

# **GEOCHEMICAL REPORT**

on the

## **SILVER DOLLAR PROPERTY (GOLDFINCH AREA)**

Event # 5582914

Revelstoke Mining District  
British Columbia

Map Sheet: NTS 82K/13E (82K.072)

UTM East: 458000

UTM North: 5624000

UTM Zone 11N

Latitude 50°46'53"N/Longitude 117°36'32"W

for

HAPPY CREEK MINERALS LTD.

#460 – 789 West Pender Street

Vancouver, B.C.

V6C 1H2

by

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March 2016

**SUMMARY**

The Silver Dollar property is located approximately 45 kilometers southeast of Revelstoke and 15 kilometers north-northeast of the community of Trout Lake, British Columbia. The property consists of 34 contiguous mineral claims in the Revelstoke Mining District that cover a total area of approximately 3855 hectares. The property is within the historical Camborne gold-silver mining camp and there is good access and infrastructure.

The Silver Dollar claims are situated within Lower Paleozoic rocks of the Kootenay Arc and are primarily underlain by northwest-southeast trending metasedimentary rocks of the Lardeau Group, Broadview Formation. Locally metavolcanic rocks of the Jowett Formation occur on the property. The Silver Dollar claims cover a portion of the 40 km long Camborne fault system, a key locus of mineral deposits in the district.

The property covers a number of historical high-grade, past-producing gold-silver-lead-zinc mines and developed prospects dating from around the 1890's. The property has seen sporadic exploration, underground mining and development into the 1980's. Historical surface exploration included geology, geochemical surveys, limited trenching and drilling. More recently, geological mapping and sampling was conducted between 2006 and 2009. After acquiring the property in 2012, Happy Creek Minerals conducted a Lidar topographic, airborne magnetic and spectrometer survey, as well as prospecting, geological investigations and rock sampling.

Numerous mineralized zones occur within the Camborne Fault, a 40 km long, regional structure containing small scale past producers and prospects of base metal-gold-silver, and gold+/- silver. The Silver Dollar property is underlain by grey phyllite with inter beds of argillaceous shale. The foliation is northwest trending and dips are sub vertical to the west and east, however tight isoclinal folding is apparent. Locally abundant white quartz veins and vein breccia occur and are parallel to cross-cutting the rock foliation. In some areas, quartz veins are strongly folded and brecciated. The veins range from centimeters to about half a meter in width and form a zone of quartz veins, veinlets, stockwork and breccia, within a broad envelope of silicification and are carbonate.

In 2015, the Company acquired mineral tenure 1035898 that covers the historical Goldfinch mine. The Goldfinch was developed by underground workings and produced gold and silver ore with samples containing up to 300 g/t gold. In 1979, a 281 tonne shipment from

the 1023m level adit of the Goldfinch was sent to the Trail smelter and assayed 10.9 g/t gold, 14.3 g/t silver. Drilling in the late 1980's on the Goldfinch returned encouraging values including 41.2 metres of 2.32 g/t gold with a higher grade section of 1.8 metres of 28.9 g/t gold.

Historical data from the Goldfinch was entered into the ARC-GIS system and maps and sections created of the historical workings and drilling. Although historical assays are not available for all drill core, results of this work indicate two sub-parallel zones that are from 10-30 metres or more in width and 100 metres apart trend northwest and are interpreted to be potentially saddle-reef style gold-bearing zones.

Based on the above work, the 2015 Goldfinch soil sampling was focussed southeast of the Goldfinch prospect, and beyond the historical workings and drill holes. Sampling was performed on 25 metre stations on lines 50 metres apart and covered an area 500 metres by 500 metres in dimension. Soils were analyzed for gold by two different methods. On the southern-most grid line, nine of 10 continuous samples contain over 111 ppb gold and up to 2,500 ppb gold. This corresponds to a zone, approximately 225 metres in width that remains open to the south and east. Two adjacent lines to the north contain similar values up to 868 ppb gold over 175 and 100 metre widths, respectively. Another zone containing moderately positive values up to 625 ppb gold is from 100 to 200 metres in width and extends over a distance of 350 metres on the west side of the grid. This zone also remains open in extent to the west and south.

The closely-spaced soil grid and using a large sample size with INNA analysis has provided good control and identified clear anomalies of gold in the soil. Moderate to strongly positive gold values occur in two zones, northwest-southeast trending, and extend over 500 metres beyond the historical Goldfinch workings, and they remain open in extent. The zone is thought to be part of the main regional scale Camborne structure and continues from the Goldfinch southeastward to the Menhinick Creek adits, a distance of approximately one kilometre.

Results from the Company's 2015 work on the Silver Dollar property confirm the Camborne structure to be a key feature for mineralized zones at the Goldfinch zone. With positive grades from historical production and drilling, together with the large scale of positive

gold in soil from the 2015 program, there is thought to be an opportunity for both high gold grades and large tonnage in a near-surface setting.

It is recommended that a thorough compilation of historical data, detailed surface geology, a review of historical drill core, and expanding the soil geochemical grid be performed. Prospecting and trenching of the 2015 soil geochemical anomalies are also recommended. Drilling to test the numerous targets at various depths will be required to outline the size and continuity of the mineralized zones.



Ministry of Energy and Mines  
BC Geological Survey

Assessment Report  
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geochemical Survey

TOTAL COST: C\$ 23,535.56

AUTHOR(S): Sassan Liaghat, Ph.D. and David Blann, P.Eng. SIGNATURE(S): Sassan liaghat, David Blann

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): 16-0600042-0210/ Feb 10, 2015 YEAR OF WORK: 2015

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5582914

PROPERTY NAME: Silver Dollar (Goldfinch Area)

CLAIM NAME(S) (on which the work was done): 1034898, 957183

COMMODITIES SOUGHT: Gold, Silver, Base Metals

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 082KNW001

MINING DIVISION: Revelstoke Mining District NTS/BCGS: NTS 82K/13E (82K.072)

LATITUDE: 50 ° 46 ' 53 " LONGITUDE: 117 ° 36 ' 32 " (at centre of work)

OWNER(S):  
1) Happy Creek Minerals Ltd. (FMC 203169) 2) \_\_\_\_\_


MAILING ADDRESS:  
#460 – 789 West Pender St.; Vancouver, B.C.; V6C 1H2

OPERATOR(S) [who paid for the work]:  
1) Happy Creek Minerals Ltd. (FMC 203169) 2) \_\_\_\_\_

MAILING ADDRESS:  
#460 – 789 West Pender St.; Vancouver, B.C.; V6C 1H2

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):  
Gold-silver in quartz veins, quartz-carbonate zones. Broadview Formation, Jowett Formation. Camborne, Gillman group, Goldfinch, Silver Dollar, Wind Flower, Dory

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: \_\_\_\_\_  
33523, 05209, 07207, 08491, 09146, 09814a, 09814b, 10844, 11532, 11756, 12016, 13202, 15946, 18836, 19181, 25031, 29001

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
<b>GEOLOGICAL (scale, area)</b>			
Ground, mapping			
Photo interpretation			
<b>GEOPHYSICAL (line-kilometres)</b>			
<b>Ground</b>			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
<b>GEOCHEMICAL (number of samples analysed for...)</b>			
Soil 203 samples		1034898, 957183	\$8,269.83
Silt			
Rock			
Other Office Studies			\$6925.00
<b>DRILLING (total metres; number of holes, size)</b>			
Core			
Non-core			
<b>RELATED TECHNICAL</b>			
Sampling/assaying 203 sample analyses		1034898, 957183	\$7,086.73
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area) Transportation, Accommodation, 			\$1,254.00
<b>PREPARATORY / PHYSICAL</b>			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
<b>TOTAL COST:</b>			<b>\$23,535.56</b>

TYPE OF WORK	EXTENT OF WORK	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED
IN THIS REPORT			(incl. support)
<b>PERSONNEL</b>			
Prospecting, field supervision	3 days	1034898, 597183	\$3,000
<b>OFFICE STUDIES</b>			
Report preparation, ARC-GIS, database, literature,	8 days	1034898, 597183	\$7,500
<b>GEOCHEMICAL SURVEY</b>			
soil samples-assays	203 samples	1034898, 597183	\$10,000
<b>TRANSPORTATION</b>			
Truck rental. ATV, fuel	Project time		\$1,500
<b>ACCOMMODATION-FOOD</b>			
Hotel, meals		1034898, 597183	\$1,500
<b>MISCELLANEOUS</b>			
Communications - radios, cell, satellite phone/airtime	Project time	1034898, 597183	35.56
Total Expenditures			<b>\$23,536</b>
Management @ 10%			10%
		<b>Total Cost</b>	<b>\$25,889.12</b>

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**Appendix 3** Plan map and Cross Sections of Goldfinch Historical Works

## 1 Location, Access, Infrastructure and Physiography

The Silver Dollar property is located approximately 45 kilometers southeast of Revelstoke and 15 kilometers north-northeast of the community of Trout Lake, British Columbia (Figure. 1). The property is immediately east of the historic mining town of Camborne on the Incomappleux River. The Incomappleux River flows into the northeast arm of Upper Arrow Lake.

The claims are accessible via Highway 23 from the Galena Bay ferry on Upper Arrow Lake (Figure 2). From the ferry landing, it is 18 km to the Beaton/Camborne junction, then an additional 18.5 km through the area once occupied by the historic mining town of Camborne. From this point, the property may be accessed by a variety of logging and historic mine access trails (Incomappleux FSR and Scott Creek Rd) (Figure 3). Access along these trails is most easily achieved using all-terrain vehicles. The summer exploration season is typically between late May and late November.

The claim group is situated within rugged terrain. Most of the valley bottom areas are covered with glacial overburden, vegetation and talus. Much of the property consists of heavily timbered and logged-over slopes with some rock bluffs and with more open alpine areas at higher elevations. Most of the rock outcrop is covered by a heavy layer of moss, making prospecting and geological mapping a slow process. The Silver Dollar claims are bisected and incised by Mohawk Creek, a northwest flowing tributary of the Incomappleux River. Elevations vary from 900 m above sea level, along Mohawk Creek at the north end of the property to 2580 m above sea level in the southeastern portion of the property.

The property is located on the eastern slope of Comaplix Mountain, located in the Duncan Range of the Selkirk Mountains. The elevations on the property range from about 500 to 1500 meters, with the Goldfinch showings around the 1000-meter elevation. The Goldfinch lies on a topographic shoulder or bench with moderate slopes. The Silver Dollar claims are bisected and incised by Mohawk Creek, a northwest flowing tributary of the Incomappleux River.

In the area of the Goldfinch and Silver Dollar there is a number of old cabins and relics from historical past-producing gold-silver mines and developed prospects dating from around the 1890's. The property has seen sporadic exploration, underground mining and development into the late 1980's.

## 2 Claim Status

The Silver Dollar property comprises 34 contiguous mineral claims that cover a total area of approximately 3855 ha (Figure 4, Table 1). The property includes an area surrounding the former Goldfinch and Dorothy past-producers at the north end of the Silver Dollar claims. The Dorothy is not part of the Silver Dollar property and consists of 5 crown grants held in an estate and formerly operated by Cayenne Resources. The Silver Dollar claims are centered at 458000 East and 5624000 North, UTM zone 11N on NTS map sheet NTS 82K/13E (82K.072) in the Revelstoke Mining District. All claims are recorded as 100% owned by Happy Creek Minerals Ltd. The claims have not been legally surveyed. Although most historical crown grants have reverted, several small survey parcels or lots still exist within the claims that according to Gator Land Titles have only surface rights attached and are owned by the crown. The Beatrice prospect has two crown grants for which the surface/sub-surface rights are unknown.

## 3 Exploration and Development History

The historic Camborne mining camp dates to the early 1900's with the discovery of gold mineralization on the historic Eva and Iron Dollar claims. Between 1900 and the mid 1920's work was focused on the Eva mine which produced 543.9 kilograms of gold and 165.5 kilograms silver from 88,763 tonnes of mined material (BC Government MINFILE 082KNW066). There are a number of historical precious and base metal showings. These include the Spider (Sunshine Lardeau), Mohawk, Wheelbarrow, Homestake, Gillman, Mountain Boy, Silver Dollar, Iron Dollar, Beatrice and Rainy Day. The showings have seen varying amounts of exploration and development work mainly up to around 1986; however exploration effectiveness was affected as most of the crown grants were held by numerous private owners.

Work on Goldfinch Group consisted of drilling, pits, trenches, two adits (600 feet), a Riblet aerial tramway and ten stamp mill. Recorded production was 1,450 tons at 0.46 oz gold and 0.12 oz silver. In 1976, Eaton Mining optioned the property to Elgin Mining and drilled the Goldfinch claims. Drill hole number 3 returned 3.35m of 25.3 g/t gold, 5.48 g/t silver, (W.S. Read P. Eng., Report 1980 Exploration Program on Goldfinch Mineral Claims). In 1979, a 281

tonne shipment of ore from the 1023m level adit of the Goldfinch was sent to the Trail smelter and assayed 10.9 g/t gold, 14.3 g/t silver (B.C. Production Report 082KNW076).

Adjoining the Goldfinch to the northwest, the Dorothy/ Independence Group of claims were also explored, and developed. During the 1986 field season, Granges Exploration Ltd. Had optioned both the Goldfinch and Dorothy claims and carried out a 61hole diamond drill program on the "Windflower project". The main zone of the Dorothy structure was traced with diamond drilling over a strike length of 1300 ft. with widths between 6 and 30 feet. The zone had been tested to a vertical depth of 300 feet. From July 1987 to November 1987, a total of 63 diamond drill holes were drilled on the property for a total of 7,428.84 meters. Diamond drilling on the Windflower project collectively over the 1985, 1986 and 1987 seasons indicated a strong gold-bearing vein structure over a strike length of 400 metres (Main zone). Diamond drilling outlined a potential gold deposit containing a preliminary estimated resource of 169,800 tonnes at a grade of 7.2 grams. Underground exploration commenced in 1988 on the Dorothy. Recoverable mineralized material was later estimated to be 111,375 tonnes at a grade of 5.6 grams.

In 2012 Happy Creek Minerals conducted a Lidar topographic survey and a Heli-GT, three axis magnetic gradient and spectrometer survey consisting of 345.5 km of data was completed over the Silver Dollar property, south of the Goldfinch. The airborne geophysical data combined with Lidar topography survey shows a good correlation with the Camborne fault. The Camborne fault is a key structure for mineralization and most of the mines and showings on the Silver Dollar property occur in proximity to this structure.

The Company also completed a geological evaluation on the Silver Dollar, Gillman and Wheelbarrow areas, collecting 38 rock samples for analysis. Of 38 rock samples, 12 returned silver values in excess of 200 g/t (including 4496 and 2219 g/t Ag) and four samples returned gold values in excess of 35 g/t (including 50.3 and 40.7 g/t Au). A 1.8 metre chip across the Silver Dollar vein returned 16.8% zinc, 3.92% lead, 1.67 g/t Au and 241 g/t silver.

During 2014, geological prospecting and sampling at both the Goldfinch and Silver Dollar areas provided more information about petrology and geochemical distributions of precious metals outside of the Camborne Fault structure. Wide spread samples of quartz vein



material returned generally very low precious metals, and the closer the sample to the Camborne structure, the more positive the geochemical results.

Of the various precious metal showings located on the Silver Dollar claims, the Goldfinch, Gillman, Silver Dollar and Iron Dollar occurrences has the most exploration and development. The Silver Dollar vein was accessed by two connected adits developed 15.0 meters apart vertically. In 1947, Silver Pass Development Syndicate processed 6 tonnes of ore and recovered 9,860 grams silver, 1,378 kilograms lead and 1009 kilograms zinc. Between 1952 and 1957, Monterey Mining Company Limited completed a 590-meter exploration diamond drilling program and carried out 197 meters of underground development work. In 1974, Resourcex Ltd. completed a very limited geological program to assess the various quartz veins for further work. Two samples from existing trenches were collected at that time, both returning low gold and silver values (Allen, 1974).

In 1983, B and B Mining (Canada) Limited completed a trenching program to remove overburden 170 m of the Gillman vein. The vein was then sampled with gold assays confirming historical assays (1.64 to 1.84 ounces/ton gold) (Sampson, 1983). The remaining showings located in the Gillman area have received minor exploration work and development.

In 1984, Fleck Resources Ltd. carried out a diamond drilling and sampling program on the property. The most significant drill intersection at the Silver Dollar prospect included 2.10 meters grading 229 g/t silver, 1.0 g/t gold, 10.95 % zinc, 4.04% lead and 0.29% copper (BC MINFILE 082KNW101). Another hole at the Gillman returned 0.70 metres of 38.0 g/t gold, and much of the core remains un-sampled. Exploration efforts within the area of the Gillman – Silver Dollar and Iron Dollar has focused on trying to trace the various quartz veins on surface, primarily through trenching and soil sampling.

In 2006, 2008 and 2009, Manson Creek Resources Limited completed three limited geological evaluations on the Silver Dollar property. In 2008, a new showing was located at the southern end of the property called the Jack pot where samples returned positive lead, zinc, silver and trace gold.

A summary of historical exploration work on Silver Dollar Property is presented in Table 2 and Figure 5. Photos 4 to 8 present images of some historical activities at Goldfinch Mine.

## 4 Geological Setting

The following regional and property geology description is after Church, and Jones 1998, Chernish, 2009, and from prospecting performed by the Company between 2012 and 2015.

### 4.1 Regional Geology

The Camborne camp in general and the Silver Dollar claims in particular, are hosted within rocks of the Kootenay Arc, early Paleozoic to Mesozoic in age and sedimentary, volcanic and metamorphic in composition. The Kootenay Arc is bordered to the east by the Windermere-Purcell anticlinorium. The Monashee and Shushwap metamorphic complexes bound the western and northwestern margins of the terrine. The Kootenay Arc is the locus of a significant change in structural style from up-right folds in the Purcell anticlinorium to coaxially folded westward – verging isoclinal folds within the Kootenay Arc (Fyles, 1964). Metasedimentary rocks of the Lardeau Group underlie the majority of the Silver Dollar claims (Figure. 6). The Lardeau comprises a lower calcareous section overlain by phyllitic schists, quartzites and lenticular greenstone formations. The Jowett Formation is a greenstone unit consisting of volcanic breccias and pillow lavas altered locally to chlorite schist. The Jowett Formation is intercalated upwards with the Broadview Formation. The predominant lithology of the Broadview Formation is grey green, gritty quartz wacke or subarkosic wacke with interbeds of grey to black or green slate or phyllite. Two important bands of quartzite, within the Broadview Formation, are an exceedingly hard, compact, dark blue rock invaded extensively by numerous quartz stringers.

Many batholiths and arrays of small stocks cut older, deformed stratigraphic units throughout the Kootenay Arc. The Kuskanax and Nelson batholiths, apparently middle or late Jurassic in age, are predominantly granite and granodiorite in composition although diorite, monzonite and syenite occur locally. The Nelson batholith and related granitic stocks may have been controlled by antecedent structures. Medium-size plutons and small stocks of fresh granite, monzonite and syenite, Cretaceous and Tertiary in age, also occur.

## 4.2 Property Geology

The property is located in the northern end of the Kootenay Arc. The general area is part of the Selkirk Allocthon -a large east directed thrust slice between the Upper Arrow Lake and the Rocky Mountain Trench. The Selkirk Allocthon contains rocks of ancient North American affinity in its east part and rocks of the suspect Kootenay Terrane of the old "Kootenay Arc" in its west part. The Menhinick Creek area is underlain by rocks of the Lardeau Group which are the oldest stratigraphic unit of the Kootenay Terrane.

The Lardeau group ranges in age from Lower Cambrian to Upper Devonian or Lower Mississippian. It is subdivided into three main formations. The Index Formation is a black slate at the base, overlain by the Jowett Formation consisting of a largely chloritic greenstone, metatuff and other pyroclastic rocks. These are overlain by the Broadview Formation comprised of a fine grained clastic unit composed mainly of phyllite and grit with minor dolomitic horizons.

The Incomappleux River cuts through several regional NW trending upright folds that appear to result from NE -SW compression by the Galena Bay and Kuskanax Plutons to the SW and the Battle Range Batholith to the NE. These plutons are mid -Jurassic in age and the bulk of first order folds visible in the area are interpreted to be of that age.

The rocks in the northern part of the Silver Dollar property, in the vicinity of the Goldfinch prospect is part of the Incomappleux River are in the west limb of the Silver Cup Antiform, an overturned to the west, tight to isoclinal fold with a NE dipping axial surface. The rocks on the property are grouped into two units:

- 1) a series of silver to grey to dark grey gritty phyllite with local carbonaceous seams and layers of carbonate -sericite rock.
- 2) A medium green, non-bedded to streaky phyllite greenstone with dark green clasts and local silicic pebbles of pyroclasts.

The major deformation appears to have been during the mid-Jurassic. The mineralized zones appear to have accompanied the last phase of folding. The main zone at the Goldfinch appears to be associated with an axial plane shear. The zones are in the shape of elongated, flattened pod or lenses, and terminate with abrupt pinch outs. The veins consist of quartz, quartz-carbonate +/-fuchsite with minor disseminated siderite pods and contain 5 to 30% pyrite

and minor chalcopyrite, galena and sphalerite. Gold and silver is generally associated with the sulphide mineralization. Visible gold occurs.

The central and southern portion of the Silver Dollar claims are situated within Lower Paleozoic rocks of the Kootenay Arc and are primarily underlain by northwest -southeast trending metasedimentary rocks of the Lardeau Group, Broadview Formation. Black slates, carbonaceous schist, grey and reddish-brown weathering grits and quartzite and greenish grey talcose schist underlie the property. Locally metavolcanic rocks of the Jowett Formation occur near the north end of the property. The metasedimentary succession typically displays a northwest – southeasterly strike of 140° and dips between 50° and 80°, averaging 65° to the northeast. The lithological sequence has been folded such that dip angles show considerable variation. Joint planes are locally developed within the stratigraphic succession and oriented perpendicular to regional strike, and dip 40° to 80° to the northwest.

The Silver Dollar claims cover a broad shear zone called the Camborne fault. The regional trend of the Camborne fault is between 140° and 160° azimuth and dips on the order of 50° to the northeast. The various quartz veins on the property are developed parallel, or sub-parallel to the fault. The foliation observed generally parallels this trend as well. The developed quartz veins proximal to this fault appear to be on the order of 0.5 to approximately 3.0 metres in width and display boudinage. Quartz veins and stringers also occur some distance from the main fault. Within this broad shear zone, the numerous quartz veins are commonly associated with graphite – chlorite schist partings and locally host significant concentrations of precious and base metals.

Where observed, the Broadview Formation sequence is dominated by black, grey to green phyllite and psammite that is locally graphitic. Bedding is on the centimeter to metre scale, and bedding is generally quite recognizable. Minor quartz veining, ± iron carbonate, is common parallel to or cross-cuts bedding parallel foliation.

The airborne magnetic and spectrometer geophysical data combined with 2012 Lidar topography survey shows a good correlation with the Camborne fault over the Silver Dollar property. The Camborne fault is thought to be a key structure for mineralization and most of the prospects on the Silver Dollar property lie along or adjacent the structure.

## 5 Mineralization

Mineralization on the Silver Dollar property is related to the Camborne shear zone structure where numerous locations contain significant concentrations of precious and base metals. These prospects consist of quartz veins, veinlets, stockwork and locally vein breccia that vary from several centimeters to several meters in width and commonly have graphite and quartz-carbonate-ankerite chlorite schist partings and wall rock. Precious metal mineralization occurs with variable concentrations of pyrite and base-metals both within the quartz veins and the along the vein selvages. Locally massive sulphide zones occur which have remobilization or replacement textures and abundant carbonate. Quartz and sulphide minerals observed are suggested to be in order of deposition: ankerite, quartz, pyrite, sphalerite, chalcopyrite, and fine to coarse grained galena (MINFILE 082KNW049). Argentiferous tetrahedrite and arsenopyrite also occur locally. Native silver, argentite, polybasite, ruby silver, stephanite and electrum occur (Church and Jones, 1998). Gold is present in small quantities and is rarely seen as native gold or electrum as it generally occurs mixed within sulphides. It is suggested that the carbon in the phyllite has assisted in the precipitation of gold contained in the mineral-bearing solutions as the highest grade of gold occurs around the carbonaceous inclusions (Church, and Jones 1998). Chernish (2006) notes an association between gold, pyrite and minor graphitic lamina and silver mineralization that is broadly associated with tetrahedrite and galena.

Gillman Deposit: Located 10 kilometres southeast of Camborne and on the north side of the East fork of Mohawk Creek, the prospect is at 1800 metres elevation. The area is underlain by metasedimentary rocks of the Lower Paleozoic Lardeau Group, which includes medium grey to greenish quartzite, greywackes, carbonaceous phyllite and quartz sericite schist. A northwest striking, east dipping quartz vein, 2 metres wide, cuts the metasediment. The vein contains galena, pyrite and sphalerite. A sample assayed 109 grams per tonne silver and 124 grams per tonne gold (Annual Report 1914, page 263). In 1933, a tonne of ore returned 62 grams of silver, 62 grams of gold, 22 kilograms of lead and 23 kilograms of zinc. A drill hole in 1986 returned 0.70 metres of 38.0 g/t gold, however much of the core remains un-sampled.

Silver Dollar Vein: The Silver Dollar vein was accessed by two connected adits developed 15.0 meters apart vertically. In 1947 Silver Pass Development Syndicate processed 6 tonnes of ore and recover 9,860 grams silver, 1,378 kilograms lead and 1009 kilograms zinc. Between

1952 and 1957 Monteray Mining Company Limited completed a 590 meter exploration diamond drilling program and carried out 197 meters of underground development work. In 1984 Fleck Resources Ltd. carried out a diamond drilling and sampling program on the property. The most significant drill intersection included 2.10 meters grading 229 g /1 silver, 1.0 g /1 gold, 10.95 % zinc, 4.04% lead and 0.29% copper (BC MINFILE 082KNW101).

During 2012 Happy Creek Minerals performed geological prospecting and rock sampling on the Silver Dollar, Gillman and Wheelbarrow deposits. Sample analyses have returned encouraging assay results including high gold and silver values associated with elevated to substantial copper, lead and zinc values. Locally positive indium values up to 4.89 g/t also occur. Of 38 rock samples, 12 returned silver values in excess of 200 g/t (including 4496 and 2219 g/t Ag) and four samples returned gold values in excess of 35 g/t (including 50.3 and 40.7 g/t Au). The data suggests a rough correlation between silver and gold values. A 1.8 metre chip across the Silver Dollar vein returned 16.8% zinc, 3.92% lead, 1.67 g/t Au and 241 g/t silver.

Goldfinch Deposit: The Goldfinch mineralization trends northwest, with two separate zones, each having widths of approximately 10-30 metres. The zones consist of quartz and quartz-carbonate-sulphide veins, stock work and silicified phyllite containing pyrite, and locally sphalerite, chalcopyrite and tetrahedrite. Individual sample assays range from less than 0.03 up to 302.62 g/t gold and trace to 330 g/t silver. Drilling and underground development also indicates gold and silver values occur within pyrite-bearing silicified or quartz-carbonate altered phyllite as well. Historical reports from the Goldfinch indicates visible gold occurs in drill core with samples up to 0.85 metres of 141.58 g/t gold, or wider intervals of 41.2 metres of 2.3 g/t gold including a higher grade section of 1.8 metres of 28.93 g/t gold.

Historical drill holes were not completely sampled and there are gaps between mineralized zones in most holes. Some holes have high grade samples with no sampling on either side, and some holes ended with samples containing positive values up to 1.02 g/t gold. Overall, a mineralized structural zone that is 75-150 metres in width and extending for several hundred metres may be viewed as a potential bulk tonnage, open-pit target and it remains un-defined and open in extent in several directions.

## 6 2015 Exploration, Soil Geochemical Survey

In 2015, Happy Creek Minerals extracted data from historical drill holes and underground mining reports (Assessment Reports # 14597, 15401, 16753 and 17929A). The data was compiled in ARC-GIS software and used to create surface plan and cross section assay maps of the Goldfinch zone (Appendix 3). Interpretation of the data suggests that mineralized zones can pinch and swell, roll, and trend northwest-south east overall. It is thought possible the mineralized zones may be of a saddle-reef type, however further geological work is required. Results of the work suggests potential for mineralized zones to occur along strike to the southeast of the Goldfinch prospect, an area having little historical work.

In September 2015, the Company collected 203 soil samples from the Goldfinch claim southeast of the historical workings and previous drill holes (Figure 7). The samples were collected from B horizon (25-30cm depth) 25 metres apart on east-west oriented lines that are 50 metres apart. The samples were dried at 60°C and sieved through minus 80 mesh. The resulting 100 g samples were dried again at 60°C and analyzed for gold and multi-elements by two methods at Act Labs of Kamloops, B.C. For one method, a 0.5-gram sample was digested by aqua regia then ICP/MS analyses performed with gold results reported in parts per billion (ppb), and 51 other elements in ppm or %. All samples were also analyzed for gold by Fire Assay and Neutron Activation (INNA) using a 10-gram pulp sample. Sample bags were labeled with the corresponding sample ID numbers from the sample booklets. The sample ID tag was also inserted into the sample bag prior to sealing. The sampling site was labeled with blue flag.

For the INNA analyses, samples range from 1.1- 2550 ppb (2.55 g/t) gold, and 46 samples contain greater than 100 ppb gold and 29 contain over 200 ppb gold. For the 0.5 gram ICP/MS method, samples range from 0.5 to greater than 10,000 ppb (10 g/t) gold, and 21 samples contain greater than 100 ppb gold and eight contain over 200 ppb gold. Comparative analyses of the two methods and analytical duplicates suggest some gold is relatively coarse grained and that a nugget effect exists (Table 4).

Interpretation suggests the larger sample size and Fire Assay along with INNA provide good quality analyses, although ICP-MS results would provide a reasonable geochemical indication for anomalous zones of interest. Log Normal probability of the INNA data suggests a range of gold values in soil between 37 and 75 ppb are moderately positive and those over 75 ppb, strongly positive.



## 7 Geochemistry Results and Discussion

The 2015 prospecting and rock samples collected southeast of the Goldfinch area indicates limited outcrop occurs and consists of grey phyllite with inter beds of argillaceous shale and quartz veins containing iron carbonate, oxide and pyrite. The strike of the foliation is northwest trending with dips about sub vertical (Photos 1 to 3). Locally abundant white quartz veins and locally vein breccia cut through the unit, and strike parallel to the rock foliation. In some areas, quartz veins are strongly folded and brecciated. The veins range from centimeters to about half a meter width.

The 2015 soil sampling program was completed in a 500 metre by 500 metre tightly spaced grid and southeast of the Goldfinch workings and historical drilling. The results of geochemical analyses indicate moderate to strongly positive gold values occur in a northwest-southeast trend that extends over 500 metres beyond the historical Goldfinch workings (Figures. 8a, 8b). The zone is thought to be part of the main regional scale Camborne structure connecting the Goldfinch and Menhinick Creek adits, a distance of approximately one kilometre. On the southern-most grid line, nine of 10 continuous samples were over 111 ppb gold and up 2,500 ppb gold (Table 4, Figure 8b). This corresponds to a zone, approximately 225 metres in width, that remains open to the south and east (Figure.9). Two adjacent lines to the north contain similar values up to 868 ppb gold over 175 and 100 metre widths, respectively.

A second zone containing moderately positive values up to 625 ppb gold is from 100 to 200 metres in width and extends over a distance of 350 metres on the west side of the grid. This zone remains open in extent to the west and south. For both of these geochemical zones, evidence of historical drilling or other work was not observed.

Soil samples locations and gold and silver analytical results are listed in Table 4. Silver assay results containing values up to 2.84 ppm are plotted in Figure 8c. Assay results are listed in Appendix 1 and Certificate of analyses provided in Appendix 2.

Results from the Company's 2015 exploration on the Silver Dollar property confirm the Camborne structure to be a key feature for gold-mineralized zones at the Goldfinch zone as well as ten kilometres southeast at the Silver Dollar and Gilman zones.



Interpretation of the regional mineral prospects suggests the Camborne fault system is host to two hydrothermal and mineralizing events, or possibly telescoping of a single event controlled by doubly verging asymmetrical and isoclinal folds and thrust faults (Colpron et al, 1998, Figure 10). Base metal-silver-gold vein and replacement style, and quartz-pyrite-gold-silver style mineralized zones occur. Although many samples of quartz veins have returned low values, several areas adjacent or sub-parallel the central Camborne fault have provided encouraging results in outcrop and stream sediments that are thought to be an opportunity to discover additional mineralization. A thorough understanding of the structural, lithological and hydrothermal alteration controls of the various mineralized zones and substantial drilling is anticipated to effectively target and outline the deposits. The length and potential depth extent of the Camborne fault and numerous mineralized zones associated with it suggest potential for a large scale mineral system having tectonic control and modification.

## **8 Conclusions and Recommendations**

The Silver Dollar property consists of 34 contiguous mineral claims that cover a total area of approximately 4325.5 hectares, and located southeast of Revelstoke, B.C., Canada. The property is within the historical Camborne gold-silver mining camp with excellent access and infrastructure.

The Silver Dollar property spans a distance of 14 km, covering significant sections of an approximately 40km long structure known as the Camborne fault, in which numerous high grade gold-silver-lead-zinc historical producers and prospects occur. Most of gold-silver-lead-zinc prospects on the Silver Dollar property occur along the Camborne fault trend, and there is potential for blind deposits. The length and potential depth extent of the Camborne fault and numerous mineralized zones associated with it suggest potential for a large scale mineral system having tectonic control and modification.

The 2015 geochemical survey has identified two zones with strongly positive gold values in soil up to 200 metres in width, extending southeast from the historical Goldfinch workings and previous drilling. The two zones are open in extent. These do not appear transported, and occur along the trend of the Camborne fault. The soil results along with historical results suggest the Goldfinch hosts potential for both high gold grades and large tonnage in a near-surface setting.

It is recommended that a thorough compilation of historical data, detailed geology and interpretation be performed. Additional geochemical surveys to expand upon the 2015 results and trenching at Goldfinch is also recommended. Future drilling to test existing and newly developed targets at various depths will be required.

**Respectfully Submitted,**

*"Sassan Liaghat"*

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**Sassan Liaghat. Ph.D**

*"David Blann"*

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**David Blann, P.Eng.**



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## 10 Statement of Qualifications

I, Sassan Liaghat, Ph.D, of Coquitlam, British Columbia, do hereby certify:

That I am a senior geologist with an office at #460 - 789 West Pender Street, Vancouver, BC, V6C 1H2.

That I am graduate from the Ecole Polytechnique of Montreal with a Ph. D of Engineering degree in Economic Geology in 1992.

That I am a graduate of the Mineral and Exploration Diploma Program (MINEX) in 1988, and a Master of Science, Economic Geology program in 1989 from McGill University.

That since 1992, I have been involved in research, teaching and mineral exploration activities for base and precious metals in various areas of Canada.

That I have been actively engaged in the mining and mineral exploration industries in British Columbia since 2006.

That, I managed, in part, the 2009, 2010 exploration programs on the Rateria and West Valley properties.

That I am the author or co-author of more than 70 international scientific papers or local reports.

That I have been granted Share options of Happy Creek Minerals Ltd.

Dated in Vancouver, B.C., February 2, 2016

*"Sassan Liaghat"*

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Sassan Liaghat Ph.D.

I, David E. Blann, P.Eng., of Squamish, British Columbia, do hereby certify:

That I am a Professional Engineer registered in the Province of British Columbia since 1990.

That I am a graduate in Geological Engineering from the Montana College of Mineral Science and Technology, Butte, Montana, 1987.

That I am a graduate in Mining Engineering Technology from the B.C. Institute of Technology, 1984.

That I have been actively engaged in the mining and mineral exploration industry since 1984.

Dated in Vancouver, B.C., February 2, 2016

*David Blann*

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David E Blann, P.Eng.

# Tables



Table 1 Silver Dollar Mineral Tenures

Title Number	Claim Name	Map Number	Issue Date	New Good toDate	Area (ha)
404910	GILLMAN'S LODE	082K073	2003/sep/09	2019/jan/01	300.0
509488		082K	2005/mar/23	2018/jan/01	102.243
520413	LEAD 2	082K	2005/sep/25	2018/jan/01	40.889
520415	SUNSHINE LARDEAU 2	082K	2005/sep/25	2018/jan/01	61.304
520466	PIPESTEM	082K	2005/sep/27	2018/jan/01	40.863
520479	GOLDDUST	082K	2005/sep/27	2018/jan/01	183.968
520481	PRODIGY	082K	2005/sep/27	2018/jan/01	122.623
521031	GRAFIC	082K	2005/oct/12	2018/jan/01	81.764
526441	O.K.	082K	2006/jan/26	2018/jan/01	40.904
526833	RAINY DAY	082K	2006/jan/31	2018/jan/01	81.811
526870	JACKPOT	082K	2006/feb/01	2017/jan/01	102.274
528107	MOUNTAIN GOAT	082K	2006/feb/12	2017/jan/01	61.37
528970	SILVER DOLLAR	082K	2006/feb/25	2017/jan/01	122.662
576560	OLD GOAT # 2	082K	2008/feb/18	2018/jan/01	163.6691
597182	GOLDEN GOOSE	082K	2009/jan/09	2018/jan/01	81.6356
597183	LARGE TENURE AT 82K.082	082K	2009/jan/09	2018/jan/01	510.3514
854581		082K	2011/may/16	2018/jan/01	204.3237
856057	RUSSKY	082K	2011/jun/01	2018/jan/01	81.7306
926660	WAKE UP	082K	2011/oct/31	2015/dec/31	81.6638
926661	EDMOND	082K	2011/oct/31	2017/jan/01	61.3483
940010	WAKE UP	082K	2012/jan/05	2015/dec/31	20.4188
944509	FLORENCE	082K	2012/jan/31	2018/jan/01	40.9074
953717		082K	2012/mar/01	2018/jan/01	61.3083
973569	SD SW	082K	2012/mar/28	2017/jan/01	204.5391
974390	GOOSE 2	082K	2012/mar/29	2015/dec/31	428.7974
1010633	WINDFLOWER SOUTH	082K	2012/jul/03	2018/jan/01	367.5653
1010634	SD NEW	082K	2012/jul/03	2015/dec/31	20.4299
1010635	SD NEW 2	082K	2012/jul/03	2015/dec/31	20.4281
1010701	CAP	082K	2012/jul/04	2015/dec/31	20.4206
1010702	HARRY	082K	2012/jul/04	2015/dec/31	20.4206
1031144	SD TRIM	082K	2014/sep/24	2017/jan/01	40.9003
1035898	GOLDFINCH	082K	2015/mar/22	2019/jan/01	20.41
1035969	Gold Cup	082K	2015/may/7	2018/jan/01	61.23

**Table 2, SUMMARY OF EXPLORATION HISTORY**

The historic Camborne mining camp dates to the early 1900's with the discovery of gold mineralization on the historic Eva and Iron Dollar claims

Between 1900 and the mid 1920's the area centered on the EVA mine produced 543.9 kilograms of gold and 165.5 kilograms silver from 88,763 tonnes of mined material

Between 1899 and 1984 the reported production from the Beatricemine included 558 grams gold, 1832 kg silver, 182,939 kg lead, 10,894 kg zinc from 618 tonnes of ore.

Between the discovery of the Spider mine in 1910 and mine closure in 1958, 371 kg gold, 53,451 kg silver, 85 tonnes copper, 10,845 tonnes lead, 11,519 tonnes zinc, 65 tonnes cadmium and 4 tonnes antimony were recovered from 124,436 tonnes of milled ore.

In 1947, Silver Pass Development Syndicate processed 6 tonnes of ore and recover 9,860 grams silver, 1,378 kilograms lead and 1009 kilograms zinc from Silver Dollar.

Between 1952 and 1957, Monterey Mining Company Limited completed a 590-meter exploration diamond drilling program and carried out 197 meters of underground development work.

In 1974, Resourcex Ltd. completed a very limited geological program to assess the various quartz veins of the Silver Dollar.

In 1983 B and B Mining (Canada) Limited completed a trenching program to remove overburden from a 170 m length of the Gillman vein.

In 1984, Fleck Resources Ltd. carried out a diamond drilling and sampling program on the Silver Dollar property.

In 2006 Manson Creek Resources Limited completed a limited geological evaluation of the Silver Dollar claims.

In 2008 Manson Creek Resources Limited completed a limited geological prospecting program in the Silver Dollar claims.

In 2009, Manson Creek Resources Limited completed a limited prospecting program on the Silver Dollar claims.

In 2012 Happy Creek Minerals conducted a Lidar topographic survey and a Heli-GT, three axis magnetic gradient and spectrometer survey consisting of 345.5 km of data was completed over the Silver Dollar property. The Company also completed a geological evaluation on the Silver Dollar, Gillman and Wheelbarrow areas, visiting some showings and collecting 38 rock samples for analysis.

In 2014, geological prospecting and sampling at both the Windflower and Silver Dollar areas provided more information about petrology and geochemical distributions of precious metals in proximity to the Camborne Fault. Of 55 analyses samples, some sample have returned positive geochemical results, including 6.17 ppm Ag and 49 ppm Ag from adjacent the Goldfinch and Gillman prospects, respectively. Rock samples from the Gillman prospect returned values of 0.13% lead and 8.29 g/t gold

Table 3 Preliminary Historical Results from Goldfinch					
Hole	From(m)	To(m)	Width(m)	Au g/t	Comments
Win-21	55.17	93.88	38.7	1.11	6.19 metres un-sampled "0" grade
Win-26	58.21	69.8	11.6	0.77	
Win-79	63.95	86.26	22.3	0.74	2.76 metres un-sampled "0" grade
Win-80	70.15	106.9	36.8	0.54	
Win-89	5.46	74.4	68.9	1.01	3.93 metres un-sampled "0" grade
incl:	21.89	22.2	0.27	75.31	
Win-91	22.84	28.5	5.7	2.76	end of hole
and	54.8	60.18	5.38	0.65	
Win-94	41.7	46.41	4.7	7.39	
and	55.49	63.7	8.21	0.47	
Win-95	66.14	77.52	11.4	2.19	
Win-96	6.1	36.17	30.1	1.02	
and	106.74	126.89	20.2	0.77	8.36 metres un-sampled "0" grade
Win-97	76.18	112.12	35.9	0.61	
DDH3	4.57	45.8	41.2	2.32	Last sample 0.34 g/t gold
DDH3 incl:	19.2	21.03	1.8	28.93	
Underground chip sample					
U6	0	1.25	1.3	36.04	Open in width
U17	0	1.95	2	51.59	Open in width
U19	0	2.1	2.1	12.38	Open in width
U20	0	1.5	1.5	33.33	Open in width
U25	0	2.2	2.2	19.51	Open in width

Table 4 Goldfinch Soil Samples Assay

SampleID	Easting	Northing	Au ppb	Au INNA	Ag ppm
3020053475	453475	5630200	21.9	35	0.162
3020053500	453501	5630202	91.3	55	0.781
3020053525	453524	5630207	26.1	28	0.326
3020053550	453551	5630200	30.7	38	0.556
3020053575	453576	5630200	86.9	159	0.686
3020053600	453599	5630201	30.3	320	2.12
3020053625	453623	5630201	21.9	36	1.04
3020053650	453655	5630200	505	398	0.991
3020053675	453672	5630201	18.7	69	2.15
3020053700	453701	5630194	4.8	24	2.84
3020053725	453716	5630205	64.6	236	0.302
3020053775	453774	5630202	7.5	32	0.161
3020053800	453800	5630195	10.8	15	0.137
3020053825	453826	5630201	10.8	18	0.22
3020053850	453850	5630200	1.5	0.5	0.491
3020053875	453873	5630203	2.7	0.5	1.09
3020053900	453898	5630201	0.25	0.5	0.093
3020053925	453925	5630200	1.2	0.5	0.075
3015053475	453473	5630148	38.4	54	1.08
3015053500	453502	5630150	17.3	12	2.33
3015053525	453527	5630150	8.5	28	1.4
3015053550	453551	5630149	24.6	54	0.958
3015053575	453577	5630148	4.2	0.5	0.842
3015053600	453603	5630152	6.2	13	0.335
3015053625	453628	5630148	12.5	36	0.652
3015053650	453649	5630151	0.5	0.5	0.331
3015053675	453673	5630160	19.8	563	1.29
3015053700	453693	5630147	51.9	145	0.521
3015053725	453723	5630148	10	0.5	0.697
3015053750	453750	5630147	3.7	0.5	1.11
3015053775	453770	5630154	3.9	12	0.418
3015053800	453799	5630150	1.6	8	0.352
3015053825	453822	5630153	0.25	17	0.155
3015053850	453848	5630143	0.25	0.5	0.069
3015053875	453876	5630152	0.5	0.5	0.231

Table <sup>4</sup> Goldfinch Soil Samples Assay

SampleID	Easting	Northing	Au ppb	Au INNA	Ag ppm
3015053900	453900	5630154	0.6	0.5	0.306
3015053925	453921	5630147	2.1	0.5	0.188
3010053475	453478	5630100	16.4	30	0.915
3010053500	453501	5630103	36.8	85	0.748
3010053525	453525	5630103	47.5	70	0.721
3010053550	453551	5630099	25.3	62	0.731
3010053575	453577	5630102	16.5	625	1.39
3010053600	453599	5630094	18.1	49	0.342
3010053625	453624	5630100	195	1650	0.252
3010053650	453650	5630099	11.7	85	0.618
3010053675	453676	5630098	11.8	38	1.43
3010053700	453699	5630100	8.3	35	0.915
3010053725	453725	5630102	8.7	41	0.897
3010053750	453748	5630100	2.3	26	0.291
3010053775	453774	5630100	8.2	14	0.881
3010053800	453802	5630097	0.25	24	0.85
3010053825	453824	5630101	0.25	19	0.701
3010053850	453850	5630099	0.25	11	0.105
3010053875	453875	5630101	0.25	0.5	0.075
3010053900	453899	5630100	0.25	6	0.062
3010053925	453925	5630100	0.25	0.5	0.014
3005053475	453475	5630048	6.8	28	1.64
3005053500	453501	5630049	8.9	99	1.5
3005053525	453525	5630049	10	163	0.745
3005053550	453549	5630050	29.4	115	0.57
3005053575	453574	5630049	7	47	0.641
3005053600	453599	5630051	0.25	14	0.26
3005053625	453626	5630049	33.1	89	0.186
3005053650	453649	5630049	9.7	34	0.298
3005053675	453674	5630054	5	297	0.001
3005053700	453699	5630049	10.5	50	0.001
3005053725	453725	5630051	24.2	937	0.036
3005053750	453752	5630050	0.25	14	0.148
3005053775	453777	5630049	8.6	39	0.501
3005053800	453799	5630050	22.9	48	0.412

Table 4 Goldfinch Soil Samples Assay

SampleID	Easting	Northing	Au ppb	Au INNA	Ag ppm
3005053825	453824	5630051	761	1350	0.001
3005053850	453850	5630051	3.7	22	0.001
3005053875	453874	5630052	0.25	4	0.001
3005053900	453899	5630052	0.25	0.5	0.001
3005053925	453939	5630044	0.25	0.5	0.001
3000053475	453476	629997	50.2	115	0.001
3000053500	453501	5630003	32.9	105	0.94
3000053525	453523	5629999	23.4	76	0.001
3000053550	453549	5630003	166	78	1.11
3000053575	453574	5629998	23.8	71	0.001
3000053600	453597	5630005	24.4	99	1.09
3000053625	453624	5630000	3	46	0.001
3000053650	453650	5629998	2.3	8	0.001
3000053675	453675	5629999	0.6	26	0.001
3000053700	453699	5630002	0.25	24	0.001
3000053725	453725	5630000	30.1	38	0.001
3000053750	453751	5630002	20.4	56	0.001
3000053775	453777	5630005	97.6	255	0.397
3000053800	453802	5630001	3.1	60	3.93
3000053825	453827	5630001	0.25	0.5	0.933
3000053850	453850	5630002	0.25	7	0.001
3000053875	453876	5630000	0.25	0.5	0.001
3000053900	453904	5630003	0.25	0.5	0.001
3000053925	453925	5629996	114	0.5	0.001
2995053475	453475	5629950	13.4	97	0.001
2995053500	453499	5629949	21.4	213	0.382
2995053525	453524	5629949	88.8	88	0.289
2995053550	453549	5629949	5.6	118	0.772
2995053575	453576	5629951	2.3	67	0.001
2995053600	453597	5629948	71.7	205	0.378
2995053625	453627	5629948	40.7	58	0.001
2995053650	453650	5629949	282	434	2.15
2995053675	453674	5629951	28.1	19	0.001
2995053700	453700	5629951	0.25	8	0.001
2995053725	453726	5629949	3850	252	0.621

Table 4 Goldfinch Soil Samples Assay

SampleID	Easting	Northing	Au ppb	Au INNA	Ag ppm
2995053750	453750	5629950	5.2	29	0.001
2995053775	453776	5629950	11.7	130	0.325
2995053800	453800	5629949	0.25	38	0.024
2995053825	453822	5629950	12.8	25	0.001
2995053850	453849	5629948	3.6	18	0.953
2995053875	453876	5629951	89.3	27	0.071
2995053900	453901	5629951	0.25	0.5	1.35
2995053925	453924	5629953	0.25	44	0.001
2990053475	453474	5629902	7.6	14	0.001
2990053500	453500	5629901	10.8	117	0.246
2990053525	453526	5629899	120	88	0.231
2990053550	453551	5629899	4.6	120	0.001
2990053575	453574	5629902	20.7	54	0.001
2990053600	453598	5629900	0.25	70	0.001
2990053625	453626	5629899	0.5	29	0.001
2990053650	453653	5629902	11.6	35	0.001
2990053675	453676	5629900	13.7	36	0.534
2990053700	453700	5629899	15.1	70	0.796
2990053725	453725	5629905	1.1	45	0.905
2990053750	453751	5629902	5.4	34	0.346
2990053775	453774	5629900	17.9	35	0.312
2990053800	453800	5629901	0.25	7	0.308
2990053850	453850	5629900	88.7	17	0.396
2990053875	453876	5629900	18.5	37	0.439
2990053900	453900	5629901	4.6	0.5	1.86
2990053925	453924	5629899	0.25	0.5	0.341
2985053475	453472	5629846	32	64	1.22
2985053500	453502	5629848	0.25	0.5	0.748
2985053525	453524	5629844	4	23	0.251
2985053550	453551	5629851	0.25	50	0.415
2985053575	453574	5629856	3.4	86	0.303
2985053600	453598	5629850	0.25	8	0.65
2985053625	453623	5629850	3.3	8	0.235
2985053650	453648	5629851	4.9	176	0.177
2985053675	453675	5629850	7.3	41	0.346

Table 4 Goldfinch Soil Samples Assay

SampleID	Easting	Northing	Au ppb	Au INNA	Ag ppm
2985053700	453699	5629852	11.2	31	0.078
2985053725	453724	5629849	0.25	12	0.085
2985053775	453774	5629842	124	446	0.378
2985053800	453801	5629849	180	563	1.41
2985053825	453824	5629850	43.5	285	0.615
2985053850	453849	5629849	67	93	0.283
2985053875	453877	5629848	6.5	36	0.786
2985053900	453902	5629849	13	73	0.184
2985053925	453925	5629853	0.25	0.5	1.05
2980053475	453475	5629810	0.25	0.5	0.167
2980053500	453500	5629802	0.25	10	0.243
2980053525	453525	5629802	0.25	45	0.381
2980053550	453552	5629801	0.25	0.5	0.096
2980053575	453575	5629800	0.25	10	0.001
2980053600	453599	5629800	2.4	72	0.278
2980053625	453626	5629801	0.25	6	0.001
2980053650	453652	5629801	0.25	10	0.02
2980053675	453674	5629802	0.25	0.5	0.224
2980053700	453700	5629799	0.25	163	0.311
2980053725	453725	5629802	29.2	59	0.34
2980053750	453753	5629802	176	140	1.09
2980053800	453799	5629802	82.7	868	0.132
2980053825	453824	5629802	159	335	0.51
2980053850	453852	5629806	389	440	0.427
2980053875	453877	5629802	129	516	1.07
2980053900	453903	5629802	0.25	23	2.33
2980053925	453925	5629801	413	33	0.393
2975053475	453474	5629750	12	16	0.179
2975053500	453499	5629753	5.8	52	0.326
2975053525	453525	5629757	0.6	13	0.195
2975053550	453549	5629752	0.25	13	0.094
2975053575	453574	5629751	0.25	0.5	0.582
2975053600	453600	5629763	0.25	12	0.075
2975053625	453626	5629757	1.6	101	0.225
2975053650	453650	5629752	0.25	0.5	0.098

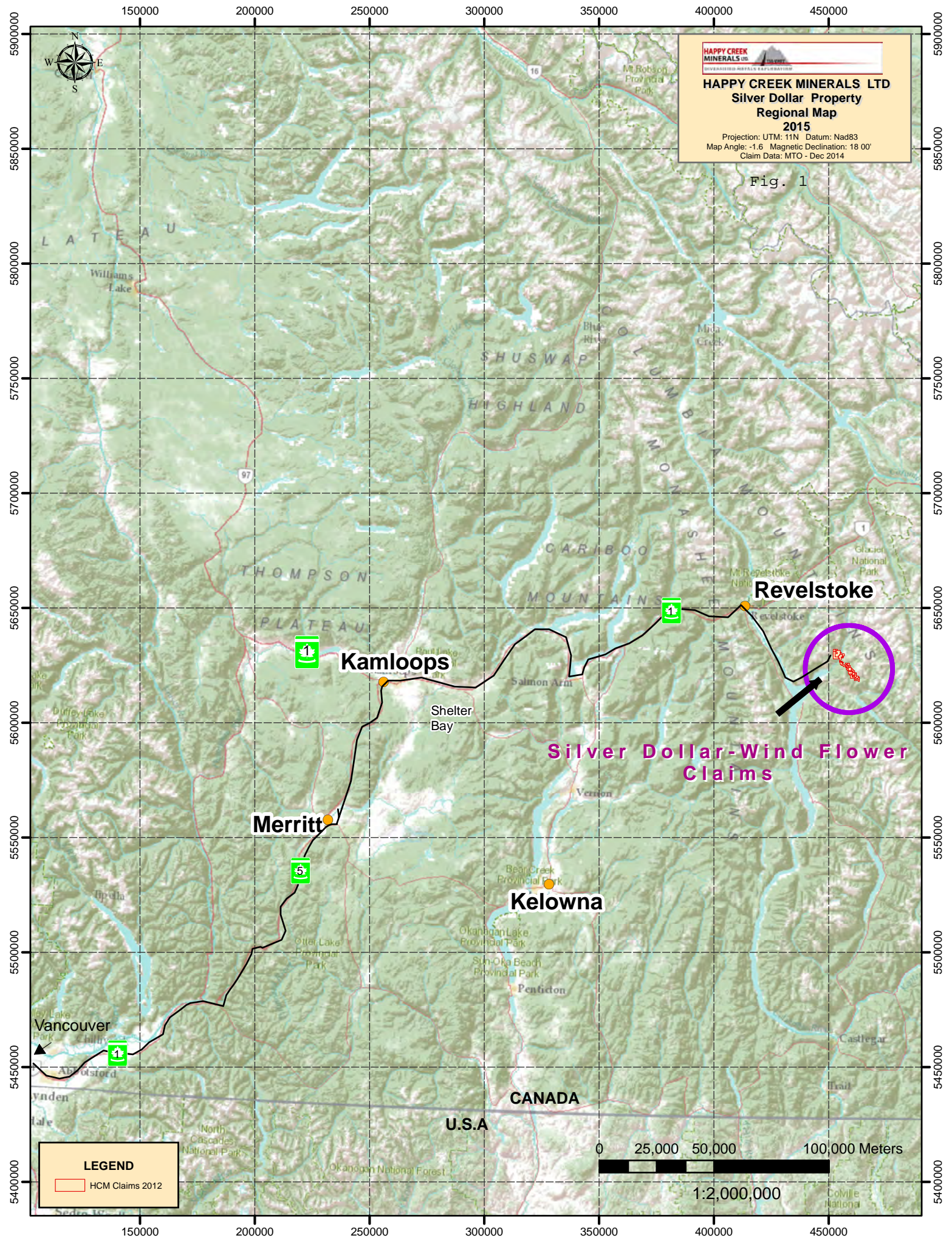


Table 4 Goldfinch Soil Samples Assay

SampleID	Easting	Northing	Au ppb	Au INNA	Ag ppm
2975053675	453674	5629752	0.25	0.5	0.186
2975053700	453698	5629750	0.25	42	0.131
2975053725	453724	5629751	0.25	29	0.203
2975053750	453749	5629749	76.8	252	0.178
2975053775	453774	5629752	22.1	111	0.281
2975053800	453799	5629752	301	207	0.439
2975053825	453825	5629752	148	275	0.701
2975053850	453850	5629754	103	261	0.85
2975053875	453873	5629753	244	124	0.449
2975053900	453901	5629752	110	235	1.11
2975053925	453926	5629752	99.9	187	0.541
2970053475	453475	5629703	19	281	0.169
2970053500	453499	5629697	2.1	32	0.287
2970053525	453525	5629697	1.1	44	0.333
2970053550	453550	5629703	5.6	26	0.518
2970053575	453575	5629693	6.8	41	0.285
2970053600	453600	5629694	9.6	38	0.551
A	453672	5630201	2.9	60	2.07
B	453693	5630147	24.9	48	0.291
C	453624	5630100	10000	1240	4.77
D	453752	5630050	1.9	0.5	1.08
E	453699	5630002	0.25	23	0.658
F	453700	5629951	0.25	49	0.188
G	453700	5629899	8	86	0.709
H	453699	5629852	0.8	29	0.101
I	453753	5629802	93.7	72	0.335
J	453698	5629750	0.25	2550	0.14
RK1			29.3	0.5	0.075

# Figures





**HAPPY CREEK MINERALS LTD**  
DIVERSIFIED METALS EXPLORATION  
**Silver Dollar Property**  
**Regional Map**  
**2015**  
Projection: UTM: 11N Datum: Nad83  
Map Angle: -1.6 Magnetic Declination: 18 00'  
Claim Data: MTO - Dec 2014

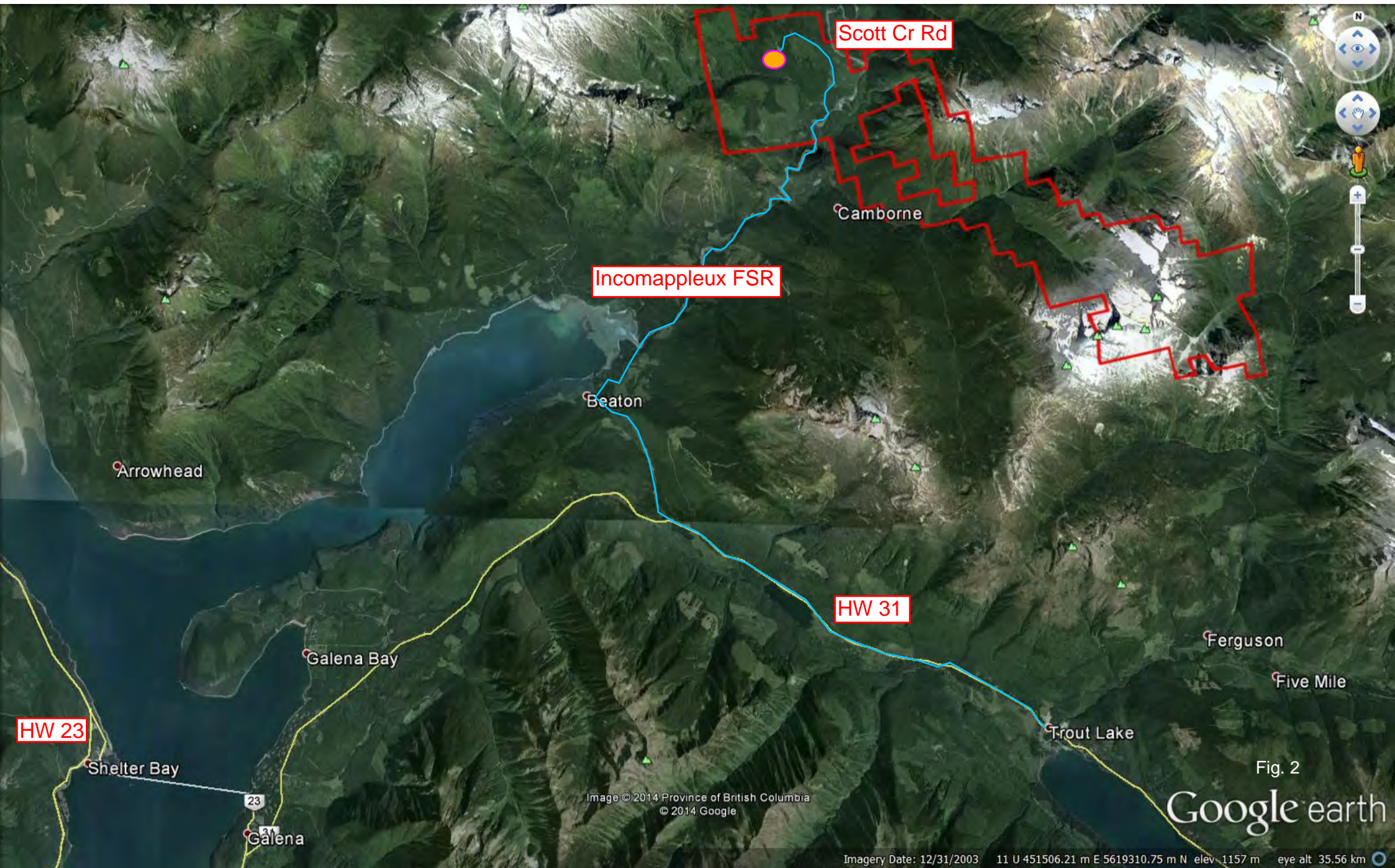
Fig. 1

**Silver Dollar-Wind Flower Claims**

**LEGEND**  
HCM Claims 2012

0 25,000 50,000 100,000 Meters  
1:2,000,000





Scott Cr Rd

Incomappleux FSR

HW 31

HW 23

Beaton

Camborne

Arrowhead

Galena Bay

Ferguson

Five Mile

Trout Lake

Galena

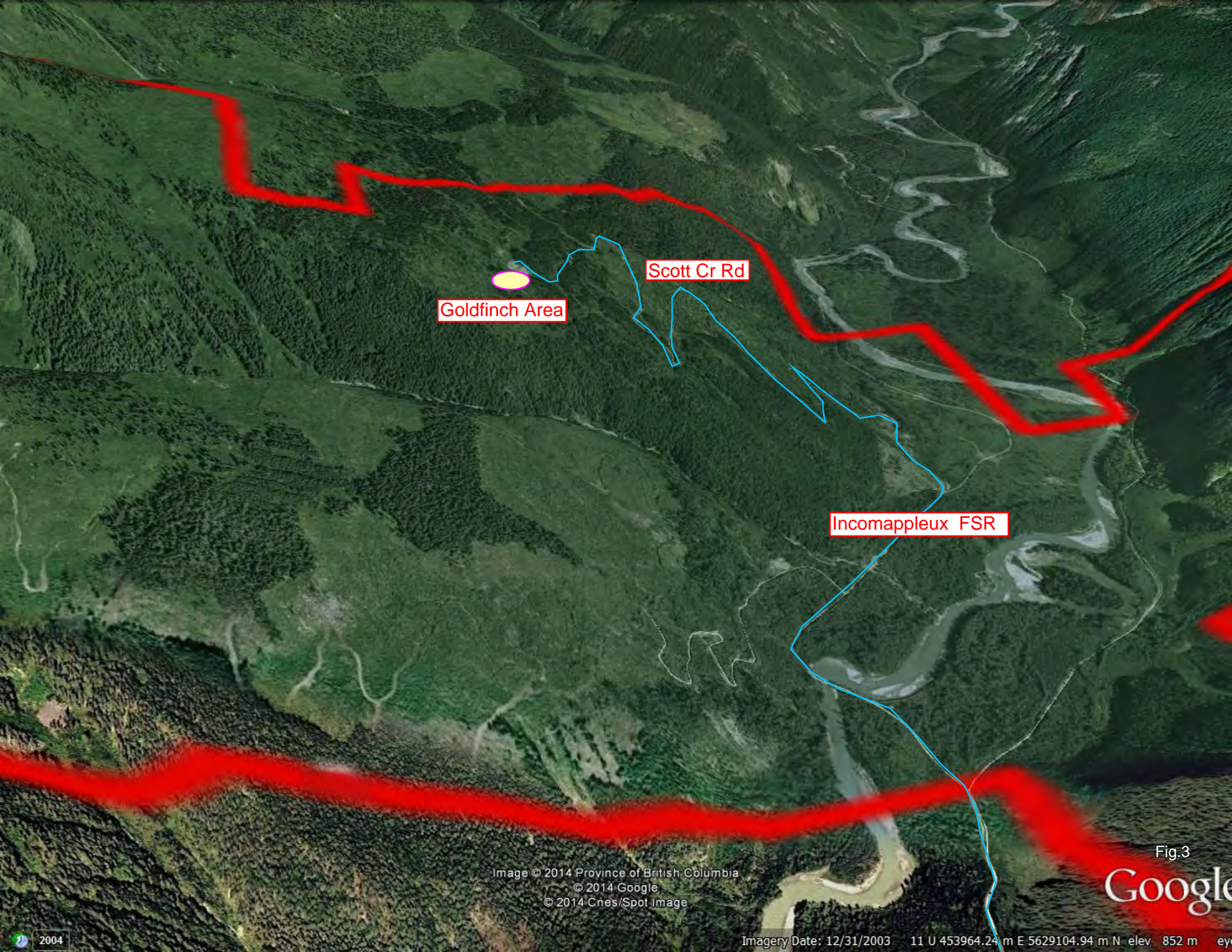
Fig. 2

Google earth

Image © 2014 Province of British Columbia  
© 2014 Google

Imagery Date: 12/31/2003 11 U 451506.21 m E 5619310.75 m N elev. 1157 m eye alt 35.56 km





Goldfinch Area

Scott Cr Rd

Incomappleux FSR

Image © 2014 Province of British Columbia  
© 2014 Google  
© 2014 Cnes/Spot Image

Fig.3

Google



450000 452000 454000 456000 458000 460000 462000 464000

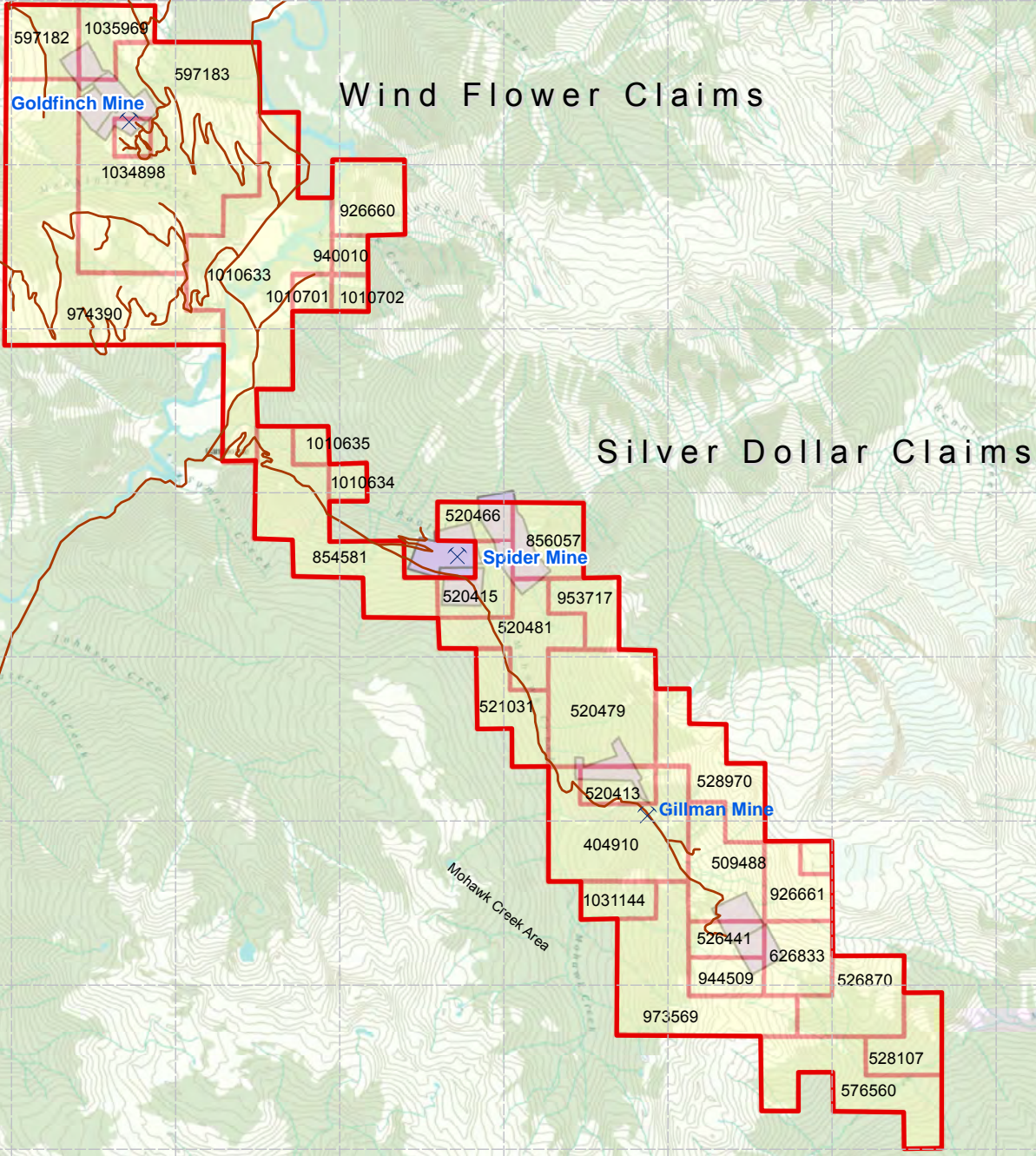


**HAPPY CREEK MINERALS LTD**  
 SILVERIFIED METALS EXPLORATION

**HAPPY CREEK MINERALS LTD**  
**Silver Dollar Property**  
**Mineral Tenures**  
**2015**

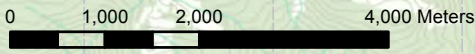
Projection: UTM: 11N Datum: Nad83  
 Map Angle: -1.6 Magnetic Declination: 18 00'  
 Claim Data: MTO - Dec 2014

Fig.4



**LEGEND**

- Access Road
- SD-outlineClaim
- SD Claims 2015
- Crown Grant



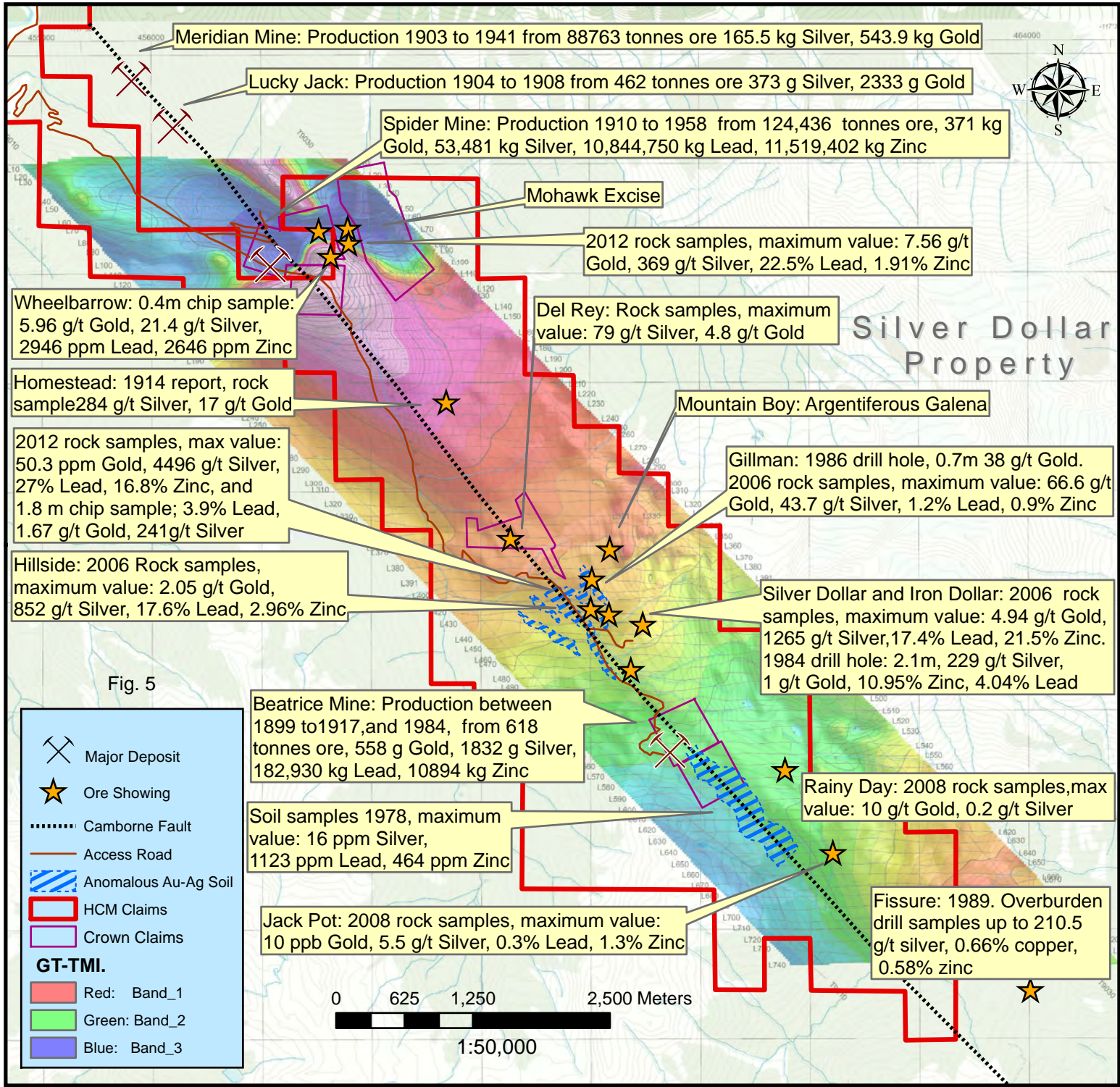
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450000 452000 454000 456000 458000 460000 462000 464000

5634000 5632000 5630000 5628000 5626000 5624000 5622000 5620000 5618000 5616000

5634000 5632000 5630000 5628000 5626000 5624000 5622000 5620000 5618000 5616000





Meridian Mine: Production 1903 to 1941 from 88763 tonnes ore 165.5 kg Silver, 543.9 kg Gold

Lucky Jack: Production 1904 to 1908 from 462 tonnes ore 373 g Silver, 2333 g Gold

Spider Mine: Production 1910 to 1958 from 124,436 tonnes ore, 371 kg Gold, 53,481 kg Silver, 10,844,750 kg Lead, 11,519,402 kg Zinc

Mohawk Excise

2012 rock samples, maximum value: 7.56 g/t Gold, 369 g/t Silver, 22.5% Lead, 1.91% Zinc

Wheelbarrow: 0.4m chip sample: 5.96 g/t Gold, 21.4 g/t Silver, 2946 ppm Lead, 2646 ppm Zinc

Del Rey: Rock samples, maximum value: 79 g/t Silver, 4.8 g/t Gold

# Silver Dollar Property

Homestead: 1914 report, rock sample 284 g/t Silver, 17 g/t Gold

Mountain Boy: Argentiferous Galena

2012 rock samples, max value: 50.3 ppm Gold, 4496 g/t Silver, 27% Lead, 16.8% Zinc, and 1.8 m chip sample; 3.9% Lead, 1.67 g/t Gold, 241g/t Silver

Gillman: 1986 drill hole, 0.7m 38 g/t Gold. 2006 rock samples, maximum value: 66.6 g/t Gold, 43.7 g/t Silver, 1.2% Lead, 0.9% Zinc

Hillside: 2006 Rock samples, maximum value: 2.05 g/t Gold, 852 g/t Silver, 17.6% Lead, 2.96% Zinc

Silver Dollar and Iron Dollar: 2006 rock samples, maximum value: 4.94 g/t Gold, 1265 g/t Silver, 17.4% Lead, 21.5% Zinc. 1984 drill hole: 2.1m, 229 g/t Silver, 1 g/t Gold, 10.95% Zinc, 4.04% Lead

Fig. 5

Beatrice Mine: Production between 1899 to 1917, and 1984, from 618 tonnes ore, 558 g Gold, 1832 g Silver, 182,930 kg Lead, 10894 kg Zinc

Soil samples 1978, maximum value: 16 ppm Silver, 1123 ppm Lead, 464 ppm Zinc

Rainy Day: 2008 rock samples, max value: 10 g/t Gold, 0.2 g/t Silver

Jack Pot: 2008 rock samples, maximum value: 10 ppb Gold, 5.5 g/t Silver, 0.3% Lead, 1.3% Zinc

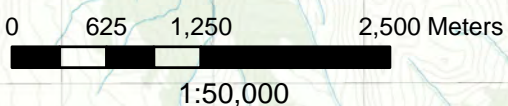
Fissure: 1989. Overburden drill samples up to 210.5 g/t silver, 0.66% copper, 0.58% zinc

**Legend**

- Major Deposit
- Ore Showing
- Camborne Fault
- Access Road
- Anomalous Au-Ag Soil
- HCM Claims
- Crown Claims

**GT-TMI.**

- Red: Band\_1
- Green: Band\_2
- Blue: Band\_3





430000 440000 450000 460000

51°00'

Major Deposits	
1 Meridian	6 Mammoth
2 Lucky Jack	7 Great Western
3 Goldfinch	8 Ethel
4 Spider	9 Lucky Boy
5 Beatrice	10 Teddy Glacier
	11 Trout Lake

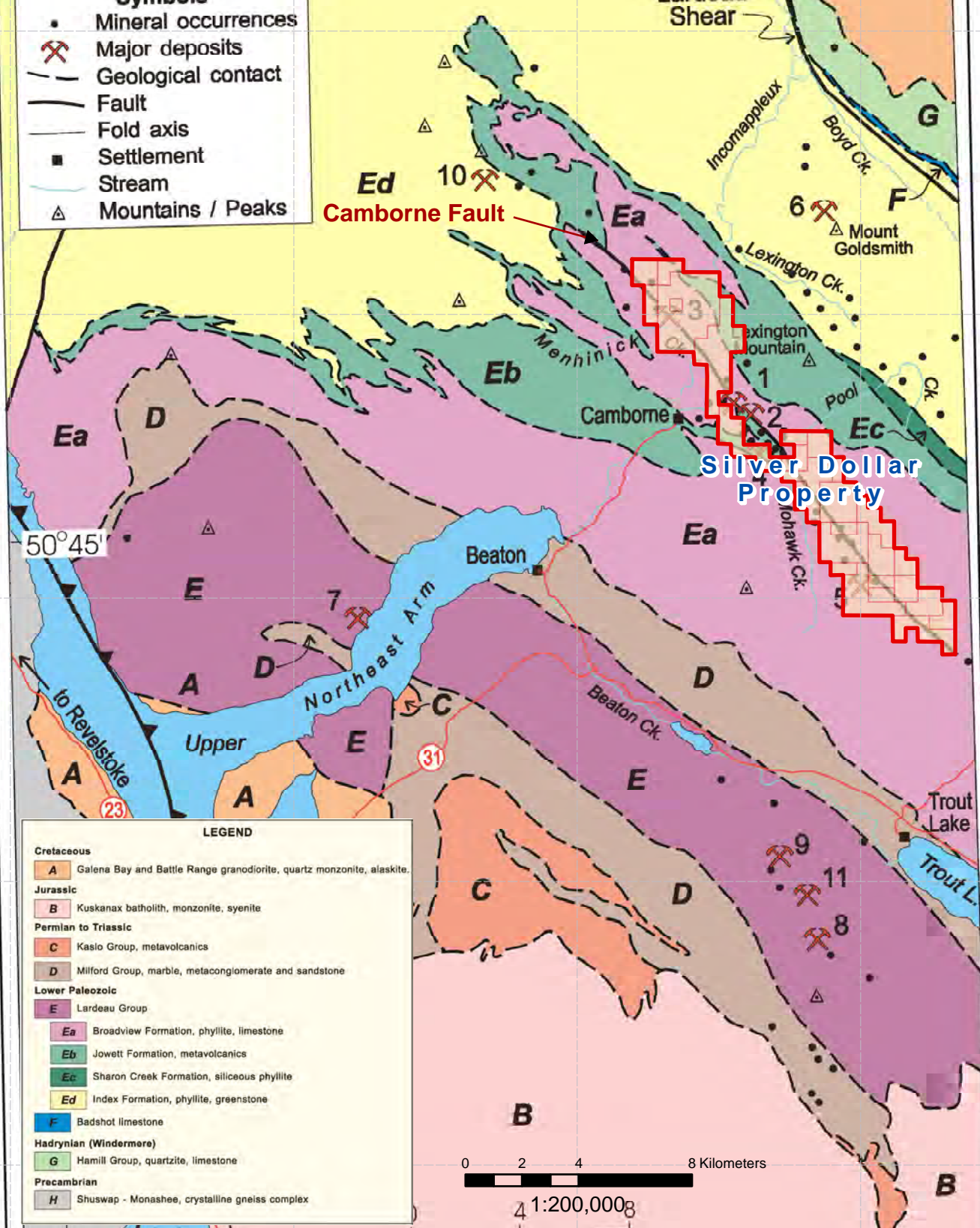
Symbols	
•	Mineral occurrences
⚡	Major deposits
—	Geological contact
—	Fault
—	Fold axis
■	Settlement
—	Stream
△	Mountains / Peaks

**HAPPY CREEK MINERALS LTD**  
 Regional Geology  
 Silver Dollar Claims Location  
 2015

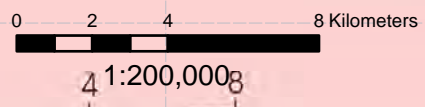
Projection: UTM: 11N Datum: Nad83  
 Map Angle: -1.6 Magnetic Declination: 18 00'  
 Fig. 6 Claim Data: MTO - September 2014

5640000  
5630000  
5620000  
5610000  
5600000

5640000  
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5620000  
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5600000



LEGEND	
<b>Cretaceous</b>	
A	Galena Bay and Battle Range granodiorite, quartz monzonite, alaskite.
<b>Jurassic</b>	
B	Kuskanax batholith, monzonite, syenite
<b>Permian to Triassic</b>	
C	Kaslo Group, metavolcanics
D	Milford Group, marble, metaconglomerate and sandstone
<b>Lower Paleozoic</b>	
E	Lardeau Group
Ea	Broadview Formation, phyllite, limestone
Eb	Jowett Formation, metavolcanics
Ec	Sharon Creek Formation, siliceous phyllite
Ed	Index Formation, phyllite, greenstone
F	Badshot limestone
<b>Hadrynian (Windermere)</b>	
G	Hamill Group, quartzite, limestone
<b>Precambrian</b>	
H	Shuswap - Monashee, crystalline gneiss complex



430000 440000 450000 460000

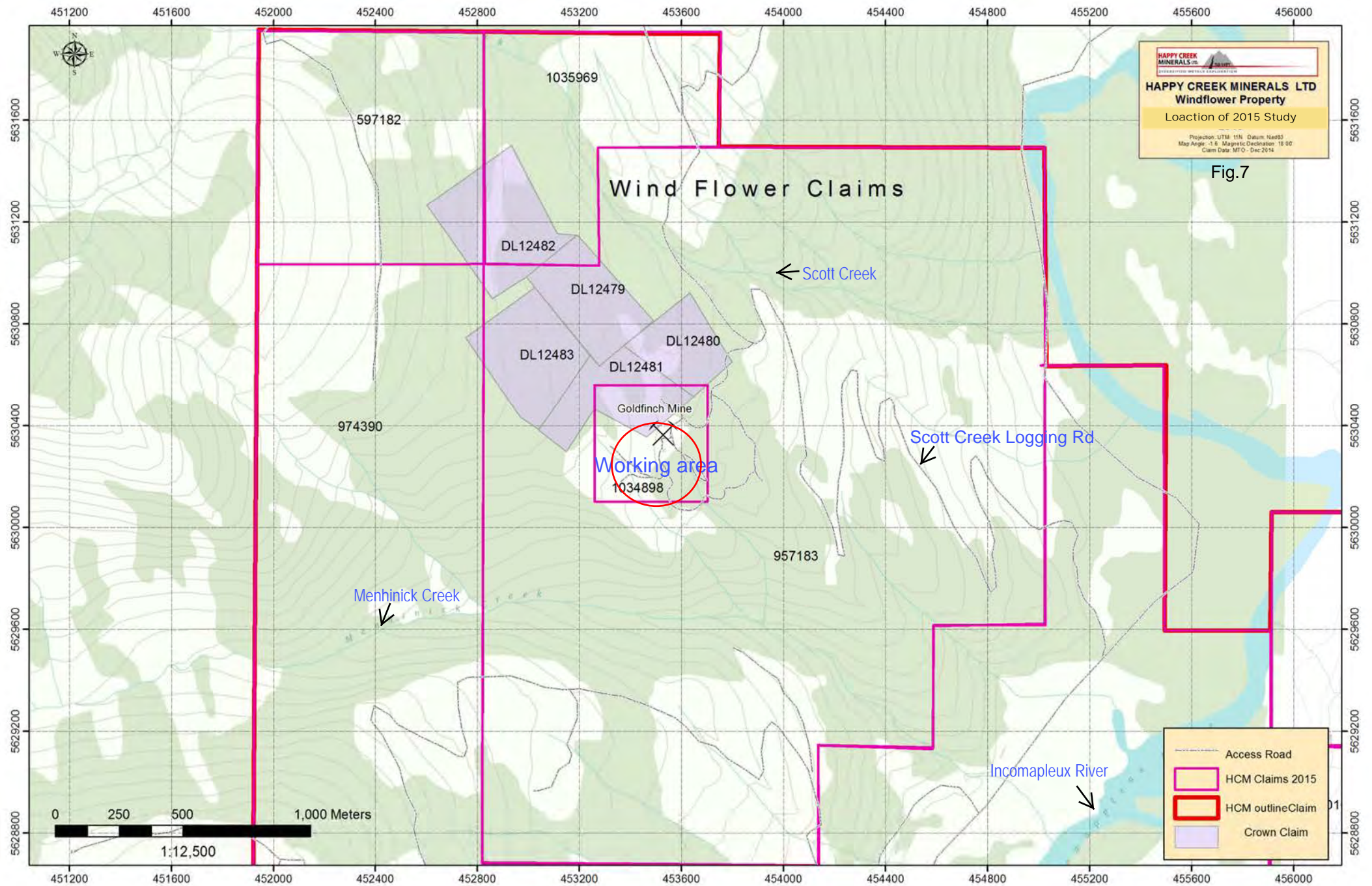
50°45'

118°00'

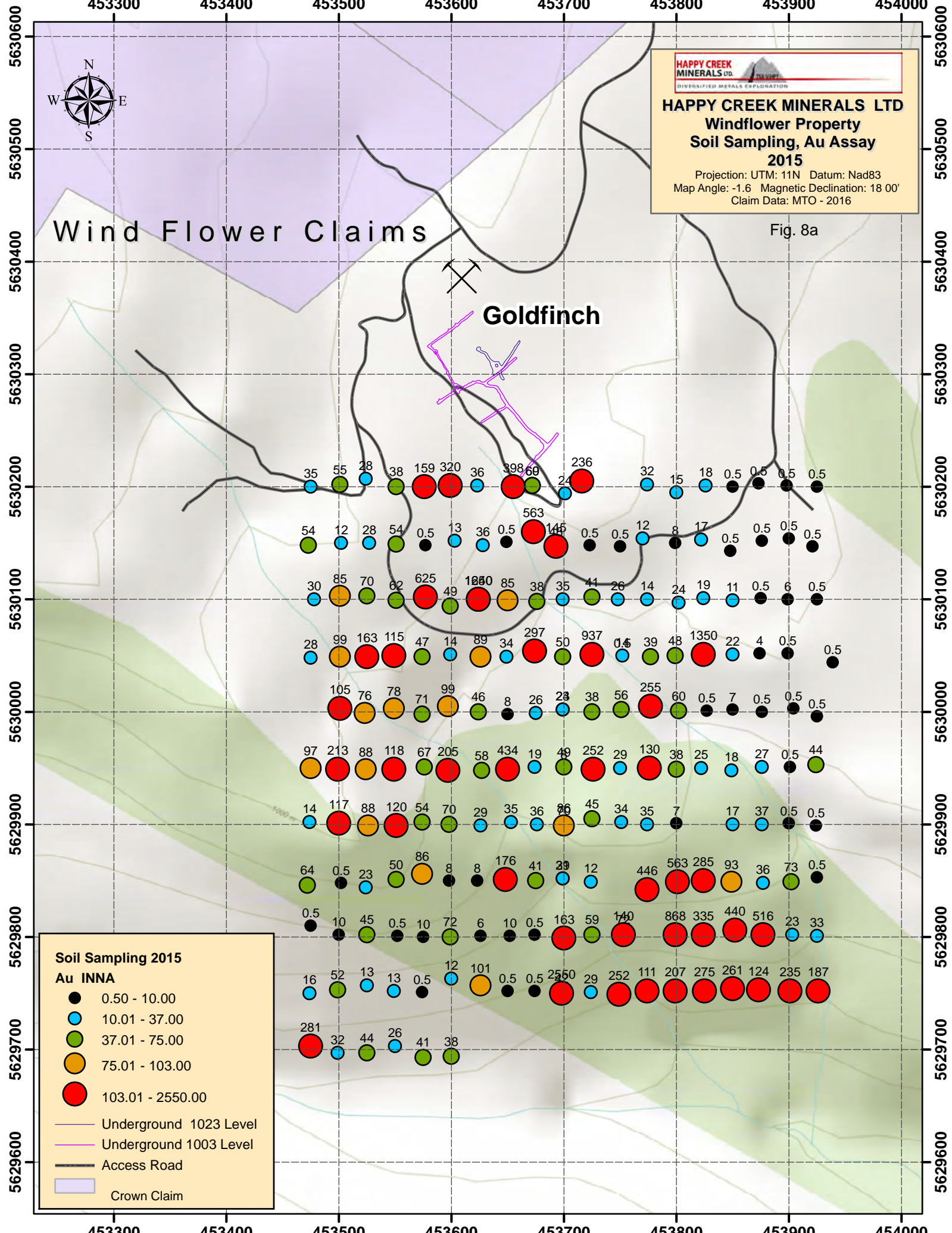
117°45'













  
**HAPPY CREEK MINERALS LTD**  
 Windflower Property  
 Soil Sampling, Au Assay  
 2015  
 Projection: UTM: 11N Datum: Nad83  
 Map Angle: -1.6 Magnetic Declination: 18 00'  
 Claim Data: MTO - 2016

Wind Flower Claims

Goldfinch

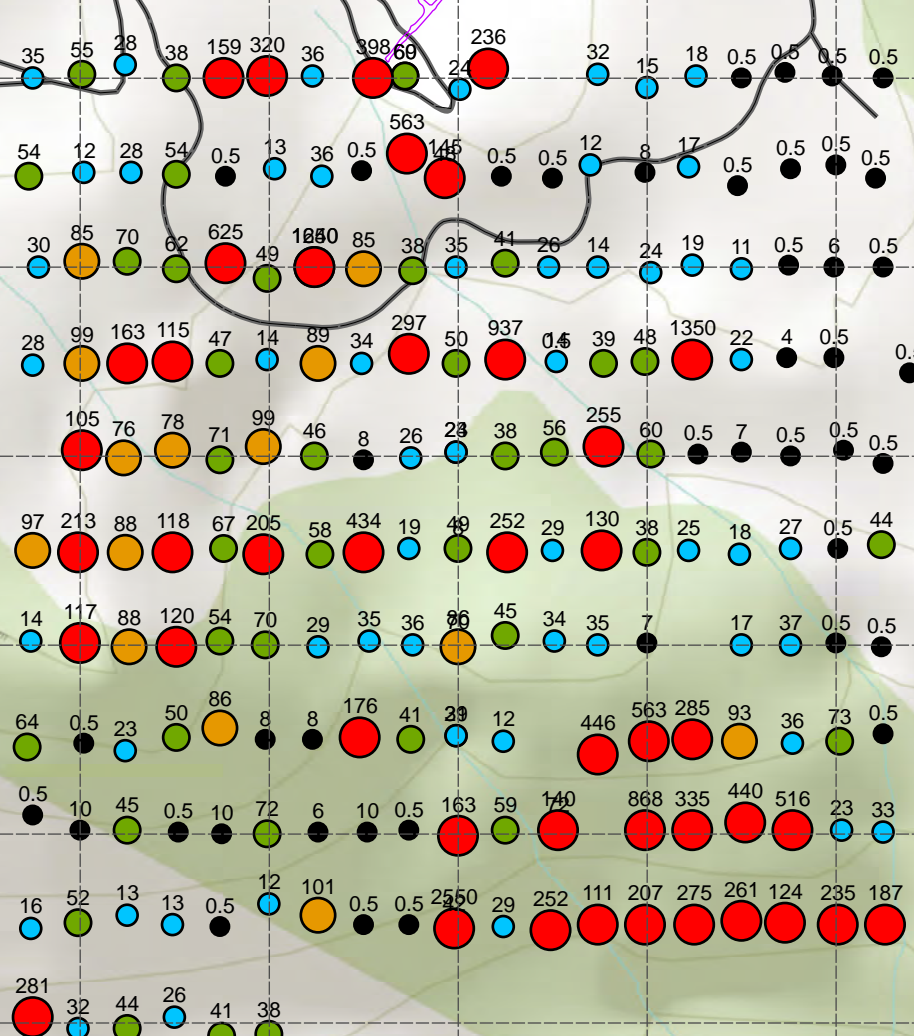
Fig. 8a

**Soil Sampling 2015**

**Au INNA**

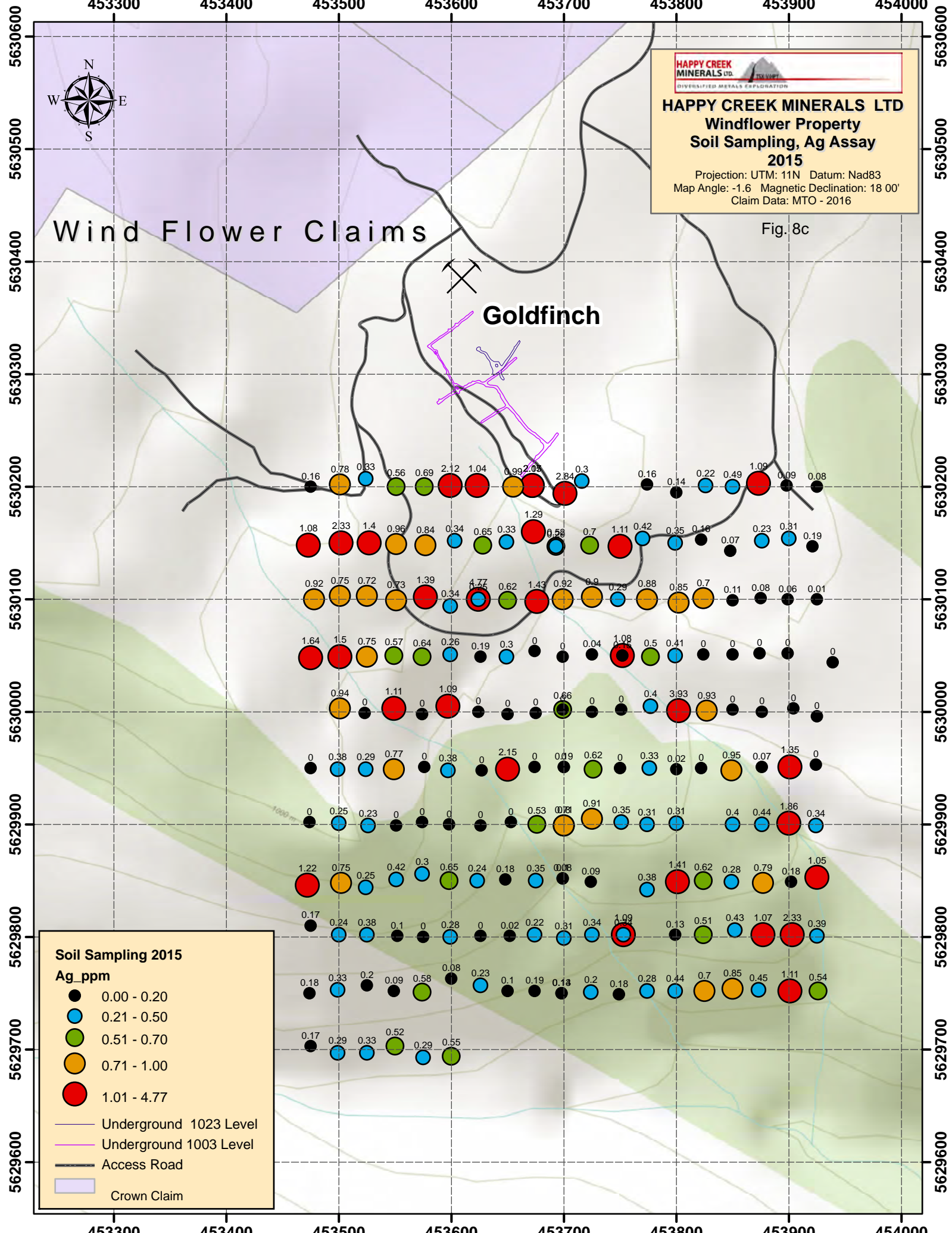
- 0.50 - 10.00
- 10.01 - 37.00
- 37.01 - 75.00
- 75.01 - 103.00
- 103.01 - 2550.00

- Underground 1023 Level
- Underground 1003 Level
- Access Road
- Crown Claim





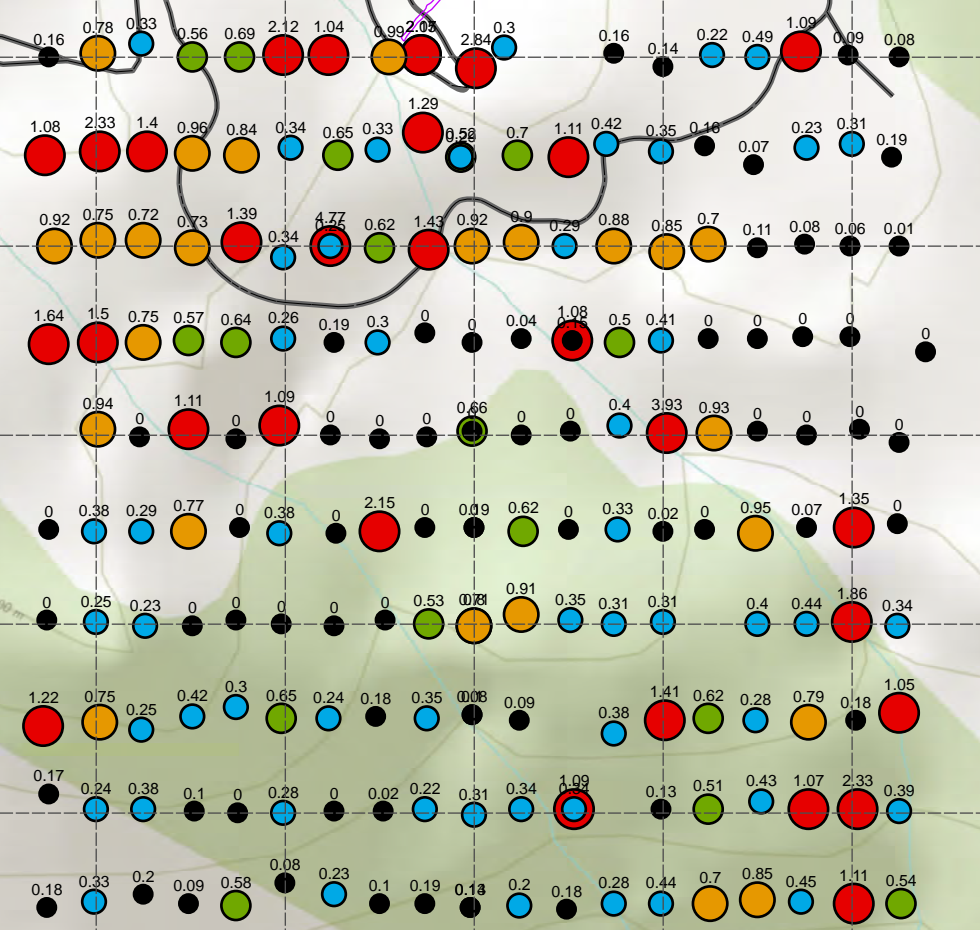




Wind Flower Claims

Goldfinch

Fig. 8c



**Soil Sampling 2015**  
**Ag\_ppm**

- 0.00 - 0.20
- 0.21 - 0.50
- 0.51 - 0.70
- 0.71 - 1.00
- 1.01 - 4.77

- Underground 1023 Level
- Underground 1003 Level
- Access Road
- Crown Claim





**HAPPY CREEK MINERALS LTD**  
**Windflower Property**  
**Mineralization Zone**  
**2016**

Fig.9

**Wind Flower Claims**

**Potential Extension of Mineralization**

**Dorothy North Zone**

**West Zone**

**East Zone**

**Dorothy Main Zone**

**Goldfinch Zone**

1903/04: 1,316 tonnes mined at  
 15.9 g/t gold, 4.3 g/t silver

2009 DDH:

25.9 m @ 2.0g/t Au, 6.6 g/t Ag  
 14.9m @ 19.7 g/t Au, 92.0 g/t Ag

**2.0 km**

**Soil Sampling 2015**

**Au INNA**

- 0.50 - 10.00
- 10.01 - 37.00
- 37.01 - 75.00
- 75.01 - 103.00
- 103.01 - 2550.00
- Historical Holes

--- Access Road

□ Crown Grants Held In Estate

**Menhinick Creek Zone**

0 90 180 360 Meters

1:6,000

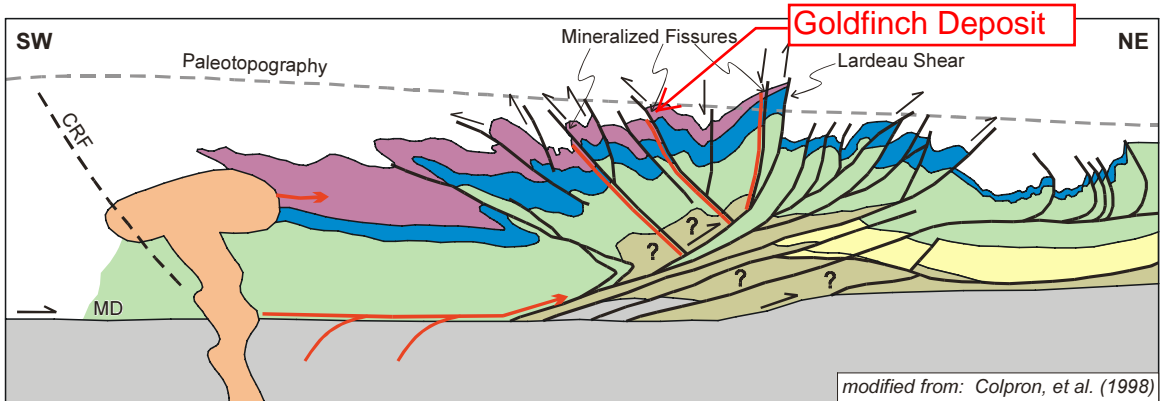
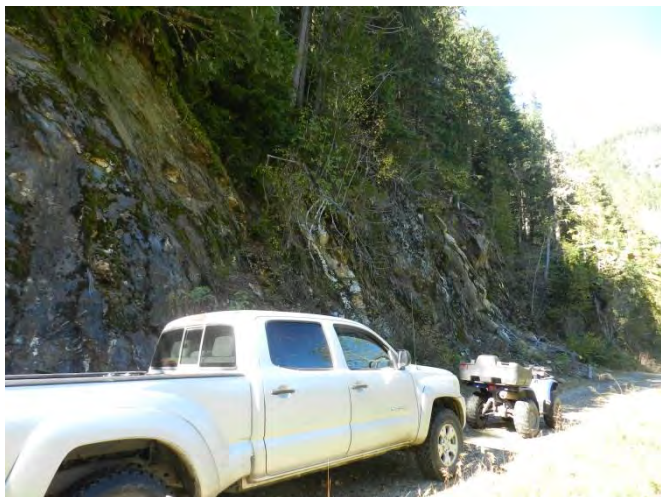


Fig. 10

# Photos





**Photo 1:** Access trail and phyllite outcrop in Windflower area



**Photo 2:** Quartz vein in phyllite outcrop Windflower area



**Photo 3:** Typical of quartz vein and phyllite outcrop



**Photo 4:** Historical trench in Windflower area





**Photo 5:** Goldfinch mine, Windflower area



**Photo 6:** Goldfinch mine, old working dump pile



**Photo 7:** Goldfinch mine, historical core samples



**Photo 8:** Goldfinch, equipment parts from historical work

# Appendix 1

## Geochemistry Assay of Soil Samples

## Geochemistry Assay of Soil Samples

Analyte Symbol				Cu	Zn	Mo	Ag	Sn	Au	Pb
Unit Symbol				ppm	ppm	ppm	ppm	ppm	ppb	ppm
Detection Limit				0.01	0.1	0.01	0.002	0.05	0.5	0.01
Analysis Meth	Easting	Northing	Elev	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
3020053475	453475	5630200	622	75.6	146	1.02	0.162	< 0.05	21.9	21.9
3020053500	453501	5630202	1048	47.4	105	0.98	0.781	0.29	91.3	27.1
3020053525	453524	5630207	1055	52.7	105	0.92	0.326	0.2	26.1	30.1
3020053550	453551	5630200	1024	58.1	105	1.19	0.556	0.23	30.7	40.4
3020053575	453576	5630200	1013	36.7	203	1.05	0.686	0.29	86.9	51.9
3020053600	453599	5630201	1035	29.5	127	0.67	2.12	0.77	30.3	19.9
3020053625	453623	5630201	1029	89.7	141	1.39	1.04	0.32	21.9	45.9
3020053650	453655	5630200	993	46.9	143	1.25	0.991	0.41	505	55.7
3020053675	453672	5630201	985	29.3	224	0.88	2.15	0.85	18.7	46.3
3020053700	453701	5630194	1000	32.4	144	1.11	2.84	0.59	4.8	44.1
3020053725	453716	5630205	1023	7.13	36.9	0.69	0.302	0.87	64.6	15.7
3020053775	453774	5630202	995	15.4	30.4	1.07	0.161	0.51	7.5	6.69
3020053800	453800	5630195	1017	90.5	117	0.85	0.137	0.38	10.8	8.88
3020053825	453826	5630201	1006	29.9	112	0.85	0.22	0.6	10.8	21.9
3020053850	453850	5630200	985	19.2	90.1	0.98	0.491	0.95	1.5	15.7
3020053875	453873	5630203	975	50.6	175	0.43	1.09	0.33	2.7	4.07
3020053900	453898	5630201	992	47.3	133	1.5	0.093	0.53	< 0.5	27.5
3020053925	453925	5630200	658	37.9	165	0.6	0.075	0.62	1.2	16.8
3015053475	453473	5630148	1039	45.1	93.3	1.09	1.08	0.39	38.4	40.6
3015053500	453502	5630150	1038	18.9	99.8	0.69	2.33	1	17.3	27.4
3015053525	453527	5630150	1038	25.9	95.5	0.98	1.4	0.79	8.5	23.9
3015053550	453551	5630149	1027	39.8	102	1.13	0.958	0.48	24.6	24.5
3015053575	453577	5630148	1018	34.9	213	1	0.842	0.73	4.2	11.8
3015053600	453603	5630152	1006	32.3	196	2.24	0.335	0.6	6.2	13.5
3015053625	453628	5630148	998	36.9	107	1.11	0.652	0.62	12.5	24.6
3015053650	453649	5630151	991	59.6	136	1.5	0.331	0.4	0.5	21.4
3015053675	453673	5630160	979	72	94.4	1.65	1.29	0.28	19.8	51.2
3015053700	453693	5630147	999	50.9	104	0.8	0.521	0.39	51.9	29.9
3015053725	453723	5630148	999	20.1	143	0.78	0.697	1.14	10	25

Analyte Symbol				Cu	Zn	Mo	Ag	Sn	Au	Pb
Unit Symbol				ppm	ppm	ppm	ppm	ppm	ppb	ppm
Detection Limit				0.01	0.1	0.01	0.002	0.05	0.5	0.01
Analysis Meth	Easting	Northing	Elev	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
3015053750	453750	5630147	967	31.1	193	0.81	1.11	0.8	3.7	27.2
3015053775	453770	5630154	958	38.1	98.7	0.86	0.418	0.29	3.9	23.7
3015053800	453799	5630150	962	18	128	0.83	0.352	0.81	1.6	30.1
3015053825	453822	5630153	962	63.2	124	0.69	0.155	0.68	< 0.5	9.77
3015053850	453848	5630143	963	47.5	143	0.47	0.069	0.73	< 0.5	8.2
3015053875	453876	5630152	959	41	110	0.69	0.231	0.8	0.5	12.7
3015053900	453900	5630154	958	50.1	119	0.94	0.306	0.57	0.6	25.9
3015053925	453921	5630147	978	37	116	0.68	0.188	0.83	2.1	17.6
3010053475	453478	5630100	1013	50.2	118	0.8	0.915	0.18	16.4	31.4
3010053500	453501	5630103	1018	71.3	91.9	0.94	0.748	0.12	36.8	32.6
3010053525	453525	5630103	1013	53.3	92.6	1.06	0.721	0.27	47.5	20.4
3010053550	453551	5630099	1000	43.2	145	0.94	0.731	0.14	25.3	24.8
3010053575	453577	5630102	993	35.9	118	1.26	1.39	0.67	16.5	26.9
3010053600	453599	5630094	997	68.4	283	2.73	0.342	0.18	18.1	15.7
3010053625	453624	5630100	1002	65.7	134	1.08	0.252	0.36	195	26.7
3010053650	453650	5630099	988	42.9	128	0.98	0.618	0.55	11.7	27.9
3010053675	453676	5630098	977	68.6	247	0.86	1.43	0.66	11.8	40.8
3010053700	453699	5630100	977	37.9	115	0.87	0.915	0.57	8.3	24.3
3010053725	453725	5630102	971	23	131	0.81	0.897	0.73	8.7	20.4
3010053750	453748	5630100	963	33.8	85.1	0.66	0.291	0.43	2.3	21.7
3010053775	453774	5630100	958	32.2	93.2	0.75	0.881	0.59	8.2	20.4
3010053800	453802	5630097	947	78.9	185	0.43	0.85	0.71	< 0.5	14.5
3010053825	453824	5630101	956	24.9	124	0.7	0.701	0.66	< 0.5	19.4
3010053850	453850	5630099	963	9.85	70.7	0.34	0.105	0.9	< 0.5	9.17
3010053875	453875	5630101	963	23.7	83.4	0.47	0.075	0.92	< 0.5	5.07
3010053900	453899	5630100	963	5.04	32.3	0.35	0.062	0.88	< 0.5	9.56
3010053925	453925	5630100	954	49.1	77.2	0.48	0.014	0.47	< 0.5	4.24
3005053475	453475	5630048	1000	36.1	118	1.08	1.64	0.29	6.8	32.1
3005053500	453501	5630049	1000	25.3	108	0.74	1.5	0.42	8.9	23.8
3005053525	453525	5630049	1004	41	173	0.97	0.745	0.41	10	52.9

Analyte Symbol				Cu	Zn	Mo	Ag	Sn	Au	Pb
Unit Symbol				ppm	ppm	ppm	ppm	ppm	ppb	ppm
Detection Limit				0.01	0.1	0.01	0.002	0.05	0.5	0.01
Analysis Meth	Easting	Northing	Elev	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
3005053550	453549	5630050	1003	62.6	140	1.39	0.57	0.29	29.4	28.3
3005053575	453574	5630049	995	31.1	130	0.9	0.641	0.56	7	24.6
3005053600	453599	5630051	982	10.7	77.2	0.88	0.26	0.9	< 0.5	19.5
3005053625	453626	5630049	969	79.6	168	0.79	0.186	0.31	33.1	50.8
3005053650	453649	5630049	965	57.8	136	1.09	0.298	0.33	9.7	38.1
3005053675	453674	5630054	957	42.4	141	1.06	< 0.002	0.63	5	36.9
3005053700	453699	5630049	950	55	201	0.87	< 0.002	0.6	10.5	27.8
3005053725	453725	5630051	939	53.7	103	1.16	0.036	0.14	24.2	38.2
3005053750	453752	5630050	950	42.7	126	0.61	0.148	0.59	< 0.5	21.1
3005053775	453777	5630049	966	24.3	99.6	0.78	0.501	0.81	8.6	15.5
3005053800	453799	5630050	968	33.5	119	0.57	0.412	0.41	22.9	15.1
3005053825	453824	5630051	967	47.3	123	0.8	< 0.002	0.36	761	33.9
3005053850	453850	5630051	971	52.5	93.6	1.55	< 0.002	0.22	3.7	11
3005053875	453874	5630052	969	20.3	149	0.49	< 0.002	0.73	< 0.5	4.79
3005053900	453899	5630052	971	70.5	87.6	1.07	< 0.002	0.47	< 0.5	17.9
3005053925	453939	5630044	958	16.4	91.8	0.3	< 0.002	0.83	< 0.5	3.76
3000053475	453476	629997	1009	41.5	115	1.23	< 0.002	0.21	50.2	26.4
3000053500	453501	5630003	1002	33.9	147	1.06	0.94	0.6	32.9	26.5
3000053525	453523	5629999	995	52.8	104	0.87	< 0.002	0.16	23.4	28.3
3000053550	453549	5630003	994	29.2	186	0.85	1.11	0.77	166	28.7
3000053575	453574	5629998	983	31.6	128	0.98	< 0.002	0.57	23.8	26.3
3000053600	453597	5630005	975	31.1	134	0.95	1.09	0.67	24.4	27.8
3000053625	453624	5630000	966	41.4	136	0.86	< 0.002	0.59	3	30.4
3000053650	453650	5629998	968	21.4	70.8	0.87	< 0.002	0.34	2.3	10.9
3000053675	453675	5629999	968	40.9	126	0.82	< 0.002	0.52	0.6	29.4
3000053700	453699	5630002	963	18.5	87	1.01	< 0.002	1.16	< 0.5	21.8
3000053725	453725	5630000	956	24.4	101	0.89	< 0.002	0.75	30.1	28.3
3000053750	453751	5630002	953	45.6	149	0.81	< 0.002	0.47	20.4	27.9
3000053775	453777	5630005	943	35.6	91.7	0.89	0.397	0.69	97.6	25.4
3000053800	453802	5630001	944	26	175	0.78	3.93	0.79	3.1	26.2

Analyte Symbol				Cu	Zn	Mo	Ag	Sn	Au	Pb
Unit Symbol				ppm	ppm	ppm	ppm	ppm	ppb	ppm
Detection Limit				0.01	0.1	0.01	0.002	0.05	0.5	0.01
Analysis Meth	Easting	Northing	Elev	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
3000053825	453827	5630001	927	68	308	0.81	0.933	0.75	< 0.5	26.1
3000053850	453850	5630002	933	25.6	62.2	0.83	< 0.002	0.35	< 0.5	14
3000053875	453876	5630000	936	22.9	87.2	0.79	< 0.002	0.77	< 0.5	17.1
3000053900	453904	5630003	945	10.8	67.5	0.97	< 0.002	0.79	< 0.5	26.5
3000053925	453925	5629996	946	32.2	131	0.6	< 0.002	0.96	114	12.2
2995053475	453475	5629950	1015	22.5	96.1	1.56	< 0.002	0.68	13.4	67.5
2995053500	453499	5629949	1002	36.4	161	1.13	0.382	0.57	21.4	24.2
2995053525	453524	5629949	985	20.1	98.3	1.09	0.289	0.49	88.8	22.6
2995053550	453549	5629949	975	40	167	1.13	0.772	0.52	5.6	27.6
2995053575	453576	5629951	964	42.5	114	0.94	< 0.002	0.46	2.3	30.8
2995053600	453597	5629948	956	42.4	188	0.87	0.378	0.42	71.7	36.5
2995053625	453627	5629948	936	30.5	112	0.91	< 0.002	0.43	40.7	32.2
2995053650	453650	5629949	949	76.6	179	1.03	2.15	0.45	282	75.5
2995053675	453674	5629951	958	60.9	118	0.87	< 0.002	0.68	28.1	26.2
2995053700	453700	5629951	960	20.8	117	0.76	< 0.002	0.88	< 0.5	18.1
2995053725	453726	5629949	957	39.1	129	1.19	0.621	0.18	3850	11.2
2995053750	453750	5629950	950	37.6	142	0.96	< 0.002	0.62	5.2	21.8
2995053775	453776	5629950	942	31.8	103	1.56	0.325	0.34	11.7	12.4
2995053800	453800	5629949	929	48.6	158	1.03	0.024	0.55	< 0.5	21.5
2995053825	453822	5629950	921	42.4	281	1.49	< 0.002	0.54	12.8	20.3
2995053850	453849	5629948	916	20	120	0.66	0.953	1.1	3.6	25.1
2995053875	453876	5629951	923	56.6	196	0.9	0.071	0.55	89.3	30
2995053900	453901	5629951	922	22.8	206	0.69	1.35	1.23	< 0.5	26.4
2995053925	453924	5629953	931	11.9	43.6	0.87	< 0.002	0.83	< 0.5	22.8
2990053475	453474	5629902	998	13.6	89.1	0.79	< 0.002	0.9	7.6	24.6
2990053500	453500	5629901	1002	43	107	1.51	0.246	0.52	10.8	29.9
2990053525	453526	5629899	994	35.6	131	0.95	0.231	0.59	120	44.3
2990053550	453551	5629899	985	24	131	0.71	< 0.002	0.83	4.6	16.6
2990053575	453574	5629902	974	42.5	183	0.88	< 0.002	0.69	20.7	28.3
2990053600	453598	5629900	962	40	142	0.94	< 0.002	0.58	< 0.5	24.4

Analyte Symbol				Cu	Zn	Mo	Ag	Sn	Au	Pb
Unit Symbol				ppm	ppm	ppm	ppm	ppm	ppb	ppm
Detection Limit				0.01	0.1	0.01	0.002	0.05	0.5	0.01
Analysis Meth	Easting	Northing	Elev	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
2990053625	453626	5629899	943	19.7	163	0.57	< 0.002	1.09	0.5	24.9
2990053650	453653	5629902	928	54.5	107	0.77	< 0.002	0.1	11.6	37.3
2990053675	453676	5629900	917	47.5	240	1.87	0.534	0.44	13.7	89.9
2990053700	453700	5629899	926	68.3	125	2.69	0.796	0.08	15.1	11.4
2990053725	453725	5629905	944	33.3	114	1.61	0.905	0.47	1.1	188
2990053750	453751	5629902	944	52.7	291	1.78	0.346	0.38	5.4	16.9
2990053775	453774	5629900	943	38.3	119	1.5	0.312	0.73	17.9	10.8
2990053800	453800	5629901	938	39	150	0.82	0.308	0.44	< 0.5	16.9
2990053850	453850	5629900	906	24	184	0.96	0.396	0.8	88.7	23.8
2990053875	453876	5629900	892	30.8	133	1.14	0.439	0.82	18.5	27.2
2990053900	453900	5629901	888	16.3	155	0.59	1.86	1.24	4.6	26.5
2990053925	453924	5629899	892	29.7	85.9	0.96	0.341	0.83	< 0.5	25.4
2985053475	453472	5629846	963	41.1	187	0.89	1.22	0.56	32	31.6
2985053500	453502	5629848	964	24.3	140	0.74	0.748	1.38	< 0.5	22.2
2985053525	453524	5629844	966	45.9	81.4	1.03	0.251	0.24	4	16.2
2985053550	453551	5629851	969	24.7	110	1.21	0.415	0.73	< 0.5	18.7
2985053575	453574	5629856	965	38.4	91.3	0.83	0.303	0.45	3.4	20.2
2985053600	453598	5629850	949	11.2	112	0.5	0.65	1.22	< 0.5	18.3
2985053625	453623	5629850	933	13.8	50.5	0.72	0.235	0.38	3.3	14.2
2985053650	453648	5629851	921	26.4	83.7	0.71	0.177	0.24	4.9	18.2
2985053675	453675	5629850	910	35.2	110	0.7	0.346	0.31	7.3	19.8
2985053700	453699	5629852	897	57	114	0.99	0.078	0.15	11.2	31.7
2985053725	453724	5629849	891	35.4	151	1.1	0.085	0.19	< 0.5	12.2
2985053775	453774	5629842	905	72.8	186	2.56	0.378	0.13	124	19.4
2985053800	453801	5629849	906	110	124	7.06	1.41	0.08	180	25.8
2985053825	453824	5629850	910	108	181	8.63	0.615	0.19	43.5	16.3
2985053850	453849	5629849	904	34.2	127	1.64	0.283	0.47	67	8.74
2985053875	453877	5629848	890	39.2	293	1.13	0.786	0.71	6.5	36.1
2985053900	453902	5629849	882	80.5	141	1.07	0.184	0.45	13	37.2
2985053925	453925	5629853	874	12.5	61.3	0.48	1.05	1.83	< 0.5	28.1

Analyte Symbol				Cu	Zn	Mo	Ag	Sn	Au	Pb
Unit Symbol				ppm	ppm	ppm	ppm	ppm	ppb	ppm
Detection Limit				0.01	0.1	0.01	0.002	0.05	0.5	0.01
Analysis Meth	Easting	Northing	Elev	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
2980053475	453475	5629810	942	22.9	89.9	1.15	0.167	0.46	< 0.5	12.2
2980053500	453500	5629802	933	23	116	0.69	0.243	0.64	< 0.5	21.9
2980053525	453525	5629802	928	48.8	194	0.77	0.381	0.72	< 0.5	24
2980053550	453552	5629801	927	27.3	150	1.05	0.096	0.36	< 0.5	29.2
2980053575	453575	5629800	919	13.1	56.8	0.38	< 0.002	0.19	< 0.5	10.4
2980053600	453599	5629800	915	41.4	121	0.9	0.278	0.38	2.4	31.4
2980053625	453626	5629801	914	5.35	55.3	0.38	< 0.002	0.42	< 0.5	11.1
2980053650	453652	5629801	908	18.1	57.3	0.44	0.02	0.28	< 0.5	8.66
2980053675	453674	5629802	895	22.2	106	0.85	0.224	0.75	< 0.5	20.7
2980053700	453700	5629799	881	34.1	127	1.04	0.311	0.81	< 0.5	25.9
2980053725	453725	5629802	872	56.7	118	0.85	0.34	0.25	29.2	37.9
2980053750	453753	5629802	860	56.4	165	1.8	1.09	1.1	176	18.6
2980053800	453799	5629802	866	57.5	163	2.33	0.132	0.05	82.7	12.6
2980053825	453824	5629802	868	90.6	140	4.36	0.51	0.12	159	17
2980053850	453852	5629806	877	68.6	116	4.14	0.427	0.13	389	25.9
2980053875	453877	5629802	872	75	135	3.52	1.07	0.17	129	41.4
2980053900	453903	5629802	862	26.5	145	1.08	2.33	0.61	< 0.5	24
2980053925	453925	5629801	853	47.4	100	0.62	0.393	0.35	413	18.5
2975053475	453474	5629750	895	31.9	96.8	0.62	0.179	0.41	12	16.5
2975053500	453499	5629753	900	56	88.6	0.84	0.326	0.31	5.8	23.8
2975053525	453525	5629757	909	45	136	1.04	0.195	0.6	0.6	30.4
2975053550	453549	5629752	902	6.23	37.7	0.34	0.094	0.4	< 0.5	11.3
2975053575	453574	5629751	891	14.5	158	0.97	0.582	1.28	< 0.5	23.8
2975053600	453600	5629763	885	39.8	69.6	0.58	0.075	0.22	< 0.5	15.7
2975053625	453626	5629757	878	29.5	92.3	0.73	0.225	0.61	1.6	17.3
2975053650	453650	5629752	869	9.54	68.3	0.41	0.098	0.61	< 0.5	14.9
2975053675	453674	5629752	864	14.3	107	0.48	0.186	0.5	< 0.5	12.9
2975053700	453698	5629750	857	40.9	129	0.86	0.131	0.45	< 0.5	23.5
2975053725	453724	5629751	850	22	114	0.84	0.203	0.66	< 0.5	24.1
2975053750	453749	5629749	841	39.8	94.1	0.68	0.178	0.24	76.8	16.4



Analyte Symbol				Cu	Zn	Mo	Ag	Sn	Au	Pb
Unit Symbol				ppm	ppm	ppm	ppm	ppm	ppb	ppm
Detection Limit				0.01	0.1	0.01	0.002	0.05	0.5	0.01
Analysis Meth	Easting	Northing	Elev	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
2975053775	453774	5629752	828	48.1	99.1	0.83	0.281	0.41	22.1	31.6
2975053800	453799	5629752	821	68.9	154	2.4	0.439	0.14	301	13.5
2975053825	453825	5629752	816	91	118	2.37	0.701	0.16	148	24.4
2975053850	453850	5629754	819	84.6	149	2.9	0.85	0.14	103	32.9
2975053875	453873	5629753	829	62.5	147	2.89	0.449	0.32	244	23.9
2975053900	453901	5629752	819	104	137	2.68	1.11	6.95	110	35.3
2975053925	453926	5629752	816	33.3	167	0.89	0.541	0.41	99.9	44.9
2970053475	453475	5629703	855	50.5	94.3	0.74	0.169	0.2	19	25.5
2970053500	453499	5629697	849	54.8	128	0.94	0.287	0.23	2.1	23.7
2970053525	453525	5629697	847	64	135	0.88	0.333	0.28	1.1	30.1
2970053550	453550	5629703	856	49.6	96.9	0.85	0.518	0.21	5.6	29.2
2970053575	453575	5629693	847	53.6	97.9	0.82	0.285	0.34	6.8	60.6
2970053600	453600	5629694	831	58.4	96.6	0.68	0.551	0.13	9.6	40.8
A				26	222	0.79	2.07	0.81	2.9	44.5
B				45.9	91.7	0.69	0.291	0.24	24.9	23.8
C				66.1	148	1.07	4.77	0.39	> 10000	29.7
D				52	148	0.69	1.08	0.72	1.9	25.2
E				19.4	95.4	0.94	0.658	1.09	< 0.5	23.4
F				31.4	133	0.84	0.188	0.65	< 0.5	19.9
G				44.6	118	1.8	0.709	0.09	8	9.67
H				63.8	116	1.09	0.101	0.15	0.8	33.3
I				44.1	175	1.1	0.335	0.58	93.7	26.7
J				44	134	0.87	0.14	0.41	< 0.5	24.6
RK1	453706	5630110	973	12.1	18.3	3.42	0.075	0.13	29.3	22.2

## **Appendix 2**

### Certificates of Analyses, 2015



**Date Submitted:** 14-Sep-15  
**Invoice No.:** A15-07749  
**Invoice Date:** 19-Oct-15  
**Your Reference:** Goldfinch

Happy Creek Minerals Ltd  
#460-789 West Pender Street  
Vancouver BC V6C 1H2  
Canada

ATTN: David Blann

## CERTIFICATE OF ANALYSIS

203 Soil samples were submitted for analysis.

The following analytical package was requested:

Code 1A1 Au - Fire Assay INAA

REPORT **A15-07749**

This report may be reproduced without our consent. If only selected portions of the report are reproduced, permission must be obtained. If no instructions were given at time of sample submittal regarding excess material, it will be discarded within 90 days of this report. Our liability is limited solely to the analytical cost of these analyses. Test results are representative only of material submitted for analysis.

Notes:

\*If value exceeds upper limit we recommend reassay by fire assay gravimetric Code 1A3.  
Assays are recommended for values >10,000 for Cu and Au. The Au from AR-MS is only semi-quantitative.  
For accurate Au data, fire assay is recommended.

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written over a horizontal line.

Emmanuel Esemé, Ph.D.  
Quality Control





**Date Submitted:** 14-Sep-15  
**Invoice No.:** A15-07749  
**Invoice Date:** 19-Oct-15  
**Your Reference:** Goldfinch

Happy Creek Minerals Ltd  
#460-789 West Pender Street  
Vancouver BC V6C 1H2  
Canada

ATTN: David Blann

## CERTIFICATE OF ANALYSIS

203 Soil samples were submitted for analysis.

The following analytical package was requested:

Code UT-1-Kamloops Aqua Regia ICP/MS

REPORT **A15-07749**

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Notes:

\*If value exceeds upper limit we recommend reassay by fire assay gravimetric Code 1A3.

Assays are recommended for values >10,000 for Cu and Au. The Au from AR-MS is only semi-quantitative.

For accurate Au data, fire assay is recommended.

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé". The signature is written in a cursive style with a large, sweeping initial "E".

Emmanuel Esemé, Ph.D.  
Quality Control



## Results

Analyte Symbol	Ti	S	P	Li	Be	B	Na	Mg	Al	K	Bi	Ca	Sc	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	ppm	ppm	ppm	%	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.001	1	0.001	0.1	0.1	1	0.001	0.01	0.01	0.01	0.02	0.01	0.1	1	1	1	0.01	0.1	0.1	0.01	0.1	0.02	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
3020053475	< 0.001	< 1	0.036	0.5	0.6	4	0.010	0.06	0.15	0.04	0.58	0.03	2.8	< 1	< 1	512	4.54	18.0	43.1	75.6	146	0.18	< 0.1
3020053500	0.002	< 1	0.042	8.9	0.7	3	0.012	0.07	0.81	0.05	0.61	0.05	2.5	10	6	505	4.77	18.3	38.8	47.4	105	2.22	< 0.1
3020053525	0.003	< 1	0.062	3.8	0.4	4	0.011	0.05	0.47	0.05	0.63	0.09	2.3	6	4	716	4.87	22.0	36.8	52.7	105	1.39	< 0.1
3020053550	0.008	< 1	0.057	4.3	0.7	4	0.011	0.05	0.68	0.04	0.65	0.05	2.6	8	5	847	5.35	21.0	43.3	58.1	105	1.75	< 0.1
3020053575	0.021	< 1	0.157	16.0	0.8	5	0.012	0.26	1.60	0.07	0.74	0.16	1.9	20	31	598	5.04	18.6	46.1	36.7	203	3.81	< 0.1
3020053600	0.078	< 1	0.077	23.6	0.8	4	0.017	0.35	2.13	0.05	0.36	0.09	2.7	32	37	401	3.44	14.3	47.3	29.5	127	7.66	< 0.1
3020053625	0.009	< 1	0.054	6.7	0.5	4	0.011	0.11	0.86	0.04	0.83	0.02	2.4	12	11	372	5.38	27.1	50.2	89.7	141	2.24	< 0.1
3020053650	0.034	< 1	0.070	17.6	0.5	4	0.012	0.33	1.42	0.06	0.48	0.13	3.4	29	43	769	4.72	18.8	47.6	46.9	143	4.69	< 0.1
3020053675	0.089	< 1	0.112	20.7	0.8	3	0.024	0.25	2.89	0.04	0.43	0.07	3.7	31	35	902	3.28	15.7	36.2	29.3	224	7.95	< 0.1
3020053700	0.062	< 1	0.171	17.5	0.7	3	0.016	0.23	2.60	0.04	0.44	0.05	2.9	28	30	286	4.28	15.9	31.3	32.4	144	7.60	< 0.1
3020053725	0.017	< 1	0.026	1.8	0.1	2	0.015	0.05	0.79	0.04	0.53	0.02	1.1	23	9	682	1.92	5.0	9.1	7.13	36.9	4.84	< 0.1
3020053775	0.002	< 1	0.025	1.0	0.1	4	0.011	0.03	0.34	0.05	0.47	0.01	0.5	12	4	57	1.82	7.3	10.8	15.4	30.4	2.24	0.1
3020053800	0.041	< 1	0.164	53.7	0.9	3	0.011	1.83	2.20	0.12	0.11	0.22	16.4	190	195	1150	8.30	46.7	199	90.5	117	12.7	0.1
3020053825	0.121	< 1	0.082	28.4	0.5	3	0.011	0.82	1.64	0.06	0.27	0.13	3.4	55	114	609	4.71	24.7	75.5	29.9	112	8.79	< 0.1
3020053850	0.097	< 1	0.169	19.4	0.7	8	0.018	0.35	2.64	0.04	0.29	0.12	2.6	42	74	551	3.44	14.6	43.2	19.2	90.1	10.7	< 0.1
3020053875	0.101	< 1	0.113	51.8	0.6	2	0.013	2.36	2.44	0.12	0.08	0.25	14.1	137	401	1690	7.94	53.6	234	50.6	175	13.5	< 0.1
3020053900	0.141	< 1	0.045	36.0	0.3	6	0.013	0.96	2.09	0.07	0.30	0.17	4.9	67	119	495	5.05	26.9	85.8	47.3	133	7.56	< 0.1
3020053925	0.225	< 1	0.110	56.8	0.6	3	0.014	1.93	2.58	0.19	0.19	0.16	8.9	133	202	562	7.37	34.1	129	37.9	165	12.8	< 0.1
3015053475	0.007	< 1	0.053	5.2	0.4	2	0.011	0.05	0.70	0.04	0.49	0.13	3.5	12	7	1500	4.34	15.7	33.5	45.1	93.3	2.83	< 0.1
3015053500	0.111	< 1	0.124	17.0	1.2	5	0.023	0.10	4.89	0.04	0.41	0.17	3.2	24	16	329	3.09	12.5	28.6	18.9	99.8	8.80	< 0.1
3015053525	0.042	< 1	0.060	13.3	0.8	5	0.018	0.10	2.08	0.05	0.47	0.07	3.2	21	10	1080	3.45	13.4	30.6	25.9	95.5	6.19	< 0.1
3015053550	0.012	< 1	0.044	6.8	0.6	4	0.012	0.05	0.78	0.04	0.60	0.07	2.7	12	6	342	4.74	14.2	31.1	39.8	102	3.18	< 0.1
3015053575	0.054	< 1	0.107	13.6	0.4	3	0.016	0.14	1.54	0.04	0.26	0.09	4.3	23	17	454	5.67	29.1	140	34.9	213	5.10	< 0.1
3015053600	0.029	< 1	0.188	11.0	0.7	3	0.013	0.11	1.41	0.04	0.22	0.19	3.4	24	18	1740	7.15	36.9	95.6	32.3	196	4.90	0.1
3015053625	0.034	< 1	0.090	10.0	0.8	3	0.017	0.09	1.46	0.04	0.60	0.05	2.2	18	13	342	4.68	18.2	40.3	36.9	107	4.82	0.1
3015053650	0.017	< 1	0.081	6.0	0.5	2	0.012	0.07	0.56	0.04	0.86	0.07	2.6	12	8	361	5.64	25.3	60.9	59.6	136	2.89	0.1
3015053675	0.001	< 1	0.047	7.1	0.8	3	0.011	0.26	0.32	0.08	0.78	0.86	3.0	5	6	799	5.23	49.7	125	72.0	94.4	0.94	< 0.1
3015053700	0.104	< 1	0.044	18.3	0.4	2	0.012	0.57	1.32	0.06	0.40	0.16	3.2	37	63	389	4.36	19.5	66.8	50.9	104	4.58	< 0.1
3015053725	0.258	< 1	0.067	24.4	0.4	3	0.015	0.60	1.62	0.05	0.39	0.19	2.5	71	100	242	4.49	14.0	47.5	20.1	143	10.0	< 0.1
3015053750	0.143	< 1	0.053	22.2	0.6	1	0.011	0.49	1.42	0.05	0.39	0.11	2.6	48	63	342	4.32	16.8	63.4	31.1	193	7.31	< 0.1
3015053775	0.060	< 1	0.098	19.2	0.6	3	0.010	0.54	1.25	0.07	0.30	0.15	2.2	33	57	558	3.88	16.0	47.6	38.1	98.7	4.77	0.1
3015053800	0.116	< 1	0.100	22.0	0.4	3	0.014	0.52	1.27	0.07	0.46	0.18	2.4	46	63	1090	3.77	15.4	39.5	18.0	128	7.72	< 0.1
3015053825	0.282	< 1	0.099	42.6	0.8	3	0.014	1.71	2.03	0.12	0.17	0.31	9.8	127	125	981	5.82	28.3	82.1	63.2	124	10.4	< 0.1
3015053850	0.257	< 1	0.138	47.1	0.8	3	0.018	2.36	2.97	0.21	0.12	0.35	9.5	116	173	1460	6.53	38.6	122	47.5	143	14.3	< 0.1
3015053875	0.275	< 1	0.103	29.5	0.5	3	0.018	1.26	2.23	0.06	0.22	0.31	3.4	91	196	1170	4.68	29.3	108	41.0	110	11.0	< 0.1
3015053900	0.200	< 1	0.061	33.7	0.6	3	0.014	1.39	2.16	0.13	0.31	0.24	5.6	77	154	1130	5.48	30.5	105	50.1	119	8.69	0.1
3015053925	0.427	< 1	0.067	49.1	0.7	4	0.017	2.30	2.64	0.30	0.16	0.44	9.0	137	253	1570	7.51	41.6	142	37.0	116	13.0	< 0.1
3010053475	0.007	< 1	0.044	5.5	0.5	3	0.011	0.07	0.95	0.05	0.46	0.04	2.5	8	6	481	4.51	17.5	41.9	50.2	118	1.56	< 0.1
3010053500	0.001	< 1	0.053	4.6	0.7	2	0.009	0.04	0.51	0.03	0.54	0.03	3.3	6	4	323	5.18	17.2	42.2	71.3	91.9	0.90	0.1
3010053525	0.001	< 1	0.047	4.1	0.4	2	0.009	0.05	0.54	0.05	0.59	0.07	2.2	8	5	422	4.29	17.2	34.0	53.3	92.6	1.68	< 0.1
3010053550	0.017	< 1	0.046	6.5	0.7	2	0.010	0.12	1.06	0.04	0.45	0.05	2.4	9	11	371	4.24	18.1	43.0	43.2	145	1.78	< 0.1
3010053575	0.051	< 1	0.121	10.8	0.5	2	0.012	0.21	0.99	0.05	0.54	0.06	2.6	30	28	398	4.47	12.5	36.0	35.9	118	6.39	< 0.1
3010053600	0.008	< 1	0.156	4.8	0.7	4	0.011	0.12	0.59	0.03	0.17	0.44	6.2	17	11	1290	10.3	70.1	181	68.4	283	1.68	0.1
3010053625	0.092	< 1	0.085	26.9	0.6	2	0.012	0.78	1.90	0.05	0.36	0.20	4.2	45	79	293	5.02	30.6	95.8	65.7	134	5.87	0.1
3010053650	0.125	< 1	0.085	28.2	0.5	2	0.013	0.75	1.74	0.05	0.37	0.14	4.7	58	82	389	5.39	23.5	69.7	42.9	128	7.20	< 0.1
3010053675	0.127	< 1	0.109	63.2	0.9	5	0.021	1.17	3.21	0.08	0.33	0.76	10.2	64	62	2720	5.32	29.1	152	68.6	247	6.85	< 0.1
3010053700	0.030	< 1	0.074	10.3	0.6	3	0.014	0.12	1.26	0.07	0.56	0.09	1.8	17	15	1170	4.36	20.4	49.2	37.9	115	4.16	< 0.1
3010053725	0.017	< 1	0.051	13.6	0.6	3	0.012	0.08	1.08	0.07	0.59	0.04	2.0	18	12	1200	4.04	16.7	30.9	23.0	131	4.66	0.1
3010053750	0.034	< 1	0.047	11.2	0.5	2	0.010	0.24	0.84	0.06	0.50	0.04	2.1	23	29	459	4.16	15.8	30.6	33.8	85.1	3.40	0.1

Analyte Symbol	Ti	S	P	Li	Be	B	Na	Mg	Al	K	Bi	Ca	Sc	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	ppm	ppm	ppm	%	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.001	1	0.001	0.1	0.1	1	0.001	0.01	0.01	0.01	0.02	0.01	0.1	1	1	1	0.01	0.1	0.1	0.01	0.1	0.02	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
3010053775	0.066	< 1	0.051	13.7	0.4	3	0.011	0.30	1.17	0.05	0.60	0.06	2.2	30	45	1520	4.03	17.5	33.7	32.2	93.2	5.30	0.1
3010053800	0.325	< 1	0.071	63.0	1.1	4	0.016	2.65	3.10	0.11	0.17	0.43	12.9	130	191	1220	6.91	40.9	152	78.9	185	11.5	0.1
3010053825	0.181	< 1	0.080	35.5	0.7	3	0.017	0.87	2.89	0.06	0.25	0.15	4.1	63	97	294	4.42	17.6	58.5	24.9	124	9.13	< 0.1
3010053850	0.620	< 1	0.073	23.1	0.3	4	0.016	1.51	1.36	0.12	0.11	0.59	4.1	131	263	454	5.83	33.1	146	9.85	70.7	10.1	< 0.1
3010053875	0.671	< 1	0.063	35.1	0.4	4	0.016	1.80	2.12	0.08	0.11	0.46	3.8	138	144	570	6.33	27.8	75.7	23.7	83.4	14.2	< 0.1
3010053900	0.582	< 1	0.036	8.3	0.2	3	0.011	0.60	0.76	0.04	0.14	0.48	2.8	81	102	222	3.58	9.4	32.4	5.04	32.3	7.31	< 0.1
3010053925	0.436	< 1	0.149	64.4	0.4	4	0.014	3.14	2.82	0.30	0.05	0.71	3.6	156	247	728	5.79	31.1	156	49.1	77.2	12.6	0.1
3005053475	0.018	< 1	0.112	9.0	0.6	3	0.014	0.12	2.01	0.05	0.54	0.03	2.0	14	16	600	5.41	17.3	30.4	36.1	118	3.83	0.1
3005053500	0.024	< 1	0.052	9.0	0.3	3	0.015	0.14	1.15	0.04	0.40	0.11	1.5	21	16	621	3.05	13.5	24.7	25.3	108	4.10	< 0.1
3005053525	0.030	< 1	0.067	21.0	0.5	3	0.014	0.32	1.74	0.05	0.60	0.06	2.8	24	31	409	4.61	18.7	59.8	41.0	173	4.05	0.1
3005053550	0.060	< 1	0.108	28.9	0.6	3	0.012	0.65	1.66	0.06	0.48	0.10	4.3	39	61	333	5.97	20.9	95.9	62.6	140	4.67	0.1
3005053575	0.065	< 1	0.061	26.6	0.8	4	0.016	0.37	2.18	0.06	0.43	0.07	3.2	30	39	337	4.24	16.9	59.0	31.1	130	5.54	< 0.1
3005053600	0.084	< 1	0.046	6.2	0.1	3	0.012	0.12	0.50	0.05	0.45	0.16	1.4	28	18	419	2.73	9.7	18.8	10.7	77.2	4.95	0.1
3005053625	0.182	< 1	0.088	37.5	0.7	6	0.014	1.56	2.05	0.11	0.30	0.39	7.2	67	124	737	5.29	27.1	92.3	79.6	168	6.56	0.1
3005053650	0.141	< 1	0.097	34.2	0.5	4	0.015	1.20	1.86	0.08	0.30	0.59	6.1	61	99	2200	5.30	30.3	92.0	57.8	136	6.43	< 0.1
3005053675	0.146	< 1	0.097	25.6	0.6	3	0.016	0.95	1.79	0.06	0.38	0.44	3.9	58	75	943	4.59	24.4	58.8	42.4	141	7.65	< 0.1
3005053700	0.127	1	0.100	47.9	1.2	5	0.019	1.26	3.08	0.06	0.32	0.56	5.5	60	84	1360	4.62	25.8	80.4	55.0	201	7.91	< 0.1
3005053725	0.022	< 1	0.076	6.6	0.5	4	0.012	0.58	0.41	0.05	0.65	0.73	3.0	12	21	1030	5.02	30.0	67.3	53.7	103	1.24	< 0.1
3005053750	0.027	< 1	0.075	10.6	0.7	3	0.014	0.10	1.23	0.06	0.41	0.04	1.8	19	13	1100	3.40	17.2	26.5	42.7	126	4.52	< 0.1
3005053775	0.032	< 1	0.071	15.5	0.5	3	0.015	0.15	1.28	0.05	0.59	0.06	2.0	24	15	349	4.11	12.8	29.4	24.3	99.6	6.17	0.1
3005053800	0.018	< 1	0.046	15.1	0.8	3	0.014	0.11	1.07	0.05	0.53	0.03	1.6	13	9	211	3.63	19.4	34.2	33.5	119	3.14	0.1
3005053825	0.023	< 1	0.086	3.4	0.3	3	0.010	0.12	0.55	0.04	0.75	0.02	3.3	20	14	167	5.53	13.2	33.5	47.3	123	3.33	< 0.1
3005053850	0.002	< 1	0.051	1.2	0.3	3	0.009	0.05	0.43	0.03	0.36	< 0.01	1.9	9	7	176	4.62	11.7	36.4	52.5	93.6	1.94	0.1
3005053875	0.447	< 1	0.078	57.8	0.5	3	0.011	3.39	2.47	0.02	0.13	0.35	8.7	132	264	725	6.71	41.7	199	20.3	149	13.6	< 0.1
3005053900	0.292	< 1	0.072	34.7	0.6	4	0.013	2.12	2.37	0.07	0.18	0.21	4.2	77	163	417	4.97	23.9	105	70.5	87.6	7.72	< 0.1
3005053925	0.306	< 1	0.100	52.1	1.1	4	0.012	2.19	2.58	0.16	0.06	0.42	2.0	62	100	552	5.55	17.5	46.8	16.4	91.8	9.23	< 0.1
3000053475	0.022	< 1	0.123	17.6	0.5	3	0.012	0.44	1.27	0.08	0.50	0.07	2.6	24	31	702	4.57	15.1	82.2	41.5	115	2.98	< 0.1
3000053500	0.037	< 1	0.179	12.0	0.3	3	0.014	0.26	1.10	0.07	0.52	0.06	1.7	27	28	963	5.05	14.1	40.3	33.9	147	6.36	< 0.1
3000053525	0.024	< 1	0.063	10.9	0.4	3	0.012	0.33	0.85	0.06	0.46	0.05	2.6	17	24	778	4.37	24.3	52.1	52.8	104	2.45	0.1
3000053550	0.091	< 1	0.252	25.0	0.6	4	0.017	0.47	1.96	0.07	0.44	0.08	2.7	42	48	1260	4.64	14.8	42.4	29.2	186	8.36	< 0.1
3000053575	0.064	< 1	0.084	19.9	0.6	3	0.014	0.45	1.33	0.05	0.42	0.07	2.6	34	43	1180	4.52	19.8	44.6	31.6	128	5.34	< 0.1
3000053600	0.079	< 1	0.081	20.7	0.5	4	0.016	0.52	1.71	0.06	0.46	0.08	2.9	40	46	672	4.63	16.4	51.3	31.1	134	6.58	0.1
3000053625	0.150	< 1	0.120	25.2	0.6	3	0.016	1.09	1.75	0.08	0.33	0.40	4.5	59	80	1610	4.95	24.6	73.1	41.4	136	7.95	< 0.1
3000053650	0.082	< 1	0.126	13.2	0.2	2	0.011	0.54	1.00	0.04	0.14	0.15	2.6	46	53	647	4.46	12.9	32.4	21.4	70.8	6.03	< 0.1
3000053675	0.194	< 1	0.078	31.5	0.5	3	0.015	1.37	1.99	0.08	0.27	0.22	5.5	70	101	981	5.15	26.8	81.6	40.9	126	7.36	< 0.1
3000053700	0.229	< 1	0.056	17.8	0.4	4	0.016	0.51	1.41	0.05	0.40	0.11	2.6	70	64	522	4.80	13.8	31.4	18.5	87.0	11.1	< 0.1
3000053725	0.145	< 1	0.114	15.3	0.4	4	0.015	0.69	1.12	0.08	0.39	0.27	2.6	65	66	1240	5.01	18.8	40.4	24.4	101	8.86	0.1
3000053750	0.143	< 1	0.101	34.0	0.8	4	0.016	1.32	2.14	0.08	0.32	0.51	4.6	62	88	1150	5.15	27.3	80.7	45.6	149	7.18	0.1
3000053775	0.147	< 1	0.047	13.7	0.3	3	0.012	0.55	1.05	0.07	0.39	0.16	2.5	58	56	266	4.85	11.7	41.3	35.6	91.7	6.85	< 0.1
3000053800	0.096	< 1	0.176	24.9	1.1	6	0.021	0.44	2.54	0.05	0.39	0.14	2.6	34	39	770	4.30	22.5	42.8	26.0	175	7.18	< 0.1
3000053825	0.194	< 1	0.077	52.4	1.3	4	0.018	1.74	2.49	0.10	0.34	0.31	7.0	84	109	1610	5.88	33.1	130	68.0	308	8.93	0.1
3000053850	0.013	< 1	0.053	3.7	0.4	6	0.013	0.12	0.67	0.04	0.42	0.02	1.7	17	12	175	3.57	8.2	23.6	25.6	62.2	3.05	0.1
3000053875	0.141	< 1	0.052	21.4	0.4	3	0.015	0.57	1.56	0.05	0.36	0.08	3.2	52	50	376	3.96	14.9	43.9	22.9	87.2	6.91	0.1
3000053900	0.069	< 1	0.041	23.0	0.5	4	0.015	0.46	1.51	0.09	0.42	0.09	2.2	39	40	443	2.63	18.1	24.5	10.8	67.5	5.81	0.1
3000053925	0.463	< 1	0.089	59.4	0.8	4	0.020	2.33	3.24	0.05	0.20	0.33	4.5	112	170	549	5.69	32.0	118	32.2	131	12.3	< 0.1
2995053475	0.034	< 1	0.060	14.4	0.4	3	0.015	0.21	1.03	0.05	0.46	0.10	2.4	31	24	370	4.17	11.1	43.1	22.5	96.1	5.43	0.1
2995053500	0.058	< 1	0.129	23.8	0.9	4	0.019	0.37	2.43	0.06	0.42	0.07	2.6	27	28	674	4.45	17.4	66.8	36.4	161	5.65	< 0.1
2995053525	0.030	< 1	0.075	7.7	0.3	5	0.015	0.29	0.75	0.05	0.38	0.07	1.7	29	28	760	4.01	13.2	64.8	20.1	98.3	3.93	< 0.1
2995053550	0.075	< 1	0.240	21.7	0.5	5	0.016	0.58	1.75	0.07	0.44	0.12	2.8	40	58	638	5.73	21.7	59.0	40.0	167	6.51	0.1
2995053575	0.094	< 1	0.065	45.8	0.6	4	0.015	0.82	1.50	0.07	0.39	0.17	3.4	46	66	577	5.30	24.0	62.6	42.5	114	5.74	0.1

Analyte Symbol	Ti	S	P	Li	Be	B	Na	Mg	Al	K	Bi	Ca	Sc	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	ppm	ppm	ppm	%	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.001	1	0.001	0.1	0.1	1	0.001	0.01	0.01	0.01	0.02	0.01	0.1	1	1	1	0.01	0.1	0.1	0.01	0.1	0.02	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
2995053600	0.064	< 1	0.081	20.5	0.7	3	0.015	0.50	1.59	0.06	0.54	0.18	3.0	33	44	1010	5.69	24.5	76.2	42.4	188	4.64	0.1
2995053625	0.048	< 1	0.071	22.1	0.6	4	0.015	0.33	1.78	0.05	0.42	0.16	2.8	27	33	509	4.54	18.6	41.3	30.5	112	4.35	0.1
2995053650	0.089	< 1	0.123	15.4	0.8	3	0.016	0.46	1.58	0.04	0.25	0.25	13.2	51	88	2060	10.5	71.8	725	76.6	179	5.01	0.1
2995053675	0.272	< 1	0.066	39.7	0.8	4	0.016	1.59	2.47	0.07	0.29	0.20	5.6	82	113	346	5.65	28.2	97.9	60.9	118	8.67	< 0.1
2995053700	0.227	< 1	0.062	26.5	0.3	4	0.016	0.97	1.48	0.06	0.28	0.18	3.6	74	79	255	4.37	15.8	53.3	20.8	117	8.61	< 0.1
2995053725	0.018	< 1	0.170	4.8	0.5	3	0.014	0.09	0.49	0.03	0.11	0.12	4.0	17	15	502	8.41	33.0	107	39.1	129	2.11	0.2
2995053750	0.167	< 1	0.086	38.7	0.7	5	0.015	1.08	2.09	0.08	0.33	0.14	4.2	67	91	304	5.83	21.4	76.9	37.6	142	7.84	0.1
2995053775	0.070	< 1	0.086	15.3	0.5	1	0.012	0.44	1.04	0.04	0.17	0.24	4.2	31	47	736	4.57	28.5	112	31.8	103	3.42	< 0.1
2995053800	0.106	< 1	0.139	19.6	0.5	2	0.015	0.77	1.38	0.06	0.32	0.18	4.6	53	71	1800	5.49	28.4	86.4	48.6	158	6.28	0.1
2995053825	0.077	< 1	0.229	27.6	0.6	2	0.017	0.73	1.65	0.07	0.31	0.24	5.1	47	62	923	6.60	28.5	116	42.4	281	6.55	0.1
2995053850	0.219	< 1	0.066	19.1	0.4	2	0.016	1.01	1.59	0.08	0.36	0.26	4.2	82	86	890	5.03	19.6	49.6	20.0	120	10.0	0.1
2995053875	0.287	< 1	0.063	38.7	0.6	1	0.012	1.45	2.19	0.06	0.27	0.16	5.7	84	113	364	5.65	25.7	93.5	56.6	196	7.13	0.1
2995053900	0.170	< 1	0.246	31.4	0.7	2	0.021	0.67	3.13	0.06	0.36	0.19	3.2	55	59	397	4.20	14.9	65.2	22.8	206	11.9	< 0.1
2995053925	0.065	< 1	0.038	9.5	0.3	2	0.014	0.26	1.05	0.07	0.49	0.07	1.8	34	25	202	2.75	5.7	16.0	11.9	43.6	5.74	0.1
2990053475	0.051	< 1	0.039	20.5	0.4	4	0.018	0.25	1.40	0.06	0.42	0.07	2.5	40	32	1480	3.30	12.1	32.1	13.6	89.1	6.90	0.1
2990053500	0.043	< 1	0.066	22.8	0.7	3	0.017	0.41	1.56	0.07	0.46	0.06	3.1	29	33	290	4.88	17.1	84.9	43.0	107	4.96	0.1
2990053525	0.064	< 1	0.077	27.7	0.7	2	0.020	0.45	1.95	0.05	0.40	0.09	3.3	33	36	650	4.23	20.3	84.0	35.6	131	5.51	< 0.1
2990053550	0.115	< 1	0.084	41.3	0.8	2	0.017	1.02	1.83	0.10	0.34	0.22	3.3	38	38	808	5.36	16.3	46.7	24.0	131	7.24	0.1
2990053575	0.047	< 1	0.187	21.1	0.8	2	0.019	0.34	1.67	0.07	0.50	0.14	3.7	24	28	1590	5.08	26.1	71.2	42.5	183	3.94	0.1
2990053600	0.084	< 1	0.136	25.6	0.6	2	0.014	0.61	1.31	0.09	0.50	0.13	3.1	45	56	1080	5.25	19.5	57.5	40.0	142	5.53	0.1
2990053625	0.106	< 1	0.234	29.5	0.7	3	0.023	0.46	2.31	0.11	0.41	0.10	3.0	42	46	793	4.28	15.5	44.7	19.7	163	8.81	< 0.1
2990053650	0.003	< 1	0.125	1.7	0.7	1	0.012	0.04	0.33	0.04	0.49	0.17	3.7	4	4	1900	5.16	21.6	40.6	54.5	107	0.30	0.1
2990053675	0.046	< 1	0.246	8.0	0.6	3	0.018	0.12	0.95	0.04	0.20	0.21	4.8	23	19	1700	8.65	45.3	183	47.5	240	3.92	0.1
2990053700	0.013	< 1	0.201	7.6	0.6	2	0.013	0.15	0.51	0.03	0.08	0.36	8.8	16	17	1140	10.0	46.2	217	68.3	125	1.54	0.1
2990053725	0.078	< 1	0.075	14.6	0.4	1	0.015	0.31	1.03	0.04	0.19	0.13	4.7	43	43	492	7.45	34.2	103	33.3	114	6.03	< 0.1
2990053750	0.046	< 1	0.135	16.9	0.9	3	0.016	0.21	1.84	0.05	0.12	0.19	4.9	22	22	280	7.14	47.2	205	52.7	291	4.09	0.1
2990053775	0.071	< 1	0.130	12.6	0.6	2	0.017	0.22	1.61	0.03	0.17	0.06	4.8	27	21	290	7.03	25.5	112	38.3	119	6.16	< 0.1
2990053800	0.059	< 1	0.157	12.1	0.6	2	0.017	0.13	1.15	0.03	0.14	0.17	8.7	22	33	712	6.18	40.7	211	39.0	150	3.66	0.1
2990053850	0.127	< 1	0.201	27.4	0.5	3	0.016	0.58	2.15	0.05	0.31	0.13	3.4	49	74	1040	4.93	22.7	56.5	24.0	184	9.53	< 0.1
2990053875	0.094	< 1	0.065	19.3	0.7	2	0.014	0.28	1.65	0.06	0.47	0.09	2.2	38	37	252	4.81	14.7	33.4	30.8	133	7.73	0.1
2990053900	0.095	< 1	0.360	14.6	0.8	2	0.024	0.22	2.86	0.04	0.34	0.17	2.0	28	28	1340	2.94	13.1	22.9	16.3	155	10.2	< 0.1
2990053925	0.108	< 1	0.073	24.4	0.5	2	0.015	0.65	1.63	0.07	0.36	0.07	2.7	46	55	232	3.55	11.7	45.1	29.7	85.9	8.15	< 0.1
2985053475	0.063	< 1	0.062	25.3	0.8	2	0.018	0.33	1.64	0.07	0.41	0.11	2.7	24	27	281	3.85	19.1	63.9	41.1	187	5.85	< 0.1
2985053500	0.153	< 1	0.116	25.8	1.1	5	0.032	0.20	3.15	0.05	0.32	0.29	2.6	23	15	259	3.14	15.8	77.8	24.3	140	10.5	< 0.1
2985053525	0.006	< 1	0.042	12.6	0.5	2	0.013	0.13	0.71	0.07	0.46	0.09	2.5	11	12	241	4.09	19.7	43.7	45.9	81.4	2.13	0.1
2985053550	0.046	< 1	0.039	22.7	0.5	6	0.016	0.18	1.45	0.06	0.44	0.05	2.0	25	19	238	3.77	15.1	38.3	24.7	110	6.37	< 0.1
2985053575	0.012	< 1	0.061	13.9	0.5	2	0.013	0.11	0.86	0.06	0.41	0.07	2.3	15	13	613	3.91	18.7	45.8	38.4	91.3	3.36	< 0.1
2985053600	0.092	< 1	0.095	16.6	0.6	3	0.025	0.09	1.71	0.05	0.35	0.06	1.7	22	10	294	2.19	7.9	19.0	11.2	112	9.46	< 0.1
2985053625	0.022	< 1	0.034	7.6	0.3	1	0.012	0.10	0.57	0.03	0.29	0.02	1.3	20	12	132	2.52	5.9	19.2	13.8	50.5	3.71	< 0.1
2985053650	0.011	< 1	0.065	9.8	0.3	2	0.014	0.16	0.65	0.05	0.47	0.08	1.7	16	16	488	3.49	11.3	28.1	26.4	83.7	2.57	< 0.1
2985053675	0.018	< 1	0.067	12.9	0.5	2	0.014	0.19	0.78	0.05	0.38	0.04	2.1	16	16	335	3.93	11.2	40.1	35.2	110	3.04	< 0.1
2985053700	0.004	< 1	0.061	2.4	0.4	2	0.012	0.06	0.32	0.04	0.56	0.03	2.1	7	7	422	5.54	16.0	38.4	57.0	114	1.21	< 0.1
2985053725	0.012	< 1	0.153	4.0	0.4	2	0.015	0.11	0.33	0.04	0.15	0.20	2.7	16	33	516	6.50	32.3	139	35.4	151	1.63	0.1
2985053775	0.005	< 1	0.184	3.9	0.5	2	0.014	0.11	0.42	0.05	0.15	0.36	8.3	17	20	1380	9.78	64.7	192	72.8	186	1.02	0.1
2985053800	0.005	< 1	0.379	2.3	0.6	4	0.015	0.22	0.31	0.07	0.21	1.39	5.9	14	15	1020	8.15	73.9	190	110	124	0.73	0.1
2985053825	0.009	< 1	0.209	6.7	0.7	2	0.011	0.11	0.57	0.03	0.16	0.12	5.6	24	23	199	8.42	39.0	147	108	181	2.15	0.1
2985053850	0.069	< 1	0.195	14.9	0.4	2	0.015	0.32	1.25	0.04	0.15	0.10	3.0	28	33	214	5.72	28.4	101	34.2	127	4.93	0.1
2985053875	0.112	< 1	0.178	30.8	1.0	2	0.019	0.56	2.68	0.06	0.35	0.07	4.0	44	54	469	5.04	22.7	60.8	39.2	293	7.69	0.1
2985053900	0.195	< 1	0.048	29.9	0.5	2	0.014	1.09	1.51	0.06	0.43	0.14	4.3	60	101	418	6.10	24.7	82.4	80.5	141	6.11	0.1
2985053925	0.095	< 1	0.576	6.6	0.7	3	0.028	0.06	3.44	0.03	0.42	0.11	1.6	28	9	301	2.81	7.8	6.3	12.5	61.3	19.8	< 0.1

Analyte Symbol	Ti	S	P	Li	Be	B	Na	Mg	Al	K	Bi	Ca	Sc	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	ppm	ppm	ppm	%	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.001	1	0.001	0.1	0.1	1	0.001	0.01	0.01	0.01	0.02	0.01	0.1	1	1	1	0.01	0.1	0.1	0.01	0.1	0.02	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
2980053475	0.027	< 1	0.051	36.3	0.4	4	0.012	0.41	1.15	0.05	0.24	0.09	2.5	27	30	213	3.54	12.5	38.4	22.9	89.9	5.71	< 0.1
2980053500	0.032	< 1	0.115	26.1	0.6	2	0.015	0.28	1.55	0.06	0.34	0.20	2.0	22	20	233	2.99	15.6	29.2	23.0	116	5.32	0.1
2980053525	0.059	< 1	0.072	27.4	0.8	2	0.020	0.36	1.51	0.07	0.39	0.12	4.6	25	31	1130	4.82	27.5	88.7	48.8	194	4.81	0.1
2980053550	0.005	< 1	0.070	33.3	0.4	6	0.015	0.27	0.81	0.07	0.45	0.26	2.0	16	21	645	4.16	20.0	38.5	27.3	150	3.35	0.1
2980053575	0.003	< 1	0.031	12.4	0.2	2	0.008	0.09	0.45	0.05	0.21	0.12	0.9	7	5	542	1.85	9.9	17.0	13.1	56.8	1.72	< 0.1
2980053600	0.008	< 1	0.071	20.5	0.6	6	0.016	0.20	0.74	0.08	0.56	0.32	2.5	13	17	1120	4.45	29.7	61.2	41.4	121	2.61	0.1
2980053625	0.015	< 1	0.025	21.0	0.2	4	0.013	0.22	0.79	0.05	0.20	0.07	1.3	17	17	368	1.54	6.7	14.6	5.35	55.3	4.05	< 0.1
2980053650	0.007	< 1	0.028	19.2	0.3	2	0.008	0.17	0.85	0.04	0.20	0.06	1.2	13	9	213	2.03	11.3	19.8	18.1	57.3	3.24	< 0.1
2980053675	0.026	< 1	0.077	28.3	0.5	6	0.017	0.22	1.62	0.07	0.38	0.06	2.0	20	18	308	3.27	12.0	27.7	22.2	106	5.87	< 0.1
2980053700	0.083	< 1	0.091	23.8	0.6	6	0.017	0.42	1.49	0.06	0.42	0.07	2.6	37	38	284	4.66	16.4	48.6	34.1	127	6.91	0.1
2980053725	0.025	< 1	0.048	10.2	0.7	5	0.012	0.27	0.74	0.05	0.53	0.04	3.7	15	22	580	4.94	19.6	54.8	56.7	118	2.16	0.1
2980053750	0.089	< 1	0.148	13.3	0.9	6	0.022	0.12	2.20	0.04	0.33	0.19	6.4	30	22	385	7.17	35.3	162	56.4	165	9.79	0.1
2980053800	0.005	< 1	0.161	3.8	0.5	4	0.012	0.09	0.34	0.04	0.13	0.24	5.5	13	11	911	7.40	41.9	151	57.5	163	0.80	0.1
2980053825	0.005	< 1	0.136	4.6	0.5	5	0.012	0.09	0.47	0.04	0.16	0.10	6.8	16	21	731	9.59	54.5	244	90.6	140	1.22	0.1
2980053850	0.007	< 1	0.108	5.3	0.4	5	0.013	0.10	0.47	0.04	0.20	0.23	7.8	19	20	1140	9.83	63.3	185	68.6	116	1.51	0.1
2980053875	0.018	< 1	0.140	8.3	0.5	3	0.010	0.12	0.61	0.03	0.58	0.17	6.7	19	17	397	8.44	42.8	217	75.0	135	2.25	< 0.1
2980053900	0.138	< 1	0.079	28.5	0.5	5	0.016	0.59	1.91	0.05	0.26	0.10	2.8	41	54	253	4.09	18.1	63.7	26.5	145	7.10	< 0.1
2980053925	0.131	< 1	0.033	19.3	0.3	4	0.009	0.66	1.00	0.04	0.24	0.11	2.6	44	65	208	4.04	13.3	48.9	47.4	100	5.05	< 0.1
2975053475	0.042	< 1	0.042	25.6	0.3	5	0.013	0.47	1.00	0.06	0.29	0.11	2.4	27	34	262	3.70	14.8	43.7	31.9	96.8	4.14	0.1
2975053500	0.101	< 1	0.039	20.8	0.5	5	0.012	0.72	1.10	0.06	0.37	0.10	2.9	39	54	295	4.39	18.2	63.6	56.0	88.6	4.61	0.1
2975053525	0.029	< 1	0.069	28.4	0.4	6	0.016	0.41	1.25	0.07	0.50	0.10	3.2	31	34	571	5.21	17.5	46.6	45.0	136	5.68	0.1
2975053550	0.007	< 1	0.028	6.7	< 0.1	5	0.013	0.10	0.47	0.05	0.22	0.09	0.9	12	9	336	1.39	4.2	11.0	6.23	37.7	2.71	< 0.1
2975053575	0.079	< 1	0.120	38.9	0.6	6	0.020	0.22	1.40	0.05	0.48	0.09	1.9	27	20	211	3.19	11.5	27.8	14.5	158	9.21	< 0.1
2975053600	0.087	< 1	0.045	25.1	0.5	4	0.011	0.58	1.08	0.05	0.22	0.23	2.6	28	41	389	3.52	16.6	52.1	39.8	69.6	3.58	< 0.1
2975053625	0.026	< 1	0.042	31.1	0.5	5	0.015	0.36	1.35	0.07	0.32	0.06	2.3	28	28	218	3.44	13.4	32.6	29.5	92.3	5.68	0.1
2975053650	0.010	< 1	0.032	26.9	0.3	5	0.014	0.26	1.07	0.05	0.29	0.06	1.7	22	21	178	2.18	7.9	22.0	9.54	68.3	5.34	0.1
2975053675	0.014	< 1	0.043	34.9	0.3	5	0.014	0.42	1.10	0.05	0.27	0.07	2.1	23	32	632	3.19	13.9	39.6	14.3	107	4.55	0.1
2975053700	0.104	< 1	0.067	32.3	0.6	6	0.013	0.76	1.70	0.07	0.31	0.10	2.6	37	59	234	4.15	18.0	68.8	40.9	129	4.92	0.1
2975053725	0.089	< 1	0.051	26.7	0.4	7	0.016	0.52	1.30	0.06	0.35	0.11	2.3	40	44	267	3.70	12.5	43.4	22.0	114	5.83	0.1
2975053750	0.028	< 1	0.034	19.1	0.5	4	0.010	0.34	0.92	0.05	0.26	0.06	2.0	18	25	161	3.46	12.4	49.4	39.8	94.1	2.78	< 0.1
2975053775	0.042	< 1	0.030	19.8	0.5	5	0.013	0.44	1.25	0.04	0.44	0.05	2.9	30	40	198	4.53	15.3	54.3	48.1	99.1	4.16	0.1
2975053800	0.005	< 1	0.157	5.2	0.4	5	0.014	0.10	0.42	0.03	0.15	0.23	7.5	11	11	1860	7.90	41.6	142	68.9	154	1.01	0.1
2975053825	0.009	< 1	0.136	7.8	0.5	5	0.014	0.19	0.55	0.05	0.27	0.22	5.5	16	18	545	6.64	39.4	117	91.0	118	1.51	0.1
2975053850	0.005	< 1	0.106	5.1	0.5	5	0.014	0.12	0.50	0.04	0.40	0.22	8.9	16	17	1100	8.40	48.9	159	84.6	149	1.11	0.1
2975053875	0.019	< 1	0.130	8.6	0.4	5	0.014	0.12	0.79	0.03	0.32	0.10	5.2	24	26	547	6.91	43.3	219	62.5	147	2.53	0.1
2975053900	0.030	< 1	0.143	12.4	0.5	6	0.012	0.37	0.88	0.04	0.44	0.15	7.9	27	38	614	7.26	40.3	293	104	137	2.58	0.1
2975053925	0.051	< 1	0.061	17.9	0.5	6	0.016	0.45	1.02	0.07	0.55	0.39	2.8	34	42	1770	4.97	24.8	64.2	33.3	167	4.10	0.1
2970053475	0.018	< 1	0.063	23.6	0.4	5	0.013	0.45	1.04	0.08	0.43	0.20	1.9	20	28	956	4.65	25.8	43.4	50.5	94.3	3.65	0.1
2970053500	0.004	< 1	0.075	27.5	0.5	6	0.013	0.35	1.10	0.09	0.50	0.11	2.1	16	20	977	4.91	23.6	41.9	54.8	128	3.53	0.1
2970053525	0.029	< 1	0.059	21.6	0.6	5	0.015	0.40	1.16	0.09	0.41	0.20	3.3	24	33	3350	4.54	29.3	63.2	64.0	135	3.69	0.1
2970053550	0.006	< 1	0.059	22.7	0.6	6	0.014	0.29	0.93	0.08	0.51	0.25	3.1	14	19	1090	4.74	29.7	50.5	49.6	96.9	2.84	0.1
2970053575	0.018	< 1	0.072	17.5	0.6	6	0.014	0.33	0.81	0.07	0.59	0.47	2.4	15	21	1750	4.30	32.8	54.0	53.6	97.9	2.35	0.1
2970053600	0.007	< 1	0.107	9.9	0.4	7	0.013	0.26	0.51	0.06	0.60	0.60	2.5	8	14	1370	4.55	33.3	59.4	58.4	96.6	1.27	0.1
A	0.104	< 1	0.123	22.8	0.9	6	0.028	0.29	2.80	0.04	0.33	0.07	3.2	30	31	821	3.23	16.5	35.2	26.0	222	7.61	< 0.1
B	0.079	< 1	0.048	16.4	0.4	4	0.011	0.57	1.08	0.05	0.30	0.12	2.7	28	41	276	3.69	15.3	52.5	45.9	91.7	3.40	< 0.1
C	0.121	< 1	0.089	29.4	0.8	6	0.015	1.00	2.02	0.05	0.34	0.20	4.0	48	79	293	5.08	30.0	96.5	66.1	148	5.62	< 0.1
D	0.036	< 1	0.088	12.7	0.8	6	0.019	0.11	1.48	0.08	0.44	0.05	2.1	20	15	1330	3.91	20.2	32.5	52.0	148	5.23	0.1
E	0.227	< 1	0.065	19.0	0.5	6	0.018	0.49	1.55	0.05	0.37	0.11	2.6	60	59	550	4.87	15.0	32.1	19.4	95.4	11.1	< 0.1
F	0.235	< 1	0.065	30.2	0.4	6	0.014	1.10	1.64	0.06	0.27	0.17	4.0	70	85	331	4.80	20.2	68.6	31.4	133	8.37	< 0.1
G	0.016	< 1	0.224	7.3	0.6	6	0.013	0.18	0.53	0.04	0.07	0.43	8.5	17	16	1430	9.38	37.3	167	44.6	118	1.39	0.1



Analyte Symbol	Ti	S	P	Li	Be	B	Na	Mg	Al	K	Bi	Ca	Sc	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	ppm	ppm	ppm	%	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.001	1	0.001	0.1	0.1	1	0.001	0.01	0.01	0.01	0.02	0.01	0.1	1	1	1	0.01	0.1	0.1	0.01	0.1	0.02	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
H	0.005	< 1	0.063	2.5	0.4	5	0.011	0.07	0.34	0.04	0.58	0.03	2.1	7	7	404	5.78	16.1	39.0	63.8	116	1.27	0.1
I	0.103	< 1	0.095	33.7	0.7	6	0.016	0.64	1.91	0.07	0.43	0.10	3.4	42	56	364	5.46	24.3	72.6	44.1	175	5.82	0.1
J	0.124	< 1	0.072	31.2	0.5	6	0.014	0.80	1.77	0.08	0.34	0.12	2.9	42	64	255	4.47	19.1	71.7	44.0	134	5.50	0.1
RK1	0.001	< 1	0.011	0.4	< 0.1	7	0.069	0.01	0.13	0.05	0.19	0.02	1.3	4	8	45	2.49	4.8	13.2	12.1	18.3	0.44	< 0.1

## Results

Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Te	Cs	Ba	La	Ce	Cd	Pr	Nd	Sm	Se	Eu	Gd
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.1	0.5	0.01	0.1	0.1	0.01	0.002	0.02	0.05	0.02	0.02	0.02	0.5	0.5	0.01	0.01	0.1	0.02	0.1	0.1	0.1	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
3020053475	44.5	3.1	3.7	9.49	0.1	< 0.1	1.02	0.162	0.04	< 0.05	2.48	0.11	0.44	22.3	19.6	40.9	0.11	5.0	19.6	4.4	0.6	0.9	4.3
3020053500	32.9	10.9	5.7	3.91	0.3	0.3	0.98	0.781	0.05	0.29	2.27	0.21	0.77	82.1	21.7	45.5	0.09	5.2	19.7	3.8	0.1	0.8	3.0
3020053525	34.7	7.8	10.4	4.13	0.2	0.2	0.92	0.326	0.05	0.20	2.48	0.10	0.59	57.8	20.5	44.8	0.15	5.0	19.4	3.8	0.5	0.8	3.1
3020053550	34.6	8.3	6.0	6.30	0.4	0.3	1.19	0.556	0.04	0.23	2.62	0.20	0.70	59.7	23.9	50.2	0.19	5.8	22.2	4.7	0.8	1.1	4.3
3020053575	40.8	13.0	16.2	3.71	0.4	0.6	1.05	0.686	0.05	0.29	2.48	0.12	1.40	85.3	23.6	52.8	0.46	5.4	19.9	3.6	0.6	0.8	3.1
3020053600	15.7	13.5	9.6	4.83	2.5	1.7	0.67	2.12	0.03	0.77	0.67	0.12	2.04	93.6	19.6	45.3	0.24	4.7	17.8	3.3	0.5	0.8	3.0
3020053625	38.9	7.9	4.5	2.58	0.3	0.4	1.39	1.04	0.05	0.32	2.35	0.30	1.21	56.3	35.2	73.3	0.21	8.3	30.8	5.6	0.9	1.1	4.1
3020053650	29.3	9.9	12.4	7.21	0.7	1.1	1.25	0.991	0.06	0.41	0.79	0.12	1.08	90.6	19.7	43.3	0.55	4.8	18.0	3.6	0.6	1.0	3.6
3020053675	14.7	13.7	8.5	7.71	6.8	1.6	0.88	2.15	0.05	0.85	0.45	0.06	2.12	126	15.9	36.0	0.58	3.9	14.9	3.0	0.3	0.7	2.9
3020053700	24.8	9.2	6.1	3.48	6.9	1.7	1.11	2.84	0.05	0.59	0.48	0.11	1.22	84.6	15.8	34.8	0.27	3.7	14.4	2.6	0.6	0.6	2.3
3020053725	14.2	6.2	4.2	1.56	0.1	0.6	0.69	0.302	< 0.02	0.87	0.43	0.05	0.98	44.5	32.7	66.4	0.15	7.4	26.1	4.3	0.1	0.8	3.2
3020053775	14.2	4.7	3.6	2.15	< 0.1	0.2	1.07	0.161	< 0.02	0.51	0.96	0.10	0.58	27.0	65.9	130	0.10	15.1	54.2	8.9	< 0.1	1.6	6.3
3020053800	15.0	13.3	20.2	5.47	0.2	< 0.1	0.85	0.137	0.09	0.38	0.36	0.11	3.70	65.9	21.7	44.2	0.29	5.1	20.1	3.9	0.4	1.4	3.7
3020053825	8.5	14.6	10.7	3.32	0.5	1.8	0.85	0.220	0.05	0.60	0.38	0.05	3.69	94.6	21.0	44.3	0.37	5.0	18.5	3.2	0.2	0.8	2.6
3020053850	6.0	11.9	11.6	3.11	3.5	2.3	0.98	0.491	0.05	0.95	0.27	0.06	3.00	101	8.3	19.4	0.35	2.0	7.67	1.5	0.3	0.4	1.4
3020053875	2.1	19.9	22.8	3.73	0.3	0.2	0.43	1.09	0.08	0.33	0.14	0.03	5.66	179	12.1	26.5	0.45	3.1	12.4	2.5	< 0.1	0.9	2.4
3020053900	10.2	14.4	12.8	4.24	1.7	2.4	1.50	0.093	0.04	0.53	0.29	0.07	3.72	97.4	22.3	47.4	0.30	5.3	19.1	3.5	< 0.1	0.9	3.0
3020053925	7.7	29.6	11.4	2.40	0.8	0.7	0.60	0.075	0.06	0.62	0.24	0.02	14.0	146	13.2	32.5	0.28	3.2	11.9	2.2	< 0.1	0.6	2.0
3015053475	24.8	8.6	13.0	13.3	0.3	0.3	1.09	1.08	0.06	0.39	2.46	0.23	0.75	71.1	25.6	53.6	0.24	6.3	24.4	4.9	0.4	1.5	5.1
3015053500	17.2	8.8	16.5	10.2	30.6	2.6	0.69	2.33	0.05	1.00	0.65	0.07	1.26	62.4	9.0	44.2	0.27	2.8	11.3	2.6	0.8	0.8	3.1
3015053525	17.5	13.2	9.5	9.43	4.6	1.0	0.98	1.40	0.05	0.79	1.17	0.12	1.38	115	17.2	39.2	0.28	4.4	17.0	3.4	0.1	0.9	3.4
3015053550	29.5	12.5	9.0	4.20	1.1	0.5	1.13	0.958	0.06	0.48	2.93	0.14	1.00	56.5	30.3	63.5	0.15	7.4	28.2	5.3	0.1	1.1	4.1
3015053575	73.1	9.4	12.7	5.17	2.3	1.5	1.00	0.842	0.07	0.73	0.90	0.07	2.20	64.2	24.2	55.2	0.76	5.7	22.5	4.4	0.1	1.5	4.3
3015053600	89.6	11.1	20.5	6.29	0.4	0.5	2.24	0.335	0.06	0.60	0.97	0.08	2.00	87.5	23.0	49.1	0.66	5.4	21.6	4.2	< 0.1	1.5	4.5
3015053625	28.6	10.6	8.4	3.10	1.4	1.2	1.11	0.652	0.06	0.62	1.70	0.11	1.65	68.5	26.7	57.1	0.41	6.4	23.9	4.3	0.3	0.9	3.4
3015053650	37.0	15.0	10.5	3.11	0.2	0.5	1.50	0.331	0.06	0.40	1.78	0.17	1.97	54.1	37.5	79.9	0.16	9.4	35.2	6.3	< 0.1	1.4	4.5
3015053675	168	6.0	64.9	5.85	0.5	< 0.1	1.65	1.29	0.04	0.28	5.94	0.31	3.03	36.1	18.2	38.1	0.32	4.4	17.1	3.4	0.6	0.9	3.4
3015053700	31.0	11.9	15.7	4.54	1.4	1.3	0.80	0.521	0.03	0.39	0.96	0.11	1.93	90.4	30.5	64.4	0.15	7.2	26.2	4.6	< 0.1	1.2	4.2
3015053725	12.5	12.1	10.8	3.87	7.5	4.2	0.78	0.697	0.05	1.14	0.65	0.11	3.60	73.8	14.1	33.1	0.34	3.5	13.2	2.5	< 0.1	0.7	2.3
3015053750	15.5	15.5	8.0	3.23	3.0	2.6	0.81	1.11	0.05	0.80	0.89	0.11	4.00	129	23.6	50.0	0.42	5.5	20.4	3.5	< 0.1	0.9	3.2
3015053775	12.7	12.8	13.4	7.39	0.1	1.0	0.86	0.418	0.03	0.29	0.48	0.06	3.06	100	31.4	62.1	0.27	7.4	27.6	5.0	< 0.1	1.3	4.9
3015053800	11.3	31.2	15.5	2.32	0.4	1.8	0.83	0.352	0.03	0.81	0.47	0.09	3.67	167	24.3	51.0	0.37	5.7	20.4	3.5	< 0.1	0.8	2.9
3015053825	7.3	19.0	16.1	5.03	1.1	2.0	0.69	0.155	0.05	0.68	0.28	0.06	10.5	133	16.3	35.5	0.26	4.0	15.1	2.8	< 0.1	0.9	2.8
3015053850	3.6	22.9	17.7	4.07	1.8	1.8	0.47	0.069	0.06	0.73	0.16	0.04	13.9	121	9.8	22.6	0.43	2.5	9.80	1.8	< 0.1	0.7	2.0
3015053875	4.2	14.2	19.2	5.53	1.8	2.3	0.69	0.231	0.04	0.80	0.19	0.06	6.36	92.2	11.3	24.2	0.35	2.8	10.7	2.1	0.1	0.7	2.4
3015053900	10.9	21.2	16.6	6.17	0.8	1.9	0.94	0.306	0.04	0.57	0.37	0.06	6.61	131	22.9	48.6	0.27	5.4	20.3	3.7	0.1	1.1	3.7
3015053925	3.9	40.0	21.8	5.47	1.2	2.5	0.68	0.188	0.07	0.83	0.32	0.04	13.7	254	9.0	20.1	0.39	2.4	9.56	2.0	< 0.1	0.7	2.3
3010053475	27.8	11.5	7.4	4.46	0.4	0.3	0.80	0.915	0.04	0.18	2.05	0.23	0.82	64.9	16.0	37.2	0.17	3.7	14.4	3.1	0.3	0.8	3.0
3010053500	24.7	8.1	5.0	5.02	0.2	0.1	0.94	0.748	0.08	0.12	3.88	0.28	0.59	44.0	20.5	43.7	0.18	5.0	19.7	3.9	< 0.1	0.8	3.4
3010053525	30.7	9.4	8.6	2.65	< 0.1	0.1	1.06	0.721	0.04	0.27	2.85	0.25	0.66	68.6	25.3	52.7	0.12	6.1	23.6	4.5	< 0.1	0.9	3.4
3010053550	26.2	7.5	7.4	3.71	1.5	0.6	0.94	0.731	0.05	0.14	2.24	0.16	0.96	49.2	16.3	41.2	0.27	3.9	15.5	2.9	< 0.1	0.7	2.7
3010053575	32.5	17.8	9.3	2.32	0.4	1.0	1.26	1.39	0.05	0.67	2.40	0.21	1.72	46.6	21.9	46.6	0.24	5.1	19.2	3.5	< 0.1	0.8	2.8
3010053600	233	7.9	36.9	15.0	0.7	0.3	2.73	0.342	0.10	0.18	1.58	0.04	1.73	66.0	20.3	43.0	0.64	5.2	22.4	5.5	0.2	2.8	7.2
3010053625	30.1	9.5	15.4	5.85	1.2	1.7	1.08	0.252	0.05	0.36	0.80	0.08	1.92	93.4	27.9	68.2	0.17	6.5	25.1	4.6	0.3	1.4	4.5
3010053650	28.3	14.6	12.7	3.27	1.9	2.2	0.98	0.618	0.05	0.55	0.73	0.09	2.49	86.3	18.8	41.1	0.25	4.4	17.2	3.1	< 0.1	0.8	2.6
3010053675	14.9	14.8	67.3	20.4	3.9	1.3	0.86	1.43	0.05	0.66	0.71	0.09	5.01	158	16.8	37.6	2.06	4.4	18.1	4.2	1.1	1.5	5.8
3010053700	36.3	21.4	12.5	4.27	0.3	0.6	0.87	0.915	0.04	0.57	2.02	0.14	2.09	97.6	31.6	67.1	0.30	7.4	27.8	4.9	< 0.1	1.2	4.5
3010053725	24.0	23.8	7.3	2.30	0.2	0.5	0.81	0.897	0.05	0.73	1.55	0.13	1.97	136	36.4	76.6	0.22	8.7	32.7	5.7	< 0.1	1.2	4.5
3010053750	24.9	13.7	7.5	2.48	0.2	1.0	0.66	0.291	0.04	0.43	1.65	0.09	1.63	59.7	38.5	78.9	0.11	9.1	34.1	5.7	< 0.1	1.3	4.6

Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Te	Cs	Ba	La	Ce	Cd	Pr	Nd	Sm	Se	Eu	Gd
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.1	0.5	0.01	0.1	0.1	0.01	0.002	0.02	0.05	0.02	0.02	0.02	0.5	0.5	0.01	0.01	0.1	0.02	0.1	0.1	0.1	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
3010053775	21.1	12.8	8.7	2.78	0.2	1.4	0.75	0.881	0.05	0.59	1.41	0.13	1.81	95.5	32.8	70.1	0.16	8.1	29.9	5.1	< 0.1	1.2	4.4
3010053800	7.8	12.7	26.8	18.6	1.9	1.2	0.43	0.850	0.06	0.71	0.23	0.03	6.92	86.6	19.1	42.5	0.47	5.3	21.8	4.9	< 0.1	1.9	6.6
3010053825	7.1	14.6	11.1	4.01	6.3	3.1	0.70	0.701	0.05	0.66	0.36	0.03	3.78	125	11.8	28.5	0.31	2.9	10.9	2.1	< 0.1	0.6	2.2
3010053850	1.5	9.2	15.3	6.44	4.2	3.3	0.34	0.105	0.04	0.90	0.29	0.03	3.51	52.1	5.4	13.5	0.17	1.8	8.35	2.0	< 0.1	0.9	2.7
3010053875	1.7	18.3	12.3	6.61	5.1	2.1	0.47	0.075	0.04	0.92	0.16	< 0.02	6.30	74.2	5.7	13.8	0.15	1.8	7.85	1.9	< 0.1	0.8	2.6
3010053900	2.6	8.3	20.4	7.23	3.5	6.9	0.35	0.062	< 0.02	0.88	0.19	0.03	2.51	36.4	10.2	22.6	0.15	2.7	11.3	2.5	< 0.1	1.1	3.1
3010053925	5.7	19.9	25.8	5.21	2.6	3.9	0.48	0.014	0.04	0.47	0.16	0.02	7.22	54.6	7.1	16.7	0.13	2.0	8.50	1.8	< 0.1	0.8	2.2
3005053475	29.0	10.5	4.5	4.03	0.8	0.8	1.08	1.64	0.06	0.29	2.01	0.12	1.04	53.2	17.5	37.4	0.34	4.1	15.6	2.9	0.7	0.8	2.9
3005053500	22.4	7.4	10.1	3.39	1.0	0.8	0.74	1.50	0.03	0.42	0.90	0.06	0.64	63.5	16.9	37.9	0.34	4.0	14.9	2.7	< 0.1	0.7	2.7
3005053525	37.1	14.0	7.6	3.49	1.9	1.1	0.97	0.745	0.06	0.41	1.97	0.11	1.59	123	22.6	48.2	0.20	5.3	19.8	3.5	< 0.1	0.9	3.3
3005053550	67.4	13.0	10.3	4.30	0.6	1.3	1.39	0.570	0.06	0.29	1.90	0.15	2.15	116	25.9	54.3	0.23	6.2	23.3	4.0	< 0.1	1.1	3.9
3005053575	31.3	17.5	8.7	4.35	2.7	1.6	0.90	0.641	0.04	0.56	1.25	0.14	1.79	116	18.2	42.1	0.23	4.4	16.6	3.1	< 0.1	0.8	3.1
3005053600	18.9	13.5	13.9	2.39	0.2	1.3	0.88	0.260	0.02	0.90	0.98	0.08	1.63	56.4	24.6	51.1	0.43	5.8	21.7	3.5	< 0.1	0.8	3.1
3005053625	25.4	13.1	31.3	7.23	1.5	1.6	0.79	0.186	0.04	0.31	0.62	0.06	3.79	105	21.7	49.3	0.24	5.3	20.7	3.9	0.2	1.2	4.3
3005053650	27.5	10.1	51.3	7.55	1.4	2.1	1.09	0.298	0.05	0.33	0.79	0.07	3.10	89.4	17.5	38.8	0.39	4.3	16.8	3.3	0.2	1.1	3.9
3005053675	21.0	13.3	40.0	4.84	1.3	2.7	1.06	< 0.002	0.05	0.63	0.76	0.06	2.73	82.9	16.9	39.1	0.31	4.0	15.3	2.8	0.3	0.9	3.1
3005053700	17.0	14.1	52.9	11.6	2.5	2.0	0.87	< 0.002	0.04	0.60	0.57	0.08	4.86	77.8	15.8	35.8	0.81	3.9	15.1	3.0	0.3	1.0	3.9
3005053725	75.4	5.7	72.9	6.97	0.2	0.5	1.16	0.036	0.03	0.14	3.52	0.20	0.98	39.6	16.1	34.1	0.29	3.8	15.0	3.0	0.5	0.9	3.8
3005053750	15.3	18.0	10.0	3.63	0.5	0.8	0.61	0.148	0.04	0.59	1.11	0.12	1.78	116	27.0	57.8	0.31	6.5	24.3	4.2	< 0.1	1.1	4.1
3005053775	30.1	20.9	8.9	2.59	0.3	0.9	0.78	0.501	0.04	0.81	1.79	0.18	2.14	103	39.8	83.6	0.14	9.1	34.0	5.9	< 0.1	1.4	4.9
3005053800	32.7	21.0	6.0	2.61	0.3	0.6	0.57	0.412	0.04	0.41	2.17	0.12	2.23	93.8	40.7	84.7	0.18	9.5	35.7	6.2	0.1	1.4	5.4
3005053825	147	15.1	6.2	2.62	0.4	0.8	0.80	< 0.002	0.05	0.36	0.98	0.23	1.24	25.7	26.0	53.9	0.16	5.9	22.0	3.8	0.3	0.9	3.4
3005053850	41.0	6.9	3.5	3.62	0.6	0.2	1.55	< 0.002	0.03	0.22	2.21	0.07	0.69	20.0	47.7	95.9	0.16	10.9	40.5	6.7	< 0.1	1.5	5.6
3005053875	3.7	6.7	11.9	4.63	3.5	2.5	0.49	< 0.002	0.05	0.73	0.20	< 0.02	2.92	40.3	5.7	13.1	0.18	1.5	6.41	1.4	< 0.1	0.6	1.9
3005053900	7.2	13.5	17.3	5.16	5.8	1.9	1.07	< 0.002	0.04	0.47	0.22	0.05	3.40	87.8	18.4	39.2	0.10	4.3	16.2	3.0	< 0.1	0.9	3.2
3005053925	3.5	30.7	39.0	7.44	0.6	6.7	0.30	< 0.002	0.04	0.83	0.30	0.03	5.42	181	9.3	20.3	0.16	2.2	8.85	1.8	< 0.1	0.8	2.5
3000053475	120	13.8	10.0	3.21	0.3	0.8	1.23	< 0.002	0.05	0.21	2.32	0.08	1.15	108	24.4	53.1	0.26	5.6	21.1	3.7	< 0.1	0.9	3.4
3000053500	49.5	15.0	9.0	2.92	0.3	0.6	1.06	0.940	0.05	0.60	1.57	0.15	1.50	84.9	23.1	48.0	0.45	5.3	19.6	3.4	< 0.1	0.9	3.0
3000053525	46.7	8.0	7.5	8.43	0.1	0.6	0.87	< 0.002	0.04	0.16	2.02	0.07	1.06	65.6	27.2	55.5	0.24	6.3	24.5	4.8	0.2	1.4	5.3
3000053550	27.0	20.2	9.8	3.09	1.1	1.8	0.85	1.11	0.06	0.77	1.24	0.08	2.47	120	19.1	38.7	0.54	4.3	15.8	2.7	< 0.1	0.7	2.7
3000053575	22.9	13.7	8.8	3.52	0.4	1.5	0.98	< 0.002	0.05	0.57	1.00	0.11	2.25	71.4	20.2	42.2	0.32	4.6	17.5	3.2	< 0.1	0.9	3.2
3000053600	38.9	19.2	9.0	3.47	0.7	1.5	0.95	1.09	0.05	0.67	1.28	0.06	2.76	104	22.1	46.9	0.30	5.1	19.5	3.4	0.1	0.9	3.2
3000053625	30.1	13.9	31.3	5.70	2.0	1.9	0.86	< 0.002	0.05	0.59	0.62	0.10	2.97	104	15.4	34.4	0.46	3.6	14.5	2.8	0.1	0.8	3.1
3000053650	9.4	6.6	14.0	3.82	0.3	2.0	0.87	< 0.002	0.05	0.34	0.29	0.02	1.49	58.6	16.4	36.2	0.20	3.9	15.3	2.5	< 0.1	0.8	2.5
3000053675	23.8	12.5	17.2	6.16	2.0	2.7	0.82	< 0.002	0.04	0.52	0.56	0.05	3.50	91.1	16.5	36.0	0.32	3.9	14.9	2.9	< 0.1	1.0	3.2
3000053700	16.3	12.2	12.5	2.61	2.7	4.3	1.01	< 0.002	0.05	1.16	0.71	0.10	3.34	76.6	17.0	36.4	0.45	3.8	14.4	2.5	< 0.1	0.7	2.3
3000053725	21.8	23.4	23.6	3.52	0.3	1.5	0.89	< 0.002	0.04	0.75	0.64	0.10	5.11	93.5	22.5	48.8	0.32	5.1	18.9	3.2	< 0.1	0.9	3.1
3000053750	23.0	15.8	46.3	8.10	0.9	2.2	0.81	< 0.002	0.05	0.47	0.62	0.12	3.89	99.1	18.6	43.0	0.40	4.6	17.6	3.4	0.3	1.1	3.8
3000053775	24.8	12.6	20.5	3.15	0.5	4.0	0.89	0.397	0.04	0.69	0.81	0.10	2.25	83.0	24.5	52.7	0.28	5.7	21.3	3.6	< 0.1	1.0	3.2
3000053800	19.6	19.3	15.8	3.27	2.4	1.9	0.78	3.93	0.05	0.79	1.07	0.13	3.50	107	19.0	41.0	0.36	4.5	16.7	3.1	< 0.1	0.8	3.0
3000053825	12.2	24.6	28.7	15.8	0.8	1.4	0.81	0.933	0.05	0.75	0.40	0.08	9.54	160	21.9	49.6	1.01	5.6	22.0	4.6	0.2	1.5	5.5
3000053850	22.4	10.5	5.0	2.13	0.3	0.6	0.83	< 0.002	0.03	0.35	2.01	0.15	1.15	36.2	36.3	75.1	0.10	8.4	31.2	5.3	< 0.1	1.2	4.4
3000053875	16.7	12.8	9.0	2.93	3.5	2.2	0.79	< 0.002	0.04	0.77	1.10	0.05	2.90	75.1	28.0	58.6	0.17	6.4	23.8	4.1	< 0.1	1.0	3.5
3000053900	5.1	42.5	10.0	3.21	1.0	1.6	0.97	< 0.002	0.03	0.79	0.27	0.03	5.85	136	41.8	85.9	0.12	9.5	34.6	5.9	< 0.1	1.3	5.2
3000053925	2.8	21.4	13.5	5.19	13.5	3.3	0.60	< 0.002	0.05	0.96	0.19	0.04	11.1	120	7.4	18.7	0.22	2.0	8.23	1.9	< 0.1	0.8	2.3
2995053475	62.3	8.9	10.8	2.37	0.3	1.0	1.56	< 0.002	0.04	0.68	1.83	0.13	0.86	59.0	23.7	49.0	0.19	5.5	20.8	3.6	< 0.1	0.9	3.0
2995053500	49.9	15.0	9.8	3.93	2.5	1.6	1.13	0.382	0.05	0.57	1.50	0.11	1.65	117	18.2	43.5	0.27	4.2	16.3	3.0	< 0.1	0.7	2.8
2995053525	108	12.4	11.5	2.38	0.2	0.7	1.09	0.289	0.04	0.49	2.57	0.06	0.91	112	22.6	47.0	0.44	5.1	19.1	3.3	< 0.1	0.8	2.8
2995053550	46.0	15.4	13.5	3.36	0.5	1.4	1.13	0.772	0.06	0.52	1.44	0.12	2.34	101	24.6	52.8	0.44	5.6	20.6	3.6	< 0.1	0.9	3.2
2995053575	28.2	11.1	17.7	7.43	0.4	2.2	0.94	< 0.002	0.05	0.46	1.39	0.05	1.94	80.6	22.2	51.7	0.27	5.3	20.3	3.8	< 0.1	1.1	4.1

Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Te	Cs	Ba	La	Ce	Cd	Pr	Nd	Sm	Se	Eu	Gd
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.1	0.5	0.01	0.1	0.1	0.01	0.002	0.02	0.05	0.02	0.02	0.02	0.5	0.5	0.01	0.01	0.1	0.02	0.1	0.1	0.1	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
2995053600	72.0	14.2	21.9	5.23	0.8	1.2	0.87	0.378	0.05	0.42	1.69	0.07	1.97	99.7	20.6	48.9	0.40	4.9	18.6	3.6	< 0.1	1.0	3.5
2995053625	28.6	9.7	19.5	5.70	1.3	1.6	0.91	< 0.002	0.05	0.43	1.34	0.09	1.38	88.2	22.2	54.6	0.32	5.3	20.4	4.0	< 0.1	1.0	4.0
2995053650	1130	9.7	23.7	16.3	2.5	0.9	1.03	2.15	0.09	0.45	11.8	0.16	2.32	123	14.2	33.1	0.63	3.8	15.9	3.9	0.3	1.9	5.6
2995053675	21.0	13.7	14.0	4.51	7.6	2.6	0.87	< 0.002	0.05	0.68	0.65	0.07	4.53	103	17.0	42.3	0.17	4.1	15.2	2.9	< 0.1	0.9	2.9
2995053700	14.2	13.0	13.9	3.60	2.6	3.2	0.76	< 0.002	0.04	0.88	0.50	0.06	3.04	94.5	21.0	43.4	0.26	4.9	18.4	3.3	< 0.1	0.9	2.8
2995053725	134	7.5	10.6	3.95	0.3	0.3	1.19	0.621	0.06	0.18	1.16	0.18	1.45	40.0	37.4	74.2	0.22	8.4	32.0	5.2	< 0.1	1.7	4.3
2995053750	28.5	17.9	12.3	3.73	2.8	3.0	0.96	< 0.002	0.05	0.62	0.69	0.13	4.54	128	24.2	51.0	0.30	5.6	21.1	3.6	< 0.1	0.9	3.3
2995053775	119	10.3	21.0	4.77	0.5	1.1	1.56	0.325	0.04	0.34	1.10	0.09	1.60	92.9	16.5	34.3	0.28	3.9	14.5	2.7	< 0.1	0.9	2.9
2995053800	65.9	14.7	20.5	4.85	0.5	1.4	1.03	0.024	0.05	0.55	0.92	0.04	2.82	137	23.8	51.6	0.47	5.5	21.3	3.9	< 0.1	1.0	3.6
2995053825	106	19.4	26.3	4.97	0.4	0.6	1.49	< 0.002	0.07	0.54	1.30	0.12	4.62	137	26.9	59.3	0.73	6.2	23.2	4.1	< 0.1	1.2	3.9
2995053850	9.7	15.5	25.4	3.08	0.7	1.9	0.66	0.953	0.05	1.10	0.58	0.07	4.21	128	18.7	40.3	0.49	4.5	17.0	3.0	< 0.1	0.8	2.6
2995053875	13.2	17.1	10.7	3.97	7.3	2.1	0.90	0.071	0.05	0.55	0.54	0.09	3.58	74.5	19.1	44.8	0.26	4.3	16.0	2.9	< 0.1	0.8	2.7
2995053900	9.5	12.3	16.5	3.29	6.1	2.6	0.69	1.35	0.06	1.23	0.48	0.06	4.89	89.0	7.8	23.5	0.54	1.9	7.29	1.4	< 0.1	0.4	1.6
2995053925	7.8	19.2	10.7	2.24	0.4	1.4	0.87	< 0.002	0.03	0.83	0.45	0.05	3.44	53.3	41.8	86.5	0.12	9.7	35.8	6.0	< 0.1	1.2	4.7
2990053475	24.5	14.4	13.0	2.31	0.3	1.3	0.79	< 0.002	0.04	0.90	0.80	0.06	1.74	125	24.4	48.9	0.28	5.4	19.7	3.5	< 0.1	0.8	2.9
2990053500	58.3	14.6	10.3	3.54	1.4	1.7	1.51	0.246	0.05	0.52	1.93	0.14	1.57	112	28.7	58.3	0.20	6.5	23.9	4.2	< 0.1	1.0	3.6
2990053525	66.1	16.2	11.2	3.45	3.7	1.3	0.95	0.231	0.04	0.59	1.38	0.10	1.93	123	19.1	44.0	0.25	4.5	16.7	3.0	< 0.1	0.7	2.7
2990053550	26.9	19.4	18.4	2.87	0.5	1.0	0.71	< 0.002	0.05	0.83	1.14	0.09	3.52	105	24.5	49.8	0.19	5.6	21.0	3.6	< 0.1	1.0	3.2
2990053575	67.6	14.5	18.7	6.01	1.1	0.9	0.88	< 0.002	0.05	0.69	1.33	0.10	1.91	156	21.6	50.8	0.68	5.2	19.8	4.0	< 0.1	1.0	3.8
2990053600	34.9	21.4	13.7	3.25	0.2	1.0	0.94	< 0.002	0.05	0.58	1.34	0.09	2.39	131	25.8	54.9	0.34	5.9	22.3	3.9	< 0.1	0.9	3.2
2990053625	18.1	19.2	12.4	2.66	1.6	1.5	0.57	< 0.002	0.05	1.09	0.77	0.08	3.02	116	15.0	39.4	0.41	3.5	12.7	2.4	< 0.1	0.6	2.1
2990053650	41.6	5.3	14.6	12.1	0.1	< 0.1	0.77	< 0.002	0.06	0.10	4.05	0.10	0.58	53.3	16.5	35.2	0.26	4.3	17.5	4.4	< 0.1	1.5	5.9
2990053675	128	9.4	20.7	7.63	1.0	0.5	1.87	0.534	0.08	0.44	1.78	0.09	1.80	87.4	29.7	60.3	0.54	6.7	26.1	4.9	< 0.1	1.7	4.7
2990053700	174	5.9	34.5	21.2	0.8	0.2	2.69	0.796	0.06	0.08	1.87	0.10	1.14	48.9	28.8	57.9	0.21	6.9	28.7	6.5	0.6	2.6	7.5
2990053725	58.2	10.4	12.7	3.11	1.0	1.1	1.61	0.905	0.06	0.47	1.17	0.11	2.05	62.2	25.6	50.3	0.24	5.7	21.7	3.8	< 0.1	1.1	3.1
2990053750	128	11.7	19.6	11.9	3.0	1.0	1.78	0.346	0.07	0.38	1.09	0.06	2.96	48.8	25.3	57.4	0.43	6.4	27.2	6.7	< 0.1	2.5	7.3
2990053775	103	7.5	8.5	5.91	11.0	0.9	1.50	0.312	0.06	0.73	0.99	0.08	1.90	61.6	13.7	34.8	0.18	3.3	13.6	3.0	< 0.1	1.0	3.1
2990053800	246	9.4	14.6	9.09	3.9	0.7	0.82	0.308	0.07	0.44	1.30	0.09	2.19	94.0	24.6	52.2	0.28	5.6	22.6	4.4	< 0.1	1.5	4.5
2990053850	30.7	17.7	12.0	4.06	1.5	1.3	0.96	0.396	0.05	0.80	0.51	0.10	4.00	104	17.3	37.4	0.39	4.0	14.7	2.7	< 0.1	0.7	2.3
2990053875	27.5	16.0	10.3	3.07	1.8	2.4	1.14	0.439	0.04	0.82	0.69	0.07	2.44	84.1	29.4	62.1	0.27	6.6	24.6	4.3	< 0.1	0.9	3.3
2990053900	13.6	11.7	21.0	2.68	3.2	1.1	0.59	1.86	0.05	1.24	0.26	0.02	3.14	177	10.3	22.8	0.54	2.3	8.62	1.7	< 0.1	0.4	1.5
2990053925	8.6	16.8	9.7	2.19	3.3	1.9	0.96	0.341	0.04	0.83	0.54	0.06	3.15	72.8	28.6	57.2	0.13	6.5	23.8	4.1	< 0.1	0.9	3.0
2985053475	25.9	18.0	14.5	4.77	4.9	1.2	0.89	1.22	0.04	0.56	0.86	0.08	2.38	98.4	25.4	59.7	0.19	5.9	21.5	4.0	< 0.1	0.9	3.3
2985053500	28.8	9.4	37.3	3.69	21.3	2.4	0.74	0.748	0.06	1.38	0.47	0.06	2.39	94.3	6.2	29.9	0.23	1.6	6.37	1.5	< 0.1	0.4	1.5
2985053525	44.1	16.0	14.9	5.14	0.2	0.2	1.03	0.251	0.04	0.24	1.28	0.09	1.22	53.5	42.2	84.4	0.09	9.7	36.2	6.5	< 0.1	1.3	4.8
2985053550	32.2	21.5	9.7	2.36	4.0	1.1	1.21	0.415	0.04	0.73	1.36	0.10	2.37	101	30.9	63.7	0.09	7.2	26.8	4.7	< 0.1	0.9	3.5
2985053575	66.3	15.4	10.1	2.47	0.4	0.3	0.83	0.303	0.04	0.45	0.72	0.13	1.94	59.4	29.5	60.0	0.11	6.7	25.4	4.4	< 0.1	1.0	3.3
2985053600	18.6	11.9	9.8	1.93	6.8	1.5	0.50	0.650	0.03	1.22	0.44	0.07	2.08	99.8	14.6	32.5	0.17	3.5	12.9	2.3	< 0.1	0.5	1.8
2985053625	14.4	8.9	3.9	1.50	0.4	0.6	0.72	0.235	0.02	0.38	1.15	0.04	1.01	51.4	22.9	46.1	0.10	5.2	19.2	3.3	< 0.1	0.7	2.4
2985053650	18.6	9.8	8.6	2.13	< 0.1	0.3	0.71	0.177	0.03	0.24	1.40	0.03	1.05	78.0	24.5	48.7	0.15	5.4	20.4	3.7	< 0.1	0.8	2.6
2985053675	23.0	11.9	5.3	3.34	0.3	0.5	0.70	0.346	0.04	0.31	1.76	0.10	1.19	65.2	26.0	52.9	0.17	5.9	21.9	4.1	< 0.1	0.9	3.2
2985053700	38.0	6.2	5.4	3.40	0.1	0.1	0.99	0.078	0.05	0.15	3.93	0.09	0.86	34.0	19.8	38.6	0.14	4.3	16.0	2.9	< 0.1	0.6	2.4
2985053725	114	6.2	28.0	3.43	0.2	0.2	1.10	0.085	0.05	0.19	1.30	0.09	0.91	59.9	28.8	55.9	0.27	6.4	24.4	4.3	< 0.1	1.4	3.7
2985053775	251	7.1	47.7	9.90	0.7	0.2	2.56	0.378	0.07	0.13	2.79	0.13	1.16	114	18.8	40.1	0.47	4.9	20.4	4.7	< 0.1	1.8	5.1
2985053800	210	6.6	136	14.6	3.4	0.2	7.06	1.41	0.05	0.08	5.26	0.21	1.14	101	17.7	39.7	0.48	5.0	22.1	5.5	0.9	2.3	6.5
2985053825	153	7.1	17.0	5.45	2.6	0.2	8.63	0.615	0.07	0.19	3.86	0.59	0.96	66.3	35.6	70.7	0.30	8.4	32.2	5.3	0.4	1.5	4.0
2985053850	73.0	8.3	10.8	2.78	3.1	1.0	1.64	0.283	0.05	0.47	0.90	0.05	1.88	69.0	23.8	46.1	0.17	5.2	20.2	3.6	< 0.1	1.1	2.9
2985053875	25.0	19.3	9.1	6.63	8.4	1.2	1.13	0.786	0.05	0.71	0.64	0.05	3.52	138	21.0	47.5	0.56	5.1	19.3	3.7	< 0.1	1.0	3.5
2985053900	25.6	13.6	10.3	3.91	3.2	2.0	1.07	0.184	0.05	0.45	1.13	0.11	3.39	75.2	27.5	59.9	0.23	6.5	24.1	4.3	< 0.1	1.0	3.5
2985053925	12.3	3.6	17.2	1.91	6.3	2.4	0.48	1.05	0.06	1.83	0.23	0.04	1.26	87.0	3.8	8.38	0.33	0.9	3.47	0.8	< 0.1	0.2	0.7

Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Te	Cs	Ba	La	Ce	Cd	Pr	Nd	Sm	Se	Eu	Gd
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.1	0.5	0.01	0.1	0.1	0.01	0.002	0.02	0.05	0.02	0.02	0.02	0.5	0.5	0.01	0.01	0.1	0.02	0.1	0.1	0.1	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
2980053475	17.4	10.0	10.9	1.98	0.3	0.7	1.15	0.167	0.03	0.46	0.36	0.06	2.13	36.2	20.0	41.0	0.10	4.6	17.6	3.1	< 0.1	0.7	2.4
2980053500	14.6	13.5	24.3	5.53	0.8	0.8	0.69	0.243	0.03	0.64	0.45	0.07	1.66	91.6	26.6	56.7	0.20	6.5	23.9	4.5	< 0.1	1.0	3.8
2980053525	40.7	17.3	17.6	8.40	2.8	1.0	0.77	0.381	0.05	0.72	0.74	0.06	2.50	101	25.3	54.8	0.30	6.0	23.0	4.6	< 0.1	1.2	4.4
2980053550	27.7	17.2	27.4	2.41	0.2	0.2	1.05	0.096	0.04	0.36	1.04	0.08	1.58	73.2	32.0	64.9	0.67	7.5	27.8	4.9	< 0.1	1.1	3.8
2980053575	14.9	12.1	24.2	1.30	< 0.1	< 0.1	0.38	< 0.002	0.02	0.19	0.40	0.10	0.74	74.6	14.7	29.6	0.13	3.4	12.6	2.3	< 0.1	0.5	1.6
2980053600	50.5	17.2	41.3	4.53	0.2	0.2	0.90	0.278	0.05	0.38	1.21	0.08	1.92	89.7	31.8	65.7	0.28	7.6	28.2	5.2	< 0.1	1.2	4.2
2980053625	7.1	12.7	10.0	1.13	0.2	0.3	0.38	< 0.002	< 0.02	0.42	0.27	0.03	1.13	51.3	20.4	41.1	0.11	4.6	17.4	3.0	< 0.1	0.6	2.1
2980053650	8.4	16.4	8.7	1.90	0.2	0.3	0.44	0.020	< 0.02	0.28	0.57	0.07	1.12	54.7	23.2	46.7	0.07	5.3	19.3	3.5	< 0.1	0.7	2.6
2980053675	13.9	17.2	8.4	2.52	4.1	0.9	0.85	0.224	0.04	0.75	0.76	0.11	1.74	78.9	28.4	60.9	0.17	6.6	24.0	4.4	< 0.1	1.0	3.5
2980053700	24.7	14.9	10.3	2.77	3.2	2.3	1.04	0.311	0.05	0.81	1.67	0.15	2.24	89.6	26.8	57.1	0.18	6.0	22.6	4.0	< 0.1	0.9	3.1
2980053725	31.3	8.6	6.9	5.03	1.0	0.6	0.85	0.340	0.05	0.25	3.59	0.10	1.09	69.1	25.7	55.7	0.16	6.3	24.3	4.7	< 0.1	1.1	3.8
2980053750	262	7.8	22.4	16.1	8.5	1.4	1.80	1.09	0.08	1.10	2.25	0.09	1.76	110	15.3	45.4	0.29	4.1	17.5	4.7	< 0.1	1.8	6.0
2980053800	190	5.9	34.0	9.05	0.3	< 0.1	2.33	0.132	0.07	0.05	2.56	0.06	0.97	102	19.1	38.9	0.41	4.7	19.5	4.1	< 0.1	1.6	4.2
2980053825	374	6.8	16.7	6.15	0.7	0.1	4.36	0.510	0.06	0.12	5.72	0.13	0.84	82.1	17.5	36.2	0.29	4.4	18.2	4.0	< 0.1	1.4	3.8
2980053850	280	6.1	32.2	6.06	0.6	0.2	4.14	0.427	0.06	0.13	3.99	0.17	0.98	74.5	13.8	28.5	0.27	3.4	14.2	3.5	< 0.1	1.3	3.7
2980053875	256	7.3	23.9	6.11	2.1	0.3	3.52	1.107	0.09	0.17	4.36	0.12	0.88	42.5	15.1	30.8	0.35	3.6	13.9	2.8	< 0.1	1.0	2.9
2980053900	23.4	14.9	10.3	2.81	11.6	2.7	1.08	2.33	0.04	0.61	0.70	0.05	3.62	97.8	16.0	38.5	0.25	3.7	13.6	2.5	< 0.1	0.6	2.1
2980053925	15.3	9.3	9.4	2.74	0.9	1.9	0.62	0.393	0.03	0.35	0.69	0.05	1.81	47.3	23.6	48.4	0.18	5.4	20.1	3.4	< 0.1	0.8	2.7
2975053475	20.8	11.7	13.8	3.17	0.2	0.8	0.62	0.179	0.04	0.41	0.56	< 0.02	1.70	68.8	32.1	64.8	0.10	7.4	27.7	5.0	< 0.1	1.1	3.8
2975053500	27.5	13.8	12.1	3.02	1.2	1.2	0.84	0.326	0.03	0.31	1.34	0.11	1.88	65.9	34.9	73.0	0.14	8.0	30.0	5.3	< 0.1	1.1	3.9
2975053525	35.5	15.3	12.5	3.25	0.2	0.5	1.04	0.195	0.05	0.60	1.01	0.07	2.19	70.3	35.6	70.8	0.17	7.9	29.8	5.3	< 0.1	1.2	4.1
2975053550	9.6	7.4	14.7	1.40	< 0.1	0.2	0.34	0.094	< 0.02	0.40	0.25	0.08	0.52	62.4	26.9	54.7	0.09	6.3	23.3	4.1	< 0.1	0.9	2.8
2975053575	19.1	14.1	14.9	1.82	2.9	1.3	0.97	0.582	0.05	1.28	0.46	0.08	2.38	90.4	20.8	42.4	0.13	4.8	18.0	3.2	< 0.1	0.7	2.4
2975053600	15.2	10.8	25.2	4.68	0.4	1.0	0.58	0.075	0.03	0.22	0.72	0.06	1.02	53.8	24.4	50.4	0.08	5.6	21.2	3.8	< 0.1	0.9	3.2
2975053625	14.3	19.8	10.4	2.31	0.2	0.6	0.73	0.225	0.03	0.61	0.97	0.05	2.09	76.7	34.5	70.1	0.09	8.0	29.6	5.2	< 0.1	1.1	3.8
2975053650	8.9	16.8	9.9	1.61	0.4	0.3	0.41	0.098	< 0.02	0.61	0.34	0.04	1.61	57.8	35.0	71.5	0.09	8.2	30.4	5.3	< 0.1	1.1	3.7
2975053675	20.6	17.8	12.2	1.98	0.2	0.3	0.48	0.186	0.03	0.50	0.40	0.06	1.63	105	31.4	63.0	0.15	7.3	27.5	4.9	< 0.1	1.1	3.4
2975053700	14.8	17.1	12.8	2.74	3.0	1.8	0.86	0.131	0.04	0.45	0.80	0.06	2.43	98.5	25.9	52.0	0.14	5.9	21.6	3.8	< 0.1	0.8	2.9
2975053725	15.6	17.0	14.6	2.39	2.3	2.0	0.84	0.203	0.04	0.66	1.14	0.04	2.36	91.6	28.1	59.4	0.19	6.5	24.1	4.2	< 0.1	0.9	3.1
2975053750	28.6	11.3	8.5	2.66	0.9	0.6	0.68	0.178	0.03	0.24	1.48	0.04	1.21	69.7	22.9	45.7	0.11	5.1	19.4	3.4	< 0.1	0.7	2.6
2975053775	29.4	10.3	8.0	3.25	1.5	1.1	0.83	0.281	0.05	0.41	1.80	0.04	1.38	71.0	27.4	57.4	0.13	6.3	23.3	4.3	< 0.1	0.9	3.3
2975053800	178	7.1	23.6	8.57	0.4	0.1	2.40	0.439	0.07	0.14	2.78	0.04	1.49	70.8	15.1	33.0	0.35	4.1	17.3	4.3	< 0.1	1.7	4.9
2975053825	164	8.8	28.1	4.65	0.3	0.2	2.37	0.701	0.06	0.16	3.73	0.14	1.00	57.2	19.4	40.5	0.25	4.8	19.0	3.7	< 0.1	1.2	3.5
2975053850	204	5.8	26.6	10.9	0.5	0.1	2.90	0.850	0.07	0.14	4.52	0.18	0.98	68.2	15.1	32.4	0.34	4.0	16.9	4.2	0.2	1.5	5.0
2975053875	339	8.7	21.4	3.51	0.9	0.3	2.89	0.449	0.07	0.32	4.89	0.16	1.34	105	17.7	37.7	0.36	4.4	17.6	3.5	< 0.1	1.0	3.0
2975053900	339	9.0	23.5	6.57	0.8	0.5	2.68	1.11	0.08	6.95	8.47	0.12	1.28	81.5	23.6	49.9	0.32	5.9	22.6	4.5	< 0.1	1.4	4.3
2975053925	41.3	12.6	35.5	5.49	0.4	1.1	0.89	0.541	0.04	0.41	1.62	0.12	1.30	100	23.5	48.6	0.51	5.5	20.3	3.8	< 0.1	1.0	3.4
2970053475	35.2	10.9	22.3	3.37	0.1	0.5	0.74	0.169	0.03	0.20	1.35	0.09	1.01	62.3	27.3	55.5	0.15	6.3	23.6	4.4	< 0.1	1.0	3.6
2970053500	46.4	14.4	17.9	3.68	0.2	0.2	0.94	0.287	0.04	0.23	1.33	0.08	1.14	96.7	31.4	63.2	0.13	7.2	26.2	4.8	< 0.1	1.0	4.0
2970053525	34.7	16.8	30.7	8.54	0.2	0.9	0.88	0.333	0.04	0.28	1.27	0.11	1.41	111	26.0	52.0	0.32	6.2	23.9	4.7	< 0.1	1.3	4.7
2970053550	46.7	14.8	29.2	6.33	0.3	0.3	0.85	0.518	0.04	0.21	1.39	0.08	1.47	73.2	29.4	59.8	0.17	6.8	26.4	5.0	< 0.1	1.2	4.6
2970053575	45.1	11.6	63.0	6.91	0.2	0.6	0.82	0.285	0.07	0.34	2.17	0.12	1.23	81.9	21.7	44.4	0.49	5.0	19.4	3.9	< 0.1	1.0	4.0
2970053600	53.0	7.2	55.4	8.11	0.5	0.2	0.68	0.551	0.05	0.13	1.97	0.13	1.29	47.7	18.7	39.2	0.45	4.7	18.3	3.7	< 0.1	1.0	3.7
A	13.5	14.1	8.7	5.19	6.9	1.6	0.79	2.07	0.04	0.81	0.39	< 0.02	2.17	114	12.7	31.7	0.54	3.2	12.0	2.4	< 0.1	0.6	2.4
B	21.4	9.7	12.8	3.65	1.0	0.9	0.69	0.291	0.02	0.24	0.76	0.09	1.51	73.3	24.8	51.8	0.11	5.6	20.7	3.8	< 0.1	0.9	3.3
C	26.0	9.4	14.7	5.32	1.3	1.9	1.07	4.77	0.04	0.39	0.81	0.04	2.14	92.5	27.8	65.7	0.17	6.7	24.8	4.7	< 0.1	1.3	4.1
D	14.7	19.0	10.5	3.82	0.5	1.0	0.69	1.08	0.04	0.72	1.37	0.09	2.26	145	32.6	69.6	0.37	7.7	28.3	5.2	< 0.1	1.1	4.2
E	13.7	11.4	11.4	2.57	2.5	3.7	0.94	0.658	0.05	1.09	0.71	0.05	3.54	78.7	15.6	34.0	0.45	3.7	13.3	2.4	< 0.1	0.6	2.1
F	13.7	13.9	12.4	3.47	2.7	2.2	0.84	0.188	0.04	0.65	0.44	0.05	3.84	103	20.3	41.6	0.21	4.7	17.8	3.2	< 0.1	0.8	2.7
G	168	5.8	38.0	17.7	0.5	0.3	1.80	0.709	0.06	0.09	1.46	< 0.02	1.10	56.5	25.5	52.9	0.22	6.1	25.7	5.9	< 0.1	2.6	7.5

Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Te	Cs	Ba	La	Ce	Cd	Pr	Nd	Sm	Se	Eu	Gd	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.1	0.5	0.01	0.1	0.1	0.01	0.002	0.02	0.05	0.02	0.02	0.02	0.5	0.5	0.01	0.01	0.1	0.02	0.1	0.1	0.1	0.1	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
H	40.2	5.8	5.9	3.42	0.1	0.2	1.09	0.101	0.04	0.15	3.84	0.12	0.70	31.7	17.6	34.5	0.14	3.9	14.7	2.9	< 0.1	0.6	2.4	
I	27.9	19.2	12.4	3.58	3.0	2.0	1.10	0.335	0.05	0.58	1.62	0.10	2.43	118	28.0	64.7	0.19	6.5	23.6	4.3	< 0.1	0.9	3.3	
J	15.5	17.4	14.8	3.02	2.2	1.8	0.87	0.140	0.04	0.41	0.77	0.07	2.20	98.2	25.5	51.5	0.14	5.7	21.3	3.7	< 0.1	0.9	3.1	
RK1	55.8	2.3	4.1	0.81	0.6	< 0.1	3.42	0.075	< 0.02	0.13	0.45	0.08	0.11	19.1	14.0	28.8	0.03	3.3	11.7	2.0	< 0.1	0.4	1.3	

## Results

Analyte Symbol	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Re	Au	Tl	Pb	Th	U	Hg	Au	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppb	ppb	g
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.001	0.5	0.02	0.01	0.1	0.1	10	1	
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	FA-INAA	FA-INAA
3020053475	0.5	2.6	0.4	1.2	0.1	0.9	0.1	< 0.1	< 0.05	< 0.1	0.001	21.9	0.04	21.9	13.1	2.1	< 10	35	10
3020053500	0.3	1.2	0.2	0.4	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	91.3	0.09	27.1	9.2	0.5	< 10	55	10
3020053525	0.3	1.3	0.2	0.5	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	26.1	0.09	30.1	7.7	0.5	< 10	28	10
3020053550	0.5	2.0	0.3	0.8	< 0.1	0.6	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	30.7	0.08	40.4	6.5	0.8	30	38	10
3020053575	0.3	1.3	0.2	0.5	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.1	0.001	86.9	0.09	51.9	3.0	0.8	30	159	11
3020053600	0.4	1.6	0.2	0.6	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	0.001	30.3	0.10	19.9	4.9	0.9	50	320	10
3020053625	0.4	1.1	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	21.9	0.09	45.9	9.2	0.6	20	36	11
3020053650	0.5	2.1	0.3	0.8	0.1	0.6	< 0.1	< 0.1	< 0.05	< 0.1	0.001	505	0.10	55.7	4.0	0.9	1370	398	10
3020053675	0.4	1.9	0.3	0.9	0.1	0.8	0.1	< 0.1	< 0.05	< 0.1	0.002	18.7	0.14	46.3	5.5	1.1	110	69	11
3020053700	0.3	1.1	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.2	< 0.001	4.8	0.09	44.1	7.7	0.9	90	24	10
3020053725	0.3	0.8	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	0.001	64.6	0.17	15.7	4.0	0.5	10	236	10
3020053775	0.5	1.4	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	0.001	7.5	0.10	6.69	9.5	0.6	< 10	32	11
3020053800	0.4	1.8	0.3	0.6	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	10.8	0.16	8.88	0.8	0.3	< 10	15	10
3020053825	0.3	1.1	0.2	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	10.8	0.12	21.9	4.0	0.6	20	18	10
3020053850	0.2	0.9	0.1	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.1	0.001	1.5	0.11	15.7	2.5	0.8	70	< 1	10
3020053875	0.3	1.3	0.2	0.4	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.001	2.7	0.12	4.07	1.0	0.2	20	< 1	10
3020053900	0.3	1.4	0.2	0.5	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.12	27.5	5.7	0.7	30	< 1	10
3020053925	0.2	0.9	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.002	1.2	0.17	16.8	3.3	0.3	< 10	< 1	10
3015053475	0.7	3.1	0.5	1.4	0.2	1.3	0.2	< 0.1	< 0.05	< 0.1	0.001	38.4	0.12	40.6	4.1	0.6	40	54	10
3015053500	0.5	2.6	0.5	1.3	0.2	1.1	0.2	0.5	< 0.05	0.1	0.001	17.3	0.11	27.4	5.7	1.8	120	12	10
3015053525	0.4	2.0	0.4	1.0	0.1	0.9	0.1	< 0.1	< 0.05	< 0.1	0.001	8.5	0.16	23.9	5.7	0.9	30	28	10
3015053550	0.4	1.5	0.2	0.5	< 0.1	0.4	< 0.1	< 0.1	< 0.05	0.1	0.002	24.6	0.12	24.5	9.9	0.6	50	54	11
3015053575	0.5	2.0	0.3	0.6	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.1	0.001	4.2	0.11	11.8	3.4	0.6	90	< 1	11
3015053600	0.5	2.1	0.3	0.6	< 0.1	0.4	< 0.1	< 0.1	< 0.05	0.1	0.001	6.2	0.12	13.5	1.6	0.8	20	13	10
3015053625	0.3	1.2	0.2	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.002	12.5	0.12	24.6	5.7	0.8	80	36	10
3015053650	0.4	1.3	0.2	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	0.5	0.10	21.4	8.8	0.4	10	< 1	11
3015053675	0.4	1.6	0.3	0.6	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	0.002	19.8	0.07	51.2	11.4	0.8	640	563	11
3015053700	0.4	1.6	0.2	0.5	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	0.001	51.9	0.10	29.9	10.1	0.7	10	145	10
3015053725	0.3	1.2	0.2	0.4	< 0.1	0.2	< 0.1	0.2	< 0.05	0.1	0.001	10.0	0.12	25.0	5.0	0.4	30	< 1	10
3015053750	0.3	1.1	0.2	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.1	0.001	3.7	0.11	27.2	7.0	0.5	10	< 1	10
3015053775	0.5	2.1	0.3	0.7	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	0.001	3.9	0.10	23.7	3.7	0.9	30	12	10
3015053800	0.3	0.8	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	0.001	1.6	0.16	30.1	5.9	0.6	20	8	10
3015053825	0.3	1.4	0.2	0.5	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.001	< 0.5	0.15	9.77	3.7	0.4	< 10	17	10
3015053850	0.3	1.1	0.2	0.4	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.002	< 0.5	0.16	8.20	1.5	0.3	30	< 1	10
3015053875	0.3	1.5	0.2	0.6	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	0.5	0.12	12.7	3.1	0.6	20	< 1	10
3015053900	0.4	1.8	0.3	0.6	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	0.001	0.6	0.14	25.9	4.9	0.6	30	< 1	10
3015053925	0.3	1.4	0.2	0.6	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	2.1	0.21	17.6	1.8	0.4	40	< 1	10
3010053475	0.3	1.4	0.2	0.5	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	0.002	16.4	0.09	31.4	7.0	0.9	40	30	10
3010053500	0.3	1.3	0.2	0.5	< 0.1	0.5	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	36.8	0.07	32.6	9.2	0.6	20	85	10
3010053525	0.3	0.9	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	47.5	0.10	20.4	8.7	0.4	< 10	70	10
3010053550	0.3	1.1	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	0.001	25.3	0.07	24.8	7.2	0.7	50	62	10
3010053575	0.3	0.8	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	0.001	16.5	0.11	26.9	6.4	0.5	40	625	10
3010053600	1.0	4.1	0.6	1.3	0.1	0.6	< 0.1	< 0.1	< 0.05	< 0.1	0.002	18.1	0.08	15.7	2.0	0.3	30	49	10
3010053625	0.5	1.8	0.3	0.5	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	0.001	195	0.09	26.7	7.5	0.7	< 10	1650	10
3010053650	0.3	1.0	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.001	11.7	0.13	27.9	6.1	0.6	30	85	11
3010053675	0.8	4.0	0.7	1.9	0.3	1.6	0.3	< 0.1	< 0.05	< 0.1	0.002	11.8	0.23	40.8	3.8	1.9	100	38	10
3010053700	0.5	1.5	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	8.3	0.14	24.3	3.0	0.6	40	35	11
3010053725	0.4	1.1	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	8.7	0.18	20.4	7.3	0.4	30	41	10
3010053750	0.4	1.1	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	0.001	2.3	0.13	21.7	10.1	0.4	< 10	26	10

Analyte Symbol	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Re	Au	Tl	Pb	Th	U	Hg	Au	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppb	ppb	g
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.001	0.5	0.02	0.01	0.1	0.1	10	1	
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	FA-INAA	FA-INAA
3010053775	0.4	1.2	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	0.5	< 0.001	8.2	0.16	20.4	6.1	0.4	30	14	11
3010053800	0.9	4.1	0.7	1.7	0.2	1.3	0.2	< 0.1	< 0.05	< 0.1	0.002	< 0.5	0.19	14.5	5.1	1.3	< 10	24	10
3010053825	0.3	1.2	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.1	< 0.001	< 0.5	0.11	19.4	4.3	0.6	90	19	10
3010053850	0.4	1.7	0.3	0.6	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.09	9.17	1.2	0.4	< 10	11	11
3010053875	0.4	1.7	0.3	0.7	< 0.1	0.3	< 0.1	0.1	< 0.05	0.1	< 0.001	< 0.5	0.11	5.07	1.1	0.3	< 10	< 1	10
3010053900	0.4	1.9	0.3	0.7	< 0.1	0.3	< 0.1	0.1	< 0.05	0.1	0.001	< 0.5	0.08	9.56	1.8	0.3	< 10	6	10
3010053925	0.3	1.3	0.2	0.5	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.1	0.001	< 0.5	0.15	4.24	1.0	0.2	< 10	< 1	10
3005053475	0.3	1.3	0.2	0.5	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	0.001	6.8	0.11	32.1	3.9	1.0	120	28	10
3005053500	0.3	1.0	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	8.9	0.10	23.8	2.6	0.6	70	99	10
3005053525	0.3	1.2	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	10.0	0.12	52.9	7.8	0.7	20	163	10
3005053550	0.4	1.3	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.1	0.001	29.4	0.12	28.3	7.9	0.7	10	115	10
3005053575	0.4	1.4	0.2	0.5	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	0.001	7.0	0.13	24.6	7.4	0.7	50	47	10
3005053600	0.3	0.8	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	0.001	< 0.5	0.10	19.5	4.4	0.3	< 10	14	10
3005053625	0.5	2.1	0.3	0.7	< 0.1	0.5	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	33.1	0.14	50.8	7.4	1.6	< 10	89	10
3005053650	0.5	1.9	0.3	0.7	< 0.1	0.5	< 0.1	< 0.1	< 0.05	< 0.1	0.001	9.7	0.13	38.1	4.9	2.0	< 10	34	10
3005053675	0.4	1.2	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	6.2	< 0.001	5.0	0.13	36.9	4.2	0.9	30	297	9
3005053700	0.5	2.1	0.4	1.0	0.1	0.8	0.1	< 0.1	< 0.05	< 0.1	< 0.001	10.5	0.17	27.8	2.9	5.2	70	50	10
3005053725	0.5	1.6	0.2	0.6	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	0.002	24.2	0.06	38.2	7.2	0.8	170	937	10
3005053750	0.4	1.2	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.13	21.1	3.7	0.5	30	14	11
3005053775	0.4	1.0	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	0.001	8.6	0.16	15.5	8.4	0.4	10	39	10
3005053800	0.5	1.1	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	22.9	0.13	15.1	9.2	0.4	50	48	10
3005053825	0.3	0.9	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.001	761	0.12	33.9	11.9	0.8	< 10	1350	10
3005053850	0.5	1.3	0.2	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.001	3.7	0.13	11.0	13.8	0.3	< 10	22	10
3005053875	0.3	1.1	0.2	0.4	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.1	0.002	< 0.5	0.07	4.79	1.1	0.3	< 10	4	10
3005053900	0.4	1.6	0.2	0.5	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.1	< 0.001	< 0.5	0.10	17.9	6.9	0.7	10	< 1	10
3005053925	0.4	1.8	0.3	0.6	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.1	< 0.001	< 0.5	0.14	3.76	1.4	0.2	< 10	< 1	10
3000053475	0.4	1.1	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	50.2	0.11	26.4	4.4	0.5	30	115	10
3000053500	0.3	0.9	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.4	< 0.001	32.9	0.11	26.5	2.6	0.6	30	105	11
3000053525	0.6	2.3	0.3	0.8	< 0.1	0.5	< 0.1	< 0.1	< 0.05	< 0.1	0.001	23.4	0.07	28.3	5.0	0.6	60	76	10
3000053550	0.3	0.9	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.2	< 0.001	166	0.13	28.7	5.6	0.6	100	78	10
3000053575	0.3	1.1	0.2	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	23.8	0.13	26.3	5.0	0.8	20	71	10
3000053600	0.3	1.1	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.2	< 0.001	24.4	0.16	27.8	5.2	0.5	40	99	10
3000053625	0.4	1.4	0.2	0.5	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	3.0	0.13	30.4	3.7	0.8	50	46	10
3000053650	0.3	1.0	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.001	2.3	0.07	10.9	2.1	0.2	< 10	8	10
3000053675	0.4	1.6	0.2	0.6	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	0.6	0.12	29.4	4.8	0.9	30	26	10
3000053700	0.2	0.8	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	0.2	< 0.001	< 0.5	0.13	21.8	3.9	0.5	50	24	10
3000053725	0.3	1.1	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.001	30.1	0.12	28.3	2.6	0.6	40	38	10
3000053750	0.5	2.0	0.3	0.7	< 0.1	0.5	< 0.1	< 0.1	< 0.05	< 0.1	0.001	20.4	0.14	27.9	3.2	2.5	20	56	10
3000053775	0.3	1.0	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	97.6	0.12	25.4	5.1	0.4	< 10	255	10
3000053800	0.3	1.1	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	3.1	0.12	26.2	6.0	0.8	50	60	10
3000053825	0.8	3.2	0.5	1.4	0.2	1.0	0.2	< 0.1	< 0.05	< 0.1	0.001	< 0.5	0.21	26.1	4.6	1.2	60	< 1	10
3000053850	0.4	1.0	< 0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.12	14.0	9.6	0.3	< 10	7	10
3000053875	0.3	1.1	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.1	< 0.001	< 0.5	0.19	17.1	7.3	0.5	< 10	< 1	10
3000053900	0.5	1.4	0.2	0.3	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	0.001	< 0.5	0.28	26.5	10.7	0.5	10	< 1	10
3000053925	0.3	1.4	0.2	0.5	< 0.1	0.3	< 0.1	0.4	< 0.05	0.2	0.001	114	0.14	12.2	2.5	0.4	< 10	< 1	10
2995053475	0.3	0.9	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	0.1	< 0.001	13.4	0.13	67.5	4.0	0.6	< 10	97	10
2995053500	0.3	1.2	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	21.4	0.10	24.2	5.4	0.7	50	213	10
2995053525	0.3	0.8	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	88.8	0.12	22.6	2.0	0.4	< 10	88	10
2995053550	0.3	1.2	0.2	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.1	0.001	5.6	0.13	27.6	6.3	0.7	40	118	10
2995053575	0.5	2.0	0.3	0.8	< 0.1	0.5	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	2.3	0.09	30.8	4.2	1.6	20	67	10



Analyte Symbol	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Re	Au	Tl	Pb	Th	U	Hg	Au	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppb	ppb	g
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.001	0.5	0.02	0.01	0.1	0.1	10	1	
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	FA-INAA	FA-INAA
2995053600	0.4	1.6	0.2	0.6	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	71.7	0.10	36.5	4.3	1.0	40	205	10
2995053625	0.5	1.9	0.3	0.7	< 0.1	0.5	< 0.1	< 0.1	< 0.05	< 0.1	0.001	40.7	0.11	32.2	5.1	1.1	70	58	10
2995053650	0.8	3.6	0.6	1.6	0.2	1.0	0.1	< 0.1	< 0.05	0.1	< 0.001	282	0.09	75.5	3.6	0.6	50	434	10
2995053675	0.3	1.4	0.2	0.5	< 0.1	0.3	< 0.1	0.1	< 0.05	0.1	< 0.001	28.1	0.13	26.2	5.6	0.6	< 10	19	10
2995053700	0.3	1.1	0.2	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.11	18.1	4.5	0.3	< 10	8	10
2995053725	0.4	1.4	0.2	0.4	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.2	0.001	3850	0.06	11.2	2.9	0.1	< 10	252	10
2995053750	0.3	1.2	0.2	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.1	< 0.001	5.2	0.14	21.8	6.6	0.5	20	29	10
2995053775	0.4	1.4	0.2	0.4	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.001	11.7	0.06	12.4	2.4	0.3	< 10	130	11
2995053800	0.4	1.5	0.2	0.5	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.1	< 0.001	< 0.5	0.11	21.5	5.1	0.5	< 10	38	10
2995053825	0.4	1.7	0.2	0.5	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	0.001	12.8	0.10	20.3	3.3	0.6	< 10	25	11
2995053850	0.3	1.0	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	3.6	0.12	25.1	3.7	0.4	320	18	10
2995053875	0.3	1.2	0.2	0.4	< 0.1	0.2	< 0.1	0.1	< 0.05	0.2	< 0.001	89.3	0.11	30.0	6.7	0.6	10	27	11
2995053900	0.2	0.9	0.1	0.4	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.2	< 0.001	< 0.5	0.11	26.4	3.6	0.6	100	< 1	10
2995053925	0.4	1.1	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.17	22.8	9.7	0.5	< 10	44	10
2990053475	0.3	0.8	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	7.6	0.22	24.6	4.1	0.4	< 10	14	10
2990053500	0.3	1.2	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.1	< 0.001	10.8	0.12	29.9	6.8	0.7	10	117	10
2990053525	0.3	1.3	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	120	0.14	44.3	6.7	0.6	70	88	10
2990053550	0.3	1.1	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	4.6	0.17	16.6	5.0	0.3	< 10	120	11
2990053575	0.4	1.9	0.3	0.7	< 0.1	0.5	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	20.7	0.11	28.3	5.2	0.8	40	54	10
2990053600	0.3	1.2	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.12	24.4	5.6	0.5	20	70	10
2990053625	0.2	1.0	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.001	0.5	0.14	24.9	4.8	0.6	40	29	11
2990053650	0.8	3.7	0.6	1.5	0.2	1.2	0.2	< 0.1	< 0.05	< 0.1	< 0.001	11.6	0.05	37.3	6.9	0.5	40	35	11
2990053675	0.6	2.5	0.3	0.7	< 0.1	0.4	< 0.1	< 0.1	< 0.05	0.2	< 0.001	13.7	0.09	89.9	3.1	0.3	10	36	11
2990053700	1.1	5.1	0.8	1.6	0.2	0.8	0.1	< 0.1	< 0.05	0.1	< 0.001	15.1	0.05	11.4	2.9	0.2	30	70	10
2990053725	0.3	1.1	0.1	0.3	< 0.1	0.1	< 0.1	< 0.1	< 0.05	0.1	< 0.001	1.1	0.10	188	3.2	0.2	< 10	45	11
2990053750	1.0	4.2	0.6	1.1	0.1	0.5	< 0.1	< 0.1	< 0.05	0.1	< 0.001	5.4	0.09	16.9	3.4	0.4	30	34	11
2990053775	0.4	1.9	0.3	0.6	< 0.1	0.4	< 0.1	0.1	< 0.05	0.1	0.001	17.9	0.09	10.8	2.9	0.4	10	35	11
2990053800	0.5	2.8	0.4	0.9	0.1	0.5	< 0.1	< 0.1	< 0.05	0.1	< 0.001	< 0.5	0.10	16.9	2.9	0.3	< 10	7	11
2990053850	0.3	1.3	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.1	< 0.001	88.7	0.11	23.8	4.3	0.6	50	17	11
2990053875	0.3	1.2	0.2	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.1	< 0.001	18.5	0.09	27.2	7.4	0.6	20	37	10
2990053900	0.2	0.9	0.1	0.3	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	4.6	0.11	26.5	3.5	0.8	90	< 1	11
2990053925	0.3	0.9	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.14	25.4	8.0	0.7	< 10	< 1	11
2985053475	0.4	1.6	0.2	0.6	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	32.0	0.11	31.6	7.1	0.9	40	64	11
2985053500	0.2	1.2	0.2	0.5	< 0.1	0.4	< 0.1	0.3	< 0.05	0.1	< 0.001	< 0.5	0.09	22.2	4.6	0.6	90	< 1	11
2985053525	0.5	1.8	0.2	0.5	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	4.0	0.09	16.2	7.8	0.6	< 10	23	10
2985053550	0.3	1.0	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.1	0.001	< 0.5	0.12	18.7	7.4	0.4	20	50	10
2985053575	0.3	1.1	0.1	0.3	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	3.4	0.12	20.2	5.8	0.3	< 10	86	11
2985053600	0.2	0.7	< 0.1	0.2	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.1	0.001	< 0.5	0.13	18.3	4.5	0.4	10	8	11
2985053625	0.2	0.7	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	3.3	0.09	14.2	4.6	0.2	< 10	8	10
2985053650	0.3	0.9	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	4.9	0.08	18.2	5.8	0.4	< 10	176	10
2985053675	0.3	1.3	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	7.3	0.09	19.8	7.2	0.4	< 10	41	11
2985053700	0.3	1.1	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	0.001	11.2	0.06	31.7	7.2	0.4	< 10	31	10
2985053725	0.4	1.4	0.2	0.3	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.06	12.2	2.2	0.1	< 10	12	10
2985053775	0.7	3.0	0.4	0.9	0.1	0.5	< 0.1	< 0.1	< 0.05	0.2	< 0.001	124	0.06	19.4	1.9	0.4	< 10	446	10
2985053800	0.9	4.2	0.6	1.3	0.1	0.7	< 0.1	< 0.1	< 0.05	0.2	0.001	180	0.09	25.8	2.2	3.2	20	563	10
2985053825	0.4	1.6	0.2	0.5	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.2	< 0.001	43.5	0.08	16.3	4.1	2.9	< 10	285	11
2985053850	0.3	1.2	0.1	0.3	< 0.1	0.1	< 0.1	< 0.1	< 0.05	0.1	0.001	67.0	0.08	8.74	3.7	0.3	< 10	93	11
2985053875	0.4	2.0	0.3	0.8	0.1	0.6	< 0.1	< 0.1	< 0.05	0.2	< 0.001	6.5	0.13	36.1	6.7	0.8	60	36	10
2985053900	0.4	1.5	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	13.0	0.11	37.2	8.4	0.6	< 10	73	10
2985053925	0.1	0.6	0.1	0.3	< 0.1	0.2	< 0.1	0.1	< 0.05	0.1	< 0.001	< 0.5	0.05	28.1	2.8	0.9	60	< 1	10

Analyte Symbol	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Re	Au	Tl	Pb	Th	U	Hg	Au	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppb	ppb	g
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.001	0.5	0.02	0.01	0.1	0.1	10	1	
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	FA-INAA	FA-INAA
2980053475	0.2	0.8	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.09	12.2	4.2	0.4	< 10	< 1	11
2980053500	0.4	1.7	0.2	0.6	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	0.001	< 0.5	0.12	21.9	5.7	0.9	20	10	10
2980053525	0.5	2.5	0.4	0.9	0.1	0.6	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.11	24.0	6.8	0.8	< 10	45	11
2980053550	0.3	1.1	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.12	29.2	6.6	0.3	< 10	< 1	10
2980053575	0.2	0.5	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	0.001	< 0.5	0.06	10.4	2.9	0.2	< 10	10	10
2980053600	0.4	1.6	0.2	0.5	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	2.4	0.12	31.4	4.7	0.5	20	72	10
2980053625	0.2	0.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.12	11.1	3.8	0.2	< 10	6	10
2980053650	0.2	0.8	< 0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.09	8.66	4.3	0.3	< 10	10	11
2980053675	0.3	1.2	0.2	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.001	< 0.5	0.13	20.7	7.0	0.4	30	< 1	10
2980053700	0.3	1.1	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.1	< 0.001	< 0.5	0.12	25.9	6.9	0.4	20	163	11
2980053725	0.4	1.9	0.3	0.7	< 0.1	0.5	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	29.2	0.08	37.9	9.9	0.6	20	59	10
2980053750	0.9	4.4	0.7	1.5	0.2	0.9	0.1	< 0.1	< 0.05	0.2	< 0.001	176	0.09	18.6	4.4	0.6	80	140	10
2980053800	0.5	2.5	0.4	0.8	< 0.1	0.4	< 0.1	< 0.1	< 0.05	0.1	0.001	82.7	0.06	12.6	1.4	0.6	< 10	868	10
2980053825	0.5	2.0	0.3	0.6	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.2	< 0.001	159	0.06	17.0	1.8	1.3	< 10	335	11
2980053850	0.5	2.0	0.3	0.6	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.2	0.001	389	0.06	25.9	1.7	0.5	< 10	440	11
2980053875	0.4	1.8	0.3	0.6	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.2	< 0.001	129	0.05	41.4	1.9	0.6	10	516	11
2980053900	0.2	1.0	0.1	0.3	< 0.1	0.2	< 0.1	0.2	< 0.05	0.1	< 0.001	< 0.5	0.09	24.0	5.0	0.5	40	23	11
2980053925	0.3	1.0	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	413	0.08	18.5	5.4	0.3	< 10	33	11
2975053475	0.4	1.3	0.2	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.001	12.0	0.09	16.5	6.6	0.4	< 10	16	10
2975053500	0.4	1.3	0.2	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.001	5.8	0.09	23.8	9.1	0.7	< 10	52	10
2975053525	0.4	1.4	0.2	0.4	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.001	0.6	0.14	30.4	8.5	0.5	< 10	13	11
2975053550	0.2	0.7	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	0.001	< 0.5	0.09	11.3	5.1	0.3	< 10	13	10
2975053575	0.2	0.8	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.11	23.8	5.4	0.3	< 10	< 1	10
2975053600	0.4	1.5	0.2	0.5	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.06	15.7	4.4	0.5	< 10	12	11
2975053625	0.3	1.1	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	1.6	0.14	17.3	6.2	0.4	< 10	101	10
2975053650	0.3	0.9	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.15	14.9	7.1	0.2	< 10	< 1	10
2975053675	0.3	0.9	0.1	0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.14	12.9	4.9	0.2	< 10	< 1	10
2975053700	0.3	1.1	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.1	< 0.001	< 0.5	0.11	23.5	7.5	0.5	< 10	42	11
2975053725	0.3	1.0	0.1	0.3	< 0.1	0.1	< 0.1	< 0.1	< 0.05	0.1	< 0.001	< 0.5	0.15	24.1	6.3	0.4	< 10	29	11
2975053750	0.3	0.9	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	76.8	0.08	16.4	5.3	0.3	< 10	252	11
2975053775	0.3	1.2	0.2	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	22.1	0.11	31.6	7.9	0.5	10	111	11
2975053800	0.6	2.8	0.4	0.9	0.1	0.5	< 0.1	< 0.1	< 0.05	< 0.1	0.001	301	0.09	13.5	1.8	0.3	< 10	207	10
2975053825	0.4	1.7	0.2	0.5	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	148	0.08	24.4	2.7	0.7	< 10	275	10
2975053850	0.7	3.2	0.5	1.2	0.2	0.8	0.1	< 0.1	< 0.05	0.3	< 0.001	103	0.06	32.9	2.7	0.5	40	261	10
2975053875	0.3	1.3	0.2	0.4	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.2	< 0.001	244	0.08	23.9	2.8	0.5	< 10	124	10
2975053900	0.5	2.1	0.3	0.7	< 0.1	0.4	< 0.1	< 0.1	< 0.05	0.1	< 0.001	110	0.08	35.3	4.1	0.8	< 10	235	10
2975053925	0.4	1.6	0.2	0.5	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.1	< 0.001	99.9	0.09	44.9	3.3	0.9	30	187	11
2970053475	0.3	1.3	0.2	0.4	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.001	19.0	0.09	25.5	4.8	0.5	< 10	281	10
2970053500	0.4	1.4	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	2.1	0.10	23.7	8.3	0.6	20	32	11
2970053525	0.5	2.3	0.4	0.8	0.1	0.5	< 0.1	< 0.1	< 0.05	< 0.1	0.001	1.1	0.12	30.1	5.1	0.9	< 10	44	10
2970053550	0.5	2.0	0.3	0.7	< 0.1	0.4	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	5.6	0.13	29.2	8.9	1.2	10	26	10
2970053575	0.4	1.9	0.3	0.7	< 0.1	0.5	< 0.1	< 0.1	< 0.05	< 0.1	0.001	6.8	0.11	60.6	4.6	1.2	80	41	10
2970053600	0.4	2.1	0.3	0.8	0.1	0.6	< 0.1	< 0.1	< 0.05	< 0.1	0.001	9.6	0.07	40.8	3.7	1.4	30	38	11
A	0.3	1.6	0.3	0.7	< 0.1	0.5	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	2.9	0.13	44.5	4.7	0.9	90	60	11
B	0.3	1.3	0.2	0.4	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	24.9	0.08	23.8	7.5	0.5	< 10	48	11
C	0.5	1.9	0.3	0.6	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.1	< 0.001	> 10000	0.10	29.7	7.5	0.7	< 10	1240	10
D	0.4	1.6	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	1.9	0.13	25.2	3.9	0.6	10	< 1	11
E	0.2	0.9	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.1	< 0.001	< 0.5	0.11	23.4	3.7	0.6	60	23	11
F	0.3	1.2	0.2	0.4	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.1	< 0.001	< 0.5	0.11	19.9	4.8	0.3	< 10	49	11
G	1.0	4.9	0.8	1.6	0.2	0.8	0.1	< 0.1	< 0.05	0.2	< 0.001	8.0	0.05	9.67	2.5	0.2	10	86	10

Analyte Symbol	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Re	Au	Tl	Pb	Th	U	Hg	Au	Mass	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppb	ppb	g	
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.001	0.5	0.02	0.01	0.1	0.1	10	1		
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	FA-INAA	FA-INAA
H	0.3	1.1	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	0.8	0.05	33.3	6.6	0.5	< 10	29	10	
I	0.3	1.4	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	0.2	< 0.001	93.7	0.12	26.7	8.3	0.6	50	72	10	
J	0.3	1.2	0.2	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.2	< 0.001	< 0.5	0.12	24.6	8.0	0.6	< 10	2550	10	
RK1	0.1	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	29.3	0.03	22.2	4.2	0.1	< 10	< 1	30	

QC

Analyte Symbol	Ti	S	P	Li	Be	B	Na	Mg	Al	K	Bi	Ca	Sc	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge
Unit Symbol	%	%	%	ppm	ppm	ppm	%	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.001	1	0.001	0.1	0.1	1	0.001	0.01	0.01	0.01	0.02	0.01	0.1	1	1	1	0.01	0.1	0.1	0.01	0.1	0.02	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
GXR-1 Meas	0.006	< 1	0.041	5.0	0.6	12	0.044	0.14	0.34	0.03	1530	0.78	1.0	71	7	867	23.7	7.3	35.9	1070	766	4.28	
GXR-1 Cert	0.036	0.257	0.0650	8.20	1.22	15.0	0.0520	0.217	3.52	0.050	1380	0.960	1.58	80.0	12.0	852	23.6	8.20	41.0	1110	760	13.8	
GXR-4 Meas	0.124	2	0.120	9.4	1.6	4	0.133	1.65	2.55	1.51	21.0	0.78	6.2	75	52	156	2.96	13.6	36.9	6230	72.5	10.6	
GXR-4 Cert	0.29	1.77	0.120	11.1	1.90	4.50	0.564	1.66	7.20	4.01	19.0	1.01	7.70	87.0	64.0	155	3.09	14.6	42.0	6520	73.0	20.0	
GXR-6 Meas		< 1	0.036	27.4	0.9	6	0.073	0.42	7.20	1.09	0.19	0.16	22.1	162	75	1070	5.43	13.1	23.1	66.8	123	14.4	
GXR-6 Cert		0.0160	0.0350	32.0	1.40	9.80	0.104	0.609	17.7	1.87	0.290	0.180	27.6	186	96.0	1010	5.58	13.8	27.0	66.0	118	35.0	
SF67 Meas																							
SF67 Cert																							
SF67 Meas																							
SF67 Cert																							
SF67 Meas																							
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SE68 Cert																							
SE68 Meas																							
SE68 Cert																							
OREAS 922 (AQUA REGIA) Meas		< 1	0.063	23.2	0.9		0.027	1.41	2.62	0.41	10.1	0.36	3.3	32	45	787	5.01	18.6	35.8	2120	268	7.68	0.1
OREAS 922 (AQUA REGIA) Cert		0.386	0.063	22.8	0.65		0.021	1.33	2.72	0.376	10.3	0.324	3.15	29.4	40.7	730	5.05	19.4	34.3	2176	256	7.62	0.10
OREAS 923 (AQUA REGIA) Meas		1	0.060	24.8	0.7			1.56	2.84	0.36	23.4	0.37	3.3	29	39	864	5.58	20.6	32.1	4030	330	7.59	
OREAS 923 (AQUA REGIA) Cert		0.684	0.061	23.4	0.61			1.43	2.80	0.322	21.8	0.326	3.09	30.6	39.4	850	5.91	22.2	32.7	4248	335	8.01	
SdAR-M2 (U.S.G.S.) Meas				12.5	4.7						1.04		1.8	14	8			11.3	43.4	223	750	2.88	
SdAR-M2 (U.S.G.S.) Cert				17.9	6.6						1.05		4.1	25.2	49.6			12.4	48.8	236.0000	760	17.6	
3020053650 Orig																							
3020053650 Dup																							
3020053800 Orig	0.041	< 1	0.167	54.1	0.9	4	0.011	1.83	2.21	0.13	0.12	0.23	16.9	189	196	1160	8.51	49.2	210	92.6	119	12.8	0.1
3020053800 Dup	0.041	< 1	0.161	53.3	1.0	3	0.011	1.84	2.18	0.12	0.11	0.22	15.9	191	195	1130	8.10	44.3	189	88.4	116	12.6	0.1
3020053850 Orig																							
3020053850 Dup																							
3015053750 Orig																							
3015053750 Dup																							
3010053525 Orig	0.001	< 1	0.047	4.0	0.3	2	0.009	0.05	0.51	0.05	0.58	0.06	2.0	8	5	420	4.20	16.7	33.1	51.0	89.8	1.59	< 0.1
3010053525 Dup	0.001	< 1	0.047	4.2	0.4	3	0.010	0.05	0.56	0.05	0.60	0.07	2.3	8	5	423	4.38	17.7	35.0	55.6	95.5	1.76	< 0.1
3010053600 Orig																							
3010053600 Dup																							
3010053775 Orig																							
3010053775 Dup																							
3010053875 Orig	0.670	< 1	0.059	33.9	0.4	3	0.016	1.87	2.12	0.07	0.11	0.46	3.8	138	144	575	6.33	27.5	74.8	23.3	83.1	14.3	< 0.1
3010053875 Dup	0.671	< 1	0.066	36.3	0.3	5	0.016	1.74	2.12	0.08	0.11	0.46	3.9	139	144	566	6.34	28.1	76.6	24.0	83.7	14.0	< 0.1
3000053500 Orig	0.036	< 1	0.178	11.8	0.3	3	0.013	0.25	1.07	0.07	0.51	0.06	1.7	27	28	951	5.00	14.1	39.8	33.5	146	6.36	< 0.1
3000053500 Dup	0.038	< 1	0.180	12.2	0.4	3	0.014	0.26	1.14	0.07	0.53	0.06	1.8	27	28	975	5.10	14.2	40.7	34.3	148	6.37	0.1
3000053525 Orig																							
3000053525 Dup																							



Analyte Symbol	As	Rb	Sr	Y	Zr	Nb	Mo	Ag	In	Sn	Sb	Te	Cs	Ba	La	Ce	Cd	Pr	Nd	Sm	Se	Eu	Gd
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Lower Limit	0.1	0.1	0.5	0.01	0.1	0.1	0.01	0.002	0.02	0.05	0.02	0.02	0.02	0.5	0.5	0.01	0.01	0.1	0.02	0.1	0.1	0.1	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
GXR-1 Meas	485	2.5	207	31.5	10.1	< 0.1	17.8	33.3	0.74	24.1	86.8	15.2	2.60	197	5.0	10.7	2.48		5.94	2.1	17.7	0.6	4.6
GXR-1 Cert	427	14.0	275	32.0	38.0	0.800	18.0	31.0	0.770	54.0	122	13.0	3.00	750	7.50	17.0	3.30		18.0	2.70	16.6	0.690	4.20
GXR-4 Meas	121	110	82.7	13.2	9.1	0.3	305	3.51	0.19	5.20	3.50	1.07	2.45	20.8	43.0	86.7	0.15		34.7	5.2	6.0	1.6	5.4
GXR-4 Cert	98.0	160	221	14.0	186	10.0	310	4.00	0.270	5.60	4.80	0.970	2.80	1640	64.5	102	0.860		45.0	6.60	5.60	1.63	5.25
GXR-6 Meas	263	76.2	38.3	7.77	9.8	< 0.1	1.77	0.249	0.06	0.91	1.73	0.05	3.49	982	10.6	31.9	0.12		11.0	2.2	< 0.1	0.7	2.5
GXR-6 Cert	330	90.0	35.0	14.0	110	7.50	2.40	1.30	0.260	1.70	3.60	0.0180	4.20	1300	13.9	36.0	1.00		13.0	2.67	0.940	0.760	2.97
SF67 Meas																							
SF67 Cert																							
SF67 Meas																							
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SE68 Cert																							
OREAS 922 (AQUA REGIA) Meas	7.6	31.9	18.3	23.3	17.0	0.3	0.79	0.701	0.25	3.93	0.67		1.90	82.2	35.4	72.9	0.31	8.2	30.3	5.4	3.3		6.5
OREAS 922 (AQUA REGIA) Cert	6.12	22.7	15.0	16.0	22.3	0.35	0.69	0.851	0.24	3.83	0.57		1.76	70	32.5	63	0.28	7.33	27.5	4.98	3.44		4.44
OREAS 923 (AQUA REGIA) Meas	8.5	27.1	16.4	21.1	16.7		0.87	1.86	0.43	6.10	0.69		1.68	65.7	33.2	66.9	0.42	7.6	28.8	5.1	6.5		6.2
OREAS 923 (AQUA REGIA) Cert	7.07	19.6	13.6	14.3	22.5		0.84	1.62	0.45	5.99	0.58		1.56	54	30.0	60	0.40	6.79	25.4	4.34	5.99		4.07
SdAR-M2 (U.S.G.S.) Meas		21.1	23.1	19.1	5.7	2.8	12.0						0.77	113	39.3	88.8	4.99	9.4	34.6	5.8		0.8	6.3
SdAR-M2 (U.S.G.S.) Cert		149	144	32.7	259	26.2	13.3						1.82	990	46.6	98.8	5.1	11.0	39.4	7.18		1.44	6.28
3020053650 Orig																							
3020053650 Dup																							
3020053800 Orig	15.5	13.5	20.3	5.53	0.2	0.1	0.84	0.232	0.10	0.40	0.37	0.12	3.73	66.8	21.8	44.3	0.30	5.1	20.1	3.9	0.4	1.4	3.8
3020053800 Dup	14.6	13.2	20.2	5.42	0.1	< 0.1	0.85	0.042	0.09	0.35	0.35	0.11	3.67	64.9	21.5	44.1	0.29	5.0	20.0	3.9	0.4	1.4	3.6
3020053850 Orig																							
3020053850 Dup																							
3015053750 Orig																							
3015053750 Dup																							
3010053525 Orig	30.0	9.0	8.5	2.60	< 0.1	0.1	1.07	0.758	0.04	0.26	2.85	0.21	0.67	67.5	25.0	52.2	0.12	6.1	23.3	4.5	< 0.1	0.9	3.3
3010053525 Dup	31.4	9.8	8.8	2.69	< 0.1	0.1	1.05	0.684	0.04	0.27	2.84	0.29	0.65	69.6	25.6	53.1	0.13	6.1	23.9	4.4	< 0.1	0.9	3.5
3010053600 Orig																							
3010053600 Dup																							
3010053775 Orig																							
3010053775 Dup																							
3010053875 Orig	1.5	18.5	12.5	6.73	5.3	2.3	0.47	0.070	0.04	0.94	0.15	< 0.02	6.37	74.7	5.7	13.9	0.14	1.8	7.85	2.0	< 0.1	0.9	2.7
3010053875 Dup	1.8	18.1	12.1	6.49	5.0	2.0	0.47	0.080	0.04	0.90	0.17	0.02	6.22	73.6	5.7	13.7	0.15	1.7	7.85	1.9	< 0.1	0.8	2.5
3000053500 Orig	49.3	14.8	9.4	2.94	0.3	0.6	1.07	1.10	0.05	0.62	1.56	0.12	1.46	88.6	23.3	48.3	0.47	5.4	19.9	3.4	< 0.1	0.9	3.1
3000053500 Dup	49.7	15.3	8.6	2.90	0.3	0.6	1.05	0.779	0.05	0.58	1.59	0.19	1.53	81.1	22.9	47.7	0.43	5.2	19.2	3.4	< 0.1	0.9	3.0
3000053525 Orig																							
3000053525 Dup																							



Analyte Symbol	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Re	Au	Tl	Pb	Th	U	Hg	Au	Mass	
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppb	ppb	g	
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.001	0.5	0.02	0.01	0.1	0.1	10	1		
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	FA-INAA	FA-INAA	
GXR-1 Meas	0.9	4.5			0.4	2.1	0.3	0.2	< 0.05	142		3030	0.46	673	1.6	31.5	3910			
GXR-1 Cert	0.830	4.30			0.430	1.90	0.280	0.960	0.175	164		3300	0.390	730	2.44	34.9	3900			
GXR-4 Meas	0.6	2.6			0.1	0.8	0.1	0.3	< 0.05	16.7		479	3.45	42.5	16.0	4.6	90			
GXR-4 Cert	0.360	2.60			0.210	1.60	0.170	6.30	0.790	30.8		470	3.20	52.0	22.5	6.20	110			
GXR-6 Meas	0.3	1.6				0.8	0.1	0.2	< 0.05	< 0.1		78.4	2.29	95.7	4.1	0.8	30			
GXR-6 Cert	0.415	2.80				2.40	0.330	4.30	0.485	1.90		95.0	2.20	101	5.30	1.54	68.0			
SF67 Meas																			837	
SF67 Cert																			835.000	
SF67 Meas																			830	
SF67 Cert																			835.000	
SF67 Meas																			835	
SF67 Cert																			835.000	
SE68 Meas																			598	
SE68 Cert																			599	
SE68 Meas																			602	
SE68 Cert																			599	
SE68 Meas																			597	
SE68 Cert																			599	
OREAS 922 (AQUA REGIA) Meas	0.9							0.3		1.1			0.23	55.3	14.9	2.3				
OREAS 922 (AQUA REGIA) Cert	0.62							0.61		1.12			0.14	60	14.5	1.98				
OREAS 923 (AQUA REGIA) Meas	0.9							0.3		2.1			0.20	79.7	14.7	2.2				
OREAS 923 (AQUA REGIA) Cert	0.54							0.60		1.96			0.12	81	14.3	1.80				
SdAR-M2 (U.S.G.S.) Meas	0.9	3.6	0.7	1.9	0.3	1.6	0.2	0.2	< 0.05	1.1				709	11.1	1.5	1280			
SdAR-M2 (U.S.G.S.) Cert	0.97	5.88	1.21	3.58	0.54	3.63	0.54	7.29	1.8	2.8				808	14.2	2.53	1440.00			
3020053650 Orig																			486	10
3020053650 Dup																			310	10
3020053800 Orig	0.4	1.8	0.3	0.6	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	0.001	13.4	0.16	9.01	0.9	0.3	< 10			
3020053800 Dup	0.4	1.7	0.3	0.6	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	8.2	0.16	8.75	0.8	0.3	30			
3020053850 Orig																			< 1	10
3020053850 Dup																			< 1	10
3015053750 Orig																			< 1	10
3015053750 Dup																			< 1	10
3010053525 Orig	0.3	0.9	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	0.001	68.8	0.10	20.3	8.5	0.4	< 10			
3010053525 Dup	0.3	0.9	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	26.2	0.10	20.4	9.0	0.4	< 10			
3010053600 Orig																			24	10
3010053600 Dup																			74	10
3010053775 Orig																			20	11
3010053775 Dup																			8	11
3010053875 Orig	0.4	1.7	0.3	0.7	< 0.1	0.4	< 0.1	0.1	< 0.05	0.1	0.001	< 0.5	0.11	5.02	1.2	0.3	< 10			
3010053875 Dup	0.4	1.7	0.3	0.7	< 0.1	0.3	< 0.1	0.1	< 0.05	0.1	< 0.001	< 0.5	0.10	5.13	1.1	0.3	< 10			
3000053500 Orig	0.3	0.9	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.6	< 0.001	28.0	0.11	26.3	2.6	0.6	30			
3000053500 Dup	0.3	0.9	0.1	0.2	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.1	0.001	37.8	0.11	26.6	2.6	0.6	30			
3000053525 Orig																			78	10
3000053525 Dup																			73	10



Analyte Symbol	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Ta	W	Re	Au	Tl	Pb	Th	U	Hg	Au	Mass
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppb	ppb	g
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.001	0.5	0.02	0.01	0.1	0.1	10	1	
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	FA-INAA	FA-INAA
3000053700 Orig																		25	10
3000053700 Dup																		23	10
3000053850 Orig	0.4	1.0	0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.12	14.2	9.9	0.3	< 10		
3000053850 Dup	0.4	1.0	< 0.1	0.2	< 0.1	0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	0.6	0.12	13.7	9.3	0.3	< 10		
2995053700 Orig	0.3	1.1	0.2	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.11	18.4	4.5	0.3	< 10		
2995053700 Dup	0.3	1.1	0.1	0.3	< 0.1	0.2	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.11	17.8	4.5	0.3	< 10		
2995053925 Orig																		52	11
2995053925 Dup																		36	10
2990053575 Orig	0.4	1.9	0.3	0.7	< 0.1	0.5	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	28.3	0.11	27.8	5.1	0.8	30		
2990053575 Dup	0.4	1.9	0.3	0.7	< 0.1	0.5	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	13.2	0.10	28.8	5.3	0.8	50		
2990053625 Orig																		26	11
2990053625 Dup																		31	11
2985053525 Orig	0.5	1.8	0.2	0.6	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	3.0	0.09	16.5	8.0	0.6	< 10		
2985053525 Dup	0.5	1.7	0.2	0.5	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	5.1	0.08	15.8	7.5	0.6	< 10		
2985053550 Orig																		49	11
2985053550 Dup																		51	10
2985053900 Orig	0.4	1.5	0.2	0.5	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	18.0	0.11	37.6	8.2	0.6	30	67	10
2985053900 Dup	0.4	1.5	0.2	0.4	< 0.1	0.3	< 0.1	< 0.1	< 0.05	< 0.1	0.001	8.0	0.11	36.8	8.6	0.6	< 10	79	10
2980053750 Orig	0.9	4.4	0.7	1.6	0.2	0.9	0.1	< 0.1	< 0.05	0.2	< 0.001	128	0.09	18.6	4.4	0.6	100		
2980053750 Dup	0.9	4.4	0.7	1.5	0.2	1.0	0.1	< 0.1	< 0.05	0.3	< 0.001	223	0.09	18.5	4.4	0.6	60		
2975053525 Orig																		13	10
2975053525 Dup																		12	11
2975053650 Orig	0.3	0.9	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.15	14.9	6.8	0.2	< 10		
2975053650 Dup	0.3	0.9	< 0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.15	14.9	7.4	0.3	< 10		
2975053850 Orig																		222	10
2975053850 Dup																		299	10
2970053550 Orig																		25	11
2970053550 Dup																		26	10
F Orig	0.3	1.3	0.2	0.4	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.1	< 0.001	< 0.5	0.11	20.5	4.9	0.3	< 10		
F Dup	0.3	1.2	0.2	0.4	< 0.1	0.2	< 0.1	< 0.1	< 0.05	0.1	< 0.001	< 0.5	0.11	19.3	4.7	0.3	< 10		
H Orig																		28	11
H Dup																		30	10
Method Blank																		< 1	30
Method Blank																		< 1	30
Method Blank																		< 1	30
Method Blank																		< 1	30
Method Blank																		< 1	30
Method Blank																		< 1	30
Method Blank																		< 1	30
Method Blank																		< 1	30
Method Blank																		< 1	30
Method Blank																		< 1	30
Method Blank																		< 1	30
Method Blank																		< 1	30

## **Appendix 3**

Plan map and Cross Sections of Goldfinch Historical Works



**HAPPY CREEK MINERALS LTD**  
**Windflower Property**  
**Goldfinch Mining Area**  
**2015**

Projection: UTM: 11N Datum: Nad83  
 Map Angle: -1.6 Magnetic Declination: 18 00'  
 Claim Data: MTO - Dec 2014



Decline portal, access to Main Zone

Main Zone

Glory Hole

Area mined 1980

Portal 1023 Level

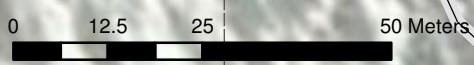
Portal 1003 Level

Wind Flower Claims

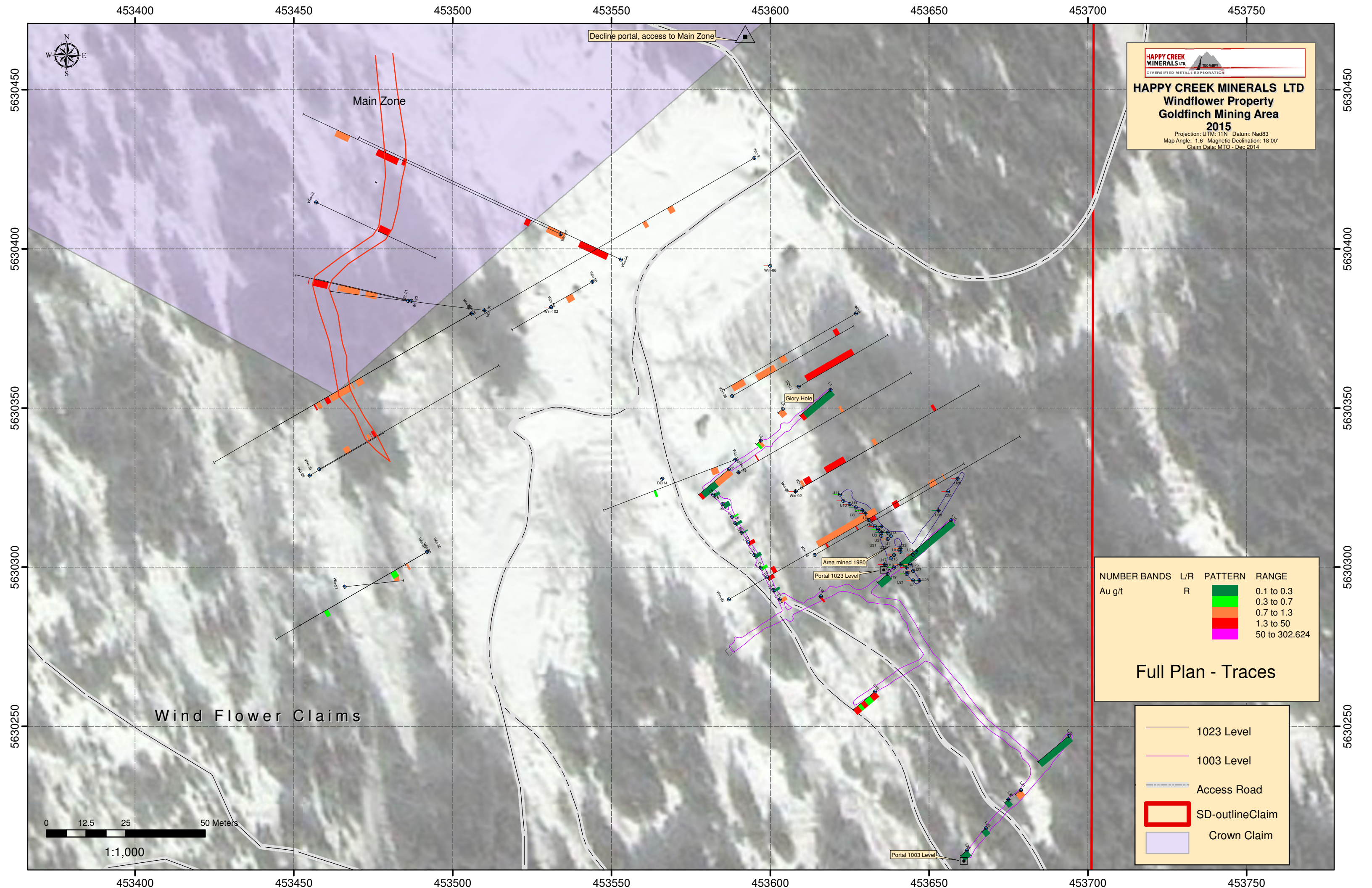
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Au g/t	R		0.1 to 0.3
			0.3 to 0.7
			0.7 to 1.3
			1.3 to 50
			50 to 302.624

**Full Plan - Traces**

	1023 Level
	1003 Level
	Access Road
	SD-outlineClaim
	Crown Claim



1:1,000





453400 453450 453500 453550 453600 453650 453700 453750



**HAPPY CREEK MINERALS LTD**  
**Windflower Property**  
**Goldfinch Mining Area**  
**2015**

Projection: UTM: 11N Datum: Nad83  
 Map Angle: -1.6 Magnetic Declination: 18 00'  
 Claim Data: MTO - Dec 2014

Main Zone

Decline portal, access to Main Zone

Glory Hole

Area mined 1990

Portal 1023 Level

Portal 1003 Level

Wind Flower Claims

1

2

3

4

5

6

7

8

9

10

11

12

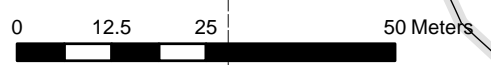
13

14

NUMBER BANDS	L/R	PATTERN	RANGE
Au g/t	R		0 to 0.1
			0.1 to 0.3
			0.3 to 0.7
			0.7 to 1.3
			1.3 to 50
			50 to 302.624

**Full Plan - Traces**

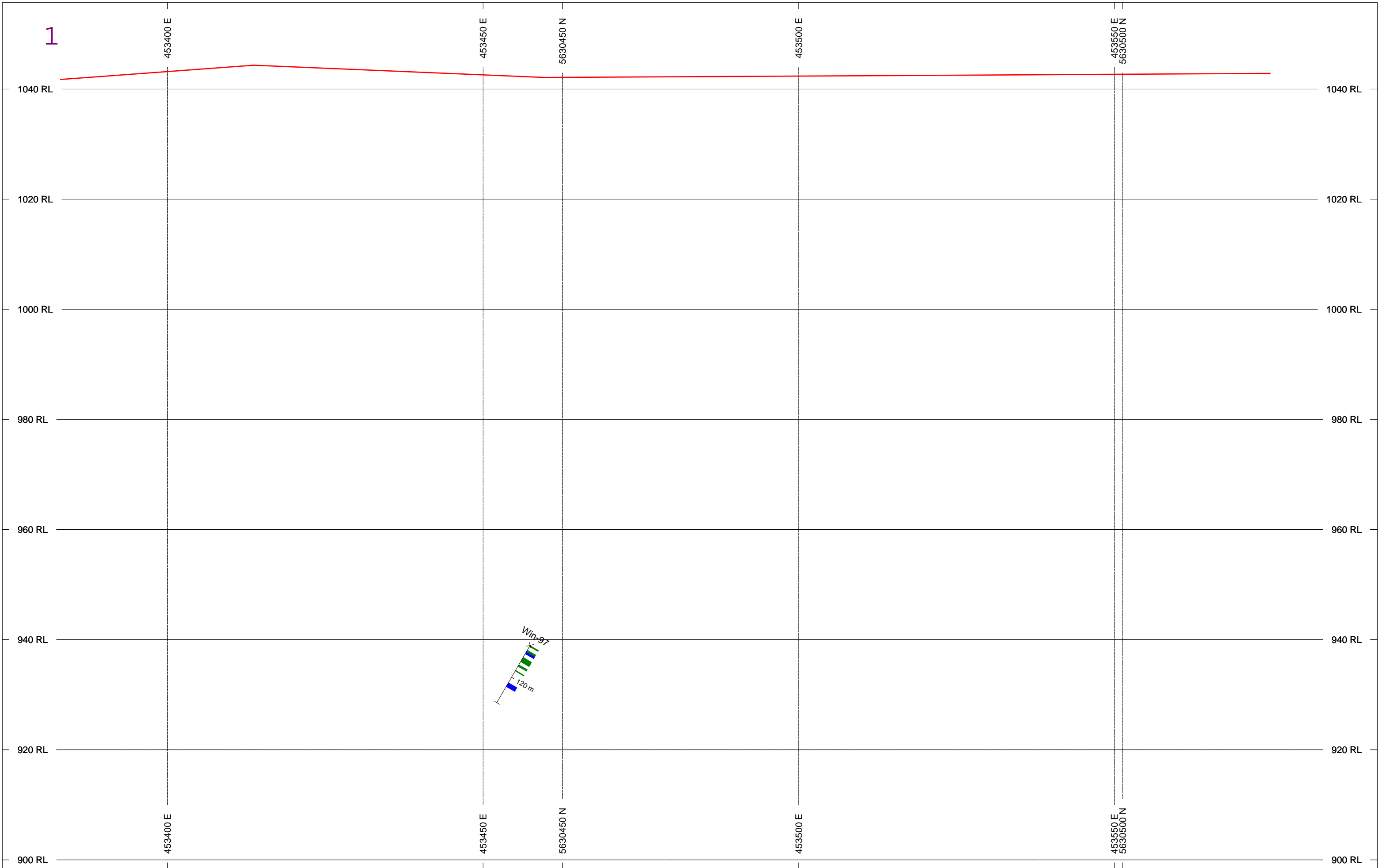
	1023 Level
	1003 Level
	Access Road
	SD-outlineClaim
	Crown Claim



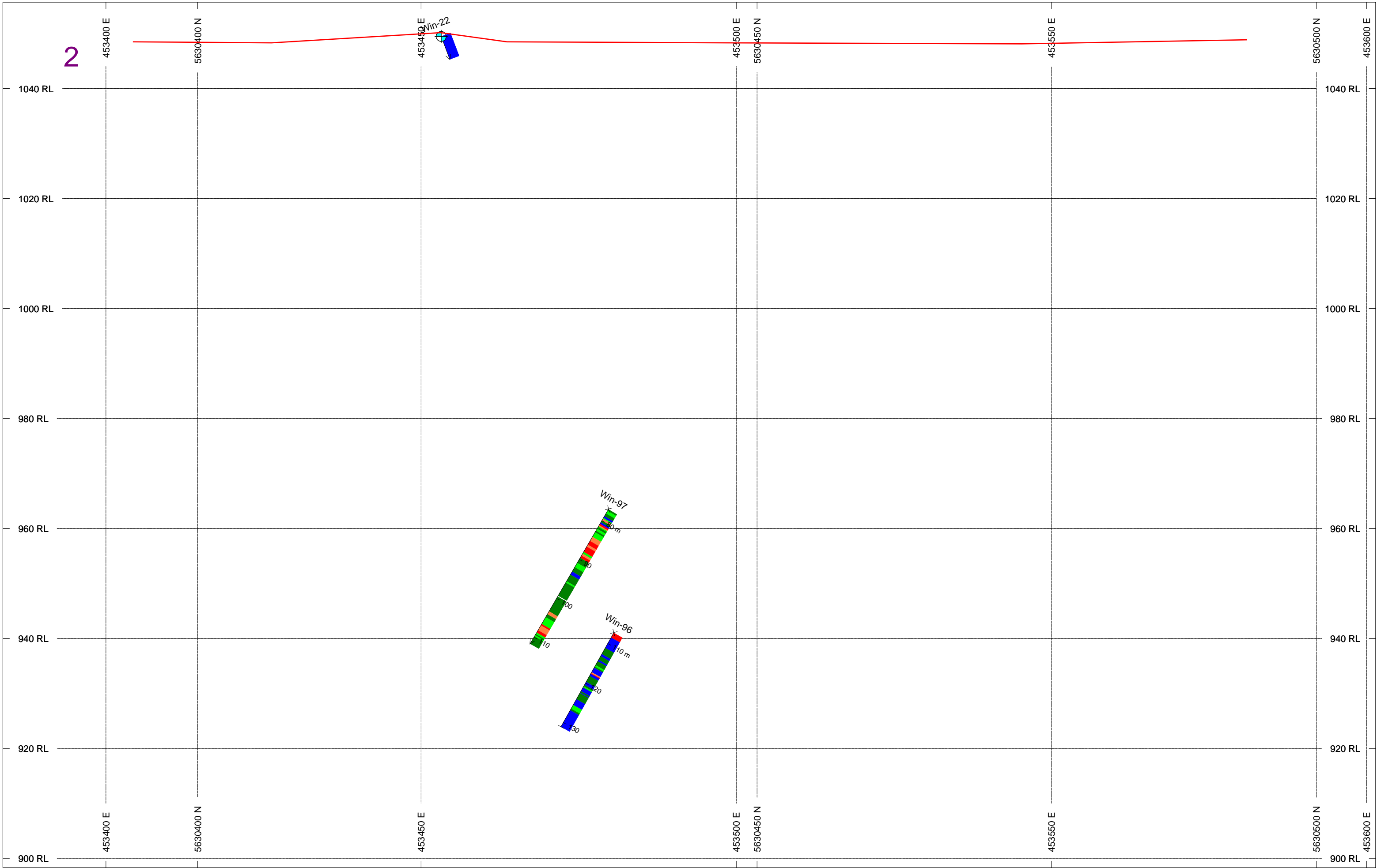
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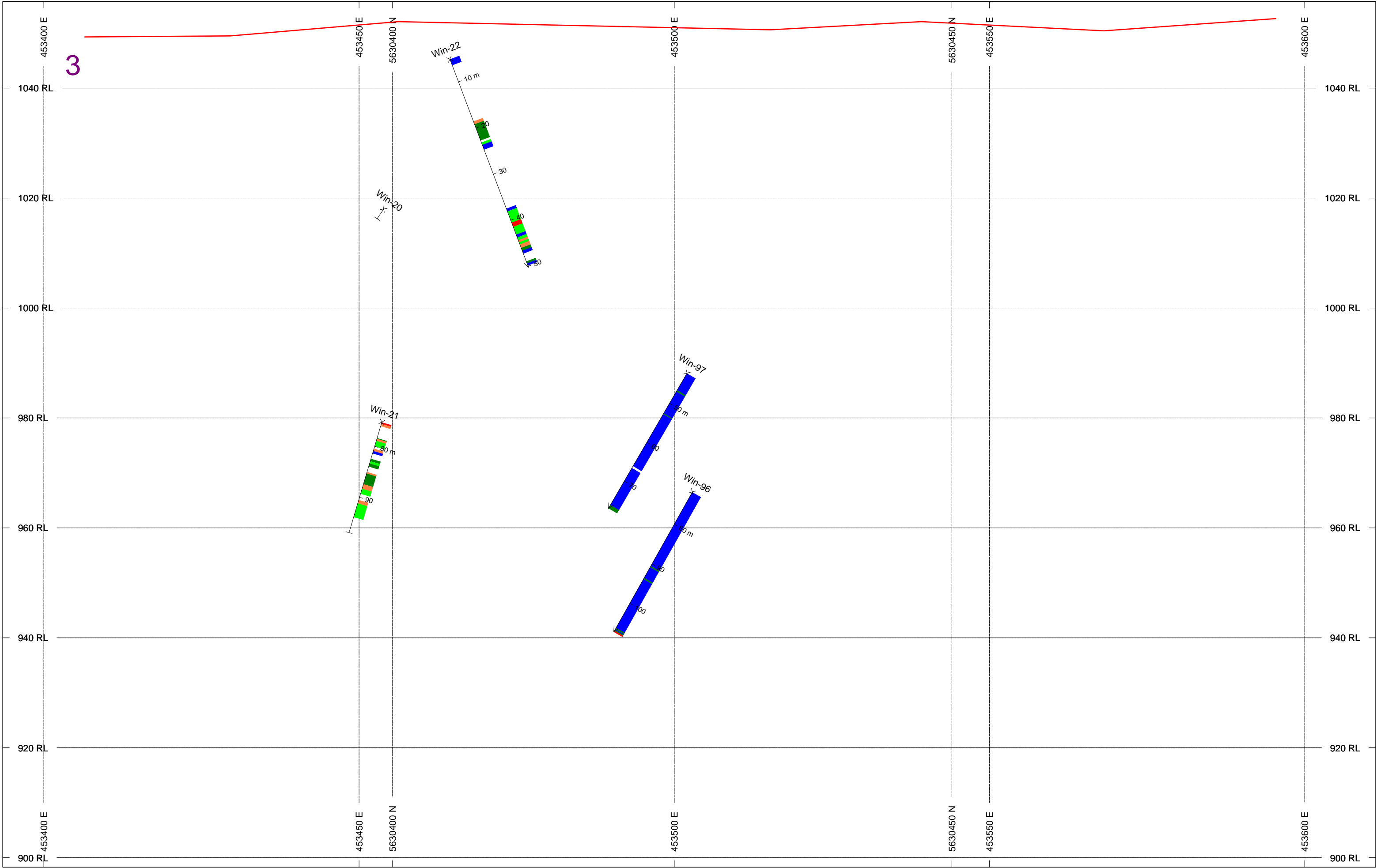
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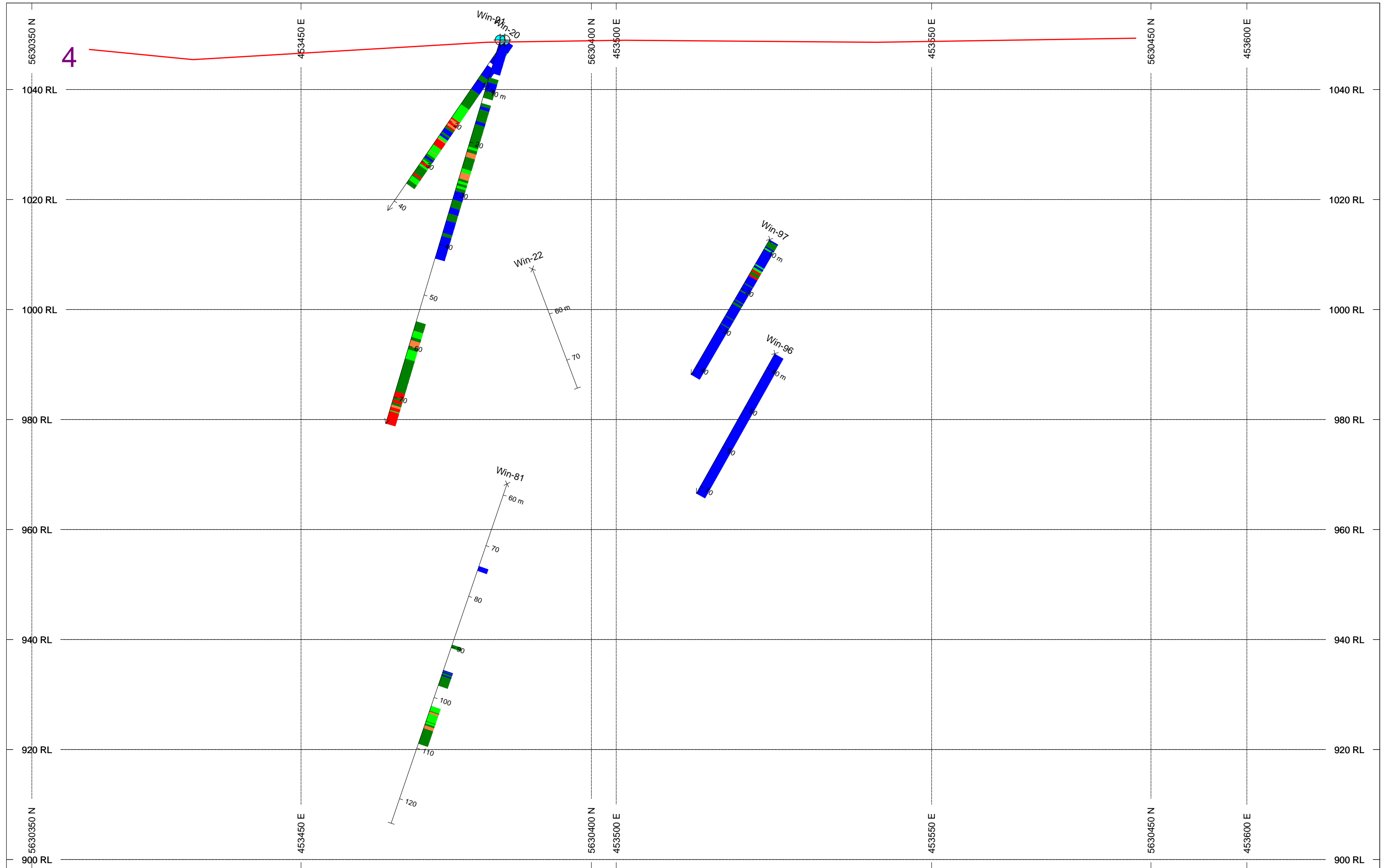
1



2

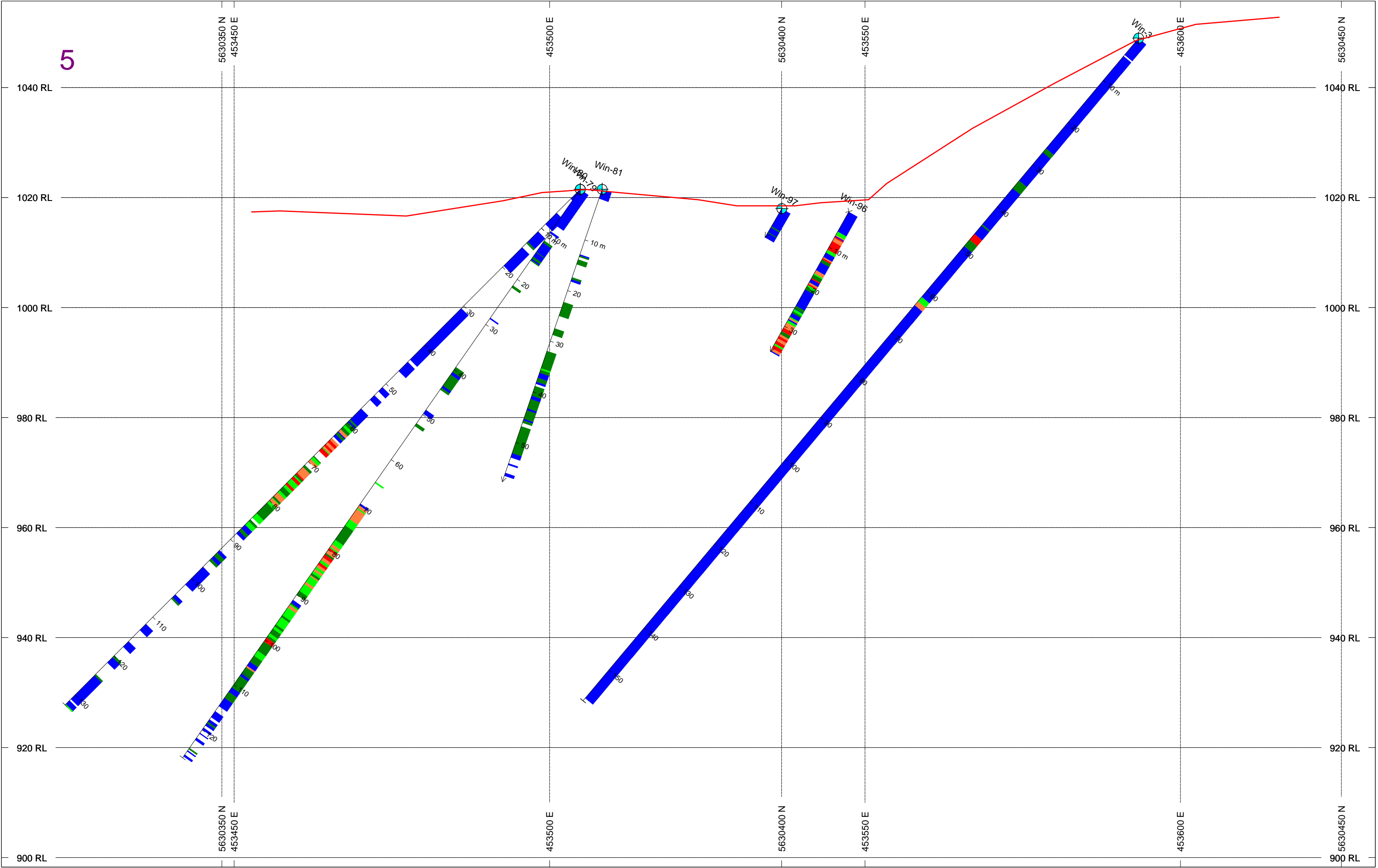


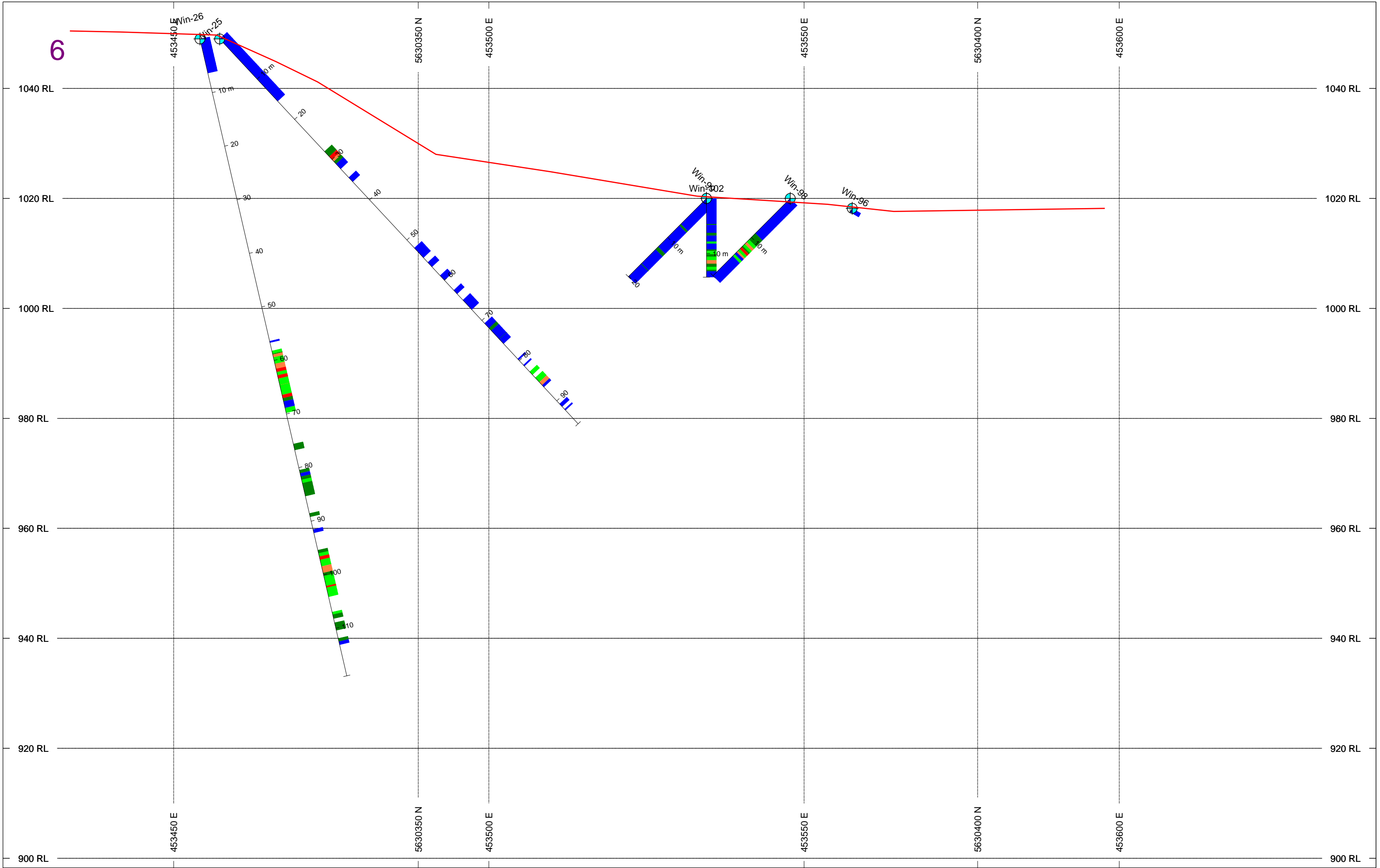


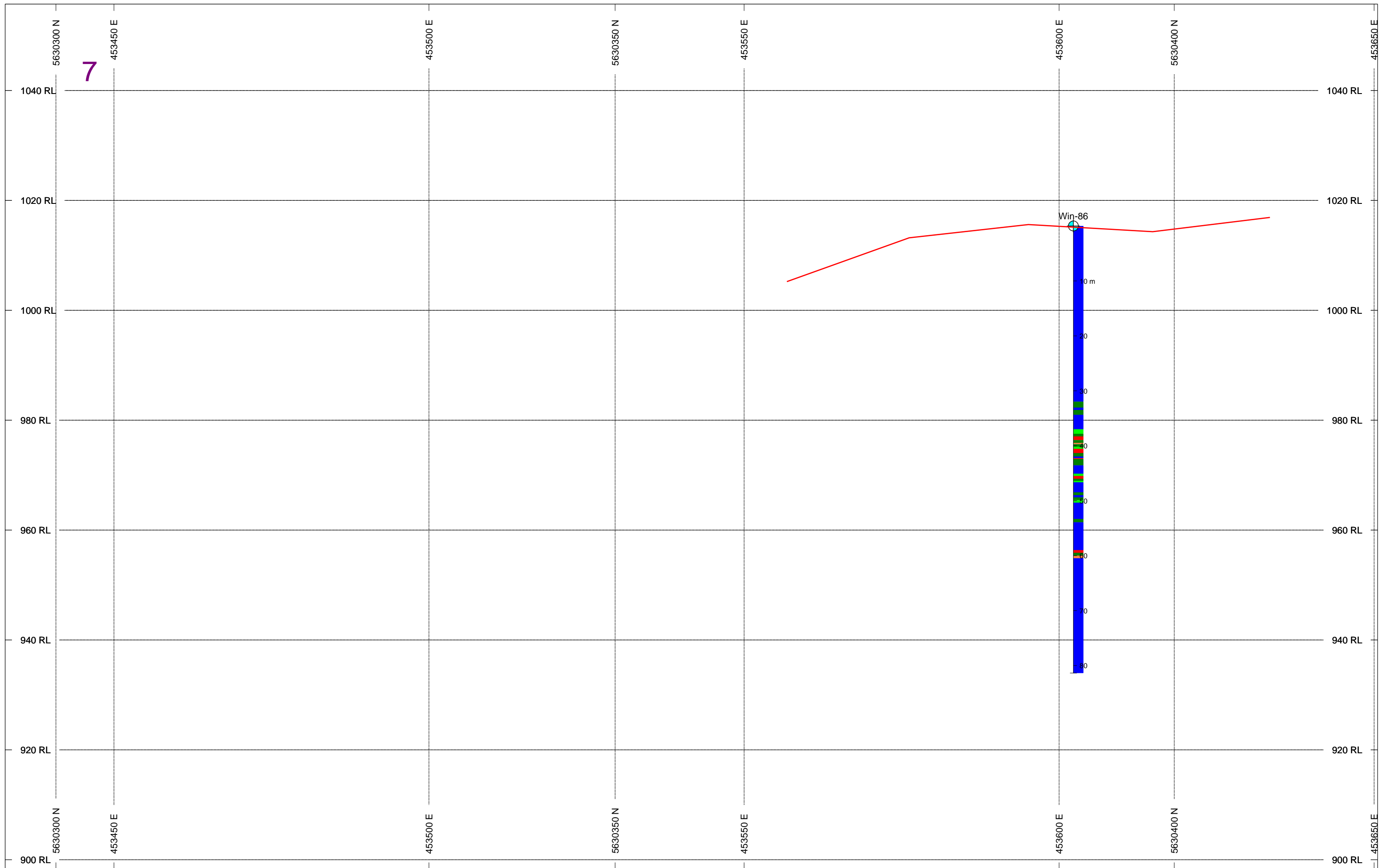


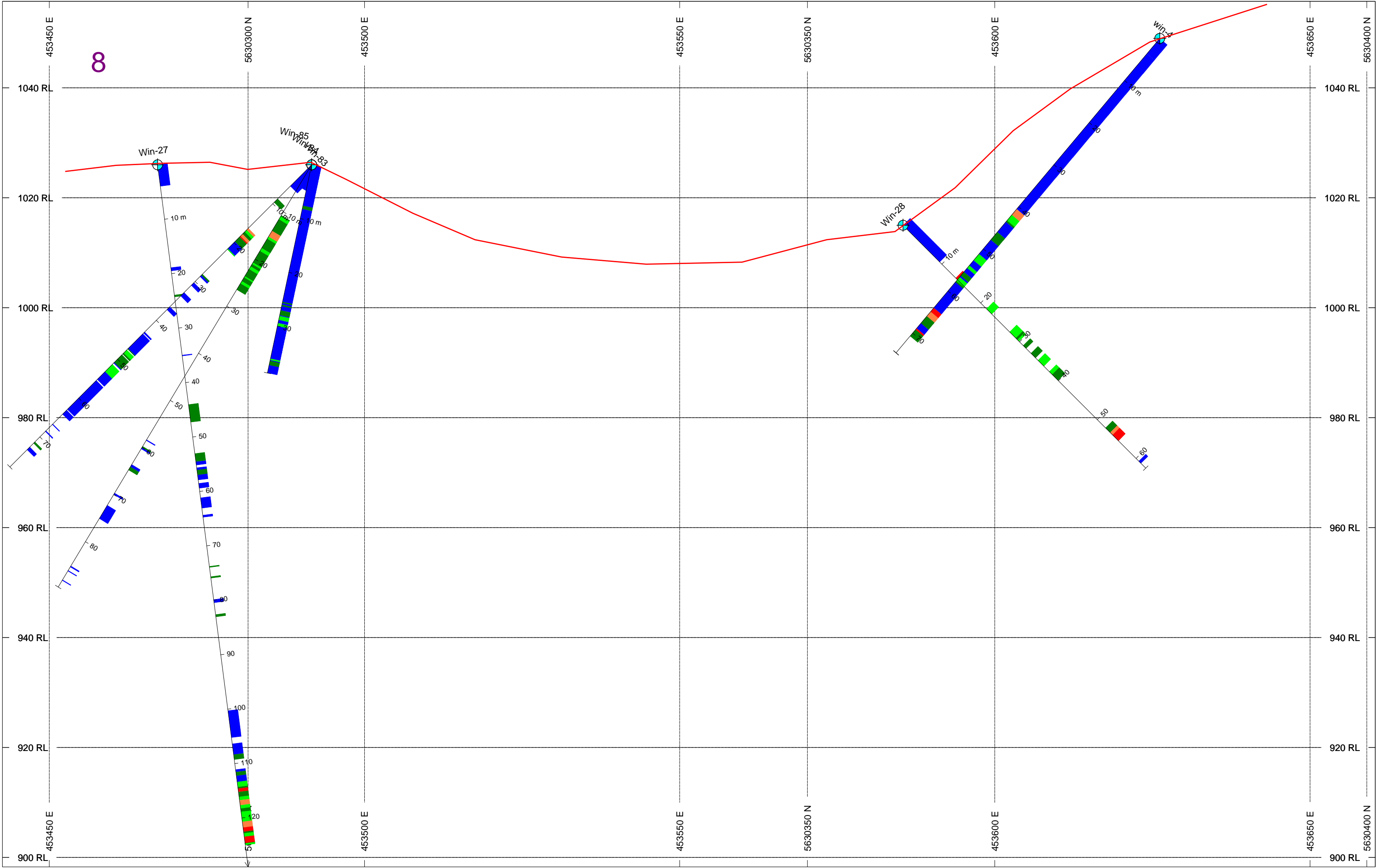


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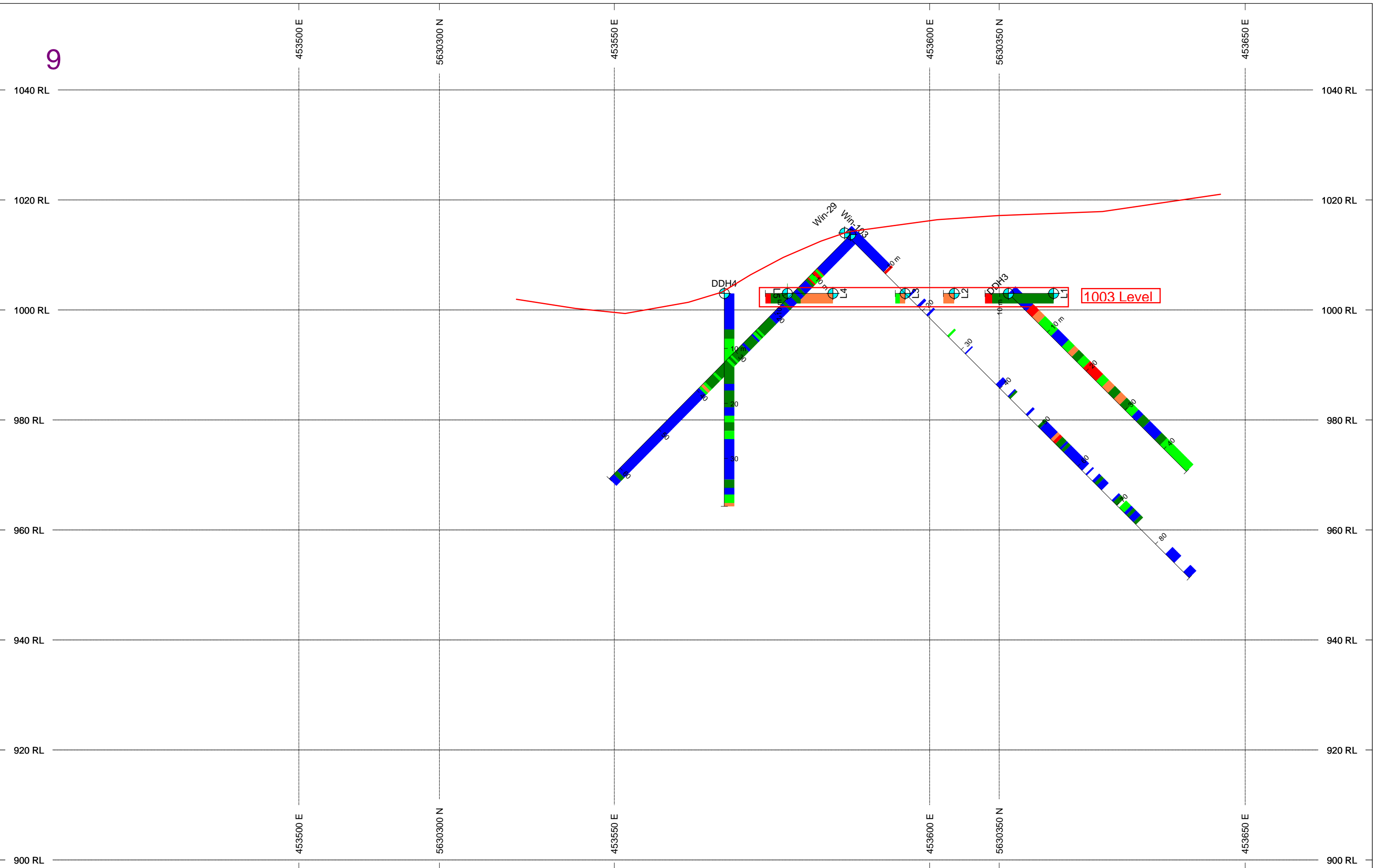




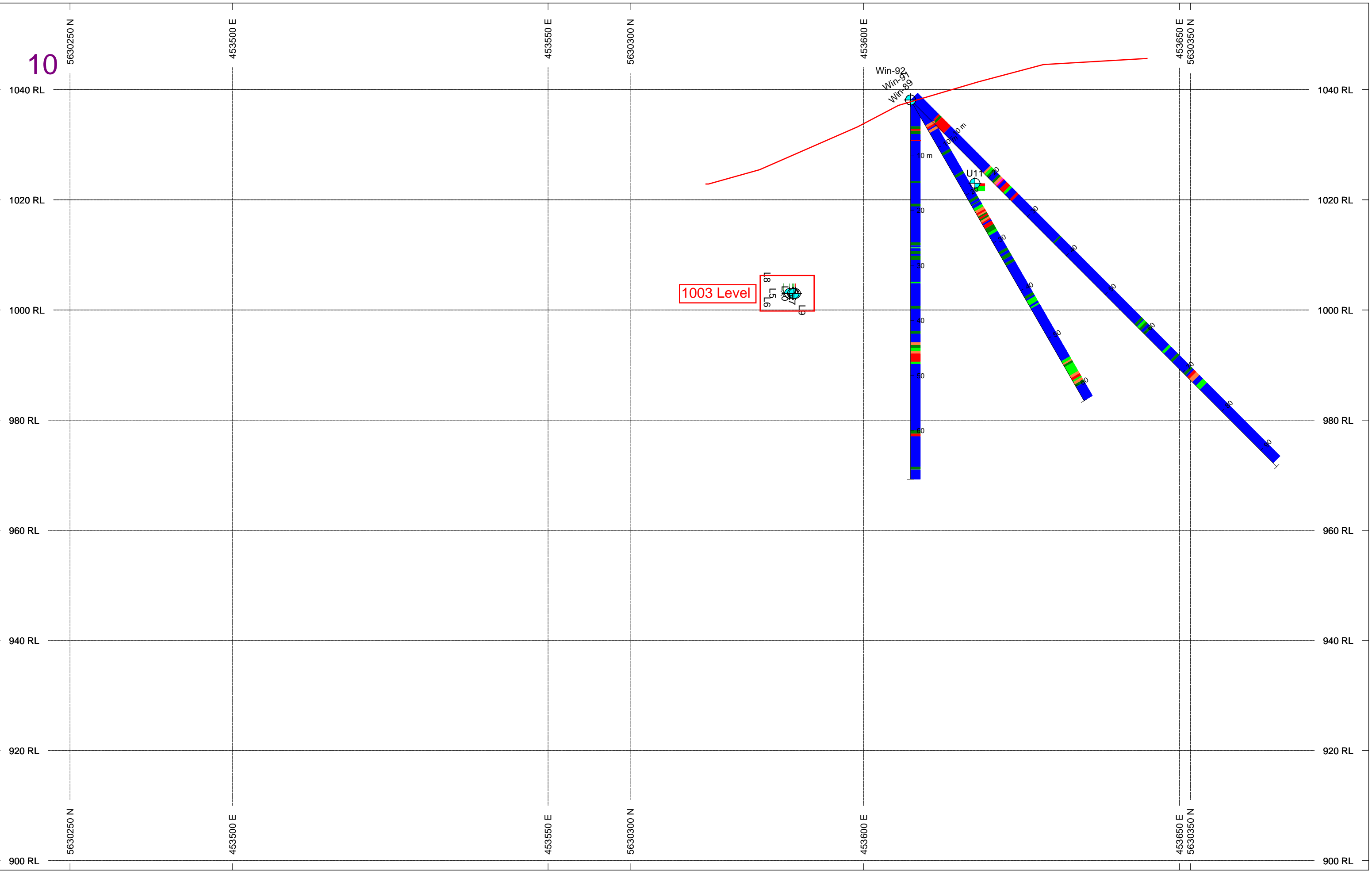




9



10



1003 Level

20

Win-92  
Win-91  
Win-89

U11

10 m

0 m

20 m

40 m

60 m

80 m

100 m

120 m

140 m

160 m

180 m

200 m

220 m

240 m

260 m

280 m

300 m

320 m

340 m

360 m

380 m

400 m

420 m

440 m

460 m

480 m

500 m

520 m

540 m

560 m

580 m

600 m

620 m

640 m

660 m

680 m

700 m

720 m

740 m

760 m

780 m

800 m

820 m

840 m

860 m

880 m

900 m

920 m

940 m

960 m

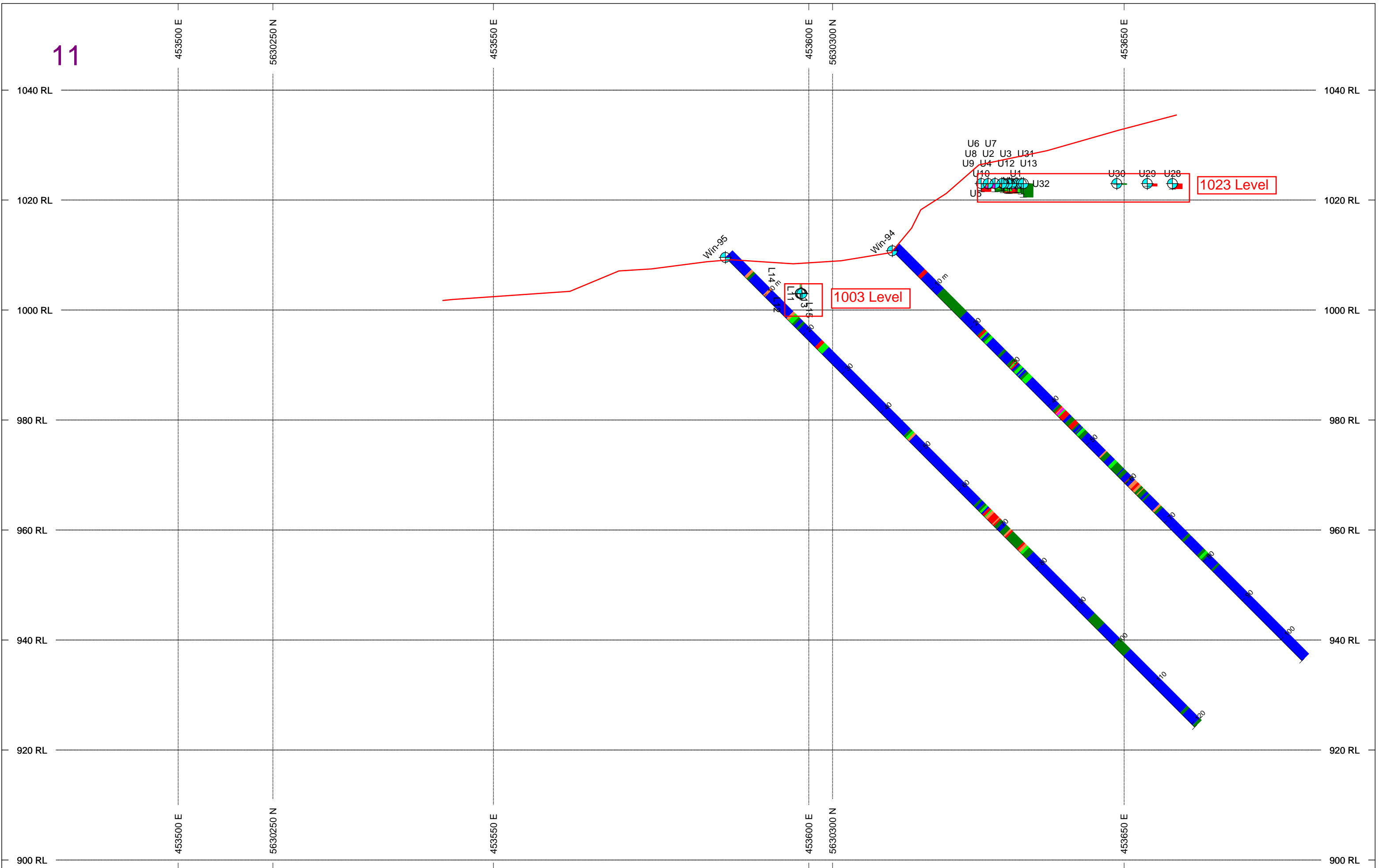
980 m

1000 m

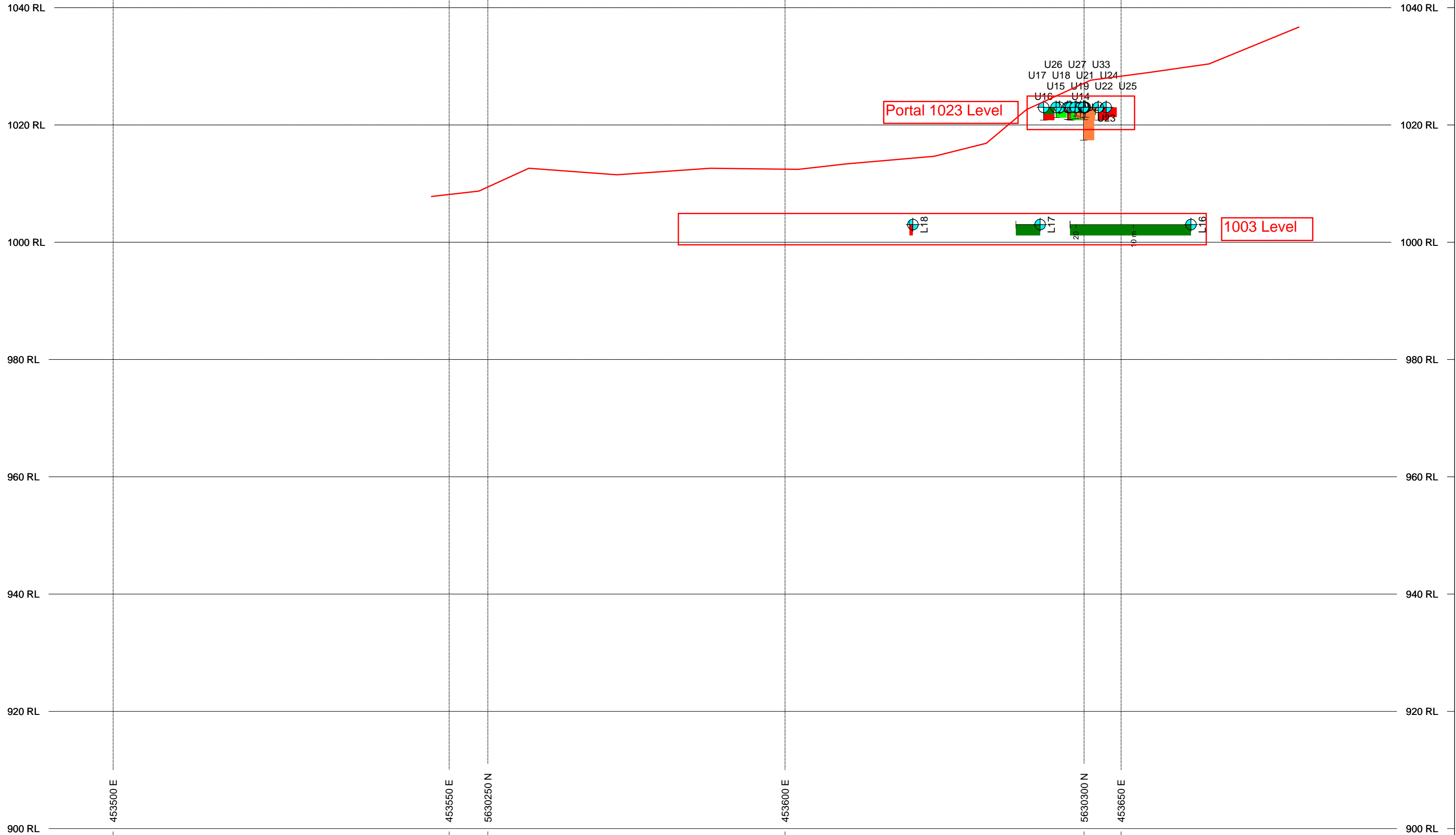
1020 m

1040 m

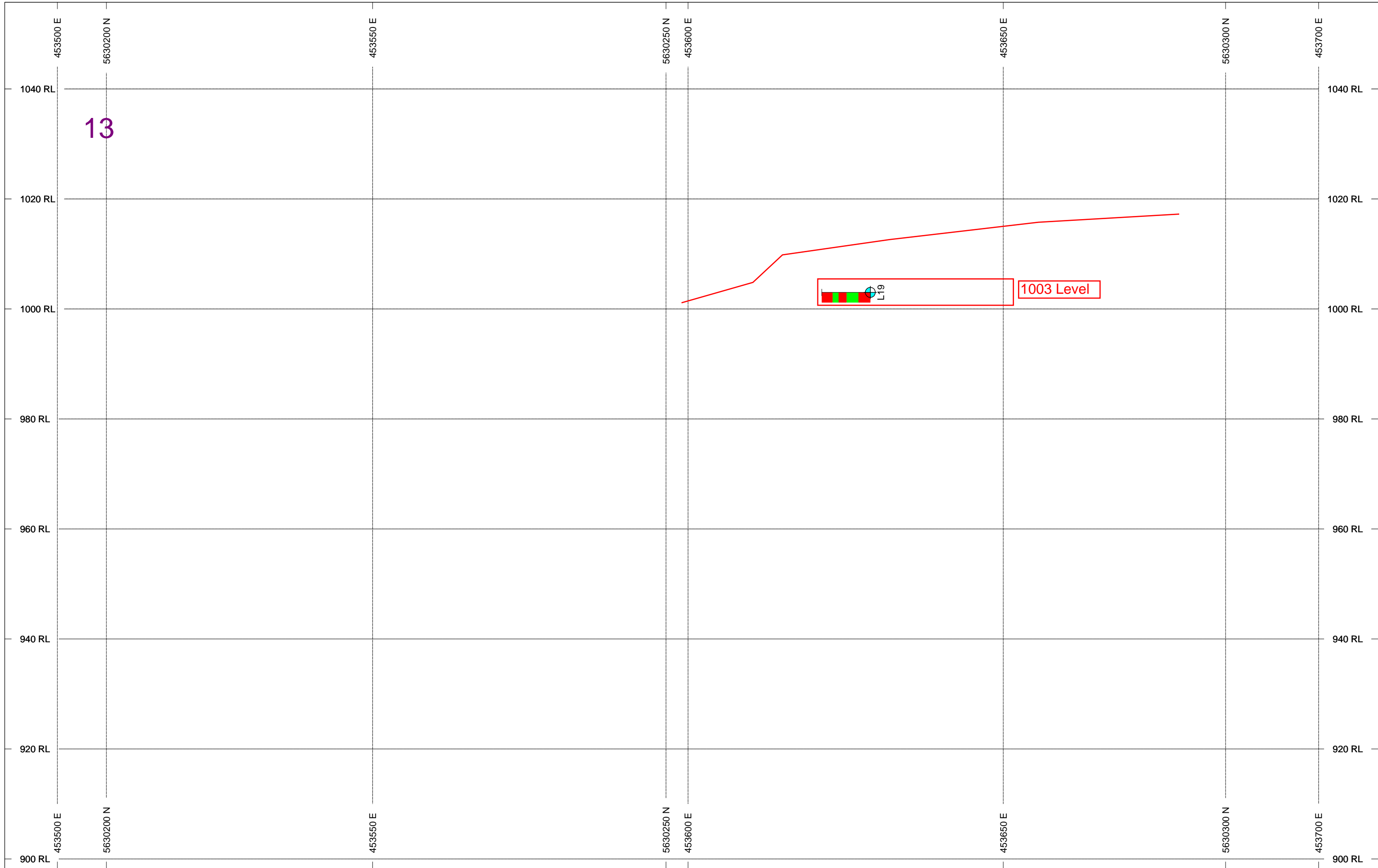
11



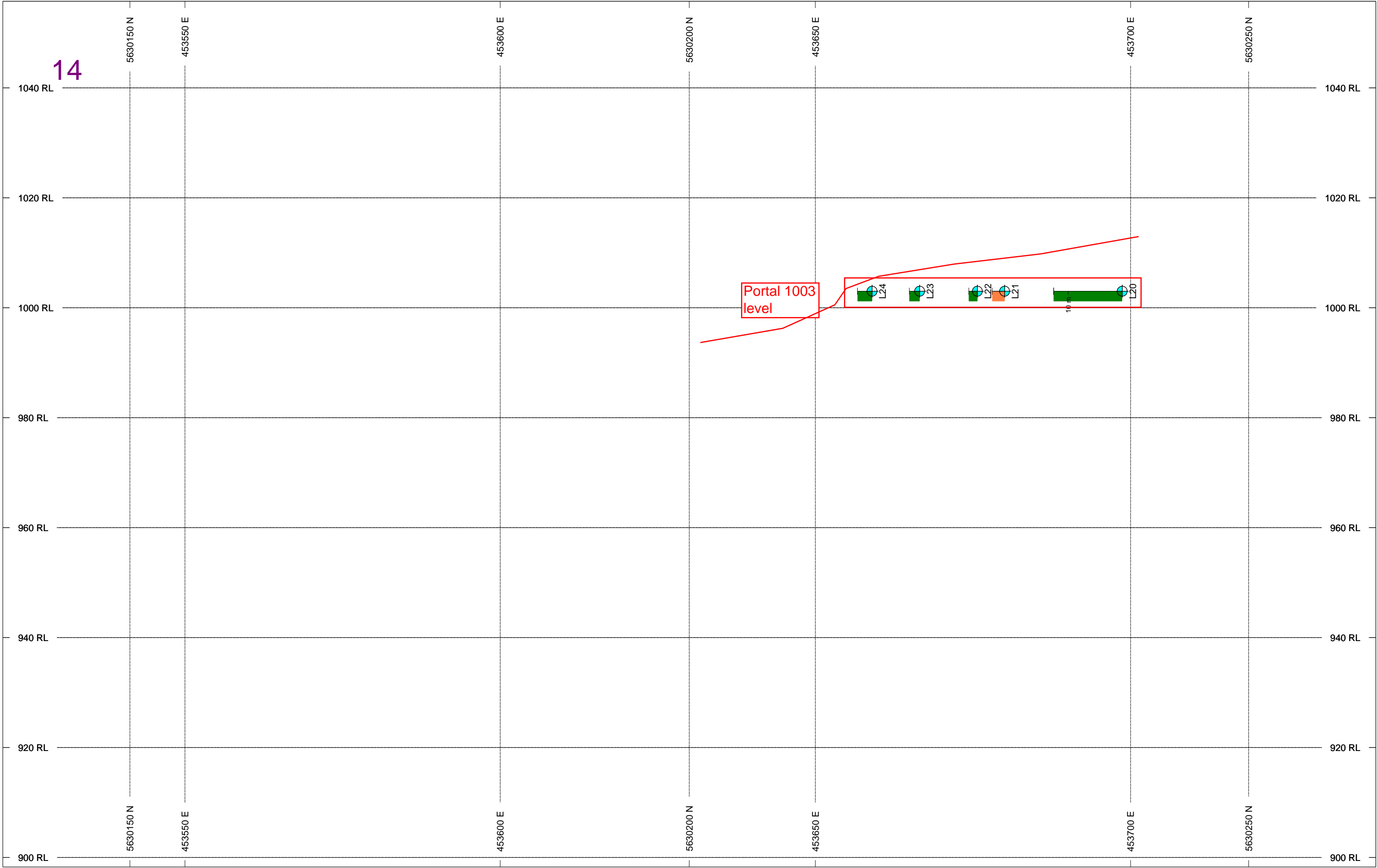
12







14



Portal 1003 level

L24  
L23  
L22  
L21  
L20

10 m