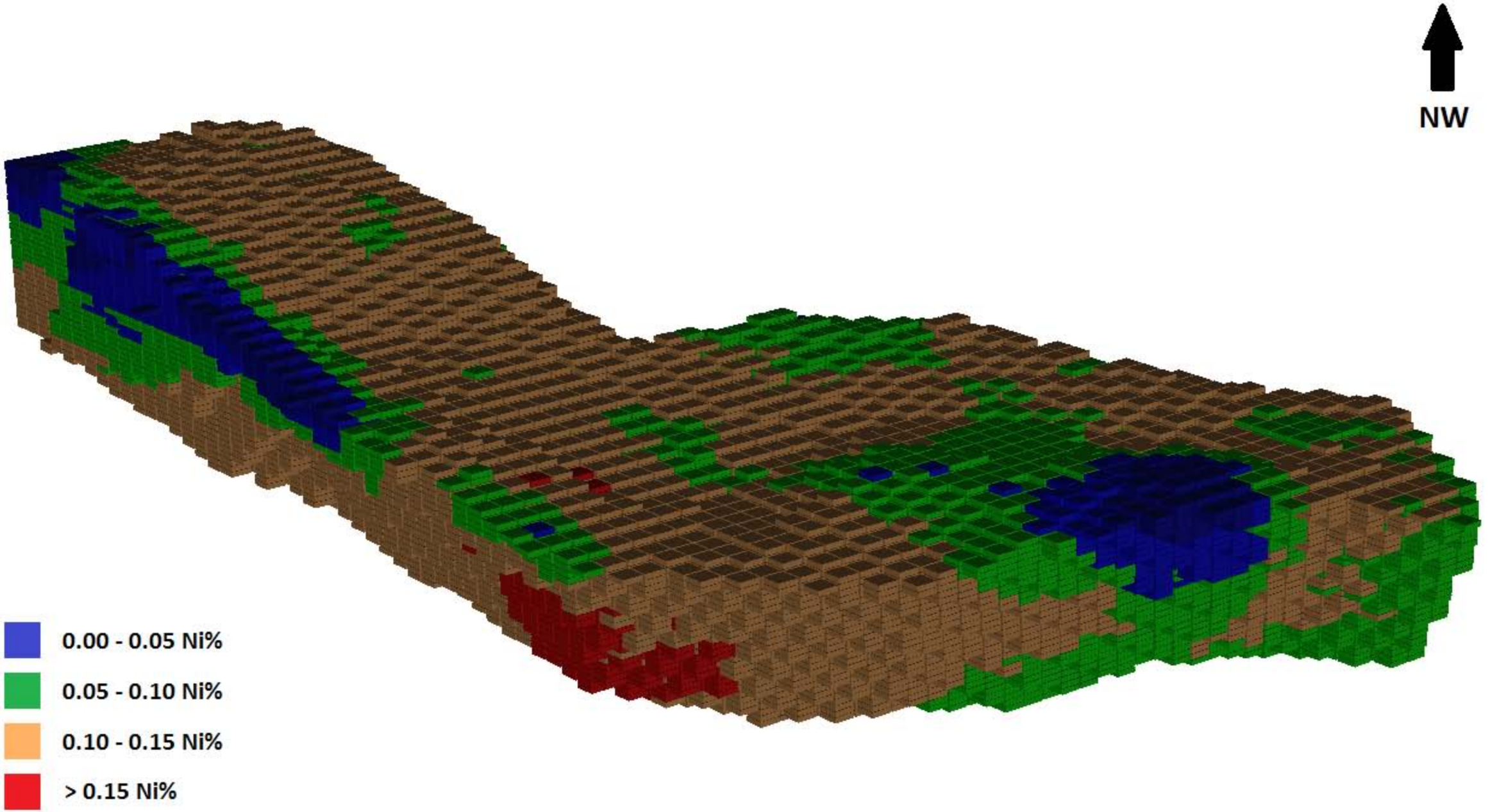
6083500.0Y
6083000.0Y
2011 Drill Hole (CCIC)
2010 Drill Hole (Cliffs)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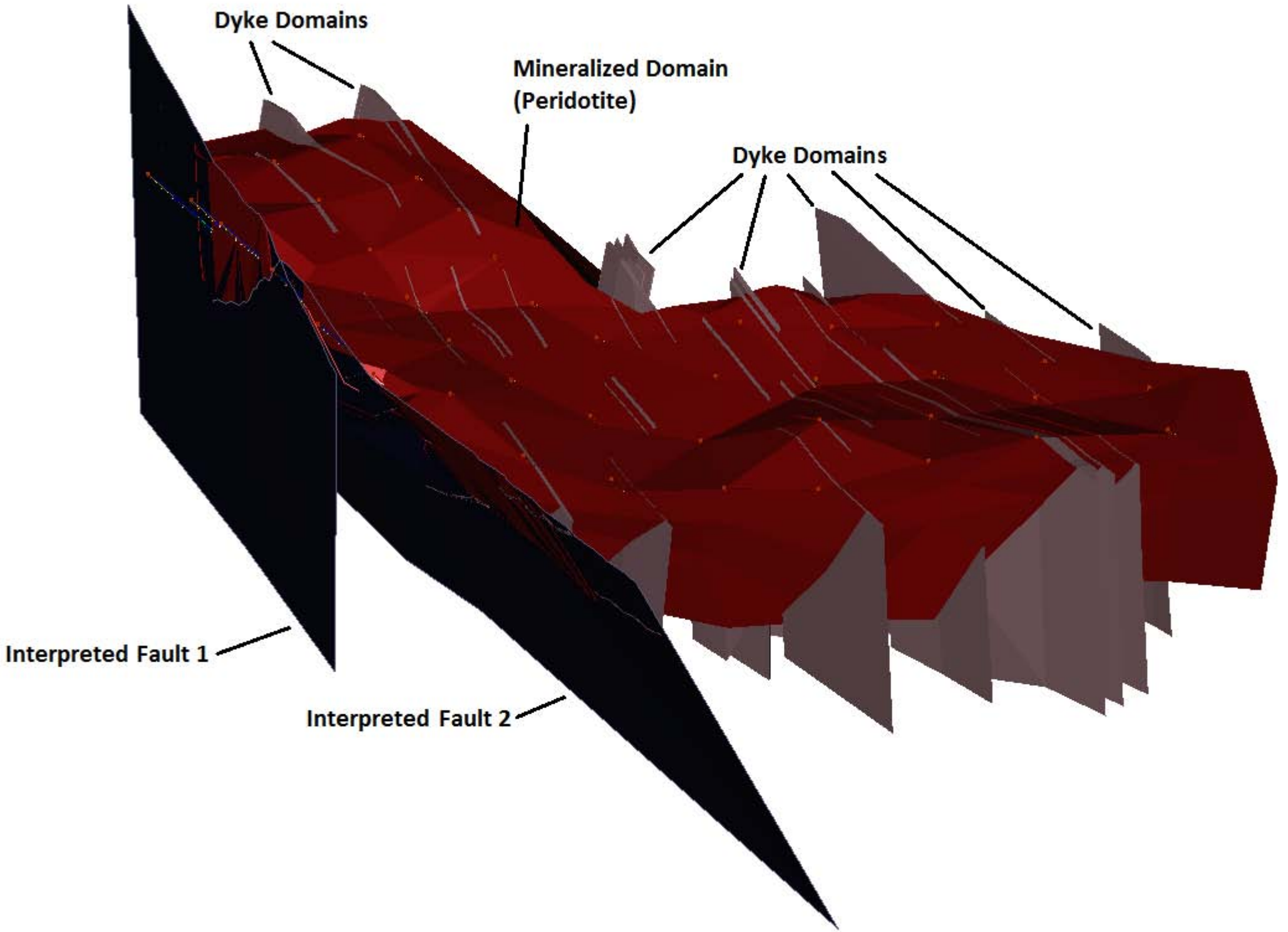
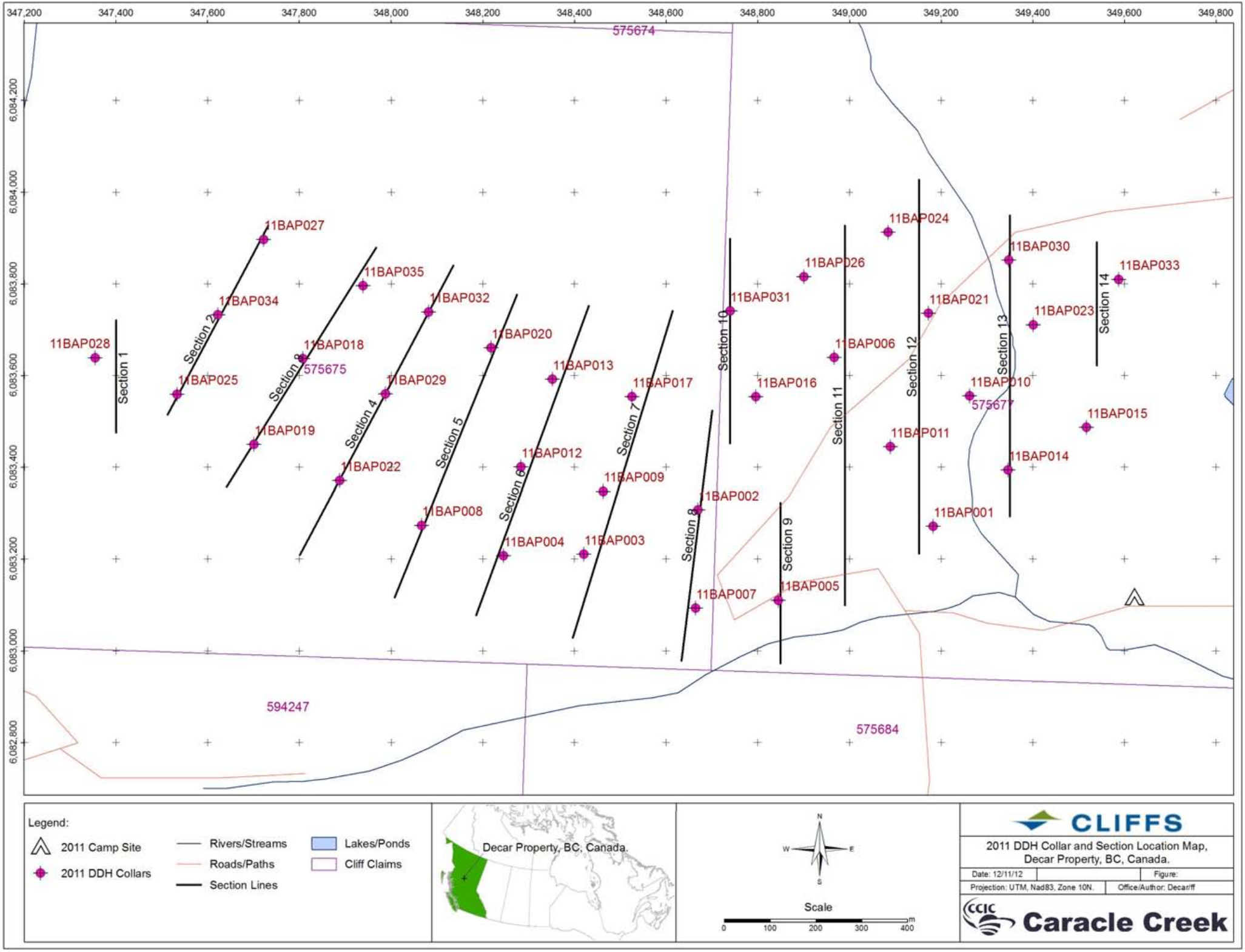
0.05 - 0.10 Ni%
0.10 - 0.15 Ni%
> 0.15 Ni%


Dyke Domains
Mineralized Domain
(Peridotite)
Dyke Domains
Interpreted Fault 1
Interpreted Fault 2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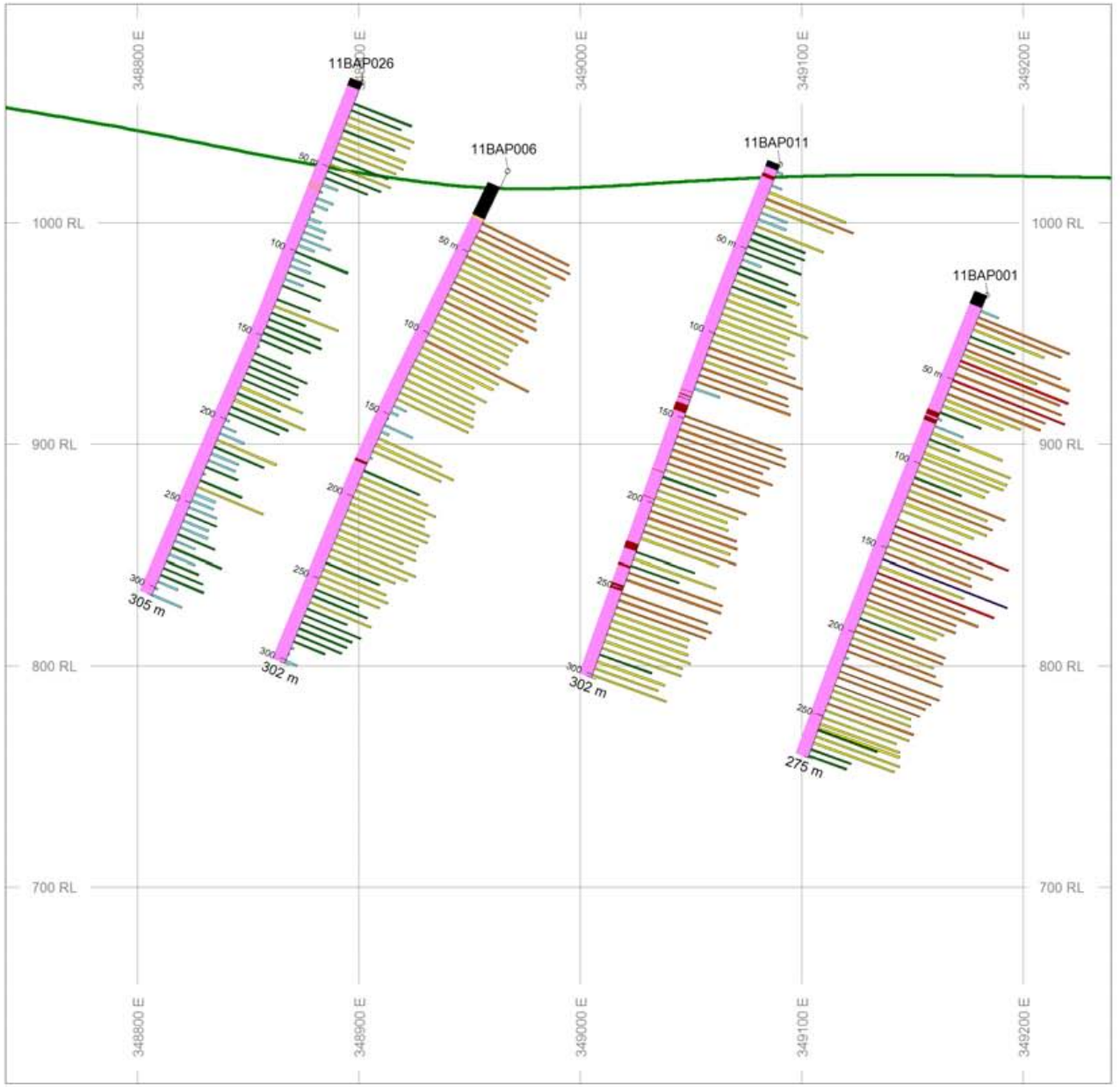
11BAP008
11BAP002
11BAP004
11BAP003
11BAP007
11BAP005
11BAP024
11BAP026
11BAP030
11BAP033
11BAP031
11BAP021
11BAP023
11BAP006
11BAP016
11BAP010
575677
11BAP015
11BAP011
11BAP014
11BAP001
Section 1
Section 2
Section 3
Section 4
Section 5
Section 6
Section 7
Section 8
Section 9
Section 10
Section 11
Section 12
Section 13
Section 14
594247
575684
Legend:
2011 Camp Site
2011 DDH Collars
Rivers/Streams
Roads/Paths
Section Lines
Lakes/Ponds
Cliff Claims
Decar Property, BC, Canada.
N
W
E
S
Scale
0
100
200
300
400
m
CLIFFS
2011 DDH Collar and Section Location Map,
Decar Property, BC, Canada.
Date: 12/11/12
Figure:
Projection: UTM, Nad83, Zone 10N.
Office/Author: Decar/ff
CCIC
Caracle Creek



CLIFFS

FIRST POINT MINERALS CORP

Caracle Creek

HOLES PLOTTED

TOTAL 4

11BAP001 11BAP006 11BAP011 11BAP026

BAR GRAPHS	L/R	COL	RANGE
Davis Tube Recoverable (DTR) Ni (%)	R		0.2
			0.18
			0.14
			0.1
			0.05

ROCK CODES	L/R	PAT	LABEL	DESCRIPTION
	L		MO	Over Burden
			Alt Dyke	Altered Dike
			S4	Conglomerate
			I2J	Diorite
			I4I	Peridotite

SECTION SPECS:

REF. PT. E, N	348990 m	6083600 m
EXTENTS	499.2 m	487.5 m
SECTION TOP, BOT	1099 m	611.3 m
TOLERANCE +/-	395.1 m	

SCALE 1 : 3000

(m)

-20 0 20 40 60 80 100

NAD83 / UTM zone 10N

AZIMUTH = 90°

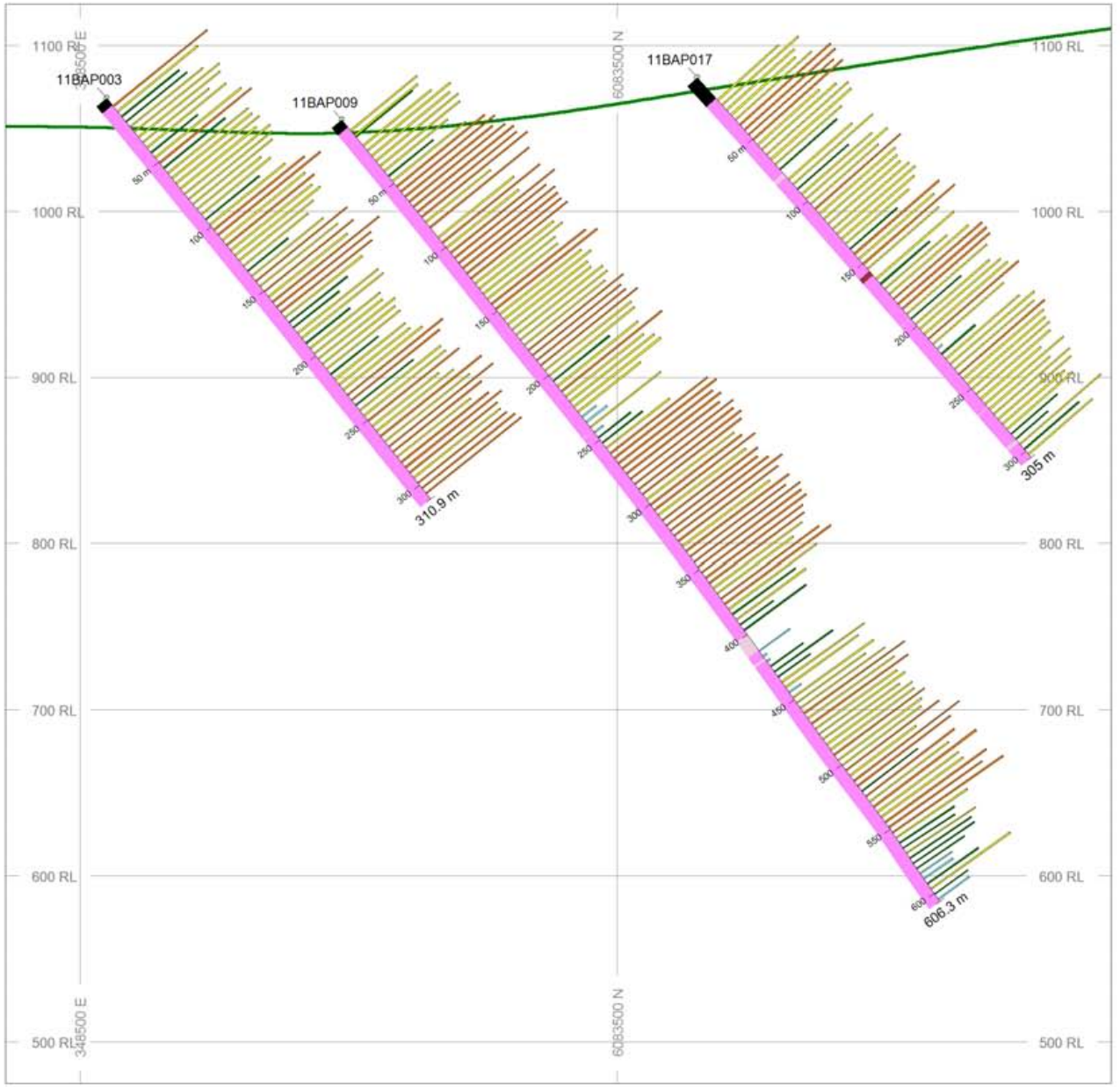
N W E S

Cliffs Natural Resources Exploration Canada Inc.
First Point Minerals Corp.

Decar Property, BC, Canada.

2011 DDH Cross Sections

Claims: 575675, 575677



CLIFFS

FIRST POINT MINERALS CORP

Caracle Creek

HOLES PLOTTED

TOTAL 3

11BAP003 11BAP009 11BAP017

BAR GRAPHS	L/R	COL	RANGE
Davis Tube Recoverable (DTR) Ni (%)	R		0.2
			0.18
			0.14
			0.1
			0.05

ROCK CODES	L/R	PAT	LABEL	DESCRIPTION
	L		MO	Over Burden
			FD1	Felsic Dike 1
			B3D	Mafic Dike
			I4I	Peridotite

SECTION SPECS:

REF. PT. E, N	348550 m	6083465 m
EXTENTS	665.6 m	650 m
SECTION TOP, BOT	1125 m	475 m
TOLERANCE +/-	84.25 m	

SCALE 1 : 4000

(m)

-20 0 20 40 60 80 100 120

NAD83 / UTM zone 10N

AZIMUTH = 10°

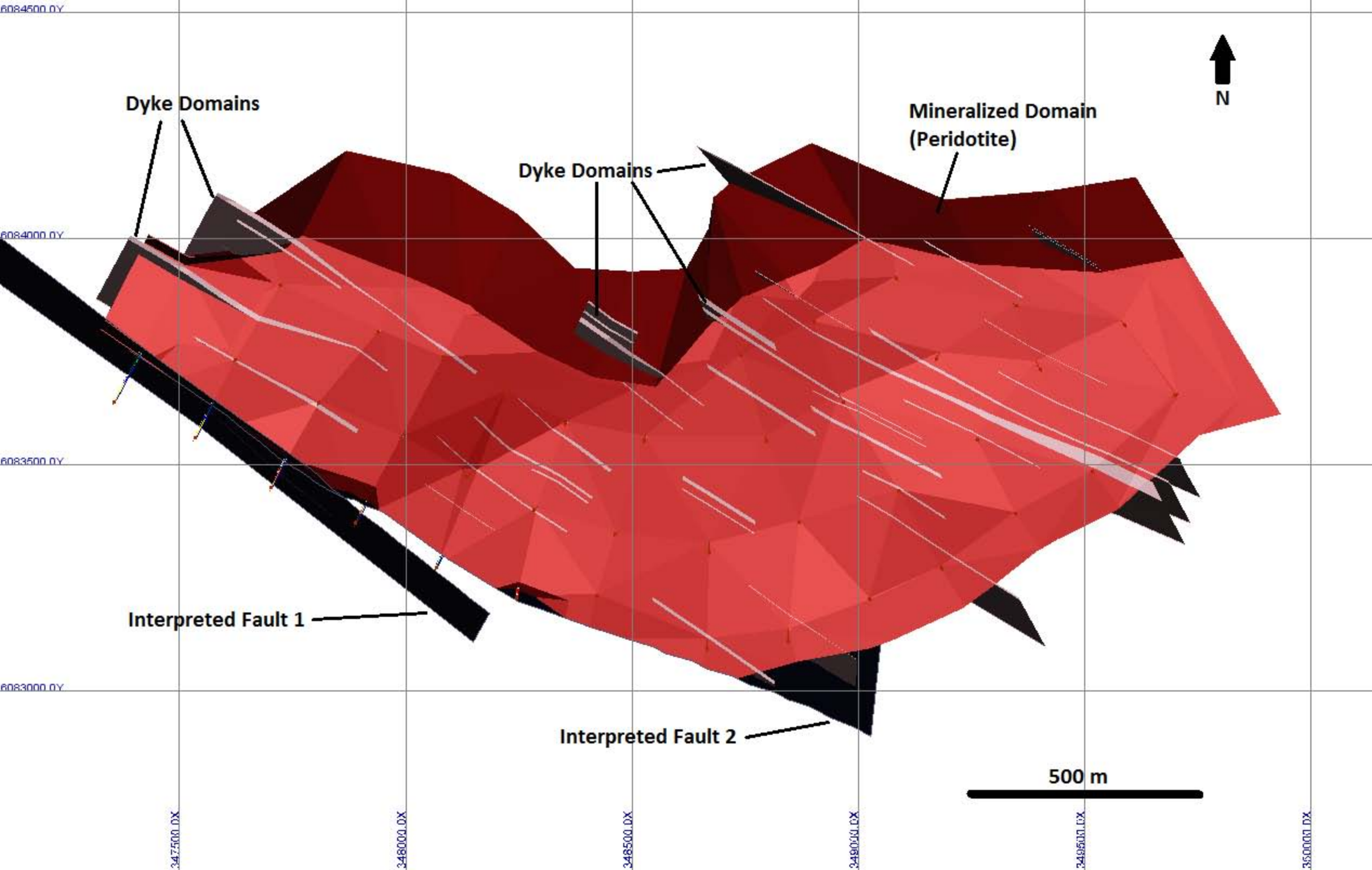
N W E S

Cliffs Natural Resources Exploration Canada Inc.
First Point Minerals Corp.

Decar Property, BC, Canada.

2011 DDH Cross Sections

Claims: 575675, 575677


Dyke Domains
Dyke Domains
Mineralized Domain
(Peridotite)
N
Interpreted Fault 1
Interpreted Fault 2
500 m
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6084000.0Y
6083500.0Y
6083000.0Y
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348000.0X
348500.0X
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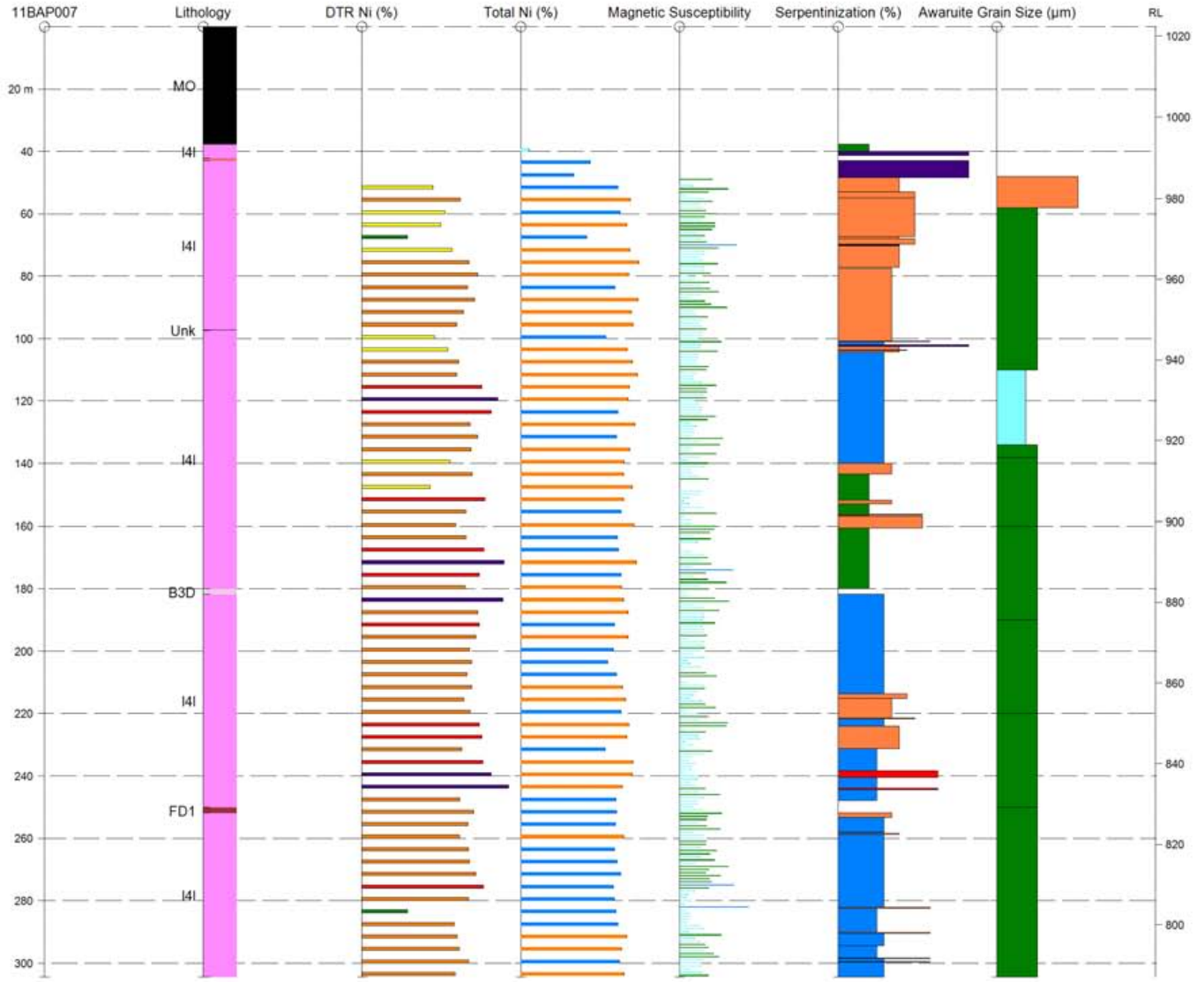
349500.0X
350000.0X



STRIP LOG: 11BAP007

Easting	Northing	RL	Azimuth	Dip	Depth
348665.5	6083093.6	1022.2	0.0	-90.0	304.5

STRIP

1 Lithology

PAT	LABEL	DESCRIPTION
	MO	Over Burden
	FD1	Felsic Dike 1
	GAB	Gabbro
	B3D	Mafic Dike
	I4I	Peridotite
	Unk	Unknown

2 Davis Tube Recoverable (DTR) Ni (%)

0.2
0.18
0.14
0.1
0.05

3 Total Ni (%)

0.4
0.3
0.2
0.1
0.05

4 Magnetic Susceptibility (10e-6 SI)

200
160
120
80
40

5 Serpentinization (%)

80
60
30
20
10

6 Awaruite Grain Size (µm)

250
177
125
88

CLIFFS

FIRST POINT MINERALS CORP FPX:TSX.V

Caracle Creek

Cliffs Natural Resources Exploration Canada Inc.

First Point Minerals Corp.

Decar Property, BC, Canada.

STRIP LOG: 11BAP009

Easting	Northing	RL	Azimuth	Dip	Depth
348463.5	6083347.8	1055.6	0.0	-90.0	606.3

STRIP		PAT	LABEL	DESCRIPTION
1	Lithology		MO	Over Burden
			B3D	Mafic Dike
			I4I	Peridotite
2	Davis Tube Recoverable (DTR) Ni (%)		0.2	
			0.18	
			0.14	
			0.1	
			0.05	
3	Total Ni (%)		0.4	
			0.3	
			0.2	
			0.1	
			0.05	
4	Magnetic Susceptibility (10e-6 SI)		200	
			160	
			120	
			80	
			40	
5	Serpentinization (%)		80	
			60	
			30	
			20	
			10	
6	Awaruite Grain Size (µm)		250	
			177	
			125	
			88	
7	Awaruite Abundance (%)		1.5	
			1	
			0.5	

CLIFFS

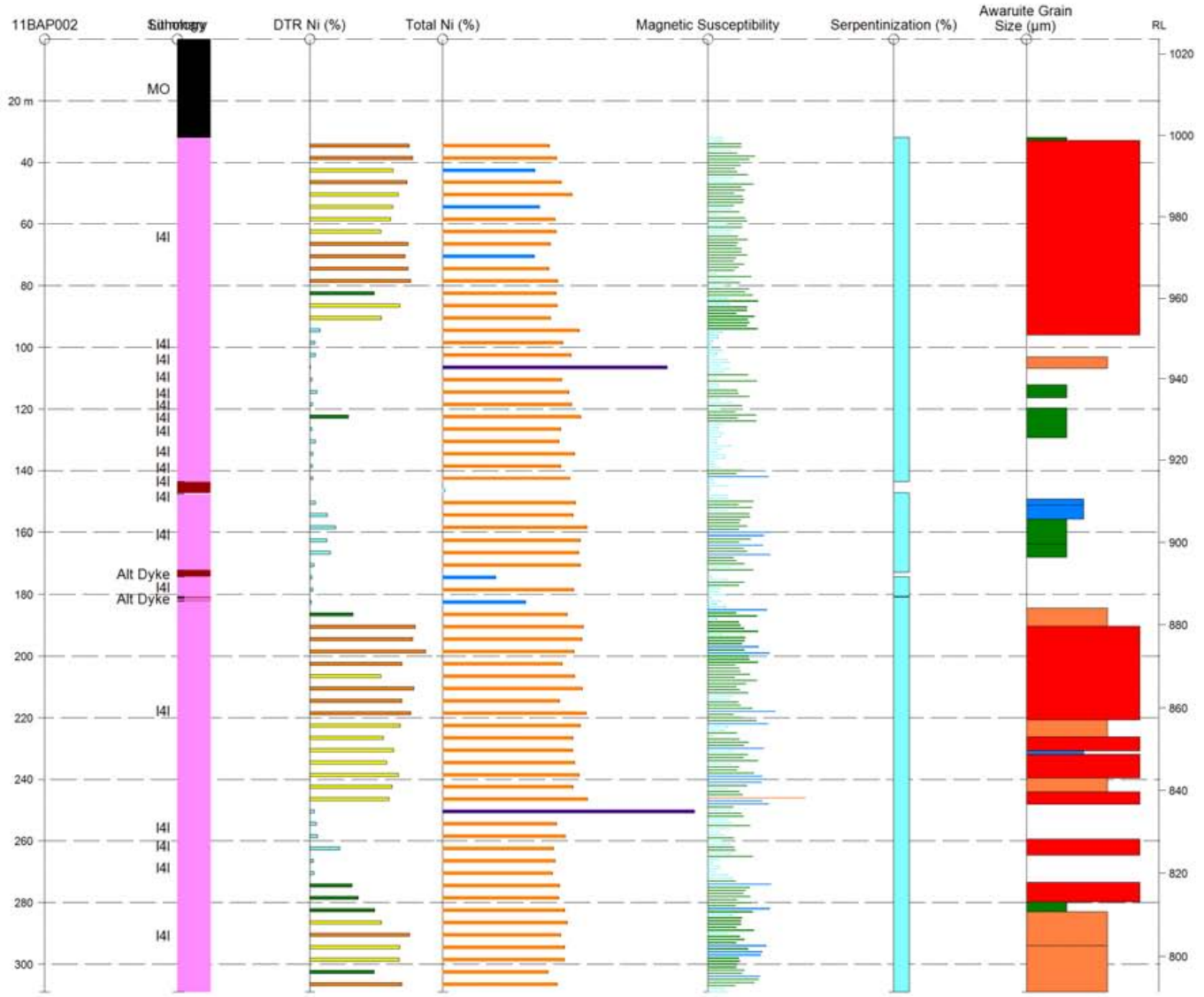
FIRST POINT MINERALS CORP

Caracle Creek

Cliffs Natural Resources Exploration Canada Inc.

First Point Minerals Corp.

Decar Property, BC, Canada.



STRIP LOG: 11BAP002

Easting	Northing	RL	Azimuth	Dip	Depth
348670.6	6083307.7	1023.5	0.0	-90.0	309.0

STRIP		PAT	LABEL	DESCRIPTION
1	Lithology		MO	Over Burden
			Alt Dyke	Altered Dike
			I4I	Peridotite
2	Davis Tube Recoverable (DTR) Ni (%)		0.2	
			0.18	
			0.14	
			0.1	
			0.05	
3	Total Ni (%)		0.4	
			0.3	
			0.2	
			0.1	
			0.05	
4	Magnetic Susceptibility (10e-6)		200	
			160	
			120	
			80	
			40	
5	Serpentinization (%)		80	
			60	
			30	
			20	
			10	
6	Awaruite Grain Size (µm)		250	
			177	
			125	
			88	

CLIFFS

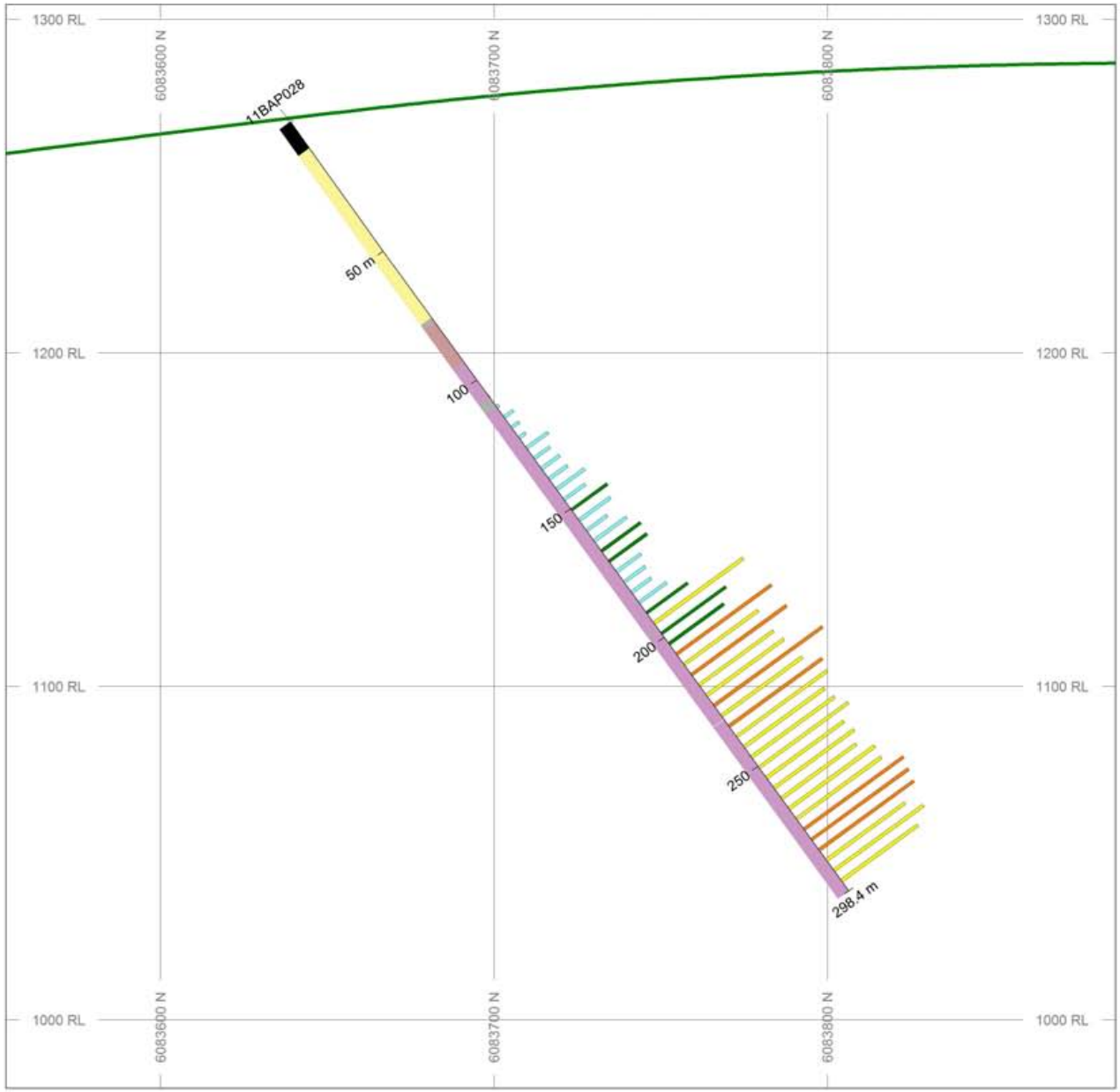
FIRST POINT MINERALS CORP

Caracle Creek

Cliffs Natural Resources Exploration Canada Inc.

First Point Minerals Corp.

Decar Property, BC, Canada.



HOLES PLOTTED

TOTAL 1

11BAP028

BAR GRAPHS	L/R	COL	RANGE
Davis Tube Recoverable (DTR) Ni (%)	R		0.2
			0.18
			0.14
			0.1
			0.05

ROCK CODES Summary	PAT	LABEL	DESCRIPTION
		MO	Over Burden
		Alt Dyke	Altered Dike
		ARG	Argillite
		I1C	Granodiorite
		B3D	Ultramafic
		I4I	Peridotite

SECTION SPECS:

REF. PT. E, N	347400 m	6083720 m
EXTENTS	332.8 m	325 m
SECTION TOP, BOT	1305 m	979.5 m
TOLERANCE +/-	48.6 m	

SCALE 1 : 2000

(m)

-10 0 10 20 30 40 50 60

WGS 84 / UTM zone 10N

AZIMUTH = 0°

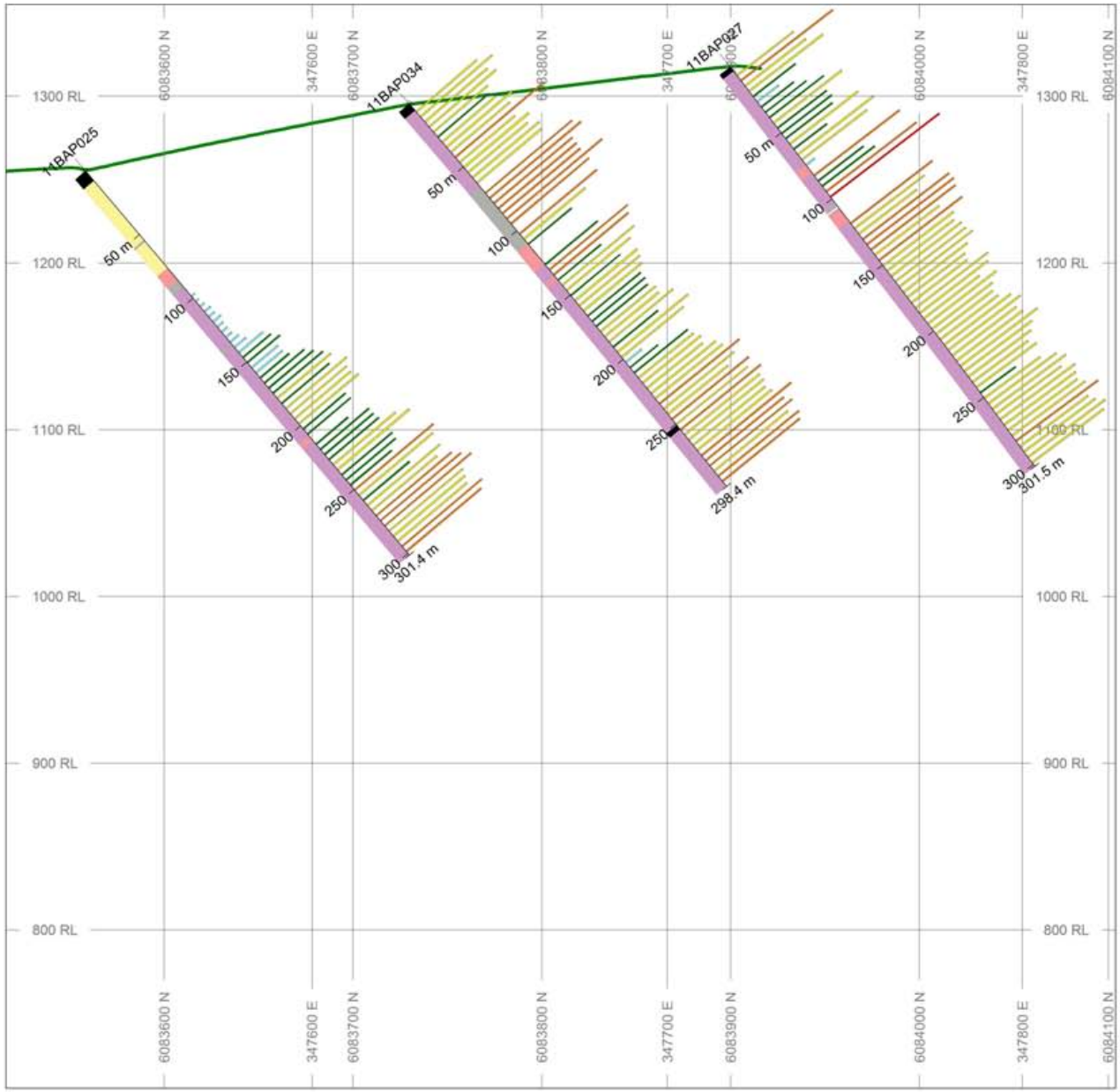
N W E S

Cliffs Natural Resources Exploration Canada Inc.

Decar Property, BC, Canada.

2011 DDH Cross Section

Claim: 575675



HOLES PLOTTED

TOTAL 3

11BAP025 11BAP027 11BAP034

BAR GRAPHS	L/R	COL	RANGE
Davis Tube Recoverable (DTR) Ni (%)	R		0.2
			0.18
			0.14
			0.1
			0.05

ROCK CODES	PAT	LABEL	DESCRIPTION
Summary		MO	Over Burden
		Alt Dyke	Altered Dike
		ARG	Argillite
		I2J	Diorite
		I4I	Peridotite
		Unk	Unknown

SECTION SPECS:

REF. PT. E, N	347670 m	6083810 m
EXTENTS	665.6 m	650 m
SECTION TOP, BOT	1355 m	705 m
TOLERANCE +/-	5.96 m	

SCALE 1 : 4000

(m)

-20 0 20 40 60 80 100 120

WGS 84 / UTM zone 10N

AZIMUTH = 28°

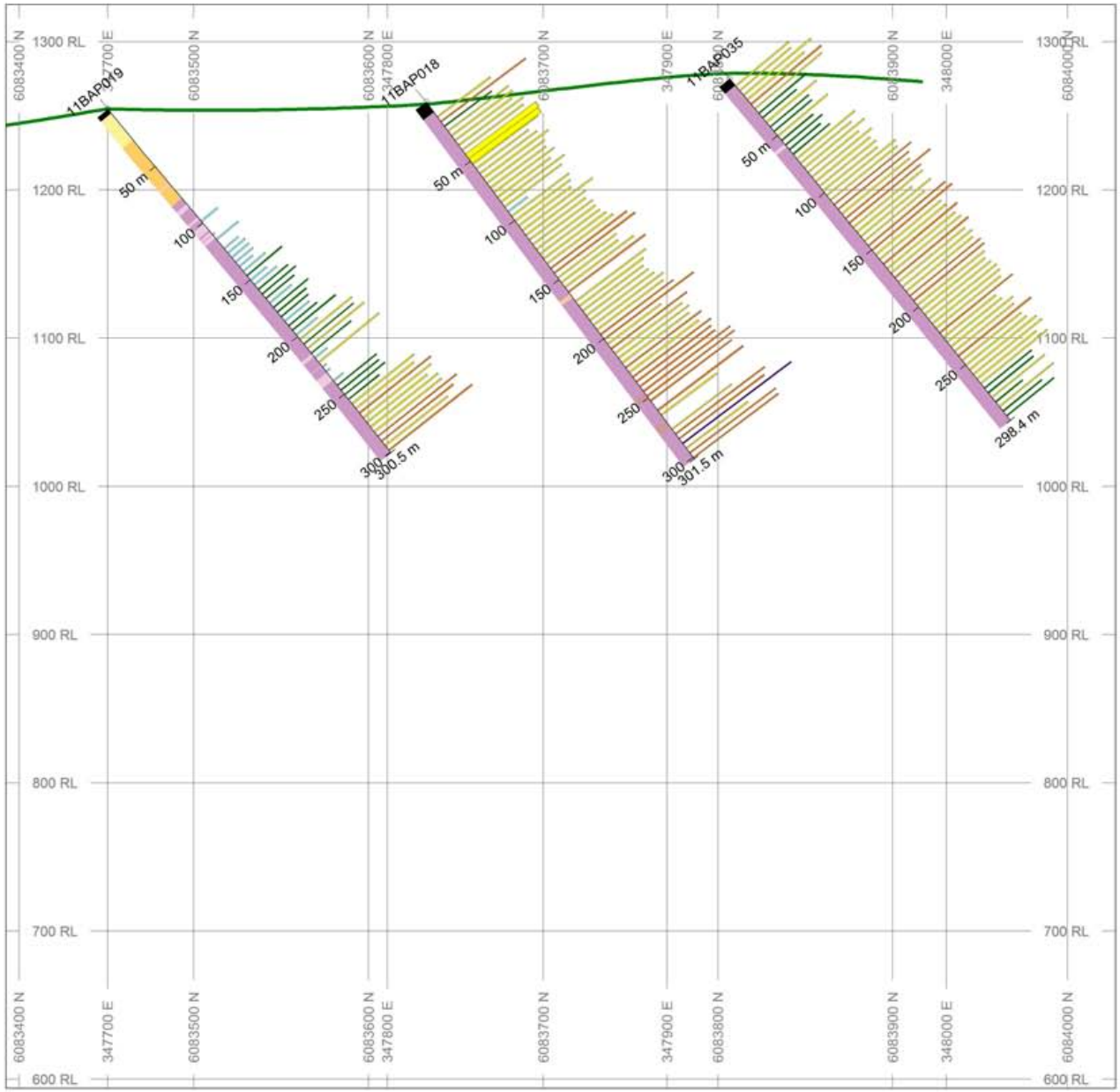
N W E S

Cliffs Natural Resources Exploration Canada Inc.

Decar Property, BC, Canada.

2011 DDH Cross Section

Claim: 575675



HOLES PLOTTED

TOTAL 3

11BAP018 11BAP019 11BAP035

BAR GRAPHS	L/R	COL	RANGE
Davis Tube Recoverable (DTR) Ni (%)	R		0.2
			0.18
			0.14
			0.1
			0.05

ROCK CODES	PAT	LABEL	DESCRIPTION
Summary		MO	Over Burden
		Alt Dyke	Altered Dike
		ARG	Argillite
		S4	Conglomerate
		I2J	Diorite
		I1C	Granodiorite
		I3O	Lamprophyre
		B3D	Ultramafic
		I4I	Peridotite

SECTION SPECS:

REF. PT. E, N	347862 m	6083710 m
EXTENTS	748.8 m	731.3 m
SECTION TOP, BOT	1325 m	593.9 m
TOLERANCE +/-	22.4 m	

SCALE 1 : 4500

(m)

-40 0 40 80 120

WGS 84 / UTM zone 10N

AZIMUTH = 32°

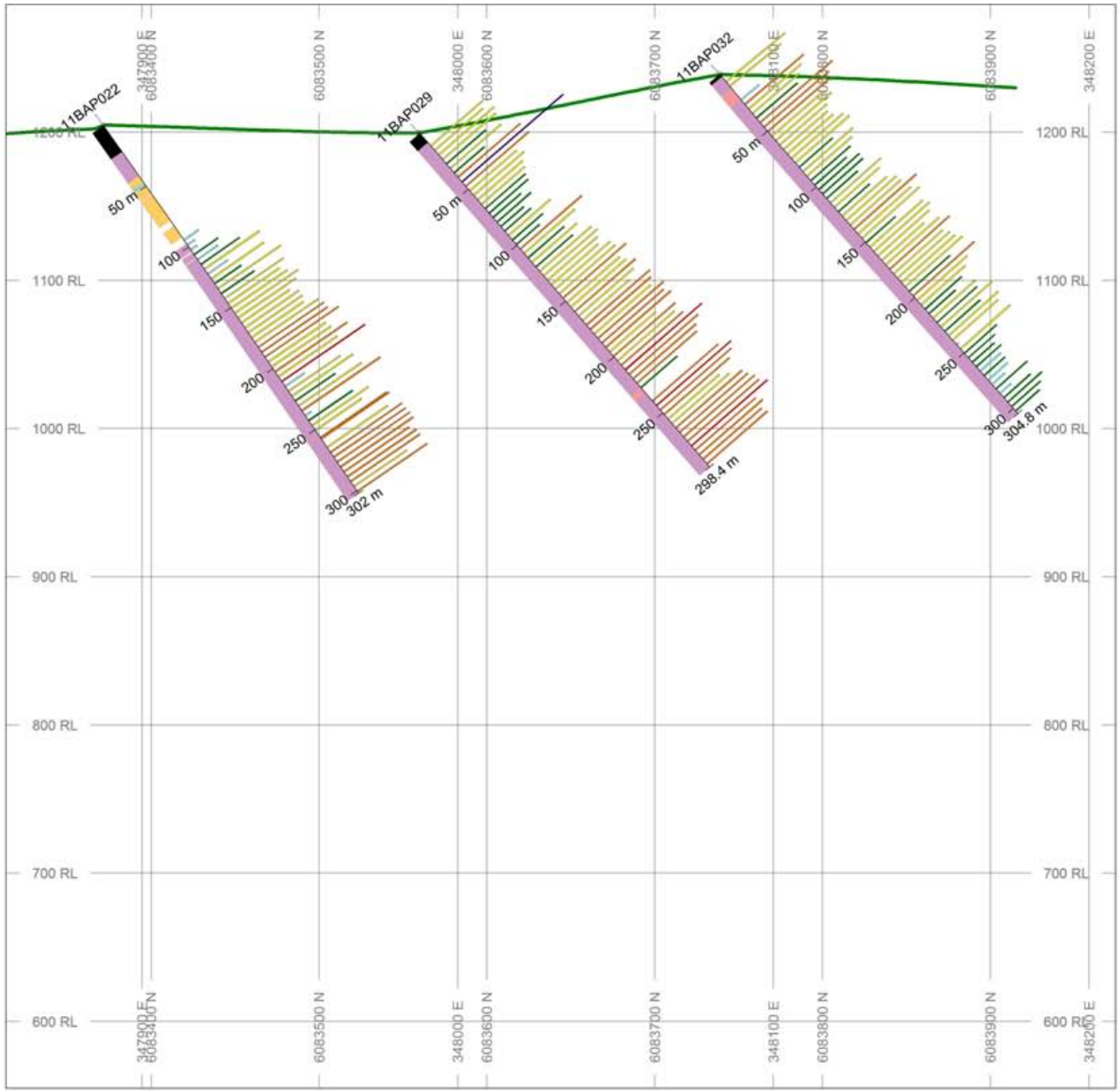
N W E S

Cliffs Natural Resources Exploration Canada Inc.

Decar Property, BC, Canada.

2011 DDH Cross Section

Claim: 575675



HOLES PLOTTED

TOTAL 3

11BAP022 11BAP029 11BAP032

BAR GRAPHS	L/R	COL	RANGE
Davis Tube Recoverable (DTR) Ni (%)	R		0.2
			0.18
			0.14
			0.1
			0.05

ROCK CODES Summary	PAT	LABEL	DESCRIPTION
		MO	Over Burden
		S4	Conglomerate
		I2J	Diorite
		GAB	Gabbro
		M25	Mylonite
		I4I	Peridotite

SECTION SPECS:

REF. PT. E, N	348033 m	6083644 m
EXTENTS	748.8 m	731.3 m
SECTION TOP, BOT	1286 m	554.9 m
TOLERANCE +/-	3.394 m	

SCALE 1 : 4500

(m)

-40 0 40 80 120

WGS 84 / UTM zone 10N

AZIMUTH = 28°

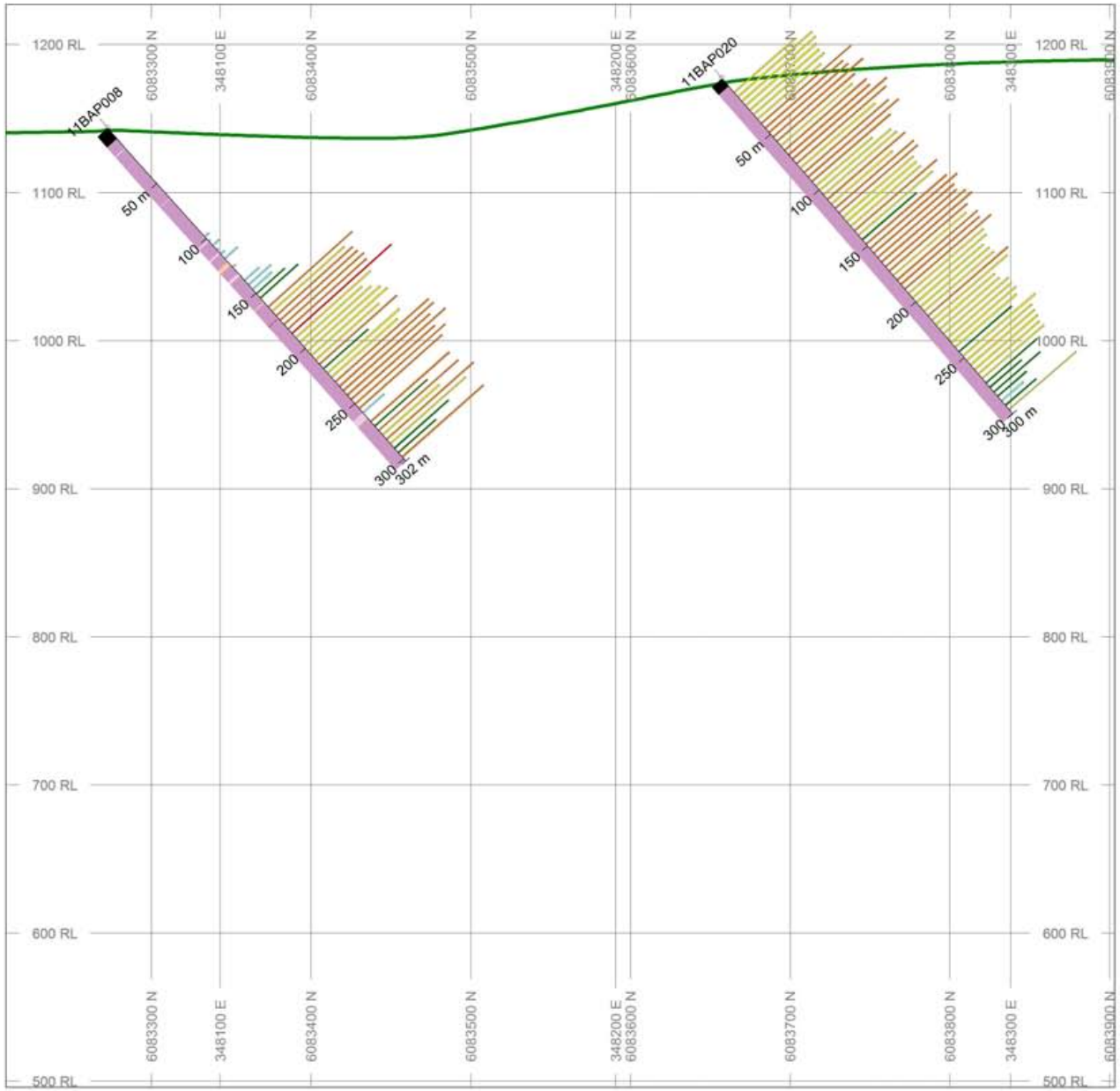
N W E S

Cliffs Natural Resources Exploration Canada Inc.

Decar Property, BC, Canada.

2011 DDH Cross Section

Claim: 575675



HOLES PLOTTED

TOTAL 2

11BAP008 11BAP020

BAR GRAPHS	L/R	COL	RANGE
Davis Tube Recoverable (DTR) Ni (%)	R		0.2
			0.18
			0.14
			0.1
			0.05

ROCK CODES	PAT	LABEL	DESCRIPTION
Summary		MO	Over Burden
		Alt Dyke	Altered Dike
		FD1	Felsic Dike 1
		I3O	Lamprophyre
		B3D	Ultramafic
		I4I	Peridotite
		I4Ib	Peridotite

SECTION SPECS:

REF. PT. E, N	348186 m	6083556 m
EXTENTS	748.8 m	731.3 m
SECTION TOP, BOT	1227 m	495.9 m
TOLERANCE +/-	9.05 m	

SCALE 1 : 4500

(m)

-40 0 40 80 120

WGS 84 / UTM zone 10N

AZIMUTH = 22°

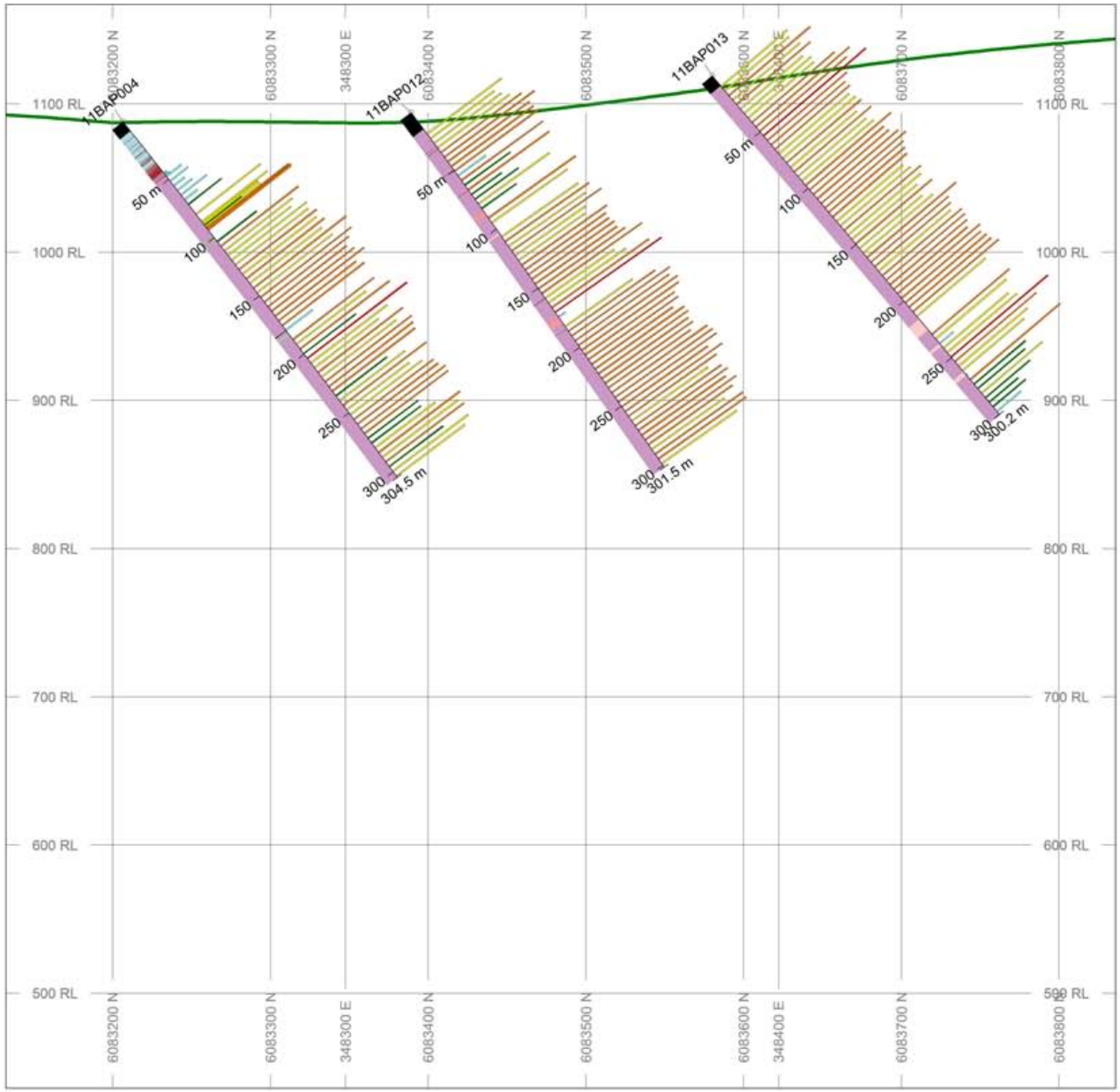
N W E S

Cliffs Natural Resources Exploration Canada Inc.

Decar Property, BC, Canada.

2011 DDH Cross Section

Claim: 575675



HOLES PLOTTED

TOTAL 3

11BAP004 11BAP012 11BAP013

BAR GRAPHS	L/R	COL	RANGE
Davis Tube Recoverable (DTR) Ni (%)	R		0.2
			0.18
			0.14
			0.1
			0.05

ROCK CODES	PAT	LABEL	DESCRIPTION
Summary		MO	Over Burden
		Alt Dyke	Altered Dike
		I2J	Diorite
		FD1	Felsic Dike 1
		FD2	Felsic Dike 2
		GAB	Gabbro
		I4I	Peridotite
		Unk	Unknown
		S3	Wacke

SECTION SPECS:

REF. PT. E, N	348350 m	6083484 m
EXTENTS	748.8 m	731.3 m
SECTION TOP, BOT	1167 m	435.9 m
TOLERANCE +/-	37.62 m	

SCALE 1 : 4500

(m)

-40 0 40 80 120

WGS 84 / UTM zone 10N

AZIMUTH = 20°

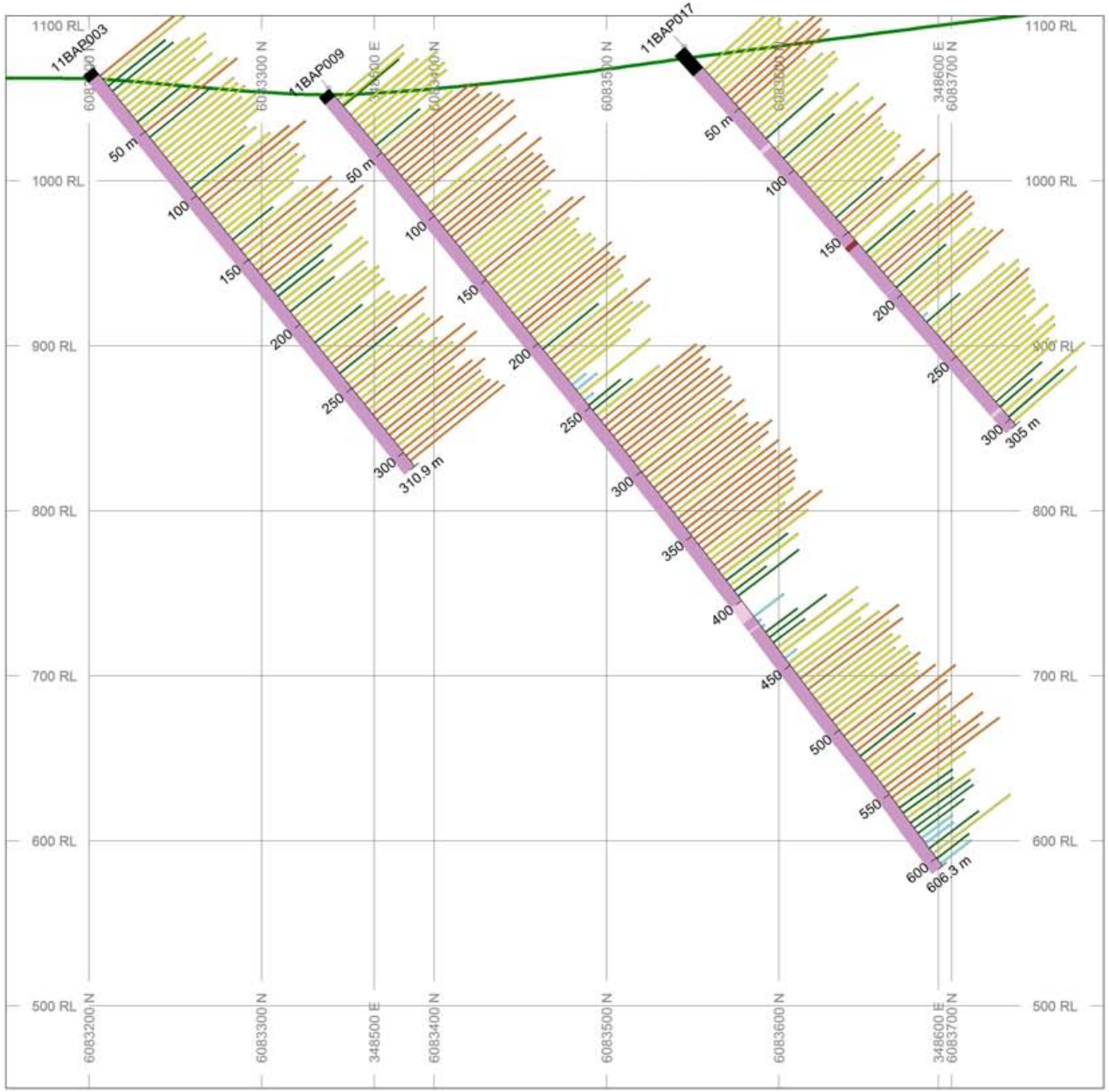
N W E S

Cliffs Natural Resources Exploration Canada Inc.

Decar Property, BC, Canada.

2011 DDH Cross Section

Claim: 575675



HOLES PLOTTED

TOTAL 3

11BAP003 11BAP009 11BAP017

BAR GRAPHS	L/R	COL	RANGE
Davis Tube Recoverable (DTR) Ni (%)	R		0.2
			0.18
			0.14
			0.1
			0.05

ROCK CODES	PAT	LABEL	DESCRIPTION
Summary		MO	Over Burden
		FD1	Felsic Dike 1
		B3D	Ultramafic
		I4I	Peridotite

SECTION SPECS:

REF. PT. E, N	348532 m	6083470 m
EXTENTS	665.6 m	650 m
SECTION TOP, BOT	1100 m	450 m
TOLERANCE +/-	49.35 m	

SCALE 1 : 4000

(m)

-20 0 20 40 60 80 100 120

WGS 84 / UTM zone 10N

AZIMUTH = 17°

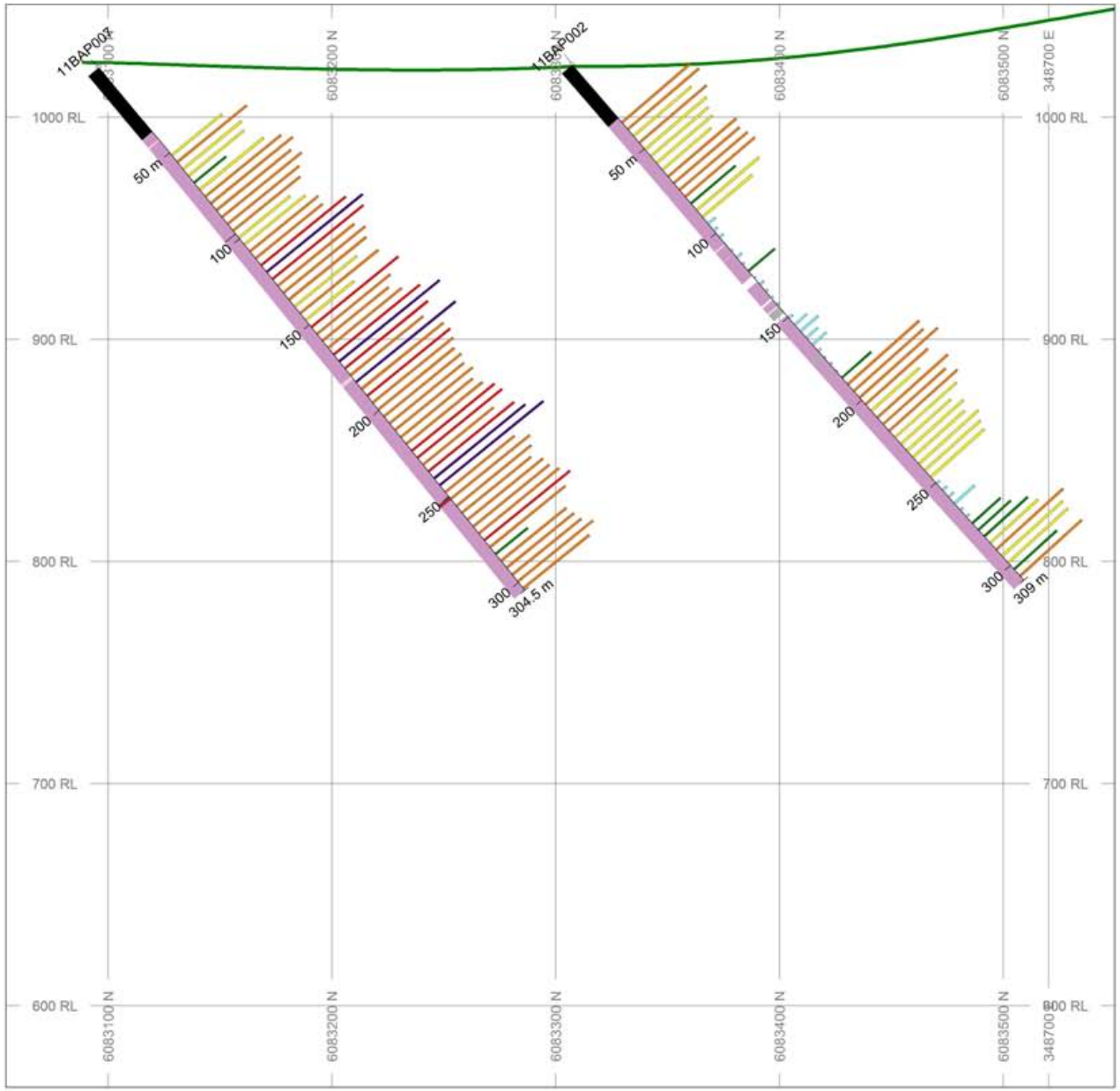
N W E S

Cliffs Natural Resources Exploration Canada Inc.

Decar Property, BC, Canada.

2011 DDH Cross Section

Claim: 575675



HOLES PLOTTED

TOTAL 2

11BAP002 11BAP007

BAR GRAPHS L/R COL RANGE
Davis Tube
Recoverable (DTR)
Ni (%) R

0.2
0.18
0.14
0.1
0.05

ROCK CODES Summary	PAT	LABEL	DESCRIPTION
		MO	Over Burden
		Alt Dyke	Altered Dike
		FD1	Felsic Dike 1
		GAB	Gabbro
		B3D	Ultramafic
		l4l	Peridotite
		Unk	Unknown

SECTION SPECS:

REF. PT. E, N	348673 m	6083302 m
EXTENTS	499.2 m	487.5 m
SECTION TOP, BOT	1051 m	563.3 m
TOLERANCE +/-	19.58 m	

SCALE 1 : 3000

(m)

-20 0 20 40 60 80 100

WGS 84 / UTM zone 10N

AZIMUTH = 7°

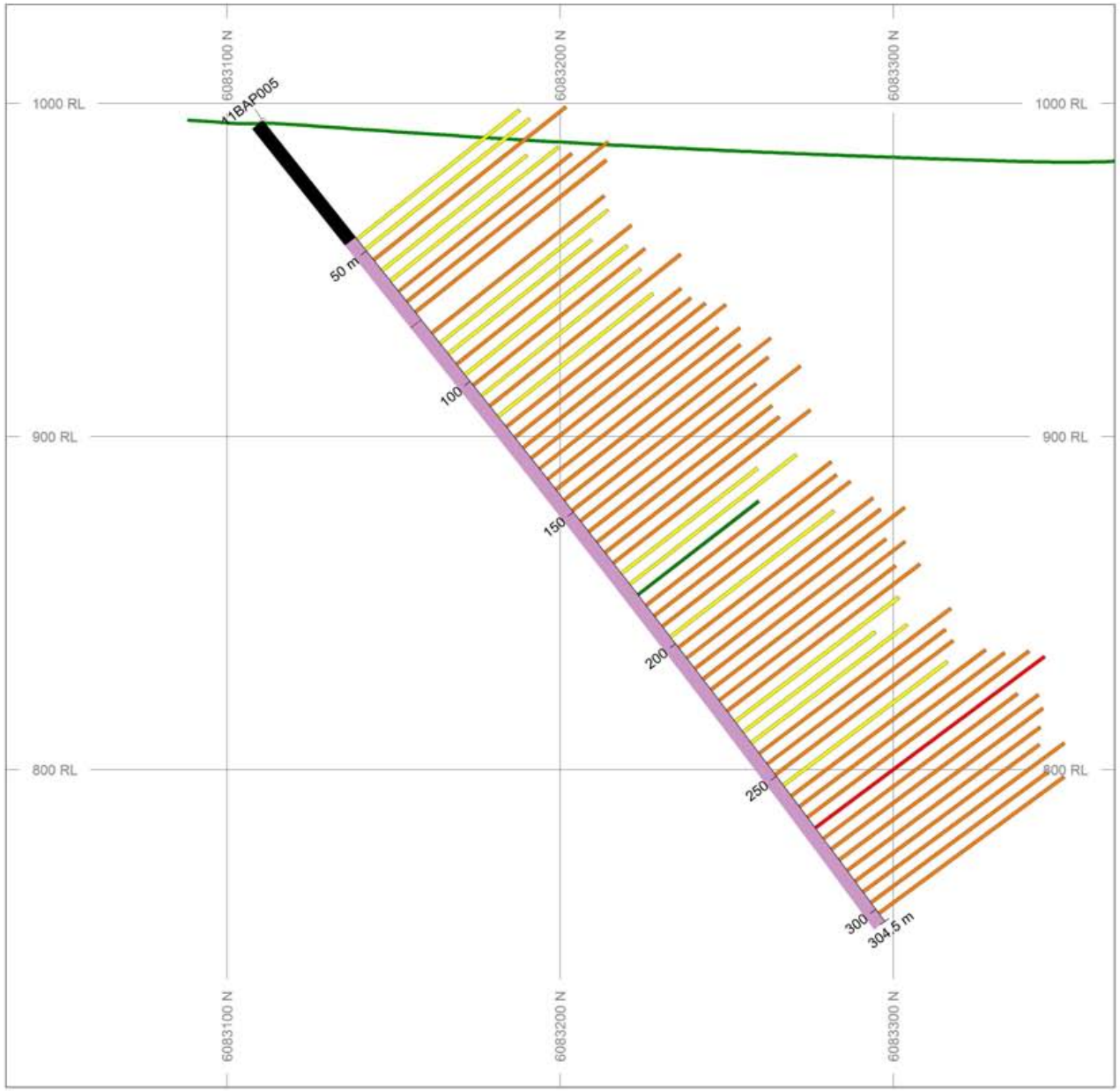
N W E S

Cliffs Natural Resources Exploration Canada Inc.

Decar Property, BC, Canada.

2011 DDH Cross Section

Claim: 575675



HOLES PLOTTED

TOTAL 1

11BAP005

BAR GRAPHS Davis Tube Recoverable (DTR) Ni (%)	L/R	COL	RANGE
	R		0.2
			0.18
			0.14
			0.1
			0.05

ROCK CODES Summary	PAT	LABEL	DESCRIPTION
		MO	Over Burden
		Alt Dyke	Altered Dike
		FD1	Felsic Dike 1
		I4lb	Peridotite

SECTION SPECS:

REF. PT. E, N	348850 m	6083200 m
EXTENTS	332.8 m	325 m
SECTION TOP, BOT	1030 m	704.7 m
TOLERANCE +/-	4.337 m	

SCALE 1 : 2000

(m)

-10 0 10 20 30 40 50 60

WGS 84 / UTM zone 10N

AZIMUTH = 0°

N

W E

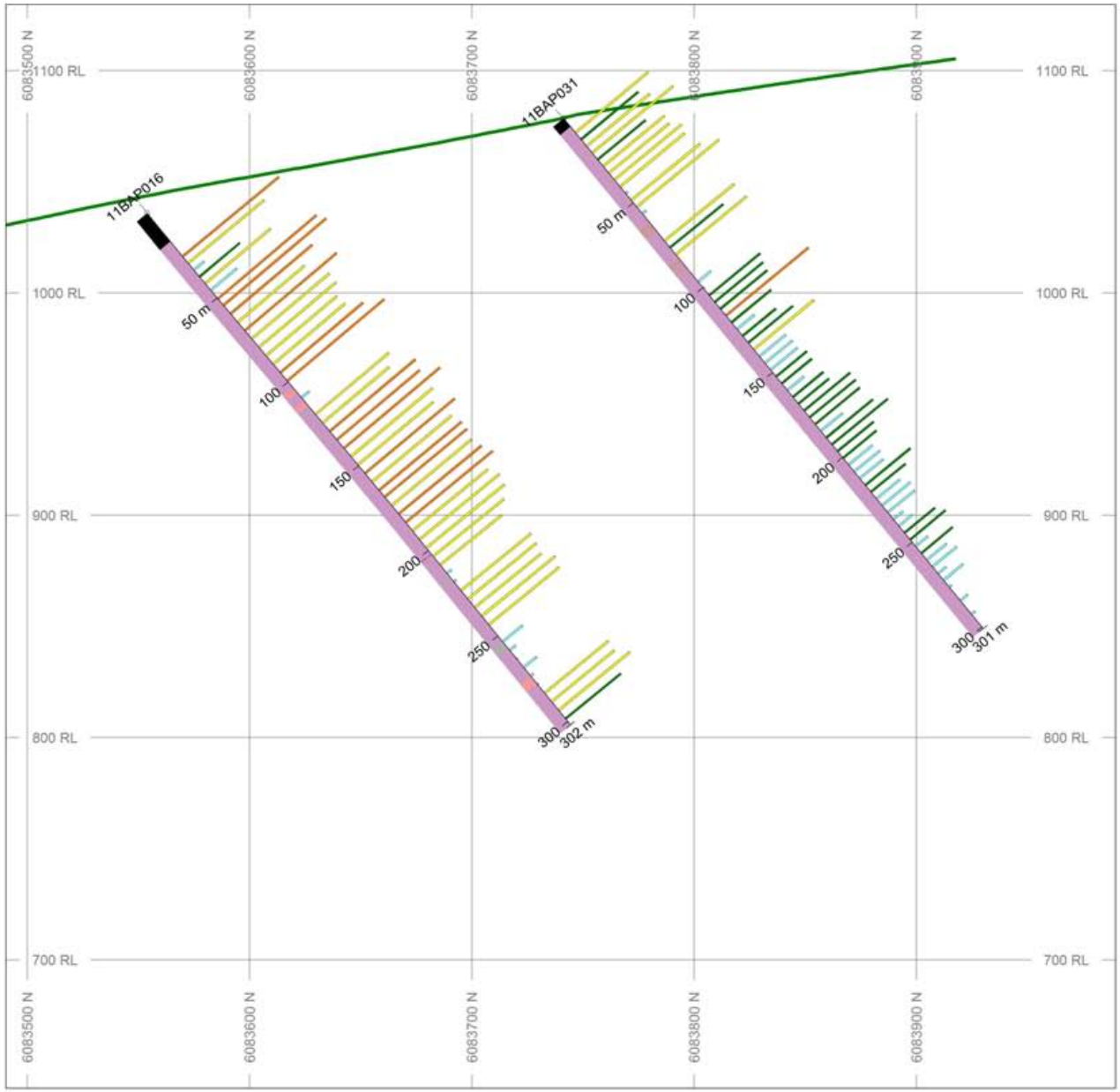
S

Cliffs Natural Resources Exploration Canada Inc.

Decar Property, BC, Canada.

2011 DDH Cross Section

Claim: 575677



HOLES PLOTTED

TOTAL 2

11BAP016 11BAP031

BAR GRAPHS	L/R	COL	RANGE
Davis Tube Recoverable (DTR) Ni (%)	R		0.2
			0.18
			0.14
			0.1
			0.05

ROCK CODES	PAT	LABEL	DESCRIPTION
Summary		MO	Over Burden
		Alt Dyke	Altered Dike
		I2J	Diorite
		FD1	Felsic Dike 1
		I1C	Granodiorite
		I4I	Peridotite

SECTION SPECS:

REF. PT. E, N	348740 m	6083740 m
EXTENTS	499.2 m	487.5 m
SECTION TOP, BOT	1130 m	642.3 m
TOLERANCE +/-	56.85 m	

SCALE 1 : 3000

(m)

-20 0 20 40 60 80 100

WGS 84 / UTM zone 10N

AZIMUTH = 0°

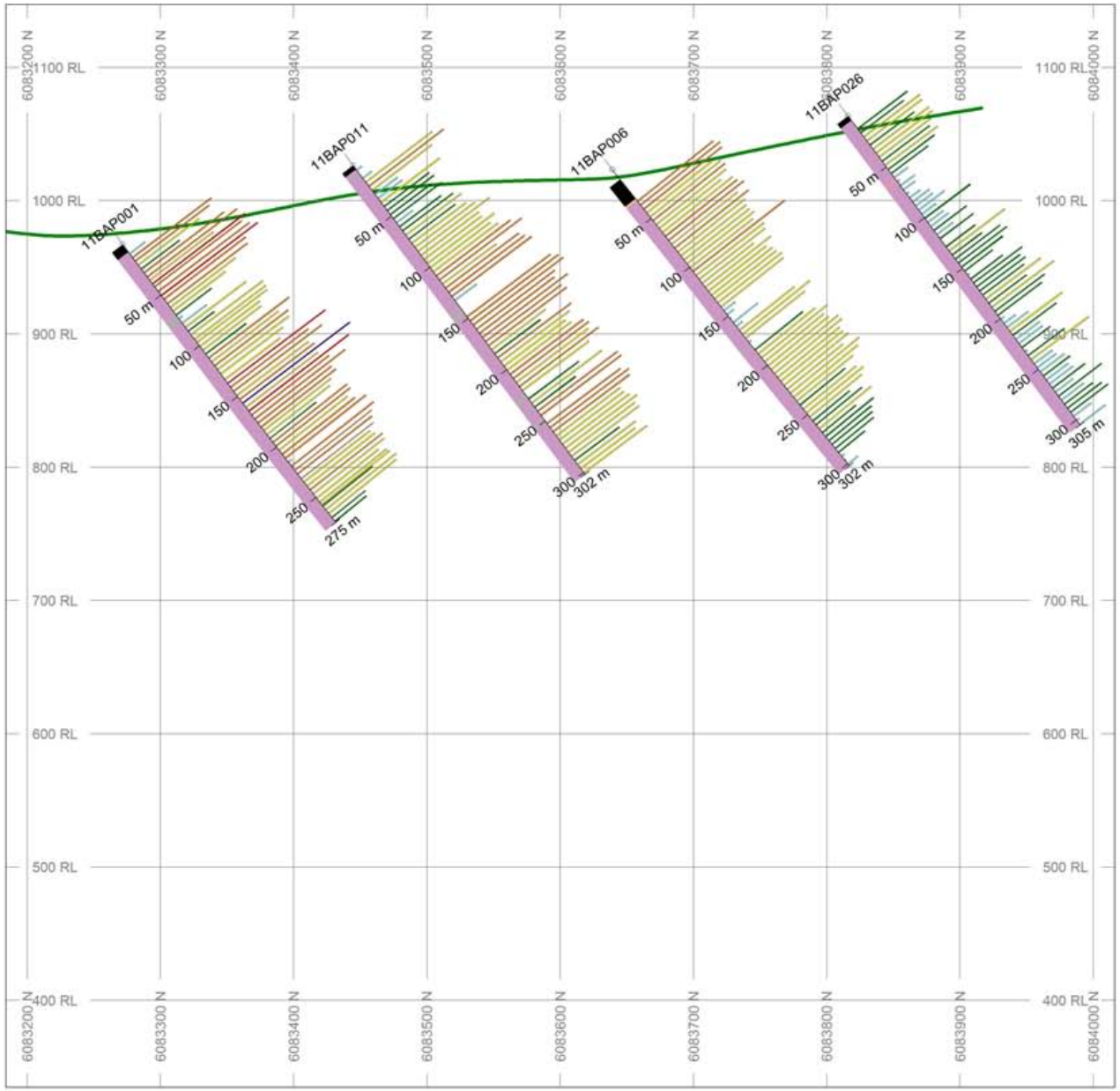
N W E S

Cliffs Natural Resources Exploration Canada Inc.

Decar Property, BC, Canada.

2011 DDH Cross Section

Claim: 575677



HOLES PLOTTED

TOTAL 4

11BAP001 11BAP006 11BAP011 11BAP026

BAR GRAPHS	L/R	COL	RANGE
Davis Tube Recoverable (DTR) Ni (%)	R		0.2
			0.18
			0.14
			0.1
			0.05

ROCK CODES	PAT	LABEL	DESCRIPTION
Summary		MO	Over Burden
		Alt Dyke	Altered Dike
		S4	Conglomerate
		I2J	Diorite
		I4I	Peridotite

SECTION SPECS:

REF. PT. E, N	348990 m	6083600 m
EXTENTS	832 m	812.5 m
SECTION TOP, BOT	1147 m	334.8 m
TOLERANCE +/-	207.4 m	

SCALE 1 : 5000

(m)

-40 0 40 80 120

WGS 84 / UTM zone 10N

AZIMUTH = 0°

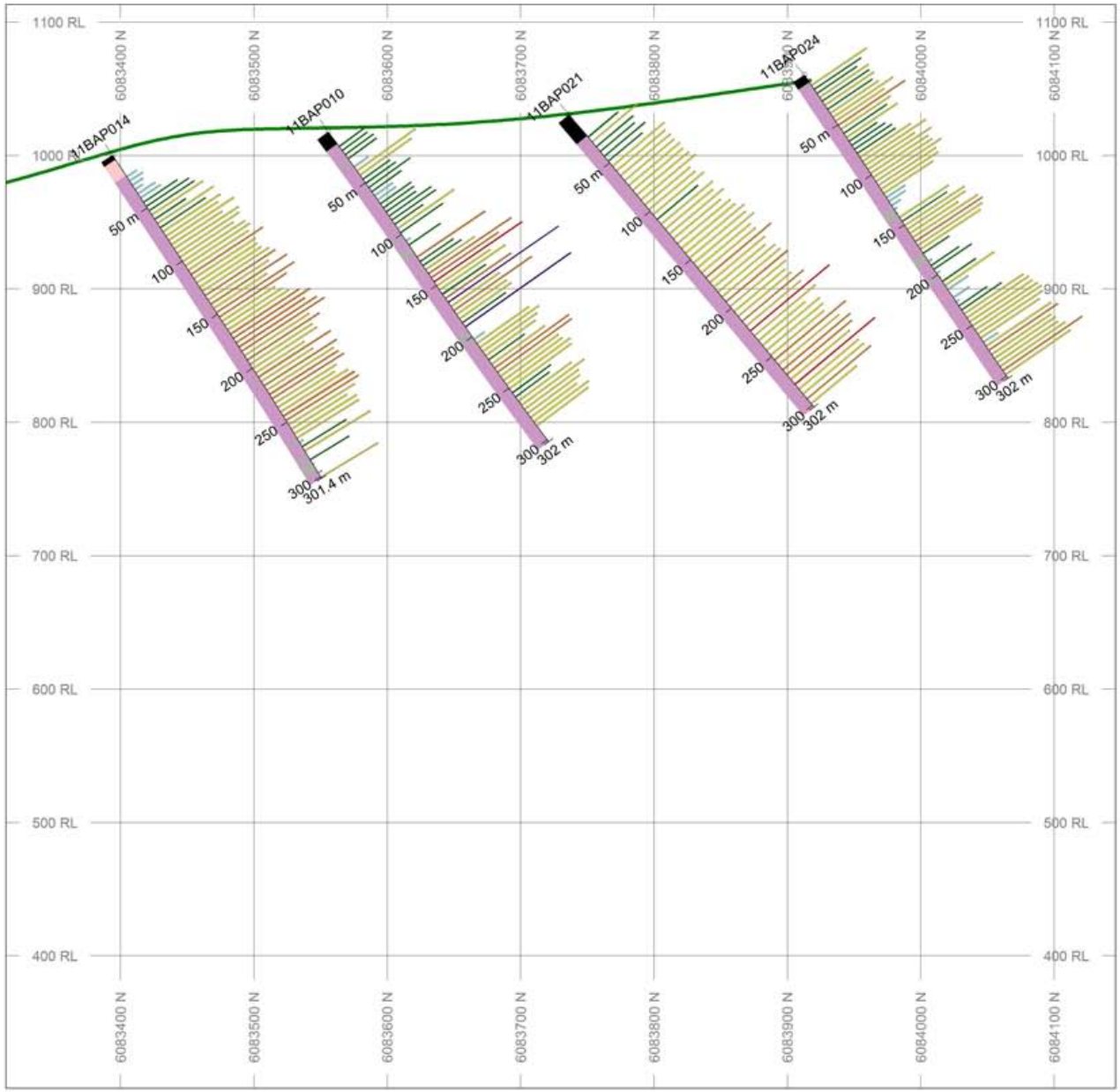
N W E S

Cliffs Natural Resources Exploration Canada Inc.

Decar Property, BC, Canada.

2011 DDH Cross Section

Claim: 575677



HOLES PLOTTED

TOTAL 4

11BAP010 11BAP014 11BAP021 11BAP024

BAR GRAPHS	L/R	COL	RANGE
Davis Tube Recoverable (DTR) Ni (%)	R		0.2
			0.18
			0.14
			0.1
			0.05

ROCK CODES Summary	PAT	LABEL	DESCRIPTION
		MO	Over Burden
		Alt Dyke	Altered Dike
		I2J	Diorite
		I4I	Peridotite
		QMZT	Quartz Monzonite
		I4Ib	Peridotite

SECTION SPECS:

REF. PT. E, N	349152 m	6083730 m
EXTENTS	832 m	812.5 m
SECTION TOP, BOT	1113 m	300.8 m
TOLERANCE +/-	213.7 m	

SCALE 1 : 5000

(m)

-40 0 40 80 120

WGS 84 / UTM zone 10N

AZIMUTH = 0°

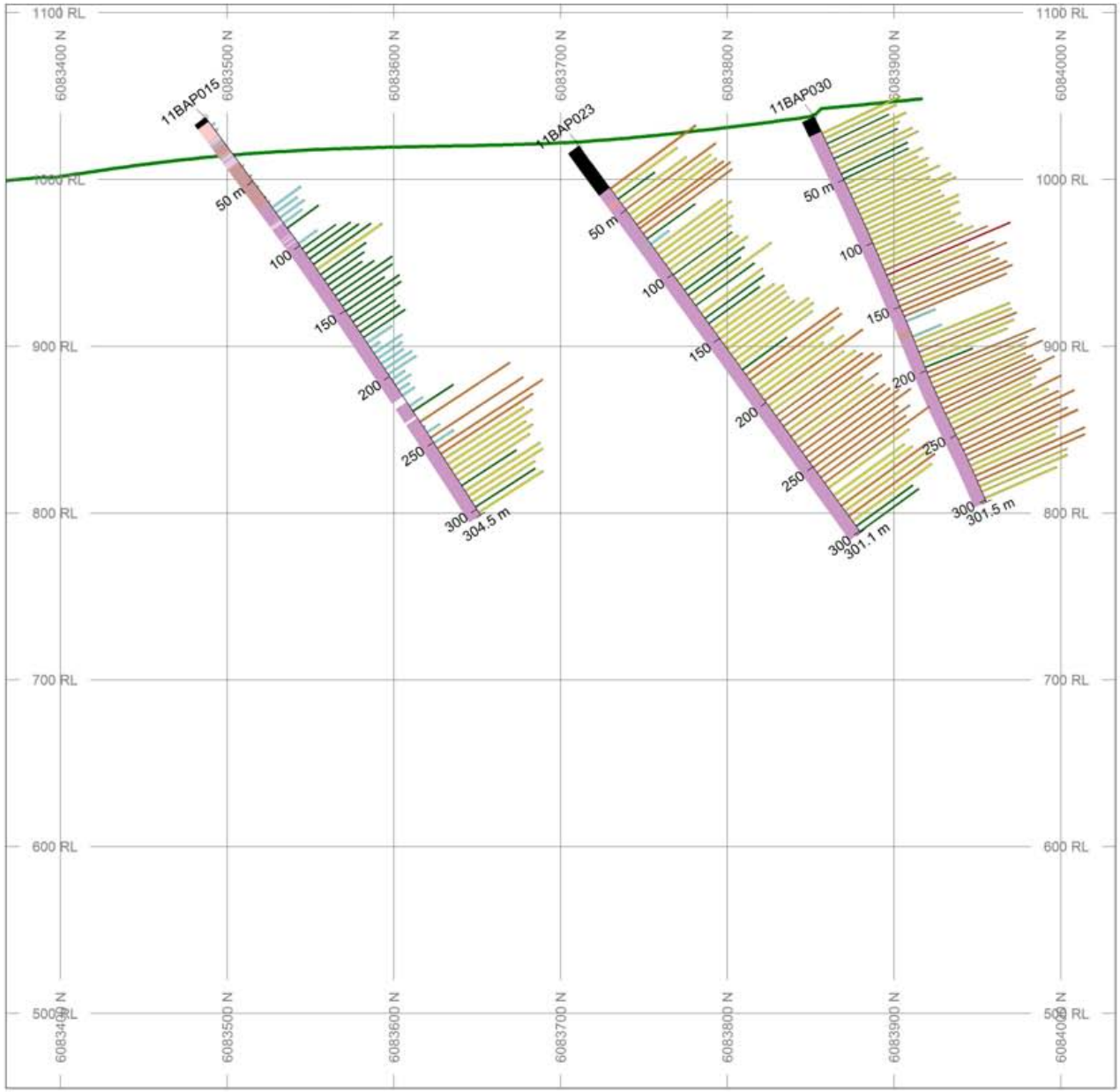
N W E S

Cliffs Natural Resources Exploration Canada Inc.

Decar Property, BC, Canada.

2011 DDH Cross Section

Claim: 575677



HOLES PLOTTED

TOTAL 3

11BAP015 11BAP023 11BAP030

BAR GRAPHS
Davis Tube
Recoverable (DTR)
Ni (%)

L/R	COL	RANGE
R		0.2
		0.18
		0.14
		0.1
		0.05

ROCK CODES Summary	PAT	LABEL	DESCRIPTION
		MO	Over Burden
		Alt Dyke	Altered Dike
		I2J	Diorite
		I1C	Granodiorite
		B3D	Ultramafic
		MZT	Monzonite
		I4I	Peridotite

SECTION SPECS:

REF. PT. E, N	349350 m	6083700 m
EXTENTS	665.6 m	650 m
SECTION TOP, BOT	1105 m	455 m
TOLERANCE +/-	182.9 m	

SCALE 1 : 4000

(m)

-20 0 20 40 60 80 100 120

WGS 84 / UTM zone 10N

AZIMUTH = 0°

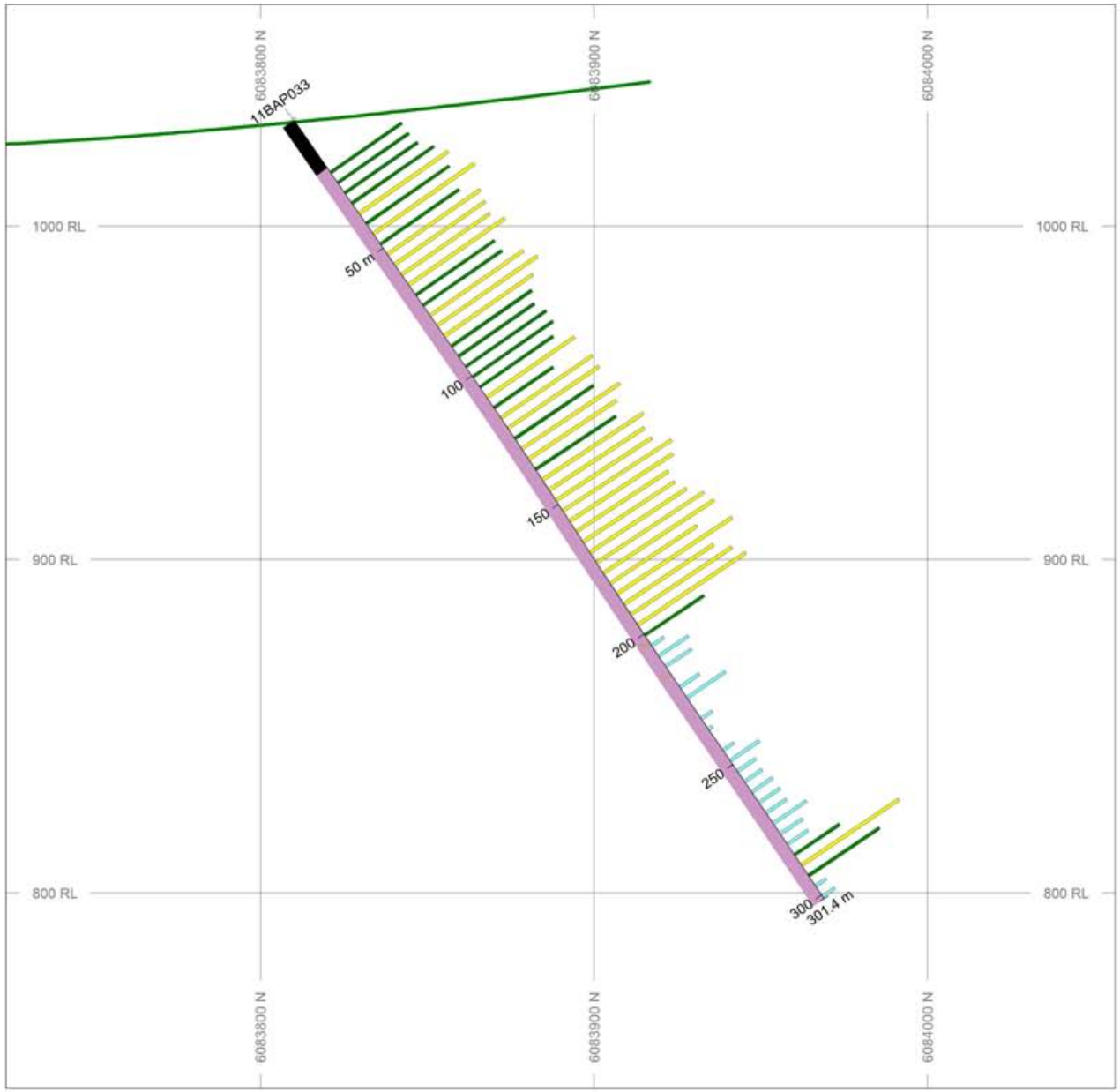
N W E S

Cliffs Natural Resources Exploration Canada Inc.

Decar Property, BC, Canada.

2011 DDH Cross Section

Claim: 575677



HOLES PLOTTED

TOTAL 1

11BAP033

BAR GRAPHS	L/R	COL	RANGE
Davis Tube Recoverable (DTR) Ni (%)	R		0.2
			0.18
			0.14
			0.1
			0.05

ROCK CODES	PAT	LABEL	DESCRIPTION
Summary		MO	Over Burden
		I1C	Granodiorite
		I4I	Peridotite

SECTION SPECS:

REF. PT. E, N	349540 m	6083890 m
EXTENTS	332.8 m	325 m
SECTION TOP, BOT	1067 m	741.5 m
TOLERANCE +/-	57.75 m	

SCALE 1 : 2000

(m)

-10 0 10 20 30 40 50 60

WGS 84 / UTM zone 10N

AZIMUTH = 0°

N W E S

Cliffs Natural Resources Exploration Canada Inc.

Decar Property, BC, Canada.

2011 DDH Cross Section

Claim: 575677

Exploration Work type	Comment	Days			Totals
Personnel (Name)* / Position	**Field Days (list actual days) including travel days to/from Camp**	**Days**	**Rate**	**Subtotal***	
Luc Harnois	Travel to/from Field	3	$930.00	$2,790.00	
	Drill Program Supervision	33	$1,000.00	$33,000.00	
	Core Logging	34	$930.00	$31,620.00	
Marc Rein	Travel to/from Field	5.6	$1,000.00	$5,600.00	
	Drill Program Supervision	32.85	$1,000.00	$32,850.00	
Sarah Silvester	Travel to/from Field	4.8	$930.00	$4,464.00	
	Core Logging	17	$930.00	$15,810.00	
Elisabeth Ronacher	Travel to/from Field	3.75	$1,265.00	$4,743.75	
	Project Management and Client Reporting	3.9	$1,175.00	$4,582.50	
	Client Meeting	1	$1,250.00	$1,250.00	
	Site visit	1.5	1175	$1,762.50	
Aaron Wardwell	Travel to/from Field	1	$750.00	$750.00	
	Logistics Coordination/ Camp Manager	14.5	$750.00	$10,875.00	
Faiqa Fiaz	Travel to/from Field	6	$930.00	$5,580.00	
	Geochemical Sampling	15	$930.00	$13,950.00	
	Core Logging	18	$930.00	$16,740.00	
Gary McLearn	Travel to/from Field	1	$930.00	$930.00	
	Core Logging	32	$930.00	$29,760.00	
Laura Coutts	Travel to/from Field	4.2	$930.00	$3,906.00	
	Core Logging	26	$930.00	$24,180.00	
Sherri Hodder	Travel to/from Field	4	$1,000.00	$4,000.00	
	Drill Program Supervision	23.9	$1,000.00	$23,900.00	
	Logistics Coordination	3.8	$750.00	$2,850.00	
	Core Logging	0.75	$930.00	$697.50	
	Project Management and Client Reporting	0.7	$1,175.00	$822.50	
Sarah Jackson Brown	Travel to/from Field	3	$930.00	$2,790.00	
	Core Logging	12.5	$930.00	$11,625.00	
	Stat Holiday	1	$930.00	$930.00	
Andris Kikauka	Travel to/from Field	2	$930.00	$1,860.00	
	Core Logging	10	$930.00	$9,300.00	
Dana Pellerin	Travel to/from Field	4.95	$1,000.00	$4,950.00	
	Drill Program Supervision	21	$1,000.00	$21,000.00	
	Core Logging	8.35	$930.00	$7,765.50	
Jared Beebe	Travel to/from Field	2	$930.00	$1,860.00	
	Drill Program Supervision	10	$930.00	$9,300.00	
Andrea Dixon	Travel to/from Field	5	$580.00	$2,900.00	
	Core Logging	35.5	$580.00	$20,590.00	
	GIT	2	$580.00	$1,160.00	
	Field Support	2	$580.00	$1,160.00	
	Stat Holiday	1	$580.00	$580.00	
Joseph Gamalle	General Labour	13		$954.00	
Pierre Labreque	Travel to/from Field	2	$930.00	$1,860.00	
	Drill Program Supervision	17	$1,000.00	$17,000.00	
Western Alliance	Security			$139,696.60	
Russell Transfer	General Labour			$480.00	
				$535,174.85	**$535,174.85**
Office Studies	**List Personnel (note - Office only, do not include field days**				
Literature search					
Database compilation					
Sarah Silvester	Exploration Database Design and Management	0.6	$930.00	$558.00	
Faiqa Fiaz	Exploration Database Design and Management	1	$930.00	$930.00	
	Technical Support	0.5	$460.00	$230.00	
Computer modelling					
Glenn Nixon	Map Compilation and Generation	11.65	$750.00	$8,737.50	
Sarah Jackson Brown	Map Compilation and Generation	0.2	$750.00	$150.00	
SciOptic Canada	Charts			$17.35	
Reprocessing of data					
Elisabeth Ronacher	Geological/geophysical interpretation modelling and targeting	0	$1,000.00	$0.00	
Sherri Hodder	Geological/geophysical interpretation modelling and targeting	0.25	$930.00	$232.50	
Jenna McKenzie	Geological/geophysical interpretation modelling and targeting	0.3	$1,000.00	$300.00	
Jason Baker	Geological/geophysical interpretation modelling and targeting	1.2	$1,000.00	$1,200.00	
Julie Palich	Geological/geophysical interpretation modelling and targeting	0.25	$1,000.00	$250.00	
Zsuzsi Magyarosi	GIT	0.06	$750.00	$45.00	
General research					
Report preparation					
Other (specify)					
Sherri Hodder	Logistics Coordination	6.45	$750.00	$4,837.50	
	Program/Project Design	1.65	$750.00	$1,237.50	
	Health and Safety	0.3	$750.00	$225.00	
	Drill Program Supervision	12.7	$750.00	$9,525.00	
	Geochemical Sampling	0.4	$750.00	$300.00	
Jenna McKenzie	Client Meeting	0.4	$930.00	$372.00	
Glenn Nixon	Logistics Coordination	3.5	$750.00	$2,625.00	
	Project Management and Client Reporting	0.1	$750.00	$75.00	
	Technical Support	0.9	$460.00	$414.00	
Julie Selway	QAQC Management	2.75	$930.00	$2,557.50	
	Project Management and Client Reporting	0.2	$1,175.00	$235.00	

Elisabeth Ronacher	Program/Project Design	10.35	$930.00	$9,625.50	
	General Admin	0.1	$930.00	$93.00	
	Project Management and Client Reporting	27.15	$1,175.00	$31,901.25	
	Drill Program Supervision	0.5	$930.00	$465.00	
	QAQC Management	12.5	$930.00	$11,625.00	
Terry Loney	Project Coordination	14.5	$750.00	$10,875.00	
Sarah Silvester	QAQC Management	2.3	$750.00	$1,725.00	
Aaron Wardwell	Logistics Coordination	42	$750.00	$31,500.00	
Rob Gordon	Client Meeting	2.7	$930.00	$2,511.00	
	Program/Project Design	2.55	$930.00	$2,371.50	
	Project Management and Client Reporting	8.9	$1,175.00	$10,457.50	
				$148,203.60	**$148,203.60**
Airborne Exploration Surveys	**Line Kilometres / Enter total invoiced amount**				
Aeromagnetics			$0.00	$0.00	
Radiometrics			$0.00	$0.00	
Electromagnetics			$0.00	$0.00	
Gravity			$0.00	$0.00	
Digital terrain modelling			$0.00	$0.00	
Other (specify)			$0.00	$0.00	
				$0.00	**$0.00**
Geochemical Surveying	**Number of Samples**	**No.**	**Rate**	**Subtotal**	
Drill (cuttings, core, etc.)	G and T Metallurgical Services	20	$0.00	$2,674.00	
	Analytical Solutions	22		$1,199.00	
	SGS Canada			$1,463.00	
	Act Lab - Cliffs			$268,004.00	
Stream sediment					
Soil	*note: This is for assays or*				
Rock	*laboratory costs*				
Water					
Biogeochemistry					
Whole rock					
Petrology					
Other (specify)					
				$273,340.00	**$273,340.00**
Drilling	**No. of Holes, Size of Core and Metres**	**No.**	**Rate**	**Subtotal**	
Diamond	36 DDH, HQ (63.5mm first 100-150m) and NQ (47.6mm for remainder), 11,465.6m		$0.00	$1,965,771.96	
Reverse circulation (RC)			$0.00	$0.00	
Rotary air blast (RAB)			$0.00	$0.00	
Other (specify)			$0.00	$0.00	
				$1,965,771.96	**$1,965,771.96**
Transportation		**No.**	**Rate**	**Subtotal**	
Airfare	Sarah Jackson Brown		$0.00	$310.25	
	Andrea Dixon			$797.81	
	Mark Rein			$1,936.19	
	Aaron Wardwell			$1,325.53	
	Sherri Hodder			$1,373.89	
	Sarah Silvester			$235.87	
	Faiqa Fiaz			$235.87	
	Luc Harnois				
Taxi			$0.00	$0.00	
truck rental	Frontier Truck Rentals Vehicle		$0.00	$19,187.40	
kilometers	vehicle usage	1624	$0.60	$974.40	
ATV Rental	Variable Rentals		$0.00	$1,575.00	
fuel	Russell Transfer		$0.00	$28,803.74	
Helicopter (hours)	Canadian Heli - Cliffs		$0.00	$288,701.00	
Fuel (litres/hour)			$0.00	$0.00	
Other	Courier			$2,622.02	
Equipment Transportation	Russell Transfer			$12,264.75	
	Load Em Up Contracting			$13,680.00	
Travel Expenses	Rob Gordon			$195.57	
	Sherri Hodder			$1,006.78	
	Elisabeth Ronacher			$244.10	
	Aaron Wardwell			$1,204.88	
	Faiqa Fiaz			$241.31	
	Glen Nixon			$2,486.32	
	Luc Harnois			$327.59	
	Sarah Silvester			$151.28	
	Wanita Campbell			$4,332.29	
	Andrea Dixon			$563.01	
	Dana Pellerin			$1,579.68	
	Jared Beebe			$534.55	
	Marc Rein			$533.52	
	Pierre Labreque			$513.71	
	Sarah Jackson-Brown			$236.43	
	Gary McLearn			$1,827.27	
	Laura Coutts			$97.60	
	Andris Kikauka			$714.34	
				$390,813.95	**$390,813.95**

Accommodation & Food	**Rates per day**				
Hotel	Hudson Bay Lodge		$121.39	$121.39	
	Pitka Bay Resort		$90.00	$90.00	
Camp	**CJL Enterprises - for details refer to CJL Worksheet**		$0.00	#########	
Meals	day rate or actual costs-specify		$0.00	$0.00	
Camp Supplies	Russel Transfer			$1,700.00	
	Pickseed - Seed Mix			$108.00	
	Superior Fencing - Supply and installation of barbed chain link fence			$9,600.00	
				$1,202,943.92	**$1,202,943.92**
Miscellaneous					
Telephone					
Other (Specify)					
	Pragmatic Conferencing - Conference Calls			$280.78	
	5% Admin on expenses and sub-contracting			$85,448.87	
	Western Alliance - Communications			$5,081.72	
	Treeline Wood Products - Core Boxes			$12,285.00	
				$103,096.37	**$103,096.37**
Equipment Rentals					
Field Gear (Specify)	Magnetic Susceptibility Meter	3	$450.00	$1,350.00	
	Cansel - Subscription cost for mapping GPS equipment			$300.00	
	Russell Transfer - lg Gen Set			$3,125.00	
Other (Specify)	CCIC Laptop	4		$1,325.00	
	CCIC Specialized Software Rental	2		$3,000.00	
	Deakin Industries Field Supplies			$7,016.60	
	Vincent John - Bob Cat and Operator			$817.50	
				$16,934.10	**$16,934.10**
Freight, rock samples					
	Activation Laboratories for transportation of samples		$0.00	$1,102.32	
				$1,102.32	**$1,102.32**
TOTAL Expenditures					**$4,637,381.07**