BC Geological Survey Assessment Report 33718

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## ASSESSMENT REPORT

On the

MAR 1 9 2013

## FALLS BASIN PROJECT

Events: # 5423**9**24

## **Clinton Mining Division, B.C.**

N.T.S 92 0/4

Latitude: 51 5' 52"N, L longitude 123 35'55"W

Owned by

Valor Resources Ltd.

Report by

John H. Hajek, Geochemist

GEOLOGICAL BURVEY BRANC ASSESSMENT REPORT

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## **FALLS BASIN PROJECT**

**2012** Exploration

**Clinton Mining Division, B.C.** N.T.S: 92 0/4

Latitude: 51 5' 52"N, Longitude 123 35'55"W

Events: # 5423524

Work was done:

On Tenures # 208501, 207933, 354065, 510770, 514566, 514694

Owned by <u>Valor Resources Ltd.</u>

Report by

John H. Hajek, Geochemist

Date of Report: March 15, 2013

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## I. INTRODUCTION

J. H. Hajek was commissioned by Valor Resources Ltd. to oversee the Falls Basin project which is a follow up on earlier geochemical promising results.

This report documents geochemical & geological exploration work done under the author's supervision, during the period of September 10, 2012 to October 30, 2012 on the Pellaire-Falls River property, Clinton Mining Division, British Columbia. Event # 5423524 applies to the work which was done on tenure # 207933, 208501, 354065, 514566, 514694, and 510770.

The purposes of the exploration were to extend the previous bank sampling coverage and the identification of metal dispersion in the Falls River drainage basin. The total of samples send to the Acme labs was 62 not including geological rocks. A section totalling 4,500 meters of the Falls River was sampled with encouraging results on the Twin Creek east talus slopes in two areas identified as T1(Twin slide) & T2 (Twin faults).

The results are indicating possible mineralisation coming from under the talus bank through seepage and ionic transport of gold & arsenic in several locations. Comparative results were obtained from drainage samples, for arsenic, silver, gold, Uranium, thorium, cerium and other elements by analysing the (-40+80) coarse fraction crushed to -200 mesh and the (-80) sample fraction. Results are presented on drawings # DR-1F-2F-3F-4F& appendix #2.

The upper Falls River drainage representing the Twin slide T1 area & the Twin Fault area T2 zone are anomalous for gold associated to thorium, arsenic and other metal assemblages. T1 area is of interest for arsenic & gold with T2 area anomalous for Vanadium-thorium-cerium & gold.

Metal leaching precipitating in the fine detrital fraction seems to occur under the slidetalus cover indicative of mafics intruding shale which may explain the high vanadium, cerium-thorium, uranium linked to gold & arsenic enrichment. The role of surface water, seepage and springs is not to be neglected since its transfer of dissolved elements is important but an unknown quantity.

The author is an experienced geochemist since 1968 and he has been on the property intermittently since 1995.

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## **II. PROPERTY DESCRIPTION and LOCATION**

#### 1. LOCATION, ACCESS, CLIMATE & PHYSIOGRAPHY

#### • LOCATION

Pellaire Gold Mine's property is located in south central British Columbia, south of the Upper Taseko Lakes.

The work area is located within the Falls River drainage and west of the Lord River system.



Fig 1: Location Map. "X" marks the exploration area.

The property is 220 km due north of Vancouver and 160 km southwest of William's Lake.

A central point within the claims area is situated between Pellaire West ridge and Pellaire East ridge located at: 51 5" 52" North Latitude and 123 35' 55" West Longitude in N.T.S area 920/4

#### • ACCESS

Access to the claims is available by road, from William's Lake over the Bella Coola road to Hanceville and then southerly for about 70 km along the Nemiah-Taseko road to the bridge crossing the Taseko River.

Twelve kilometres west of the Taseko River Bridge is the junction with the Pellaire road. From this junction, a newly upgraded 60 km section of road runs southerly to the Falls River campsite situated at the base of Pellaire West ridge.

The total distance from William's Lake to the Falls River camp is about 260 km. By air, access is by helicopter from bases located at Pemberton or William's Lake.

## • CLIMATE & PHYSIOGRAPHY

The claim group is situated in rugged terrain of high relief, along the eastern margin of the Pacific Ranges of the Coast plutonic complex.

Valleys, with basal elevations of between 1375m to 1675m, have been glacially scoured and thus are wide and gently sloped.

Tree line extends to about 1900 meters above which the slopes rise more abruptly to elevations of up to 2590 meters.

Numerous melting glaciers are present at the higher elevations throughout the area; these are the source of all streams draining into the valleys.

About 70% of the claims are above tree line where alpine vegetation predominates. Sub alpine vegetation of pine and spruce trees predominates along valley floors.

## 2. PROPERTY & WORK AREA

• Property Description and Mineral Titles:

Valor Resources is the beneficial owner of 20 claims in the Clinton Mining Division. The staked area forms a contiguous claim group, north-easterly elongate over 8 kilometres and about 6 kilometres wide, all within NTS: map sheet 92-O/4. It is encompassed between Falls River to the west and Lord River to the east.

Geological location

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The property lies within and along the prospective northeast contact zone of the Coast Plutonic Complex, where it contacts strata of the back arc deposional basin known as Tyaughton Trough.

**TABLE 1:** Claim listing for Assessment Work started September 10, 2012 andfinished October 30, 2012, event # 5423524

• Work was done on tenure # 207933, 208501,510770, 514566, 514694 & 553960.

Tenure	Claim Name	Good to Date	Division	Area
				Hectare
354065	HAMILTON	2017/March 01	CLINTON	500
209470	HI #1	2015/May 03	CLINTON	25
209471	HI #2	2015/May 03	CLINTON	25
209472	HI #3	2015/ May 03	CLINTON	25
209473	HI #4	2015/May 03	CLINTON	25
207974	LORD #2	2016/JUL/19	CLINTON	500
358595	MICHELE	2015/Dec/29	CLINTON	500
208501	LORD #5	2017/Sep/ 02	CLINTON	100.0
510770		2015/Dec/ 29	CLINTON	405.9
510824		2016/Aug/ 15	CLINTON	81.22
514566		2015/Dec/ 29	CLINTON	426.34
514569		2015/Dec. 29	CLINTON	405.84
514689		2015/Dec. 29	CLINTON	385.62
514694		2016/Aug/ 24	CLINTON	101.51
569613	<b>2 FRACTIONS</b>	2015/Nov. 07	CLINTON	40.60
569614	SUMMITFR	2015/Nov/ 07	CLINTON	20.30
588742	HAMILTON #2	2016/Mar/ 08	CLINTON	405.80
605792	RIDGEFR	2015/Jun/ 10	CLINTON	60.91
922489	ESLOPE	2015/Oct/ 24	CLINTON	405.84
947609	ADJACENT	2015/Feb/ 09	CLINTON	507.94
514699		2015/Dec/ 29	CLINTON	81.21
553960	TILL	2017/Mar/ 09	CLINTON	467.03
514556		2014/Dec. 29	CLINTON	365.58
510763		2015/Dec/ 29	CLINTON	689.52



## 3. **PROPERTY HISTORY**

#### • Discovery and Early Exploration (1936 to 1947)

Gold-silver bearing quartz veins were discovered in 1936 by the prospectors A. Pelletier and AJ.Allaire on a northerly trending ridge east of Falls River and south of Upper Taseko Lake. Five north-easterly striking quartz veins, up to 2.4 meters wide, were discovered within granodiorite of the Coast plutonic complex near its contact with Lower Cretaceous volcaniclastics.

**1937:** High-grade values of up to 400 g/t Au and up to 1345 g/t Ag, as recorded in the B.C. Minister of Mines Annual Report, 1937, prompted the formation of Hi Do Mines Ltd. in 1937 to explore and exploit the veins.

In 1945/46: a renewed work program was undertaken by Pellaire Mines Ltd., a subsidiary of Quebec Gold Mining Corp., they tested the depth extent of several veins by diamond drilling 1,453 meters. A tractor road was put in to connect the property to the Fishem Lake road, a camp was installed and three adits, totalling 180m, were started on the principal veins (# 1, #3, #4 and #5).

**During 1947:** about 850 metres of drifts and crosscuts were completed on three different veins, which exposed a total of 140 metres of ore grade vein material in the new underground workings.

## • Lord River Gold Mines and Silver Standard (1973 to 1990)

In 1973: Silver Standard Mines Ltd. and Lord River Gold Mines Ltd. rehabilitated the workings and conducted surface exploration. Roads were repaired; geological mapping and geochemical sampling were carried out, as well as bulldozer stripping. In 1979/80/81: Silver Standard Mines Ltd. conducted a program of mapping, sampling along with the construction of an access road. A new adit was put in on the east-side of the ridge advancing 60 metres towards the #4 vein.

**In 1987:** Consolidated Silver Standard Mines Ltd., managed a program of geological exploration, adit development and diamond drilling for the Pellaire Joint Venture, as described in Holtby's report of 1987. A total of 1335 m of NQ core was drilled in 12 holes from 10 surface locations to test for ore shoots on the #3, #4 and #5 veins. As a result 49 m of drifting and crosscutting were done and a new vein labelled the #6 vein was discovered.

#### • Pellaire Gold Mines Ltd. (1995 TO 1999)

**In 1995/96/97:** International Jaguar Equities Inc., through its subsidiary, Pellaire Gold Mines Ltd., acquired the property. It rehabilitated 73 kilometres of roads & installed 60 steel cavers. Mine development comprised 605 feet of raise, crosscut, sub-drift and stopes in the 731 adit on vein #4, from which 1,270 tonnes of ore were extracted & shipped to the Trail smelter, with an average grade of 1.2oz/t gold and 4.2oz silver. A program of mapping, sampling, bulldozer trenching, soil sampling and underground mining was carried out from July to September (Gaboury 1997). It also resulted in the discovery of a 32 feet section of 3.78oz/t gold over 4.1 feet wide above the 749 level.

**In 1997:** 1,000 tons of ore were also shipped to the smelter with gold averaged 0.75oz/t.

In 1998-99: Jaguar resumed the bulk sampling program. A total of 1,500 tons of vein material was extracted and stored and the Pellaire base camp site.

#### • Zelon Chemicals Ltd. and Valor Resources Ltd. (2000 to present)

In March 2000: Zelon Chemicals Ltd. purchased the Pellaire property from Jaguar International Equities Inc. Zelon extended the bulk sampling program and established a gravity processing plant with a capacity of 40 tonnes per hour, a screen, wash and secondary recovery plant, all set up in the Pellaire camp area. Extraction of rock material for the purpose of bulk sampling continued with Zelon as operator from 2000 to 2001. A total of 1,200 tons of ore was produced from 15,000 tons of rock extracted via an open cut from the #3 and #4 veins on the same location as Jaguar's 1999 excavation. It also included the development of a site for a larger processing facility located below the Pellaire West ridge, above the tree line at 6,000 feet elevation and 3,000 metres from the Main Bulk Sample Site. The 2002-04-05: Valor Resources Ltd. conducted exploration of the region with stream and slope soil/rock sampling of the Pellaire claims. It was followed by Magnetics & VLF as an orientation survey on the west ridge access road.

**In 2006-07:** Valor Resources Ltd. supported an 87 kilometres airborne survey conducted by Aeroquest which outlined several areas of interest and establishes the presence of a volcanic/intrusive system on the Pellaire East Ridge. Air photography confirmed the presence of the airborne geophysical anomalies and was followed by some ground work. A 354 samples soil/rock sampling survey has been done on Pellaire East, West and South to provide data on metal movement. Metallurgical testing of 334 kilograms of rocks from vein #3 was done to confirm gold-silver distribution and its association with indicator elements.

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**In 2008: Zelon Chemicals ltd.** established the presence of an intrusive system on the Pellaire south area. On the Pellaire west breccia a correlation between the airborne geophysical data and ground magnetics was established. 68 rock samples were analysed.

**In 2009-2011:** Exploration of the Pellaire West ridge extension to the south & sampling some of the northern EM anomalies with 200 geochemical samples. The zero vein area has geological similarities with the main gold zone to the north, however there are high copper & base metal values suggesting VMS and porphyry sources to the mineralizing fluids. 225 samples were collected and analysed for 53 elements. Metallurgical testing and compilation of all available results were done on stock pilled rock at 6,600 feet on the temporary millsite. 19 bulk samples of 1 cubic meter each or approximately 50 tons were extracted and representative samples were fire assayed for gold & silver.

Favourable geology & prospecting results seems to indicate the presence of precious metals mineralized trends associated to sulphide deposits therefore potential drill targets.

**In 2012:** Stream sediment sampling along Falls River indicated a new source of gold (1.8g) and polymetalic enrichment along the Twin Creek eastern talus covered drainage.

The river has been sampled in the past with unexplained high uranium, thorium & other minor enrichment repeated and extended with our present survey.

A follow-up drainage and slope talus sampling confirmed the ionic enrichment of gold and other elements. A comparative evaluation of (-80 and 40 mesh) analysis revealed a background level for the solid particulates versus the enrichment from distal sources in the -80 mesh.

# From 2003 to 2012: \$880,000 was spent on exploration by the Zelon & Valor group of companies on the Pellaire area.

## III. TASEKO WEST GEOLOGY

The property is located along the east margin of the Coast Plutonic Complex and is bounded to the northeast by Cretaceous volcanic and sedimentary rocks of the back arc depositional basin known as Tyaughton Trough.

Volcanic and sedimentary rocks in the trough range in age from Lower to Upper Cretaceous; Cretaceous time spans 145-65 Ma.

The Taseko Lakes region has undergone at least three phase of transpressional & contractional deformation:

- Sinistral reverse strike-slip movement (D1), 97-88 Ma (Twin Creeks). The rocks within the shear zone consist of sheared interlayed andesitic & clastic marine sedimentary rocks.
- South vergent contractional faults (D2), 91-86 Ma (Pellaire & Bralorne).
- Dextral strike-slip faulting, (Twin Creeks). The Twin Creeks fault is inferred to be left-stepover associated with the Tchaikazan fault.

## A. REGIONAL ROCK TYPES

The region is underlain by several rock units of Paleozoic to Cretaceous age. These units from oldest to youngest are:

- Twin Creek succession, Permian 251 Ma
- Tchaikazan River Succession, 102 Ma
- Falls River Succession, 103 Ma
- Taylor Creek Group, 113-97 Ma
- Powell Creek Group, 95 Ma

Mount McLeod Batholith intrudes all stratigraphic units and the bulk of the batholith is dominated by granodiorite. The fringe intrusive rocks range, from diorite to felsites and include various intermediate phases such as quartz diorite, quartz-feldspar porphyry, and feldspar porphyry.

The Falls River succession defined by Israel et al. (2006) was in the past included in the Taylor Creek Group classification. The Falls River succession consists of intermediate coherent and clastic volcanic units with subordinate amount of sedimentary rocks

#### **1. STRATIFIED ROCK UNITS**

a) Palaeozoic rocks;

## Twin Creek Succession: (251 Ma)

The unit occurs in fault lenses within the Twin Creek area and is composed of marine sedimentary rocks of Permian age. The age for the succession is 251 Ma (Israel and

Kennedy, 2001) and is interpreted as Permian basement rocks to the Mesozoic Tyaughton basin.

The Twin Creeks succession is comprised of clastic sedimentary rocks composed of black silty shale, interbedded with muddy shale or sandstone.

#### b) Mesozoic rocks

## <u>Upper Cretaceous;</u>

#### Powell Creek Formation: (95-79 Ma)

The formation consists of andesitic units and associated volcaniclastic rocks. Breccias and conglomerates often bound in coherent units on either side and have been interpreted as flow front units, suggesting a sub-aerial environment of deposition. Therefore it is likely that the Powell Creek Formation was deposited in a costal environment with both sub-aerial & submarine location typical of a volcanic arc setting. The majority of the Powell Creek Fm has a characteristic purple weathering colour.

#### • Lower Cretaceous;

#### Falls River succession: (103 Ma)

The succession consists of intermediate and clastic volcanic units with few clastic sedimentary rocks. The Falls River units have more abundant plagioclase phenocrysts than those of the Tchaikazan River succession. The lack of olivine and the increased plagioclase to hornblende ratio in most rocks give the Falls River volcanic rocks a slightly more felsic appearance than those of the Tchaikazan River. Veining and alteration are common and increase in intensity proximal to E-SE trending vertical fault zones in both the Twin Creeks & Pellaire areas. They are composed of quartz and carbonate, and less common epidote and pyrite.

#### Tchaikazan River succession: (102 Ma)

It is the most prominent lithologic unit in the area. The succession has been subdivided into sedimentary and volcanic dominated facies.

## Sedimentary facies:

The sedimentary facies of the Tchaikazan River succession occurs in the Twin Creeks and Pellaire areas. The sedimentary rocks vary from silty and muddy shales up to coarse grained volcanic rich sandstore. Pyrite and arsenopyrite occur sporadically throughout the Tchaikazan sedimentary facies.

## Volcanic facies:

The facie is composed mainly of clastic and intermediate to mafic volcanic rocks with lesser clastic sediment. Coherent volcanic flows are andesitic with up to 30% phenocryst consisting of hornblende and or plagioclase in varying proportions. Sedimentary rocks comprise a minority of the Tchaikazan volcanic facies and consist of coarse lithic sandstones and fine clastic siltstone and mudstones.

Clay alteration and weathering are widespread with zones of weak chlorite and carbonate alteration occurring proximal to fault zones.

#### Taylor Creek Group: (113-97 Ma)

The Taylor Creek Group consists mainly of clastic marine sedimentary rocks. The unit is intruded by the Tchaikazan Rapids Pluton (89 Ma).

The Taylor Creek Group is typically composed of grey bedded sandstone. Grains are mainly quartz and feldspar with rare larger lithic clasts.

#### 2. INTRUSIVE ROCKS

The most extensive igneous body in the area is the Mount McLeod Batholith, which occurs in the southern part of the Twin Creek and Pellaire areas.

It comprises medium to coarse grained hornblende rich granodiorite, with U-Pb dating on the Batholith has given the ages of 101-103 Ma, (Israel and Kennedy, 2001).

#### a) Mount McLeod granodiorite: (103-101 Ma)

The batholith is composed mainly of uniform, medium to coarse grained biotitehornblende granodiorite.

The granodiorite is equigranular and is composed of 35% plagioclase, 30% quartz, 15% K-feldspar, 10% biotite, and 10% hornblende. It may contain up to 3% of combined clinopyroxene, Fe-oxides or pyrite. Sets of imbricated thrust faults occur within the batholith. Also areas of copper and iron oxide alteration occur sporadically throughout the batholith.

#### b) Porphyritic biotite-hornblende granite: (97 Ma)

The Porphyritic biotite-hornblende granite cuts all other intrusive phases in the Mount McLeod Batholith; however, it is cut by the Mount McLure pluton. The porphyritic biotite granodiorite consist of 50% feldspar, 34% quartz, 6% biotite and 5% hornblende. The remaining 5% of the modal composition is comprised of iron oxide and pyrite. The variation in feldspar and hornblende phenocryst size gives the rock its porphyritic texture.

#### c) Grizzly Cabin pluton: (102-99 Ma)

The Grizzly Cabin pluton occurs as an elongate W-NW trending lens in the NE part of the Twin Creeks area. It intrudes Permian rocks of the Twin Creek succession and Cretaceous rocks of the Tchaikazan River formation. The peripheral areas of the pluton are characterized by intermingling layers of quartz monzonite to monzodiorite and fine grained biotite-pyroxene diorite. The central area of the pluton is composed of a single homogeneous phase pyroxene diorite.

#### d) Tchaikazan Rapids pluton: (89-76 Ma)

The Tchaikazan Rapids pluton is composed of plagioclase-hornblende porphyry. The rock composition is 50% aphanitic plagioclase, quartz rich groundmass and 50%

phenocrysts. Plagioclase phenocrysts (30%) occur as subhedral to euhedral lathes; elongate hornblende lathes (15%); rounded quartz phenocrysts (5%).

## e) Dikes: (89-65 Ma)

Twin Creeks dikes consists of fine grained andesite slightly porphyritic (1-2m wide) with an age of 65Ma. Northwest Copper dikes are similar in composition to the Tchaikazan Rapids Pluton (89 Ma), plagioclase-hornblende porphyry. A separate hornblende-phyritic andesitic dike that cross cuts beds within the Powell Creek Formation in Northwest Copper yielded an age of 22 Ma. This age is correlative with Pemberton Arc volcanism to the south (29-6 Ma)

## **B. REGIONAL SETTING & STRUCTURE**

Strong crustal faults occur along the east margin of the Coast Plutonic Complex: During the early stages of subduction of Pacific plate, direction of convergence of the two plates was northeast, nearly orthogonally: oceanic crust under thrusting the lighter continental crust.

During later stages, the direction of convergence became more northerly more oblique; this generated a large component or right lateral translation.

The result is major crustal faults with under thrust component during early stages, with time, changing to mixed components of under thrusting and right lateral translation.

The paralleling Yalakom Fault, 24 km further to the northeast, makes the boundary between Chilcotin Ranges and Interior Plateau.

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## FIG. 3: Regional Geology of the Pellaire-Falls Project.

## **IV. PROPERTY GEOLOGY**

The region is underlain by several rock units of Paleozoic to Cretaceous age with the new Twin Creek identification of Permian sediment (251 Ma), ref.2-3.

## 1. LITHOLOGIES

#### Falls River succession: (103 Ma)

The Falls River succession was defined by Israel et al., (2006) prior to this it was included in the Taylor Creek Group.

The succession consists of intermediate and clastic volcanic units with few clastic sedimentary rocks. The Falls River units have more abundant plagioclase phenocrysts than those of the Tchaikazan River succession. The lack of olivine and the increased plagioclase to hornblende ratio in most rocks give the Falls River volcanic rocks a slightly more felsic appearance.

The andesitic volcaniclastics represent a small portion of the map area. It is thought to be the oldest unit in the Pellaire deposit. Pendants are left scattered throughout the region with intrusive bodies and faulting breaking up the continuity.

#### Tchaikazan River succession: (102 Ma)

It is the most prominent lithologic unit in the area. The succession has been subdivided into sedimentary and volcanic dominated facies.

## Sedimentary facies:

The sedimentary facies of the Tchaikazan River succession occurs in the Twin Creeks and Pellaire areas. The sedimentary rocks vary from silty and muddy shales up to coarse grained volcanic rich sandstone. Pyrite and arsenopyrite occur sporadically throughout the Tchaikazan sedimentary facies.

## Volcanic facies:

The voleanic facies of the Tchaikazan River succession seem to be more extensive than the sediment dominated one. The facie is composed mainly of clastic and intermediate to mafic volcanic rocks with lesser clastic sediment.

Coherent volcanic flows are andesitic with up to 30% phenocryst consisting of hornblende and or plagioclase in varying proportions.

Sedimentary rocks comprise a minority of the Tchaikazan volcanic facies & consist of coarse lithic sandstones and fine clastic siltstone and mudstones. Clay alteration and weathering are widespread with zones of weak chlorite and carbonate alteration occurring proximal to fault zones.

## Taylor Creek Group: (113-97 Ma)

The Taylor Creek Group consists mainly of clastic marine sedimentary rocks. The unit is intruded by the Tchaikazan Rapids Pluton (89 Ma).

The Taylor Creek Group is typically composed of grey bedded sandstone. Grains are mainly quartz and feldspar with rare larger lithic clasts.

### 2. INTRUSIVE ROCKS

The most extensive igneous body in the area is the Mount McLeod Batholith. It comprises hornblende rich granodiorite; with U-Pb dating on the Batholith has given the ages of 101-103 Ma, (Israel and Kennedy, 2001).

The intrusive rocks described on most maps are classified as:

- A: Hornblende diorite
- B: Coast plutonic complex; granodiorite, quartz diorite
- C: Felsites; feldspar and biotite-feldspar porphyry
- D: Plagioclase hornblende porphyry

#### Mount McLeod granodiorite: (103-101 Ma)

The batholith is composed mainly of uniform, medium to coarse grained biotitehornblende granodiorite. The granodiorite is equigranular and is composed of 35% plagioclase, 30% quartz, 15% K-feldspar, 10% biotite, and 10% hornblende. It may contain up to 3% of combined clinopyroxene, Fe-oxides or pyrite. Sets of imbricated thrust faults occur within the batholith in Twin Creeks and Pellaire areas. Also areas of copper and iron oxide alteration occur sporadically throughout the batholith in both areas.

## Porphyritic biotite-hornblende granite: (97 Ma)

The Porphyritic biotite-hornblende granite cuts all other intrusive phases in the Mount McLeod Batholith; however and it is cut by the Mount McLure pluton. The porphyritic biotite granodiorite consist of 50% feldspar, 34%quartz, 6% biotite and 5% hornblende. The remaining 5% of the modal composition is comprised of iron oxide & pyrite. The variation in feldspar & hornblende phenocryst size gives the rock its porphyritic texture.

## 3. PELLAIRE WEST RIDGE SYSTEM

The Pellaire gold-silver quartz vein deposit is comprised of 10 or more mineralised quartz-filled fractures in a biotite hornblende granodiorite body along its intrusive contact with overlying volcaniclastics and sediments of the Lower Cretaceous Falls River Succession.

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Of the known ten veins, four have been partially explored by underground workings to depth of 70 meters or less.

The four veins are exposed in the granodiorite along the Pellaire west ridge crest and range in length, on surface, from 100 to 300 meters and thickness varying from 0.3 to 7.7 meters.

Veins #1, #2, #3, #4, #5, #6 and #7, within the main mine area, trend north-easterly to almost east-west, at about 0400 to 0900 and dip variably to the northwest at 2500 to 450.

In some cases the veins pinch and swell in width and in the case of #2 vein, individual en echelon lenses of crushed quartz, representing dismembered vein segments, are present, indicating post mineral deformation.

Pre-mineral, north trending andesite dykes are offset slightly by fault movements and north-trending, non-tectonized, post-mineral basalt dikes are also common.

The granodiorite-volcanic contact zone, which some previous workers have mapped as a possible thrust fault, is typically silicified, oxidized and fractured. Pyroclastics and volcanic flow rocks are metamorphosed to a siliceous hornfels, which is fractured and limonite stained. Sedimentary beds are less intensely altered.

An east-west normal fault within the granodiorite, south of the mine site area, cuts across volcanic lithologies to the east.

The A, B, East and SE veins are aligned with this structure and are made up of layers or sheets of quartz, parallel with the walls, which have filled the open space.

Where fault movement has taken place after quartz-mineral emplacement, a clay and rock flour gouge has developed. Wall rock alteration may persist several centimetres to meters into the enclosing granodiorite, depending on vein width.

The alteration consists of assemblages of epidote, chlorite, clays, sericite, kaolinite and quartz, sericite being the most common alteration product.

The zero vein area consists of a porphyritic microdiorite intruding the Mont MacLeod Granodiorite mass. A patch of intermediary volcanics outcrops to the S-W about 250 x 250 meters across. The original Zero vein outerop is 200 meters long, with several alteration zones revealing the presence of other vein systems.

## 4. LATE MINERALIZATION STAGE

From underground work done on #3 & #4 veins, it appears that sulphides and tellurides deposition came at a late stage of mineralization.

The facts are that the sulphides are not disseminated through the quartz matrix. However the tellurides must have been deposited during all stages of mineralization and remobilized several times, since tellurides are found in quartz and other rocks associated with alterations.

It was determined that hessite, containing large amounts of gold and silver, had been introduced into fractures, open spaces, in alteration zones and in the pyrite as in a late mineralization stage.

Hessite apparently oxidizes rather rapidly and forms a fine powder during ground water percolation as it tends to be washed downwards into lower parts of the vein. This results in generally low gold grades at the surface of the vein outcrops, but increases the gold grades in underground workings.

Vein #4 as an example, caries low gold values of (0.1g to 1g) near surface, but at a lower level (20 feet down), gold values are enhanced up to +100g.

The five main veins located in the mine site area, have been the subject of numerous reports by the authors listed below, on which surface and underground exploration has been conducted over the years.

At the present we have found up to 10 veins along the Pellaire west ridge extending to the south for about 1,500 meters into the zero area at 7,800 feet elevation. The zero vein area is located south of West ridge and consists of a porphyritic microdiorite intruding the Mt. McLeod granodiorite mass. An intermediary volcanic outcrop to the S-W of the Zero vein (aprox. 250m x 150m). The original Zero vein outcrop is 200 meters long, with several alteration zones

revealing the presence of other vein systems.

The main tonnage potential may come from the "zero vein" and a proposed interpreted X vein, which may be related to the Red Rock thrust. All veins may be part of the same hydrothermal system pumping the metal rich solutions into zones of weakness.

Skerl (1947), Phendler (1980, 1984), Saunders (1984), Ash (1996), and Gaboury (1997), have all described in their reports, the geometry, the extent and the tenor of ore mineralization of the main veins.

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#### V. EXPLORATION OBJECTIVES

#### **1. OBJECTIVES**

The Pellaire-Falls River basin property is comprised of a glacial bowl and a high ridge to the south flanked by a west ridge toward Falls River, were most exploration has been done.

The objectives are:

- Provide new data on a 4,500 meters of the Falls river drainage
- Identify metal movement under various slides and boulder areas
- Follow up on previous sampling by extending the coverage and increased density in anomalous areas previously sampled.
- Locate areas with metal enrichment related to gold-silver

#### 2. FIELD PERSONNEL

A 3-4 men crew have been using accommodation at the Pellaire exploration camp on Falls River, about 2,000 meters from the work area.

The exploration/sampling started September 10, 2012 and finished October 30, 2012.

 Work was done on tenure # 208501, 207933, 354065, 510770,514566,514694; Events # 54233524

**TABLE #2:** Below, lists the personnel involved with the fieldwork

Workman, 2012	Time Frame	Cost/day	Days
John H. Hajek, manager	Sept.10-October 30,2012	\$450	10
D. Hajek, field supervisor	Sept.10-October 30,2012	\$350	20
R. Pierce, first Aid.	Sept.10-October 30,2012	\$350	20
G. Pierce, sampler	Sept.10-October 30,2012	\$200	20

## VI. 2010 DATA INTERPRETATION

#### 1. OVERVIEW OF DATA

The analytical results presented in this report are to facilitate exploration of the Pellaire and Twin Creek claims.

Analytical sample results are presented in the appendix #2, #3, #5 & #6; with sampling method and approach listed in appendix #4.

The exploration/sampling started September 10, 2011 and finished October 30, 2012.

- Work was done on tenure # # 208501, 207933, 354065, 510770, 514566, 514694; Events # 54233524
- The 2012 exploration data added to previous orientation surveys, by presenting a wider data base on the geochemistry of Falls River drainage basin.

#### Appendix A2:

It summarizes the analysis of 62 samples send to the Acme labs.

The results listed in this appendix are outlining values of interest which are above background. It also outlines elemental values which are higher than normal but not necessarily within the strict definition of anomalous.

Appendix A3: Geological sample description of Falls River basin

Appendix A4:

Sampling method, approach, sample preparation, analysis & security are outlined to present a descriptive view of the various steps.

Duplicate samples extraction is presented to provide a confidence level in the accuracy of the field and analytical work.

Appendix A5: Tables #7 to #10 provide data on geochemical control values in various rock types.

Appendix A6: Acme labs analytical reports





## 2. DATA INTERPRETATION

The 2012 exploration consisted of evaluating the gold-silver distribution in the upper Falls River drainage basin. This river sampling started with 4,500 meters upstream follow-up from the Pellaire camp bridge.

Previous work did outline several conductors under the Twin creek east big talus which may be related to several large iron-manganese stains coming from the river bank seepage from under numerous talus slopes, fig.08.

The analytical results for 62 samples are compiled in appendix #2. The emphasis is to outline values of interest which are above background.

The objective is to outline metal which values are indicative of metal movement coming from mineralized strata leaching through ground water movement of dissolved metal probably in the ionic form.

We found that anomalous values of manganese, arsenic, uranium-thorium, gold and other suites of elements are abundant.

The 8 Km Falls River drainage sampling does not have the density to reflect the area geology and should be used only as an orientation survey to plan further work. The latest results seem to confirm the geophysical anomalies found in 2005.

#### **GEOCHEMICAL ANOMALIES from 62 samples:**

The elements As, U, Th, Au, Mn & V and other metal values are important as indicator elements.

Falls River stream sediments contain gold 126/448ppb, U=8/Th=18ppm, As=104/88 and Mn as local enrichment possibly transported under the ionic form with other metals movement originating from upstream and under talus (see table 9A).

The Twin Creek faults system may be the source of the multi-elements anomalies. However the high uranium (8-27ppm) & thorium (18-33ppm) and vanadium may have its sources in the Twin Creek tertiary shales and E-W fault structures.

## A. ANOMALOUS VALUES OF INTEREST

# Relation between the two size fractions analysed i.e. (-80 & -200 mesh) is outlined below to emphasis the enrichment versus the residual metal content.

**WP-617-M80;** Au=12-Th=14, K=0.27%, Tl=0.23, Cs=5.4-Rb=31, Ce=47. **WP 617-M40;** Au=2-Th=7.8, K=0.24%, Tl=0.15, Cs=3.1-Rb=24, Ce=41

Association: Au=12/2, Th=14/7, K=0.27/0.24%, Tl=0.23/0.23, Cs=5.4/3.1, Rb=31/24, Ce=47/41.

Conclusion: Au-Th, Cs-Rb elements are of interest for WP-617 location

WP-622-M80; U=8-Au=12-Th=6, V=98, Sc=6.8, Tl=0.15, Ce=30 WP 622-M40; U=5-Au=8-Th=5, V=163, Sc=4.5, Tl=0.13, Ce=41 Association: U=8/5, Au=12/8, Th=6/5, V=98/163, Sc=6.8/4.5, Ce=30/41. Conclusion: U-Au-Th & Sc elements are of interest for WP-622 location

WP-624-M80; U=6-Au=126-Th=11, V=109, Cr=30, Ti=0.15%, Sc=6.5, Ce=33

WP 624-M40; U=3.9-Au=12-Th=6, V=178, Cr=40, Ti=0.15%, Sc=5, Ce=39

Association: U=6/3.9-Au=126/12-Th=11/6, V=109/178, Sc=6.5/5, Ce=33/39

Conclusion: U-Au-Th, V-Sc-Ce elements are of interest for WP-624 location

WP-626-M80; U=4.6-Au=36-Th=9, Ti=0.18%, Sc=7.3, Tl=0.16, Ce=34 WP 626-M40; U=2.5-Au=12-Th=4.8, Ti=0.15%, Sc=4.3, Tl=0.13, Ce=28 Association: U=4.6/2.5-Au=36/12-Th=9/4.8, Sc=7.3/4.3, Tl=0.16/0.13, Conclusion: U-Au-Th, Sc-Ce elements are of interest for WP-626 location

WP-627-M80; Fe=5.5%, U=5.7-Au=10-Th=18, V=104, Cr=62, Ce=51 WP 627-M40; Fe=6.7%, U=2.7-Au=27-Th=8, V=322, Cr=72, Ce=48 Association: Fe=5.5/6.7%, U=5.7/2.7-Au=10/27-Th=18/8, V=104/322, Cr=62/72, Ce=51/48 Conclusion: U-Au-Th, V-Cr elements are of interest for WP-627 location

WP-635-M80; Mn=900, Fe=4.5%, As=89, Au=23, Mg=1.26%, Al=3.5%, Sc=6 WP 635-M40; Mn=871, Fe=4.2%, As=61, Au=23, Mg=1.25%, Al=3% Sc=6.9 Association: Mn=900/871, Fe=4.5/4.2%, Au=23/23, As=89/61 Conclusion: Mn, As & Au, elements are of interest for WP-635 location

WP-636-M80; Ag=111, Mn=1053, As=91, Au=16, Mg=0.87%, Sc=7.4, Cs=3.3 WP 636-M40; Ag=101, Mn=807, As=57, Mg=0.75%, Sc=6.3, Cs=2.3 Association: Ag=111/101, Mn=1053/807, As=91/57, Mg=0.87/0.75%, Sc=7.4/6.3, Cs=3.3/2.3 Conclusion: Ag-Mn-Mg-Sc-Cs elements are of interest for WP-636 location

WP-638-M80; Ag=358, Mn=747, Fe=3.4%, As=87, Mg=0.77%, Sc=6.6, Nb=0.71, WP 638-M40; Ag=173, Mn=543, Fe=2.8%, As=44, Mg=0.61%, Nb=0.74 Association: Ag=358/173, Mn=747/543, Fe=3.4/2.8%, Mg=0.77/0.61%, Conclusion: Ag-Mn-Fe-Mg elements are of interest for WP-638 location

**WP-639-M80;** Mn=747, Fe=3.2%, As=61, Au=16, Mg=0.6%, Nb=0.52 **WP 639-M40;** Mn=656, Fe=3.2%, As=42, Mg=0.55%, Nb=0.65

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Association: Mn=747/656, As=61/42, Nb=0.52/0.65 Conclusion: Mn-As elements are of interest for WP-639 location WP-640-M80; Ag=115, As=38, Nb=0.91 WP 640-M40; Ag=69, As=20, Nb=0.85 Association: Ag=115/69, As=38/20, Nb=0.91/0.85 Conclusion: Ag-As elements are of interest for WP-640 location WP-641-M80; Ag=335, As=38, U=5.4-Au=7-Th=6, Tl=0.17, Nb=0.88, Zr=1.2 WP 641-M40; Ag=180, As=22, Tl=0.12, Nb=0.86 Association: Ag=335/180, As=38/22, Tl=0.17/0.12, Nb=0.88/0.86 Conclusion: Ag-As-Tl elements are of interest for WP-641 location Anomalous to follow up: Ag=335/180, As=38/22 WP-642-M80; Ag=137, As=69, Tl=0.13, Nb=0.72 WP 642-M40; Ag=99, As=58, Tl=0.15, Nb=0.76 Association: Ag=137/99, As=69/58 Conclusion: As element is of interest for WP-642 location WP-645-M80; As=71, Au=19, Tl=0.12 WP 645-M40; As=40, Tl=0.12 Association: As=71/40 Conclusion: As elements is of interest for WP-645 location WP-646-M80; Ag=138, Mn=508, As=46 WP 646-M40; Ag=161, Mn=674, As=54 Association: Ag=138/161, Mn=508/674, As=46/54 Conclusion: As is the elements of interest for WP-646 location WP-647-M80; Mn=806, As=59, Al=2.79% WP 647-M40; Mn=726, As=42, Al=2.4% Association: Mn=806/726, As=59/42 Conclusion: Mn-As elements are of interest for WP-647 location WP-648-M80; Mn=815, As=96, Mg=1.44%, Ba=132, Al=3.27% WP 648-M40; Mn=778, As=77, Mg=1.49%, Ba=113, Al=2.9% Association: Mn=815/778, As=96/77, Mg=1.4/1.4%, Ba=132/113 Al=3.2/2.9%

Conclusion: As-Ba-Al elements are of interest for WP-648 location Anomalous to follow up: As=96/77, Ba=132/113 WP-649-M80; Ag=133, Mn=750, As=104, Au=5, Sr=89, Cr=38, Mg=1.51%, Ba=144, Al=3.3%, Sc=6.8

WP 649-M40; Ag=237, Mn=765, As=88, Au=448, Sr=65, Cr=37, Mg=1.59%, Ba=113, Al=3.1%, Sc=6.7

Association: Ag=133/237, As=104/88, Sr=89/65, Ba=144/113, Conclusion: Ag-As-Sr-Ba elements are of interest for WP-649 location Anomalous to follow up: As=104/88, Ba=144/113

#### **B.** ANOMALIES SUMMARY

WP-624 location: U-Au-Th, V-Sc-Ce elements are of interest Anomalous to follow up: U=6/3.9-Au=126/12-Th=11/6

WP-626 location: U-Au-Th, Sc-Ce elements are of interest Anomalous to follow up: Au=36/12-Th=9/4.8, Sc=7.3/4.3,

WP-627 location: U-Au-Th, V, Cr, Ce elements are of interest

WP-635 Location: As &Au, elements are of interest Anomalous to follow up: Au=23/23, As =89/61

WP-636 location: Ag-Mn-Mg-Sc-Cs elements are of interest Anomalous to follow up: Mn=1053/807, As =91/57, Sc=7.4/6.3

WP-638 location: Ag-Mn-Fe-Mg elements are of interest

WP-639 location: Mn-As elements are of interest Anomalous to follow up: As=61/42

WP-641 location: Ag-As-Tl elements are of interest Anomalous to follow up: Ag=335/180, Tl=0.17/0.12

WP-645 location: As elements is of interest Anomalous to follow up: As=71/40

WP-648 location: As-Ba-Al elements are of interest Anomalous to follow up: As=96/77, Ba=132/113

## WP-649 location: Ag-As-Sr-Ba elements are of interest Anomalous to follow up: As=104/88, Ba=1

Maps D1/7A, D2/7B, and D3/7C outline the location and values of metals suites such as: Cu-Ag-Fe, As-U-Au-Th and V-K-Ce-Li.

The distinction between the elements of interest and the ones to follow up as listed above is one of practical and economical value.

Many secondary elements of interest are valuable mainly within a larger data base representing the variation within transported and the distal bedrock.

Table 9B; represents a comparison of mean values for future geochemical exploration.

• The calculated arithmetic mean represents the average of all sample values per element as represented on each map sheet and is compared to crustal data from appendix #5.

TABLE 9B:Upper FALLS river East slopes: mean values summary				
D1/7A	Copper	Silver, ppb	Iron %	
Mean, 80/40	35-28	111-80	3.1-3.0	
Appendix #6	50-70	80-150	3-4	
D2/7B	Arsenic	Uranium	Gold, ppb	Thorium
Mean, 80/40	38-26	2.3-1.5	12-20	5.3-3.3
Appendix #6	10-15	1-3	5-20	3-5
<b>D3/7C</b>	Vanadium	Potassium%	Cerium	Lithium
Mean	77-81	0.14-0.15	18-16	18-16
Appendix #6	60-200	0.10-0.15	20	15-20

• Arsenic and gold mean values are well above the norm indicating a general enrichment in T1 & T2 areas.

## C. ANOMALOUS RESULTS INTERPRETATION

(Values are in part per million unless specified, as gold-silver in ppb) Overviews of 62 samples results which conclusions are drawn from the analytical data in appendix #2 and summarizes in DR-1-2-3F & fig 07.

- The Falls River drainage basin caries various amount of metals enrichment in the Twin Slide area T1 & in the Twin Fault area.
- The selected locations have enough metal enrichment to be significant in a further detailed sampling and evaluation.

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1. WP-624 location: U-Au-Th, V-Sc-Ce elements are of interest Anomalous to follow up: U=6/3.9-Au=126/12-Th=11/6

2. WP-626 location: U-Au-Th, Sc-Ce elements are of interest Anomalous to follow up: Au=36/12-Th=9/4.8, Sc=7.3/4.3,

3. WP-635 Location: As &Au, elements are of interest Anomalous to follow up: Au=23/23, As =89/61

4. WP-636 location: Ag-Mn-Mg-Sc-Cs elements are of interest Anomalous to follow up: Mn=1053/807, As =91/57, Sc=7.4/6.3

5. WP-645 location: As elements is of interest Anomalous to follow up: As=71/40

6. WP-648 location: As-Ba-Al elements are of interest Anomalous to follow up: As=96/77, Ba=132/113

7. WP-649 location: Ag-As-Sr-Ba elements are of interest Anomalous to follow up: As=104/88, Ba=144/113

From the detailed data listed on drawings DR-1F, 2F, 3F and data listed above we suggest the following conclusions:

- Polymetallic enrichment seem to suggest the presence of VMS (volcanic massive sulphides deposits)
- High As, U/Th, Cr & Fe are also the elements which may be associated with the gold ore in conjunction with VMS & others type of deposits.
- Appendix A5: Geochemical statistics sets a base for interpretation of each of the 53 elements analysed (see table 7 to 10).
- Vanadium, & thorium high values may have a multiple source as origin of the enrichment: shales, hot spring, and fault leaching as from Pellaire vein #3-4.

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	/ F
Cs	
C. Mn-Fe, Ma-A	614
649 CU - As,	Ba
As-Ba	
	FR
TALLSRIV	
FAL	
	Trace elements abbreviations
46: As	Ag = silver content in ppb
	Au = gold in ppb
5	U = uranium in ppm
	Th = thorium in ppm
	As = arsenic content in ppm
	Na = sodium in %
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n %	N
%	A
opm	
opm	
opm	
ppm	Scale
m	500 ft
/	
m FALLS	RIVER UPPER BASIN
m	FIG.7
m	
in ppm	Assay of Interest
pm	

TWIN SLIDE: T1 Enlarged by 4X; the WP635 to WP 649 Area has been enlarge four times \_ 34\_



635 43-35, 142-60, 4.5 4.2% 3.4-3.4% 614 60-49, 133-237, 4.5-4.4% 649 FALLSRIVER W.P. 6.46: 33.38 138 461 26.3 . Pellaire West Ridge

# FALLS RIVER UPPER BASIN

## **Drawing DR-1F**

**Copper-silver-iron** 

(-80 & -40) Fraction Geochemistry (See appendix A2, A3 & A4 for details)

> Copper = Cu in ppm Silver = Ag in ppb Iron = Fe in %

Enlarged by 4X; the WP635 to WP 649 Area has been enlarge four times

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Scale

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## FALLS RIVER UPPER BASIN

**Drawing DR-2F** 

Arsenic-uranium-gold-thorium

(-80 & -40) Fraction Geochemistry (See appendix A2, A3 & A4 for details)

4-37 2.5-1.9, 1-9, 3.8-5

617



635 83-61, 0.4-0.3, 23-2, 1-1 83-61,0.4-0.-59-42, 1.6-1.1, 5-2, 2-1.5 [647] 36-77, 1.1-0.6, 6-5, 1-649 104-88, 1-0.7, 5-448, 2-1.5 FALLSRIVER 646-54, 1.2-0.9, 11-6, 3-2.6

## FALLS RIVER UPPER BASIN

## **Drawing DR-2F**

Arsenic-uranium-gold-thorium

(-80 & -40) Fraction Geochemistry (See appendix A2, A3 & A4 for details)

> Arsenic = As in ppm Uranium = U in ppmGold = Au in ppb Thorium = Th in ppm

Enlarged by 4X; the WP635 to WP 649 Area has been enlarge four times

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Scale 1: 5,000

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635 79-78, 0.12-0.15, 16-19, 27-25 Au= 23-2 75-70, 0.17-0.15, 15-17, 20-20 73-74, 0.16-0.15, 17-18, 25-26 79-76, 0.16-0.14, 19-20, 26-25 AU: 5-448 FALLSRIVER 52-55, 0.14-0.17, 20-27, 16-19

## **Drawing DR-3F**

Vanadium-potassium-cerium-lithium

(-80 & -40) Fraction Geochemistry (See appendix A2, A3 & A4 for details)

> Vanadium = V in ppm Potassium = K in % Gold = Au in ppb Cerium = Ce in ppm Lithium = Li in ppm

TWIN SLIDE: T1 Enlarged by 4X; the WP635 to WP 649 Area has been enlarge four times

\_ 37\_

Scale

100 metres

1:5,000

## 1. CONCLUSION

A total of 62 samples have been taken from Falls River Basin and represented by the Pellaire-Twin property, have been sent to Acme Labs for 53 elements analysis. From the analytical results enhanced metal values have been tabulated (table 9A & 9B) with emphasis on the ionic retention of two size fraction of the same sample. Various metal associations were outlined in appendix #2 & #3 and illustrated on drawings DR-1F-2F-3F.

The metal enrichment and dispersion along the Falls River 9 Kilometers drainage basin is significant and indicates several exploration target areas.

The region comprise between the Twin Creek fault and the Pellaire camp bridge represent a geological section favourable to ionic movement of metals as indicated by previous ground geophysics and covered by talus slides, fig.08.

High gold values in (-80 & 40 mesh) bank samples are indicative of ionic movement and precipitation of gold over two areas of interest: T1 & T2, fig.06.

## 1. **RECOMMENDATIONS**

Follow up sampling is required to delineate the movement of dissolved metals and to correlate with ground Magnetic & VLF surveys.

If our follow up samples give a precise anomaly then more ground geophysics is recommended.

Several small grids 200 x 200 meters should be established centered on each anomalous sample.

Auger geochemical sampling followed by ground geophysics should be conducted over the gridded areas.

Finally drilling on prospective results is recommended.



Pellaire road west slope of Falls River Basin

Twin Creek slide & surface

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#### **VIII. STATEMENT OF EXPENDITURES**

The exploration work was done as a two stages program with follow up on anomalous results and with the realisation that the Falls River basin was still unexplored.

#### Phase one:

The exploration/sampling started September 10, 2012 and finished October 30, 2012.

- Work was done on tenure # 208501, 207933, 354065, 510770, 514566, 514694; Events # 5399910
- The total work values in the statement of expenditures listed below is \$40,756

TABLE # 4										
List of expenditures from Sept. 10, 2011 to October 30, 2012:										
1 Crew & equipment mobilization \$1.500										
1. Crew & equipment mobilization $31,300$										
2. Personnel: September10, 2012 to October 30, 2012										
Description		Rate		<b>Total \$</b>						
John H. Hajek, manager	Sept.10/October30	\$450	10	4,500						
D. Hajek, technician	Sept.10/October30	\$300	10	3,500						
R. Pierce, First Aid	Sept.10/October30	\$350	10	3,500						
G. Pierce, sampler	Sept.10/October30	\$200	10	2,000						
TOTAL: \$13,500			50		n					
Food & lodging	Sept.10/Octobr30	\$120	50	5,000						
TOTAL: \$5,000	3									
3. Rentals	Sept.10/Octobr30									
1 ton truck 4x4 rental	Two units/\$100	\$200	10	2,000						
4x4 wheelers, 2 units	\$60/unit/day	\$120	10	1,200						
2 chain saws \$25/day x2 units		\$50	20	500						
Phone, GPS & others	\$600+\$200+\$200	\$50	10	500						
Backhoe, 5 days	30 hours	\$100/h	30	3,000						
TOTAL: \$7,200										

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4. Supplies	Sept.10/Octobr30							
Fuel, oil, supplies	1,600							
Field supplies	2,600							
Fuel, oil & supplies	Backhoe	1,500						
TOTAL: \$10,850								
5. Field crew & equip	ment demobilization	\$1,800						
6. Assays\$953.06 + \$1,153.82\$2,106.88								
Sample preparation\$1,100								
7. Assessment report\$2,850								
TOTAL EXPLORATION EXPENSES: \$40,756.88								

#### **AUTHOR'S CERTIFICATE**

# I, John H. Hajek, resident at 1502-1320 Chesterfield Av. North Vancouver V7M 0A6

Hereby certify that:

I graduated in 1963 from the University of Paris, FRANCE

I have practiced my profession of geochemist for 40 years. During much of That time I was employed by RIO TINTO, MOBIL OIL and others. For the past 30 years, I have been self employed as a consulting geochemist. I am responsible for this report, entitled Assess report on FALLS BASIN project, 2012 geochemical sampling, and dated March 15, 2013

I spend 10 days on the property from September 10 to October 30, 2012 and 20 days managing and supervising the work described in the report. I have worked on the property since 1996 with JAGUAR International Inc. and for last 15 years I have been working with several professional geologists to the advancement of the Pellaire property.

I am not independent, nor at arm's length from Valor Resources ltd.

Signed and dated March 15, 2013

Hor Z

John H. Hajek, Geochemist.

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## **APPENDIX # A1: REFERENCES**

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## **APPENDIX # A2:**

## **PELLAIRE GEOCHEMICAL SAMPLING 2012**

## I. SAMPLE ANALYSIS

#### **II. GEOCHEMICAL RESULTS OF INTEREST**

## **III. GEOCHEMICAL ANOMALOUS RESULTS**

## ACME LABS, four folios with analytical anomalous values selected from 62 samples

#### I. SAMPLE ANALYSIS

- i. Acme labs #VAN13000332.1
  31 samples analyzed for 53 elements on 15g sample
  (-80 mesh) by ICP/ES & MS, 1 standard, 2 blank control & 2 repeat samples. February 18, 2013;
  Falls River = 31 samples of (-80 mesh)
- ii. Acme labs #VAN13000333.1
  34 samples analyzed for 53 elements on 15g sample
  (-200 mesh) by ICP/ES & MS, 1 standard, 1 blank control & 2 repeat samples. February 15, 2012;
  Falls River = 31 samples of (+80-40) crushed to (-200 mesh)

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## II. GEOCHEMICAL ANALYTICAL RESULTS (Values are in part per million unless specified)

#### Acme labs #VAN13000332.1 & VAN 13000333.1

# 31 samples analyzed for 53 elements on 15g sample (-80 mesh) by ICP/ES & MS, & 31 samples of (+80, -40 mesh; crushed to -200 mesh)

Each sample analysis has been reviewed outlining values above background for the medium sampled. Listed values represent trace elements with above background results. Silver and gold values are listed in part per billion (ppb.).

#### 1. Stream sediments: 31 samples along Falls River, fig 08:

## WP-617-M80; Th, Ti, K, Tl, Cs, Rb, Ce, Li Cu=39, U=3.6-Au=12-Th=14, La=19, Mg, Ba, Ti=0.19%, K=0.27%, Sc-Tl=0.23, Cs=5.4-Rb=31, Sn-Ce=47, Li=31. WP 617-M40; Th, K, Tl, Cs, Rb, Ce U=2-Au=2-Th=7.8, V=100, La=20, Ti, K=0.24%, Tl=0.15, Cs=3.1-Rb=24, Sn-Ce=41, Li=20, Pt. WP-618-M80; Background values WP 618-M40; Ag, Nb Ag=64, Th=6.5, Cs=2.5, Nb=0.79, Rb=20, WP-619-M80; Nb Ti=0.16%, Sc, Nb=1.0, Rb=25, Sn-Ce=22, Li=20 WP 619-M40; Nb Ag=52, U=1.9-Au=9-Th=3.8, Nb=0.85, Rb=23, Ce=22. WP-621-M80; Na=0.055% WP 621-M40; Ca=0.5%, WP-622-M80; As, U-Au, V, Cr, K, Hf, Ce Cu=37, Ag=92, As=23, U=8.1-Au=12-Th=6, V=98, Cr=30, Ba, Ti=0.16%, K=0.22%, Sc=6.8, Tl=0.15, Se=0.8, Sn=0.9, Ce=30 WP 622-M40; U-Th, V, Cr, Ce Cu=30, Ag=75, Fe=4.3%, As=16, U=5.1-Au=8-Th=5, V=163, Cr=38, Ba, Ti=0.16%, K=0.2%, Sc=4.5, Tl=0.13, Se=0.5, Hf=0.23, Sn=0.7, Ce=41, Pt. WP-623-M80; Th, Ce Cu=34, Ag=88, As=17, U=2.8-Au=8-Th=7, V, Cr=27, Ba, Ti=0.14%, K=0.19%, Sc=6.4, Tl=0.12, Se=0.5, Sn, Ce=28

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WP 623-M40; Ce Ag=75, As=14, U=1.7-Au=12-Th=3.6, V, Cr=22, Ba, Ti=0.13%, K=0.2%, Sc, Tl=0.12, Se=0.4, Sn, Zr=1.5, Ce=26 WP-624-M80; Ag, Au, V, Ce Cu=38, Pb-Ag=201, As=18, U=6.4-Au=126-Th=11, V=109, Cr=30, Ba, Ti=0.15%, K=0.19%, Sc=6.5, Tl=0.13, Se=0.5, Sn, Ce=33 WP 624-M40; V, Cr, Ce Cu=33, Pb-Ag=86, Fe=4.5%, As=12, U=3.9-Au=12-Th=6.1, V=178, Cr=40, Ba, Ti=0.15%, K=0.2%, Sc=5, Tl=0.1, Sn, Y=10, Ce=39, Pd. WP-625-M80; Ce Cu=35, Pb-Ag=80, As=10, U=3-Au=10-Th=8, V=81, Ti=0.13%, K=0.17%, Sn, Y-Ce=33 WP 625-M40; K WP-626-M80; Cu, K, Ce 1 1 WP 626-M40; V, K, Ce 1 WP-627-M80; Ag, Fe, Th, V, Cr, Ce 1 1 WP 627-M40; Ag, Fe, Th, V, Cr, Ce ( 1 0 WP-628-M80; Ag, As ( 1 WP 628-M40; Ag, As, K ( 1 WP-630-M80; Ag, Mn, As, Cr ( 1 1 WP 630-M40; Ag, Mn, As, Cr ASSES12FALSB 1

Cu=25, Pb-Ag=63, U=1.4-Au=16-Th=3, V, Ti=0.12%, K=0.2%, Tl=0.12, Sn, Ce=18 Cu=52, Pb=14-Ag=81, As=13, U=4.6-Au=36-Th=9, V=90, Ti=0.18%, K=0.25%, Sc=7.3, Tl=0.16, Rb=21, Sn=0.6, Zr=1.3, Y=15-Ce=34, Li=23 Cu=34, Pb=10-Ag=40, As=6, U=2.5-Au=12-Th=4.8, V=104, Ti=0.15%, K=0.26%, Sc=4.3, Tl=0.13, Cs=2.2, Rb=20, Sn=0.5, Zr=1.2, Ce=28, Li=17 Pb=14-Ag=93, Fe=5.5%, As, U=5.7-Au=10-Th=18, V=104, P, La=21, Cr=62, Y- Ce=51 Pb=15-Ag=98, Fe=6.7%, U=2.7-Au=27-Th=8.2, V=322, La=24, Cr=72, Y- Ce=48, Pd. Ag=91, Mn=498, As=27, Sb, Ba, Cr=25, Sc=7, Zr=1.3, Ce=21 Cu=30, Ag=107, Mn=449, As=24, Au=11, Sb, V=72, Ba=77, Cr=21, K=0.2%, Sc=5.6, Zr=1.9, Ce=25, Li=15 Cu=33, Ag=109, Mn=673, As=24, Cr=28, Sc=7.6, Y=13, Ce=27 - 50 -

Cu=31, Ag=70, Mn=617, As=22, Au=29, Ba=77, Cr=22, Sc=6.3, Cs=2, Y=11, Ce=27 WP-631-M80; Ag, Mn Cu=31, Ag=141, Mn=662, As=18, Cr=24, Nb=0.72, Y=10, Ce=23 WP 631-M40; Ag, Mn Cu=27, Ag=77, Mn=549, As=16, Ba=65, Cr=22, Nb=0.72, Ce=26 WP-632-M80; Cu, K Cu=50, V=95, K=0.2%, Sc=7, Zr=1.3, Y=10, Y=10, Ce=21 WP 632-M40; Na Cu=34, Na=0.10% WP-633-M80; U-Th U=4.2-Th=12, V=99, Cr=30, W WP 633-M40; U-Th, Na U=2.6-Th=4.7, V=50, Na=0.09% WP-634-M80; Cu Cu=49, V=77, Cr=23 WP 634-M40; V, Na Cu=31, V=135, Cr=34, Na=0.09%, Ce=2 WP-635-M80; Ag, Mn, As, Cr, Mg, Al Cu=43, Zn=130-Ag=142, Mn=900, Fe=4.5%, As=89, Au=23, Sb, V=79, P=0.13%, Ba=96, Cr=31, Mg=1.26%, Al=3.5% Sc=6.1, Ga B=0.7, Li=27 WP 635-M40; Ag, Mn, As, Cr, Mg, Al Cu=35, Zn=105-Ag=60, Mn=871, Fe=4.2%, As=61, Au=23, Sb, V=78, Ba=86, Cr=27, Mg=1.25%, Al=3% Sc=6.9, Ga, Ce=19, Li=25 WP-636-M80; Pb, Ag, Mn, As, Al Cu=48, Pb=30, Zn=118, Ag=111, Mn=1053, Fe=3.7%, As=91, 1 Au=16, Cd-Sb, V=63, Ba=94, Cr=23, Mg=0.87%, Al=2.5% Sc=7.4, Cs=3.3, Ce=33, Be=0.8, Li=23 WP 636-M40; Ag, Mn, As, K Cu=36, Pb=19, Zn=90, Ag=101, Mn=807, Fe=3.3%, As=57, V=59, Ba=78, Cr=20, Mg=0.75%, Al=2%, K=0.22%, Sc=6.3, Cs=2.3, Nb=0.61, Y=11, Ce=32, Be=0.6, Li=19, Pd=23ppb. WP-637-M80; Ag, As, Al Cu=35, Zn=89, Ag=118, Mn=572, Fe=3.2%, As=81, Au=6, V=65, Ba=81, Cr=22, Mg=0.76%, Al=1.9%, Sn, Cs=2, Ce=20, Be=0.6 WP 637-M40; As Ag=65, As=37, Ce=20, Li=15 WP-638-M80; Ag, As, Al - 51 -ASSES12FALSB

Cu=39, Zn=98, Ag=358, Mn=747, Fe=3.4%, As=87, Au=9, V=64, Ba=87, Cr=21, Mg=0.77%, Al=2%, Sc=6.6, Tl=0.12, Cs=2.3, Nb=0.71, Ce=22, Li=20 WP 638-M40; Ag, As Ag=173, Mn=543, Fe=2.8%, As=44, Au=4, V=53, Ba=65, Cr=16, Mg=0.61%, Al=1.5%, Nb=0.74, Ce=21, Li=26 WP-639-M80; Ag, As Zn=102, Ag=115, Mn=747, Fe=3.2%, As=61, Au=16, V=65, Ba=95, Cr=21, Mg=0.61%, Al=2%, Nb=0.52, Ce=19 WP 639-M40; Ag, As Zn=77, Ag=83, Mn=656, Fe=3.2%, As=42, Au=11, Ba=80, Cr=16, Mg=0.55%, Al=1.8%, Nb=0.65, Ce=20 WP-640-M80; Ag, As Mo, Ag=115, As=38, Au=3, V=64, Al=1.8%, Nb=0.91 WP 640-M40; Ag, As, Al Ag=69, As=20, Au=2, Nb=0.85, Pd. WP-641-M80; Ag, As, Al Mo=7.8, Cu=33, Zn=79, Ag=335, As=38, U=5.4-Au=7-Th=6, V=78, La=15, Cr=22, Al=2.8%, Tl=0.17, Ga, Cs=2.7, Nb=0.88, Zr=1.2, Ce=20, Li=21 WP 641-M40; Ag, As Mo=4.5, Ag=180, As=22, Au=2, V=57, Al=1.3%, Tl=0.12, Nb=0.86, Zr=1.3, Y, Ce=20 WP-642-M80; Ag, As Mo=5, Ag=137, As=69, Au=6, Al=1.9%, Tl=0.13, Nb=0.72, Zr=1.1, Ce=18, Li=22 WP 642-M40; Ag, As Mo=4, Ag=99, As=58, Au=4, Al=1.8%, Tl=0.15, Nb=0.76, Zr=1.7, Y, Ce=23, Li=20, Pd. WP-643-M80; U=3.2-Au=2-Th=5, Nb=0.46, Zr=1.1 WP 643-M40; Nb=0.63 WP-644-M80; Ag, As Ag=131, Mn=661, As=44, Au=4, Tl=0.1, Nb=0.65 WP 644-M40; Ag, As Ag=102, Mn=520, As=26, Nb=0.76 WP-645-M80; Ag, As Cu=38, Ag=129, Mn=563, As=71, Au=19, Cr=22, Tl=0.12, Ce=23 WP 645-M40; As Ag=74, Mn=433, As=40, Au=4, Tl=0.12, Ce=21 WP-646-M80; Ag, As

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ر م Cu=39, Ag=138, Mn=508, As=46, Au=11, Ce=20

WP 646-M40; Ag, As

Cu=38, Pb=16, Ag=161, Mn=674, As=54, Au=6, Sc=6.1, Y=12,

Ce=27, Li=19

WP-647-M80; Ag, As, Mg-Al

Cu=47, Pb=17, Ag=116, Mn=806, As=59, Au=5, Sr=74, Sb, Cr=25, Mg=1%, Ba=96, Al=2.79%, Na=0.05%, Li=20

WP 647-M40; As, Mg-Al

Cu=36, Pb=12, Ag=83, Mn=726, As=42, Au=2, Sr=58, Ca=0.96%, Cr=25, Mg=1%, Ba=80, Al=2.4%, Sc=6, Li=20

#### WP-648-M80; Ag, As, Mg-Al, Cr, Ba

Cu=49, Pb=24, Zn=112, Ag=144, Mn=815, Fe=4.3%, As=96, Au=6, Sr=85, Sb, Cr=36, Mg=1.44%, Ba=132, Al=3.27%, Li=25

#### WP 648-M40; As, Cr, Mg-Al, Ba

Cu=39, Pb=18, Zn=102, Ag=72, Mn=778, As=77, Au=5, Sr=66, Sn, Ca=0.85%, Cr=34, Mg=1.49%, Ba=113, Al=2.9%, Sc=6.3, Li=26, Pd.

#### WP-649-M80; Ag, Mn, As, Mg-Al, Cr, Ba

Cu=60, Pb=20, Zn=99, Ag=133, Mn=750, Fe=4.3%, As=104, Au=5, Sr=89, Sb, Cr=38, Mg=1.51%, Ba=144, Al=3.3%, Sc=6.8, Be=0.8, Li=26

#### WP 649-M40; Ag, As, Cr, Mg-Al, Ba

Cu=49, Pb=19, Zn=98, Ag=237, Mn=765, As=88, Au=448, Sr=65, Sn, Ca=0.86%, Cr=37, Mg=1.59%, Ba=113, Al=3.1%, Sc=6.7, Hg, Ga, Ce=20, Li=25

#### 2. Interpretation of Falls River samples:

Falls River stream sediments contain trace metals enrichment higher in the (-80) fraction due to the ionic form enrichment after been transported and precipitated. A large rusty black-brown (Mn-Fe) seepage area on the west bank of Falls River could be the source for some of the enrichment (shale formation).

Detrital movement is indicated by high thorium above the uranium ratio 1:1 which could come from shales weathering under talus covered slopes as indicated by vanadium enrichment in some samples.

#### 3) Falls Basin Statistics, Table 9A:

Table 9A: Upper FALLS River East slopes: Values summary									
D1/7A	Copper	Silver ppb	Iron %						
Falls (-80)	12-95	28-335	1.3-5.5						
Mean 80	35	111	3.1						
Falls (40)	19-49	5-180	1.6-6.7						
Mean 40	28	80	3.0						
Appendix #6	50-70	80-150	3-4%						
D2/7B	Arsenic	Uranium	Gold ppb	Thorium					
Falls (-80)	1-104	0.8-8	1-126	1-18					
Mean 80	38	2.3	12	5.3					
Falls (40)	4-88	0.3-5	0.9-448	1-8.2					
Mean 40	26	1.5	20	3.3					
Appendix #6	10-15	1-3	5-20	3-5					
D3/7C	Vanadium	Potassium%	Cerium	Lithium					
Falls (-80)	40-241	0.06-0.27	9-51	7-31					
Mean 80	77	0.14	22	18					
Falls (40)	45-322	0.07-0.26	9-48	7-26					
Mean 40	81	0.15	23	16					
Appendix #6	60-200	0.15%	20	15-20					

The Upper Falls River analytical values are represented by samples taken on the east of the main river partly on talus slope; see maps: D1/7A, D2/7B/ D3/7C. Elemental results outlined in each drawing above, are compared to the calculated arithmetic mean of 31 samples for the metals described.

From Table 9A results, we could outline the following conclusions:

- In the -80 mesh/40 mesh; copper mean is 35/28, silver = 111/80, arsenic = 38/26, Thorium =5.3/3.3 all showing enrichment in the -80 fraction.
- Only gold is higher in the coarser 40 fraction possibly due to the ions of gold precipitating or electroplating the coarser grains.

## **III. GEOCHEMICAL ANOMALOUS RESULTS**

Zn, Cu, Ag, Mn and other elements without specific value are important as indicator to the anomalous element listed. Values are in part per million unless specified. The results are outlining values of interest which are above background. It also outlines elemental values which are higher than normal but not necessarily within the strict definition of anomalous. The two sets of analysis are used to distinguish between ionic enrichment and in-situ content of solid particles. Acme labs #VAN13000332.1 & VAN 13000333.1 31 samples analyzed for 53 elements on 15g sample (-80 mesh) by ICP/ES & MS, & 31 samples of (+80 analysed as is, -40 mesh crushed to -200 mesh) Samples along Falls River with values of interest above background, gold & silver values are listed in ppb, are listed below. WP-617-M80; Th, K, Tl, Cs, Rb, Ce, Li U=3.6-Au=12-Th=14, K=0.27%, Tl=0.23, Cs=5.4-Rb=31, Ce=47, Li=31. WP 617-M40; Th, K, Tl, Cs, Rb, Ce U=2-Au=2-Th=7.8, K=0.24%, Tl=0.15, Cs=3.1-Rb=24, Ce=41 WP-622-M80; As, U-Au, V, Cr, K, Sc, Ce As=23, U=8.1-Au=12-Th=6, V=98, Cr=30, Ti=0.16%, K=0.22%, Sc=6.8, Tl=0.15, Ce=30 WP 622-M40; U-Th, V, Cr, Ce Fe=4.3%, U=5.1-Au=8-Th=5, V=163, Cr=38, Ti=0.16%, K=0.2%, Sc=4.5, Tl=0.13, Hf=0.23, Ce=41 WP-624-M80; Ag, Au, V, Ce Ag=201, As=18, U=6.4-Au=126-Th=11, V=109, Cr=30, Ti=0.15%, K=0.19%, Sc=6.5, Tl=0.13, Ce=33 WP 624-M40; V, Cr, Ce Fe=4.5%, U=3.9-Au=12-Th=6.1, V=178, Cr=40, Ti=0.15%, K=0.2%, Sc=5, Tl=0.1, Ce=39 WP-626-M80; Cu, K, Ce Cu=52, U=4.6-Au=36-Th=9, V=90, Ti=0.18%, K=0.25%, Sc=7.3, Tl=0.16, Rb=21, Zr=1.3, Y=15-Ce=34 WP 626-M40; V, K, Ce U=2.5-Au=12-Th=4.8, V=104, Ti=0.15%, K=0.26%, Sc=4.3, Tl=0.13, Cs=2.2, Rb=20, Zr=1.2, Ce=28 WP-627-M80; Fe, Th, V, Cr, Ce Fe=5.5%, U=5.7-Au=10-Th=18, V=104, Cr=62, Ce=51 WP 627-M40; Ag, Fe, Th, V, Cr, Ce Ag=98, Fe=6.7%, U=2.7-Au=27-Th=8.2, V=322, Cr=72, Ce=48

WP-635-M80; Mn, As, Cr, Mg, Al Zn=130-Ag=142, Mn=900, Fe=4.5%, As=89, Au=23, Cr=31, Mg=1.26%, Al=3.5%, Sc=6, Li=27 WP 635-M40; Mn, As, Cr, Mg, Al Mn=871, Fe=4.2%, As=61, Au=23, Cr=27, Mg=1.25%, Al=3% Sc=6.9, Li=25 WP-636-M80; Pb, Ag, Mn, As, Al Pb=30, Zn=118, Ag=111, Mn=1053, Fe=3.7%, As=91, Au=16, Cr=23, Mg=0.87%, Al=2.5% Sc=7.4, Cs=3.3, Ce=33, Li=23 WP 636-M40; Ag, Mn, As, K Ag=101, Mn=807, Fe=3.3%, As=57, Mg=0.75%, Al=2%, K=0.22%, Sc=6.3, Cs=2.3, Nb=0.61, Ce=32 WP-638-M80; Ag, As, Al Ag=358, Mn=747, Fe=3.4%, As=87, Mg=0.77%, Al=2%, Sc=6.6, Tl=0.12, Cs=2.3, Nb=0.71, Ce=22, Li=20 WP 638-M40; Ag, As Ag=173, Mn=543, Fe=2.8%, As=44, Mg=0.61%, Al=1.5%, Nb=0.74, Ce=21, Li=26 WP-639-M80; Ag, As Zn=102, Ag=115, Mn=747, Fe=3.2%, As=61, Au=16, Mg=0.6%, Al=2%, Nb=0.52 WP 639-M40; Ag, As Mn=656, Fe=3.2%, As=42, Mg=0.55%, Al=1.8%, Nb=0.65 WP-640-M80; Ag, As Ag=115, As=38, Nb=0.91 WP 640-M40; Ag, As, Al Ag=69, As=20, Nb=0.85 WP-641-M80; Ag, As, Al Ag=335, As=38, U=5.4-Au=7-Th=6, Al=2.8%, Tl=0.17, Cs=2.7, Nb=0.88, Zr=1.2 WP 641-M40; Ag, As Ag=180, As=22, Tl=0.12, Nb=0.86 WP-642-M80; Ag, As Ag=137, As=69, Tl=0.13, Nb=0.72 WP 642-M40; Ag, As Ag=99, As=58, Tl=0.15, Nb=0.76, Zr=1.7 WP-645-M80; Ag, As Ag=129, Mn=563, As=71, Au=19, Tl=0.12 WP 645-M40; As As=40, Tl=0.12

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#### 2. ANOMALOUS VALUES

Relation between the two size fractions analysed i.e. (-80 & -200 mesh) is outlined below to emphasis the ionic enrichment versus the residual metal content in coarse particulates. Gold & silver values listed in ppb.

WP-617-M80; Au=12-Th=14, K=0.27%, Tl=0.23, Cs=5.4-Rb=31, Ce=47. WP 617-M40; Au=2-Th=7.8, K=0.24%, Tl=0.15, Cs=3.1-Rb=24, Ce=41 Association: Au=12/2, Th=14/7, K=0.27/0.24%, Tl=0.23/0.23, Cs=5.4/3.1, Rb=31/24, Ce=47/41. Conclusion: Au-Th, Cs-Rb elements are of interest for WP-617 location

WP-622-M80; U=8-Au=12-Th=6, V=98, Sc=6.8, Tl=0.15, Ce=30 WP 622-M40; U=5-Au=8-Th=5, V=163, Sc=4.5, Tl=0.13, Ce=41 Association: U=8/5, Au=12/8, Th=6/5, V=98/163, Sc=6.8/4.5, Tl=0.15/0.13, Ce=30/41.

Conclusion: U-Au-Th & Sc elements are of interest for WP-622 location

WP-624-M80; U=6-Au=126-Th=11, V=109, Cr=30, Ti=0.15%, Sc=6.5, Ce=33 WP 624-M40; U=3.9-Au=12-Th=6, V=178, Cr=40, Ti=0.15%, Sc=5, Ce=39 Association: U=6/3.9-Au=126/12-Th=11/6, V=109/178, Sc=6.5/5, Ce=33/39 Conclusion: U-Au-Th, V-Sc-Ce elements are of interest for WP-624 location WP-626-M80; U=4.6-Au=36-Th=9, Ti=0.18%, Sc=7.3, Tl=0.16, Ce=34 WP 626-M40; U=2.5-Au=12-Th=4.8, Ti=0.15%, Sc=4.3, Tl=0.13, Ce=28 Association: U=4.6/2.5-Au=36/12-Th=9/4.8, Sc=7.3/4.3, Tl=0.16/0.13, Ce=34/28Conclusion: U-Au-Th, Sc-Ce elements are of interest for WP-626 location WP-627-M80; Fe=5.5%, U=5.7-Au=10-Th=18, V=104, Cr=62, Ce=51 WP 627-M40; Fe=6.7%, U=2.7-Au=27-Th=8, V=322, Cr=72, Ce=48 Association: Fe=5.5/6.7%, U=5.7/2.7-Th=18/8, V=104/322, Cr=62/72, Ce=51/48 Conclusion: U-Au-Th, V-Cr elements are of interest for WP-627 location WP-635-M80; Mn=900, Fe=4.5%, As=89, Au=23, Mg=1.26%, Al=3.5%, Sc=6 WP 635-M40; Mn=871, Fe=4.2%, As=61, Au=23, Mg=1.25%, Al=3% Sc=6.9 Association: Mn=900/871, Fe=4.5/4.2%, Au=23/23, Dc=6/6.9 As &Au, elements are of interest for WP-635 location **Conclusion:** WP-636-M80; Ag=111, Mn=1053, As=91, Au=16, Mg=0.87%, Sc=7.4, Cs=3.3, Ce=33, WP 636-M40; Ag=101, Mn=807, As=57, Mg=0.75%, Sc=6.3, Cs=2.3, Ce=32 Association: Ag=111/101, Mn=1053/807, Mg=0.87/0.75%, Sc=7.4/6.3, Cs=3.3/2.3, Ce=33/32 Conclusion: Ag-Mn-Mg-Sc-Cs elements are of interest for WP-636 location WP-638-M80; Ag=358, Mn=747, Fe=3.4%, As=87, Mg=0.77%, Sc=6.6, Nb=0.71, WP 638-M40; Ag=173, Mn=543, Fe=2.8%, As=44, Mg=0.61%, Nb=0.74 Association: Ag=358/173, Mn=747/543, Fe=3.4/2.8%, Mg=0.77/0.61%, Nb=0.71/0.74 Conclusion: Ag-Mn-Fe-Mg elements are of interest for WP-638 location WP-639-M80; Mn=747, Fe=3.2%, As=61, Au=16, Mg=0.6%, Nb=0.52 WP 639-M40; Mn=656, Fe=3.2%, As=42, Mg=0.55%, Nb=0.65 Association: Mn=747/656, As=61/42, Nb=0.52/0.65

Conclusion: Mn-As elements are of interest for WP-639 location

ASSES12FALSB

WP-640-M80; Ag=115, As=38, Nb=0.91 WP 640-M40; Ag=69, As=20, Nb=0.85 Association: Ag=115/69, As=38/20, Nb=0.91/0.85 Conclusion: Ag-As elements are of interest for WP-640 location

WP-641-M80; Ag=335, As=38, U=5.4-Au=7-Th=6, Tl=0.17, Nb=0.88, Zr=1.2 WP 641-M40; Ag=180, As=22, Tl=0.12, Nb=0.86 Association: Ag=335/180, As=38/22, Tl=0.17/0.12, Nb=0.88/0.86 Conclusion: Ag-As-Tl elements are of interest for WP-641 location

WP-642-M80; Ag=137, As=69, Tl=0.13, Nb=0.72 WP 642-M40; Ag=99, As=58, Tl=0.15, Nb=0.76 Association: Ag=137/99, As=69/58 Conclusion: As element is of interest for WP-642 location

WP-645-M80; As=71, Au=19, Tl=0.12 WP 645-M40; As=40, Tl=0.12 Association: As=71/40 Conclusion: As elements is of interest for WP-645 location

WP-646-M80; Ag=138, Mn=508, As=46 WP 646-M40; Ag=161, Mn=674, As=54 Association: Ag=138/161, Mn=508/674, As=46/54 Conclusion: Mn-As elements are of interest for WP-646 location

WP-647-M80; Mn=806, As=59, Al=2.79% WP 647-M40; Mn=726, As=42, Al=2.4% Association: Mn=806/726, As=59/42 Conclusion: Mn-As elements are of interest for WP-647 location

WP-648-M80; Mn=815, As=96, Mg=1.44%, Ba=132, Al=3.27% WP 648-M40; Mn=778, As=77, Mg=1.49%, Ba=113, Al=2.9% Association: Mn=815/778, As=96/77, Mg=1.4/1.4%, Ba=132/113 Al=3.2/2.9% Conclusion: As-Ba-Al elements are of interest for WP-648 location

WP-649-M80; Ag=133, Mn=750, As=104, Au=5, Sr=89, Cr=38, Mg=1.51%, Ba=144, Al=3.3%, Sc=6.8

ASSES12FALSB

#### WP 649-M40; Ag=237, Mn=765, As=88, Au=448, Sr=65, Cr=37, Mg=1.59%, Ba=113, Al=3.1%, Sc=6.7 Association: Ag=133/237, As=104/88, Sr=89/65, Ba=144/113,

Conclusion: Ag-As-Sr-Ba elements are of interest for WP-649 location

**CONCLUSION:** Falls River sediments from Pellaire Bridge up- stream are characterised by high As-Fe-U/Th-V content.

Other trace elements are found in the river, side streams and banks in above threshold amounts.

Increased of most anomalous values are in the (-80) fraction compared to the coarse 40 mesh fraction especially for arsenic, uranium, Thorium, copper, silver, vanadium and others elements such as cerium....

Gold is widely enriched in all fractions illustrating its ionic movement and then the final precipitation on the coarse mesh fraction.

The proximity of several splice of the Twin Creek fault cutting through Triassic to more recent sediment may provide a source for the ionic metal enrichment in our samples. It also is illustrated by the movement of some less mobile elements such as vanadium, niobium, barium, cerium...

## **APPENDIX # A3: ROCK DESCRIPTION**

## Falls River West Slope Sample Description

The samples represent the composition of the coarse fraction of the bank sample (-40+80 mesh) and they have been pulverised to 85% passing 200 mesh for analysis.

**612F;** 1Kg bank-slide sample, 20% black organic including leaves, 40% small grey rocks (1mm), layer of light brown clay-coarse silt, edge of land slide-talus, soil like in bog drainage.

**613F;** Bank-slide sample from 100 meters above the Falls River & 50 meters down stream from 612F sample, possibly also an ancient creek drainage, 50% white-greyblack rocks, 20% organic including 10% moss, 15m N of WP612.

**614F; ;** 1Kg river sample, 60% white-black diorite with iron rusty schist , 20% black & grey rocks, 20% others; seepage zone within bog.

**615F;** 1Kg river sample next to west bank underground drainage, 350 meters upstream (south-west) from camp bridge, 50% white quartz diorite with rusty schist, 50% black & grey rocks; 350m above ridge, overflow channel.

WP617; Quartz diorite float, site made of 80% rocks, 900m south of wp608

WP618; Quartzite with mica schist cut by 2 cm quartz veins, 200m south of 619

WP619; Siltstone, greisen weathered pink-red, some black crystals

WP620; Black schist, greisen-gneiss cut by 2cm quartz veins, 2-4cm mica

WP625; Black schist, white quartz diorite, box work, mica schist on fracture plane, Granodiorite, 140 meters up slope from river

WP626; Biotite granite

WP627; Large drainage: a) Shale with pink quartzite, gneiss with mica on fractures

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- b) Conglomerate, pale grey gneiss c) gneiss with quartz vein on contact with conglomerate
- WP628; White granodiorite/ shale-schist, sandstone, biotite granite (1% biotite) 80 meters from wp625
- WP629; White siltstone, minor disseminated fine grained pyrite
- WP631; Quartz diorite, slate-meta sediments, minor pyrite, old slide
- WP634; Quartz diorite, biotite granodiorite, 10 meters from river
- WP649; Black schist, quartzite, diorite, 30 meters from wp613

## 1. SAMPLING METHOD & APPROACH

## • <u>Description geochemical sampling:</u>

The 2012 geochemical sampling is comprised of rocks and stream fines. 62 samples were collected and send to Acme Labs.

The sampling was carried out by a 2 men team using a pick and trowel for the retrieve of a fine sediment.

The silt/bog/gravel sample from the Falls River basin, were passed through a -1/4" plastic sieve, then put into a standard paper sample bag for drying.

Each location is flagged and marked with a station number, sample number and each sample hole has a coloured tape with the sample number.

## • Sample quality

Soil/silt/rock results are representative of the terrain, the geology and glaciations. Results between sample stations are uniform reflecting the amount of metal retention.

## • Sampling intervals

The sampling intervals are set as required.

## 2. SAMPLE PREPARATION, ANALYSIS & SECURITY

## • Sample drying & shipping

J.HAJEK, Geochemist, supervised shipping of all geochemical soil samples shipped to ACME LABS.

## • ACME Analytical laboratories

This Vancouver laboratory is well established certified and is known to the author for its high standards and quality control.

## • Quality control

For every batch of 40 samples, 2 duplicates, 2 standards and 2 blanks are analyzed. Each batch of 20 samples contains one or more internal duplicate sample known only to VALOR RESOURCES staff.

## • Statement on sampling & analytical control

Acme has used 53 elements ICP-MS procedure on 15 grams pulp. The -80 mesh samples were analysed as is. The 40 mesh samples were crushed to -200 mesh fines before being analysed. Bothe size fractions of the same sample provide a good analytical control on each element analysed.

#### 3. DUPLICATE SAMPLES EXTRACTION:

• Sampling method and approach

The coarse screened material is composed of (+80-40) mesh to be crushed to (-200) mesh by Acme labs. The (-80) mesh fraction is to be analysed as is. The purpose of analyzing the standard crushed rocks to -200 mesh, described as fines versus the coarser fraction (+80 and -40 fractions) is to measure any noticeable differences in metals content due to leaching and to measure the rate of extraction of various metals.

#### • DUPLICATE SAMPLES EXTRACTION

(Values are reported as part per million or ppm unless specified) **REPORT: VAN11000332.1:** 

The results are consistent with fluctuations below 5% for most elements except for gold. WP640M80: Au vary from 3.2 to 30.8 ppb

#### **REPORT: VAN12000333.1**:

Consistent results with fluctuations below 5% 650-L40: Au vary from 377 to 1845ppb, Ag=569 to 740ppb 622-M40: Ag=75 to 99ppb

# All others analytical results are of good accuracy and could be used for geochemical metal assemblages & conclusions.

## **APPENDIX A5**

#### **GEOCHEMICAL CRUSTAL STATISTICS**

Values used to assess the analytical results in this report are listed in the following tables #7, #8, #9 & #10 and are partially based on references #2 and #4

Notes:

- Pairs of dispersed occurrences: Hafnium-zirconium, Gallium-aluminium & Potassiumrubidium, are used as indicator ratios,
- (Sc) has a compatible crystallization and is immobile during alteration.
- K & Rb= pair of dispersed occurrences such as Al & Ga are used as indicator ratios.

## Table 7.

Geochemical statistics on crustal composition of the lithosphere and its shells expressed as elemental composition with n.10-4 in % = ppm. Values are in part per million unless expressed.

	ppbActinides				ore trace elements					
AT .	Ag	Au	U®T	<b>h</b> ®	Co(s)	Ni(s)	As	Mo	Re	W®
	47	79	92	90	27	28	33	42	75	74
Crust	70	2	1.5	8	24	56	1.7	1.1	.5 ppb	1
Granite	30-	0.8-	2.5-	12-	1-10	5-26	1.5-2	1-2	.6 ppb	1.7-
	50	1.2	3.0	17	20					2.2
Interm.	70	2.8	2	9	10	50	2	1.1	1ppb	1.2
Basic	110	3.6	ppm	4	50	130	2	1.5	.7ppb	0.7
Ultrabasic	60	6	ppm	.04	150	2000	1	3	ppb	0.1
Schist/shale	70	3	3-4	12	20-30	68	10/20	2.6	1-3	1.8
Sediment	+10n	3	3-5	2-5	1-5	20-80	2-10	1-2	1-2	1.6
Carbonate	+10n		2.2	1.7	0.1	20	1	0.4	-1	0.6
Anomaly	100	4	3	20	35	100	5	3	2 ppb	2
crustal					200		40	5	4	
Threshold	150	5-25	1	3	15-	20-	10	1.0	2-5	2
streams					20	30			ppb	
Report	50	5	1	3	10	15	15	2	3	1
Anomalous	300	30	3	5	30	50	20	6	5 ppb	4

Notes: AT# represent the atomic number of the element.

- ® means part of the rare earth group
- (s) means part of the siderophile group
- (); indicates an element compatible during crystallisation and mostly immobile during alteration such as Ti, Cr, Sc, V.
- Thresh means threshold level, Anomaly is the level of significance. Anomaly represents values used to differentiate a level of importance. Interm. stands for intermediate rocks, Basic stands for basic rocks, Ultrabasic Is stands for ultrabasics rocks and Sediment means sedimentary rocks, Carbonat. Stands for carbonate series of rock formations,

## Table 8.

Geochemical statistics on crustal composition of the lithosphere and its shells expressed as elemental composition with n.10 - 4 in % = ppm. Values are in part per million unless expressed.

AT	Fe %	(V)	Ca%	P%	Sr	Mn A	Al*% (	Ti*%)	Mg %	Sn
	26	23	20	15	38	25	13	22	12	50
Crust	5.7	100	4.3	0.15	330	900	10	0.6	2.4	2
Granite	1.8-	44-	1.1-	0.8-	110-	400-	7-	0.17-	0.3-	2.5-
	3.6	88	2.5	0.11	440	700	8.6	0.3	1.3	3.0
Interm.	5.5	150	4.6	0.15	250	1000	7	0.4	2	1.6
Basic	8.4	250	7.3	0.15	470	1200	8.5	0.8	4.5	1.5
Ultrabasic	8.7	40	3.4	0.05	1	1000	2.4	0.35	2	0.5
Schist/shale	5-6	130	2-3	0.1	300	1100	8-10	0.5	1.5-2	6
Sediment	2.8	20	2.6	0.1	200	600	3	0.30	1-2	0.5
Carbonate	0.8	20	30/40	0.05	610	1400	1	0.1	5	0.3
Anomaly	7%	200	6	0.20	500	1200	12	0.7	4	3
crustal	9%	300			800	1500	9	0.9	5	8
Threshold	3.0	120	1	.05	40	300	2.5	0.10	1.0	0.4
streams										
Report	3.0	60	0.6	0.10	50	400	2.0	0.10	1.0	0.5
Anomalous	4%	200	1%	0.10	60	500	4%	0.15	1.5%	0.6

Notes:\* indicates Immobile elements, AT # represent the atomic number of the element.

- Interm. Stands for intermediate rocks, Basic stands for basic rocks, Ultrabasic Is for ultrabasics rocks and Sediment means sedimentary rocks, Carbonat. Stands for carbonate series of rock formations,
- (); indicates an element compatible during crystallisation and mostly immobile during alteration such as Ti, Cr, Sc, V, ref 2& 4.
- Anomaly represents values used to differentiate a level of importance.
- Pair of dispersed occurrences as Al & Ga is used as indicator ratios.

## Table 9.

Geochemical statistics on crustal composition of the lithosphere and its shells expressed as elemental composition with n.10 - 4 in % = ppm. Values are in part per million unless expressed.

Alkali suite							ore t	race e	lemen	nts
AT	Na %	K %	Rb	Cs	Li	Ga	Cu	Pb	Zn	Cd
	11	19	37	55	3	31	29	82	30	<b>48</b>
Crust	2.3	1.8	78	2-3	18	15	25	9-15	65	0.10
Granite	2.2-	2.5-	160-	2-5	30-38	20	10-	15-19	40-60	0.13-
	2.8	3.5	210				26			0.16
Intermed.	2.6	1-2	72	1-2	25	17	30	14	75	0.18
Basic	1.9	0.7	50	1.1	15	17	87	6	105	0.22
Ultrabasic	0.18	0.05	5	2	2	1.5	10	1	50	0.01
Schist/shale	1-3	2.7	140	5	50-60	19	45	20	95	0.3
Sediment	1	1.3	60	0.1	15	12	1	7	16	0.03
Carbonate	0.3	0.28	3	0.15	5	4	4	9	20	0.04
Anomaly crustal	3.5	4	250	8	80	25	100	25	120	0.4
Threshold streams	0.01	0.10	7	1.5	15	6	30	10	50	0.3
Report	0.05	0.15	12	2.0	20	8	30	15	60	0.5
Anomalous	0.10	0.20	15	2.5	30	10	45	20	100	1.0

Notes: AT# represent the atomic number of the element.

- Thresh means threshold level, Anomaly is the level of significance.
- Interm. Stands for intermediate rocks, Basic stands for basic rocks,
- Ultrabasic Is for ultrabasics rocks and Sediment means sedimentary Carbonate stands for carbonate series of rock formations,
- (); indicates an element compatible during crystallisation and immobile during alteration such as Ti, Cr, Sc, V.
- Anomaly represents values used to differentiate a level of importance.

(V) Has a compatible crystallization and is immobile during alteration.

# Table 10.

Geochemical statistics on crustal composition of the lithosphere and its shells expressed as elemental composition with n.10 -4 in % = ppm. Values are in part per million unless expressed.

	Lanthanides suite Crustal abundance								
	Hf	Nb*	Zr*	Y*	La	Ce	B	Ba	(Sc)
AT #	72	41	40	39	57	58	5	56	21
Crust	2-5	19	150	24	25-30	60	7-11	550	16
Granite	3-3.2	20	160- 200	40- 34	40-55	80- 92	10- 15	450- 800	7-14
Intermed.	2-3.5	8	140	26	30	58	9-37	400	20
Basic	2.2	19	110	2.1	15	48	5	330	30
Ultrabasic	0.5	16	45	0.n	10	50	3	0.4	15
Schist/shale	2.8	11	160	26	24	50	10	580	13
Sediment	3.9	3	210	30	7-30	80	35	600	1-16
Carbonat.	0.3	0.3	20	30	6-20	12	20	100	1
Anomaly crustal	5	25	200	50	100	100	40	1200	40
Threshold streams	0.15	0.4	1.0	8	12	20	6	50	3
Report	0.15	0.7	1.5	10	10	20	2	70	5
Anomalous	0.20	1.0	1.5	12	20	40	10	100	7

Notes: AT# represent the atomic number of the element.

• Interm. Stands for intermediate rocks, Basic stands for basic rocks,

Ultrabasic stands for ultrabasics rocks and Sediment means sedimentary rocks, Carbonate. Stands for carbonate series of rock formations,

- Threshold means threshold level, Anomaly is the level of significance.
- Anomaly represents values used to differentiate a level of importance.

• Nb\* means the element Nb is mostly immobile.

#### **Notes on Abbreviations**

The high strength elements (HFSE) are generally incompatible as Zr, Y, and Nb; elements relatively immobile during hydrothermal alteration such as Ti, Al, Zr, Nb, Y and Hf are partially immobile, ref 2.

The Lanthanide suite is represented by Nb, Y, La and Ce. The Actinides are represented by U & Th. The Alkali suite is represented by Na, K, Rb, Cs and Li. The light rare earth (REE) is represented by La, Ce, Nd, Sn, and Tb, ref 4. Values are in part per million unless expressed.

Abbreviations:

- ® means part of the rare earth group
- (s) Means part of the siderophile group
- \* indicates immobile elements
- AT# represent the atomic number of the element
- Thresh means threshold level, Anomaly is the level of significance, used represents values used for evaluating different sets of analysis
- Interm. Stands for intermediate rocks, Basic stands for basic rocks
- Ultrabasic Is for ultrabasics rocks
- Sediment means sedimentary rocks
- Carbonat. Stands for carbonate series of rock formations
- Anomaly represents values used to differentiate a level of importance
- (); indicates an element compatible during crystallisation and immobile during alteration: Ti, Cr, Sc, V.

Pairs of dispersed occurrences used as indicator ratios are Aluminum-gallium,

Potassium-rubidium, Hafnium-zirconium (ref 4).

Ore trace elements are Co, Ni, As, Mo, Re, W and Cu, Pb, Zn, Cd, Ga.

1

## **APPENDIX # A6**

## ACME ANALYTICAL REPORTS

- Acme Labs # VAN11006437.1 (14 samples)
- Acme Labs # VAN12003052.1 (28 samples)


www.acmelab.com

#### Acme Analytical Laboratories (Vancouver) Ltd.

PHONE (604) 253-3158

# CERTIFICATE OF ANALYSIS

31

PELLAIVE-TWIN

#### Client:

Zelon Enterprises Ltd. 1502 - 1320 Chesterfield Ave. North Vancouver BC V7W 0A6 CANADA

Submitted By: John Hajek Receiving Lab: Received: Report Date:

# Canada-Vancouver

# VAN13000332.1

#### **CLIENT JOB INFORMATION**

#### SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Method	Number of	Code Description	Test	Report	Lab
Code	Samples		Wgt (g)	Status	
SPLP	31	Sorting, labeling and boxing samples received as pulps			VAN
1F05	31	1:1:1 Aqua Regia digestion Ultratrace ICP-MS analysis	15	Completed	VAN

#### SAMPLE DISPOSAL

Project:

Shipment ID:

P.O. Number

Number of Samples:

DISP-PLP Dispose of Pulp After 90 days

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

#### Invoice To:

CC:

Zelon Enterprises Ltd. 1502 - 1320 Chesterfield Ave. North Vancouver BC V7W 0A6 CANADA



This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Acre assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted. \*\*\* asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.

**ADDITIONAL COMMENTS** 

January 24, 2013 February 18, 2013 Page: 1 of 3

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the Analytical Li	aboratories (vancouve	r) Lta.																			
HONE (604) 253	-3158											Page:		2 of 3					Par	t 1	of 1
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	Method	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15
	Analyte	Мо	Cu	Pb	Zn	Ag	NI	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	v	Ca	Ρ
	Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
······	MDL.	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
617- <b>M8</b> 0	Soil Pulp	0.78	38.73	6.00	50.7	45	13.3	9.9	400	3.01	4.9	3.6	12.2	13.5	34.9	0.05	0.22	0.08	85	0.51	0.104
61 <b>8-M8</b> 0	Soil Pulp	0.57	11.96	1.75	19.7	29	4.1	3.2	100	1.32	1.3	0.9	0.3	2.5	5.8	0.02	0.07	0.03	40	0.09	0.027
519-M80	Soil Pulp	1.55	27.17	4.08	50:9	30	8.8	7.5	326	2.66	6.9	2.5	0.7	5.3	18.3	0.08	0.15	0.07	70	0.35	0;075
521-M80	Soil Pulp	1.98	19.81	1.47	20.6	21	4.6	4.4	143	2.28	2.7	2.0	3.2	4.9	27.9	0.05	0.11	0.06	69	0.61	0.072
522-M80	Soil Pulp	1.75	36,83	11.28	60.8	92	17.5	9.0	474	3.16	22.7	8.1	11.9	6.0	23.6	0.26	0.31	0.09	98	0.53	0.102
623-M80	Soil Pulp	1.57	33.81	9.19	67.3	88	13.8	9.9	574	3.19	16.9	2.8	7.7	6.9	24.3	0.37	0.38	0.11	79	0.49	0.098
524-M80	Soil Pulp	1.50	37.95	13.28	61.5	201	14.0	9.5	435	3.41	18.2	6.4	126.4	11.0	23.0	0.25	0.32	0.11	109	0.55	0.111
525-M80	Soil Pulp	1.08	34.93	12.75	55.2	80	10.8	8.6	461	2.72	10.0	3.1	9,8	8.3	17.9	0.26	0.30	0.12		0.48	0.111
526-M80	Soil Pulp	1.16	52.41	14.00	63.2	81	13.4	11.1	415	3.20	12.7	4.6	35.6	9.4	23.5	0.31	0.37	0.11	90	0.58	0.110
527-M8U	Sofi Pulp	1.23	34.48	14.43	44.7	93	11.1	9.2	310	5.49	10.4	5./	10.4	18.4	15.4	0.24	0.32	0.12		0.55	0.142
520-M60	Soil Pulp	1.04	32.76	6.98	69.9	91	14.6	10.3	498	3.06	27.2	0.8	4.3	3.0	19.7	0.10	0.52	0.14	 67	0.35	0.103
530-M80		2.40	32,57	6.55	65.0	109	15.7	10.8	6/3	3.24	23.5	1.1	1.2	3.1	25.5	0.13	0.41	0.10	<u>67</u>	0.45	0.082
53 1-MOU	Soit Pulp	1.11	30.64	6.28	61.6	141	13.7	9.6	062	2.90	18.4	0.8	0.3	2.0	20.9	0.19	0.29	0.09		0.58	0.005
532-MOU	Soll Pulp	1.46	50,46	1.53	29,4	43	9.0	0.0 5.0	450	3.42	5.0	3.1	1.4	11.0	25.1	0.03	0.10	0.11		0.58	0.000
534-M80	Soil Duite	0.65	25,09	0.41	21,3	24	0.0 9.5	0,0 7 E	120	3.13	2.3	4.4	0.0		16 2	0.02	0.10	0.00	77	0.32	0.058
535-M80	Soil Pulp	0.40	49.03	2.10	20.0	142	25.2	20 6	213	2.00	4.5 80 A	0.9	22.5	0.6	68.3	0.04	1 /10	0.00	79	0.74	0 126
36-M80	Soil Duto	1 64	43.11	20.57	118 2	111	18 1	14 0	1053	7.93	91'0	0.4	15.7	3 1	34 1	0.46	0.84	0.12	63	0 40	0 070
537-M80	Soil Pulo	1.04	35 13	13 21	88.6	118	12.8	12 1	572	3 10	80.8	0.7	5.6	4 (1	41.6	0.24	0.51	0.08	65	0.48	0.079
538-M80	Soil Pulo	1.04	38 63	15 34	98.0	358	13.6	13.3	747	3 37	86.5	0.8	8.5	27	48.8	0.30	0.69	0,11	64	0.53	0.082
539-M80	Soil Pulo	2 40	28 92	12.07	102.3	115	12.2	9.3	747	3 22	61.0	0.8	15 7	2.9	31.4	0,23	0.54	0,13	65	0.31	.0.055
540-M80	Soil Putn	4 44	21 13	7.76	77 1	115	10.8	8.3	299	2.73	37.5	1.2	3.2	2.8	21.2	0.15	0.29	0.09	64	0.26	0.031
541-M80	Soil Puto	7 77	32 94	17.35	79.0	335	13.0	11.3	489	3,11	38.3	5.4	7.3	6.1	29.6	0.24	0.62	0.25	78	0.42	0.042
642-M80	Soil Pulo	5.02	22.99	9,33	54.0	137	10.5	7.9	251	2.53	68.5	1.8	6.1	4.1	26.2	0.07	0.34	0.09	54	0.29	0.025
643-M80	Soil Pulp	3.71	30.18	4.02	30.8	28	7.0	5.7	.213	2.32	9.3	3.2	2.3	4.9	15.3	0.06	0.24	0.07	65	0.24	0.040
544-M80	Soil Pulp	3.09	29.87	11.09	69.7	131	10.6	10.4	661	2.73	43.8	2.4	4.1	3.6	35.5	0.33	0.41	0.09	60	0.48	0.048
645-M80	Soil Pulp	1.73	38.37	11.64	74.5	129	12.7	11.6	563	2.92	71.4	1.1	19.3	4.8	40.3	0.22	0.47	0.08	60	0.55	0.065
646-M80	Soil Pulp	2.59	38.80	13.94	71.5	138	12.8	9.7	508	2.64	46.1	1.2	11.2	3.4	39.3	0.23	0.51	0.08	52	0.60	0.063
647-M80	Soil Pulp	3.58	47.19	16.57	82.0	116	18.3	17.2	806	3.44	59.3	1.6	4.7	1.6	74.1	0.30	0.81	0.11	75	1.12	0.082

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A Bureau Ve	ritas Group Company			www.	acmela	ab.com						Project		PELL	AIVE-TW	IN					
cme Analytical L	aboratories (Vancouve	r) Ltd.										Report	Date:	Febru	агу 18, 2	013					
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CERIFIC	CATE OF AN	IALY	SIS													VΑ	N13	000	332	.1	
	Method	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F1
	Analyte	La	Cr	Mg	Ba	Ti	В	Al	Na	K	w	Sc	П	S	Hg	Se	Te	Ga	Cs	Ge	ł
	Unit	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	%	ppb	ppm	ppm	ppm	ppm	ppm	pp
617 M80	MDL Soil Bule	0.5	0.5	0.01	0.5	0.001		0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.0Z	0.1	0.0
618-M80	Soil Pulp	18.9	18.9	0.73	17.2	0.166		1.34	0.016	0.27	0.4	5.2	0.23	<0.02	20	0.3	<0.02		1 35	0.3	0.0
619-M80	Soil Pulp	9.0 9.1	18.5	0.13	54.8	0.000	1	1 24	0.000	0.05	0.2	43	0.07	<0.02	11	0.1	<0.02	6.3	2.60	0.1	0.0
621-M80	Soil Pulp	5.4	18.5	0.32	32.4	0.057	2	0.92	0.055	0.06	1.0	2.3	0.03	<0.02	20	0.2	<0.02	3.5	0.56	0.2	<0.0
622-M80	Soil Pulp	11.5	29.6	0.68	67.4	0,163	3	1.23	0.016	0.22	0.4	6.8	0.15	<0.02	25	0.8	<0.02	6.6	2.36	0.3	0.0
623-M80	Soil Pulp	11.2	26.7	0.71	66.7	0.143	3	1.27	0.016	0.19	0.4	6.4	0.12	<0.02	23	0.5	0.03	6.2	2.03	0.2	0.0
624-M80	Soil Pulp	12.7	30.2	0.70	62.4	0.154	3	1.25	0.017	0.19	0.4	6.5	0.13	<0.02	31	0.5	0.02	6.5	2.34	0.3	0.0
625-M80	Soil Pulp	13.0	22.6	0.58	44.5	0.133	3	0.98	0.011	0.17	0.4	4.9	0.12	<0.02	29	0.4	<0.02	5.2	1.89	0.3	0,0
626-M80	Soil Pulp	13.5	24.2	0.83	67.3	0.183.	3	1.41	0.017	0.25	0.4	7.3	0.16	<0.02	26	0.5	<0.02	6.9	2.92	0.3	0.0
627-M80	Soil Pulp	21.3	61.8	0.50	40.1	0.103	2	0.86	0.007	0.11	0.5	3.9	0.09	<0.02	16	0.2	0.03	5.9	1.55	0.2	0.0
628-M80	Soil Pulp	- 8.4	24.5	0.74	77.6	0.140	3	1.45	0.016	0.20	0.3	7.0	0.10	<0.02	18	0.4	0.04	6.5	2.08	0.2	0.0
630-M80	Soil Pulp	10.4	28.3	0.74	75.4	0.143	3	1.46	0.017	0.17	0.4	7.6	0.11	<0.02	15	0.5	0.04	6.5	1.90	0.3	0.0
631-M80	Soil Pulp	8.7	24.4	0.66	65.9	0.123	3	1.53	0.010	0.17	0.2	5.7	0.09	0.03	23	0.6	0.03	6.6	1.72	0.2	<0.0
632-MBU	Soil Pulp	4.9	28.2	0.50	43.2	0.081	2	1.09	0.050	0.12	0.9	2.6	0.06	<0.02	9	0.2	0.02	4.1	0.78	0.2	0.0
634-MB0	Soil Pulp	7.6	29.0	0.32	20.0	0.065		1 22	0.043	0.07	1.9	2.2	0.04	<0.02	22	0.2	0.02	47	0.39	0.2	0.0
635-M80	Soil Pulp	62	31.0	1 26	96.3	0.045		3.51	0.011	0.12	0.0	6.1	0.08	0.03	52	0.2	0.02	10.5	2.55	<0.1	<0.0
636-M80	Soil Pulp	11.1	23.4	0.87	93.8	0.084	5	2.54	0.019	0.18	0.3	7.4	0,14	<0.02	27	0.2	<0.02	8.8	3.25	0.1	<0.0
637-M80	Soil Pulp	7.9	21.9	0.76	81.0	0.104	3	1.94	0.027	0.18	0.3	5.6	0.13	<0.02	10	0.3	0.10	7.5	1.98	0.1	<0.0
638-M80	Soil Pulp	9.4	21.1	0.77	86.8	0.091	2	2.07	0.025	0.19	0.3	6.6	0.12	0.02	27	0.2	<0.02	8.2	2.30	<0.1	<0.0
639-M80	Soil Pulp	8.6	21.0	0.61	95.2	0.066	2	2.08	0.015	0.08	0.3	4.7	0.11	<0.02	20	0.2	0.02	8.9	1.87	<0.1	<0.0
640-M80	Soil Pulp	9.2	18.1	0.54	54.1	0.114	2	1.86	0.013	0.06	0.4	4.2	0.09	<0.02	16	<0.1	0.02	8.6	1.85	<0.1	0.0
641-M80	Soil Putp	15.1	21.8	0.64	71.2	0.116	2	2.82	0.017	0.07	0.7	5.7	0.17	<0.02	30	0.1	<0.02	10.7	2.72	<0.1	<0.0
642-M80	Soil Pulp	9.5	18.4	0.62	65.1	0.110	2	1.91	0.019	0.07	0.3	4.9	0,13	<0.02	24	0.3	<0.02	7.7	1.89	<0.1	0.0
643-MB0	Soil Pulp	8.2	15.8	0.39	36.0	0.076	2	1.23	0.016	0.05	0.5	2.6	0.07	<0.02	12	0.2	<0.02	4.7	1.28	<0.1	<0.0
644-M80	Soil Pulp	10.6	19.8	0.64	64.0	0.097	2	1.79	0.026	0.10	0.3	5.1	0.10	<0.02	31	0.3	0.03	7.2	1.88	<0.1	<0.0
645-MB0	Soil Pulp	10.1	22.2	0.70	79.3	0.106	2	1.77	0.032	0.15	0.3	5.7	0.12	<0.02	33	0.2	0.07	7.0	1.94	<0.1	<0.0
647 M80	Soil Pulp	9.4	18.4	0.65	71.0	0.084	2	1.75	0.046	0.14	0.4	4.8	0.09	<0.02	21	0.3	0.03	6.2	1.9/	<0.1	<0.0
	301 8000 1	<b>Б</b> (	25.4	1 02	M6 4	0.090	3	2/9	0.051	0.17	114	3.5	0.09	U.U4	37	0.2	<b>NU.UZ</b>	<b>J.</b> 2	2.30	NU. 1	50.0

A Bureau Veri cme Analytical Lai	<b>me</b> Lab tas Group Company boratories (Vancouve	S <sup>™</sup> r) Ltd.		www.	acm <del>e</del> la	b.com						Client Project: Report	t: : Date:	Zel 1502 North PELL Febru	I <b>on Enterprises Ltd.</b> 2 - 1320 Chesterfield Ave. h Vancouver BC V7W 0A6 CANADA LAIVE-TWIN ruary 18, 2013
HONE (604) 253-3	3158											Page <sup>.</sup>		2 of 3	3 Part: 3 of 1
CERTIFIC		ALY	รำร	<b>,</b> .							-	rage.		2013	VAN13000332.1
	Method	1E15	1E15	1E15	1E15	1E15	1E15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	
	Analyte	Nb	Rb	Sn	Ta	Zr	Ŷ	Ce	In	Re	Be	LI	Pd	Pt	
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb	
	MOL	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2	
617-M80	Soil Pulp	0.49	31.2	0.6	<0.05	2.0	11.78	46.5	<0.02	<1	0.4	30.6	<10	<2	
618-M80	Soil Pulp	0.38	11.8	0.2	<0.05	0.6	2.11	10,7	<0.02	<1	0.1	9.6	<10	<2	
619-M80	Soil Pulp	1.01	25.4	0.6	<0.05	1.0	6.44	21.9	0.02	<1	0.3	20.1	<10	<2	
621-M80	Soil Pulp	0.24	3.9	0.1	<0.05	0.5	4.04	10.6	<0.02	<1	<0.1	6.7	<10	<2	
622-M80	Soil Pulp	0.58	16.3	0.9	<0.05	0.4	12.55	29.5	0.03	<1	0.2	17.2	<10	<2	
623-M80	Soil Pulp	0.58	14.5	0.5	<0.05	0.8	11.69	27.7	0.03	<1	0.3	19.0	<10	<2	
624-M80	Soil Pulp	0.42	14.1	0.6	<0.05	0.5	13.69	33.4	0.02	<1	0.3	18.0	<10	<2	
625-M80	Soil Pulp	0.53	14.7	0,5	<0.05	0.5	11.08	33.4	<0.02	<1	0.3	15.6	<10	<2	
626-M80	Soil Pulp	0.37	20.9	0.6	<0.05	1.3	15.15	33.7	0.03	<1	0.4	23.2	<10	<2	
627-M80	Soil Pulp	0.27	9.5	0.5	<0.05	0.7	13.85	51.2	<0.02	<1	0.2	13.3	<10	2	
628-M80	Soil Pulp	0.52	13.0	0.5	<0.05	1.3	9.90	20.5	0.03	<1	0.4	18.8	<10	<2	
630-M80	Soil Pulp	0.48	10.6	0.5	<0.05	0.8	13.05	26.8	0.03	<1	0.4	16.5	<10	<2	
631-M80	Soil Pulp	0.72	11.9	0.5	<0.05	0.2	9.71	23.3	0.03	<1	0.5	16.4	<10	<2	
632-M80	Soil Pulp	0.20	6.1	0.2	<0.05	0.4	3.29	9,2	<0.02	<1	0.1	9.4	<10	<2	
633-M80	Soil Pulp	0.24	4.5	0.2	<0.05	0.6	3.98	13,6	<0.02	<1	<0.1	7.4	<10	<2	1
634-M80	Soil Pulp	0.45	6.5	0.3	<0.05	0.7	4.35	18.0	<0.02	<1	0.2	11.1	<10	<2	
635-M80	Soil Pulp	0.46	9.0	0.4	<0.05	0.3	7.49	15.6	0.03	<1	0.7	26.5	<10	<2	1
636-M80	Soil Pulp	0.57	12.1	0.4	<0.05	0.7	12.20	32.5	0.04	<1	0,8	22.7	<10	<2	
637-M80	Soil Pulp	0.65	13.0	0.6	<0.05	0.7	8.35	19.5	0.02	<1	0.6	20.1	<10	2	
638-M80	Soil Pulp	0.71	13.5	0.4	<0.05	0.3	10.46	21.9	0.04	<1	0.4	20.0	<10	<2	
640 M80	Soil Pulp	0.52	10.8	0.4	<0.05	0.4	8.36	18.6	0.03	<1	0.4	19.4	<10		
040-M80	Soil Pulp	0.91	11.4	0.5	<0.05	0.7	6.97	16.7	0.03	<1	0.5	20.0	<10		1
04 1-MBU	Soil Pulp	0.68	14.8	0.6	<0.05	1.2	12.69	20.1	0.03	- 51	1.0	20.9	<10		
642 M90	Soil Pulp	0.72	10.2	0.5	<0.05	1.1	1.12	16.0	<0.02		0,0	21.0	<10		
644-MR0	Soil Pulp	0.46	5.9	0.2	<0.05	0.4	0.49	10.0	-0.02	~1	0.3	18.0	<10	<u> </u>	1
645-MP0	Soil Pulp Soil Duin	0.65	12.3	0.5	<0.05	0.4	11.12	19.1	0.02	~1	0.4	17.0	<10		4
646-M80	Soil Pulp	0.45	11.4	0.3	<0.05	0.5	10.57	22.1	0.03		0.0	15.9	<10		4
UTUPNICU.	SOILPUID	0.40	9.9	<b>U.Z</b>	<u.ud< td=""><td>0.4</td><td>10.57</td><td>20.4</td><td>0.02</td><td>~ 1</td><td>0.0</td><td>10.0</td><td>~10</td><td>~4</td><td>4</td></u.ud<>	0.4	10.57	20.4	0.02	~ 1	0.0	10.0	~10	~4	4
647-M80	Seil Dule	0.62	12 7	0.4	<0.0F	0.0	8 24	15.0	0.04	<b>c1</b>	0.6	20.0	<10	<2	

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Acr	<b>ne</b> l ał	ک⊾										Clien	ıt:	Zelo 1502 North	on Ent - 1320 Cl Vancouv	t <b>erpris</b> hesterfiel ver BC V7	<b>ses Lt</b> e Id Ave. 7W 0A6 C	<b>d.</b> Canada			
A Bureau Verita	as Group Company	))		www.	.acmela	b.com						Projec	t:	PELL	AIVE-TW	4N					
Acme Analytical Lab	oratories (Vancouv	/er) Ltd.										Report	t Date:	Febru	ary 18, 2	013					
PHONE (604) 253-3	158											Page:		3 of 3					Par	t: 1	of 1
CERTIFIC	ATE OF AN	NALY	SIS													VA	N13	3000	332.	1	
	Method	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	v	Ca	Р
	Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%
	MDL	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
649-M80	Soil Pulp	2.05	60.29	20.08	99.2	133	35.3	22.0	750	4 28	104.2	10	4.8	17	89.4	0.46	2.07	0.10	70	1.01	0.096

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	<b>me</b> l a	bs	TM										Clien	ıt:	<b>Zei</b> c 1502 North	<b>on En</b> - 1320 C Vancour	<b>terpris</b> hesterfie ver BC V	<b>5es [1]</b> Id Ave. 7W 0A6	t <b>d.</b> CANADA	Ą		
A Bureau Ve	eritas Group Company	y Y			www	.acme	lab.con	n					Projec	t	PELL	AIVE-TV	MN					
Acme Analytical La	aboratories (Vanco	uver) L	.td.										Repor	t Date:	Febru	iary 18, 2	2013					
PHONE (604) 253-	-3158																					
PHONE (604) 253	-3158												Page:		3 of 3					F	Part:	2 of 1
PHONE (604) 253	⊶3158 CATE OF A	NA	LYS	SIS	-					-			Page:		3 of 3		VA	N13	3000	0332	<sup>Part:</sup>	2 of 1
PHONE (604) 253 CERTIFIC	⊢3158 CATE OF A Meth		LYS IF15	SIS 1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	Page:	1F15	3 of 3 1F15	1F15	VA 1F15	N1:	300( 1F15	1F18	Part: 2.1 1F1	2 of 1 5 1F1
PHONE (604) 253	⊢3158 CATE OF A Meth Analy	NA od 1/	LYS IF15 La	SIS 1F15 Cr	1F15 Mg	1F15 Ba	1F15 Ti	1F15 B	1F15 Al	1F15 Na	1F15 K	1F15 W	Page: 1F15 Sc	1F15 ТІ	3 of 3 1F15 S	1F15 Hg	VA 1F15 Se	N10 1F15 Te	300( 1F15 Ga	1F18 Ca	Part: 2.1 1F1	2 of 1 5 1F1 9 F
PHONE (604) 253	⊢3158 CATE OF A Meth Analy U	od 11 vte nit p	LY IF15 La opm	SIS 1F15 Cr ppm	1F15 Mg %	1F15 Ba ppm	1F15 Ti %	1F15 B ppm	1F15 Al %	1F15 Na %	1F15 K %	1F15 W ppm	Page: 1F15 Sc ppm	1F15 TI ppm	3 of 3 1F15 S %	1F15 Hg ppb	1F15 Se ppm	N1 1F15 Te ppm	300( 1F15 Ga	1F16 Cs	Part: 2.1 1F1	2 of 1 5 1F1 9 H
PHONE (604) 253	⊢3158 CATE OF A Meth Analy U Mit	od 11 vte nit p DL	LYS La 0.5	SIS 1F15 Cr ppm 0.5	1F15 Mg % 0.01	1F15 Ba ppm 0.5	1F15 Ti % 0.001	1F15 B ppm 1	1F15 Al % 0.01	1F15 Na % 0.001	1F15 K % 0.01	1F15 W ppm 0.1	Page: 1F15 Sc ppm 0.1	1F15 ТІ ррт 0.02	3 of 3 1F15 S % 0.02	1F15 Hg ppb 5	1F15 Se ppm 0.1	N1C 1F15 Te ppm 0.02	300( 1F15 Ga ppm 0.1	1F16 Cs ppm 0.02	Part: 2.1 1F1: Go ppn 0.	2 of 1 5 1F1 9 F 1 0.0

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A Bureau Ve Acme Analytical L	A Bureau Veritas Group Company A Analytical Laboratories (Vancouver) Ltd.			www.	acmela	ıb.com						Project Report	: Date:	PELLAIVE February	E-TVIN 18, 2013		
PHONE (604) 253	A subset ventus Group Company Analytical Laboratories (Vancouver) Ltd. NE (604) 253-3158											Page:		3 of 3		Part:	3 of 1
CERTIFIC	CATE OF AN	IALY	SiS	٦				- · · · · · · ·							VAN13000	332.1	
	Method	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15			
	Analyte	Nb	Rb	Sn	Ta	Zr	Y	Ce	In DOM	Re	Be	Li	Pd	Pt			
	MDL	0.02	ррт 0.1	ррт 0.1	0.05	ырна 0.1	0.01	μρπ 0.1	0.02	рро 1	0.1	0.1	10	2			
649-M80	Soit Pulp	0.43	85	04	<0.05	0.5	9.16	18.7	0.04	<1	0.8	26.4	<10	<2			

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A Bureau Veritas	Group Company ratories (Vancouve	S <sup>™</sup> er) Ltd.		www.	acmela	b.com						Client Project: Report	: Date:	Zeio 1502 - North V PELLA Februa	n Ente 1320 Cho /ancouve IVE-TWII ny 18, 20	<b>erpris</b> esterfield or BC V7V N 13	<b>es Ltd</b> Ave. N 0A6 CA	• NADA			
PHONE (604) 253-31	58											Page:		1 of 1					Part	1 01	f 1
QUALTIYC	ONTROL	REP	ÜR	<b>l</b>												VA	N13	000	332.	1	
	Method	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe %	As	U	Au	Th	Sr	Cđ	SD DDM	BI	v maa	Ca %	۲ %
	MDL	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.001
Pulp Duplicates		_									_										
640-M80	Soil Pulp	4.44	21.13	7.76	77.1	115	10.8	8.3	299	2.73	37.5	1.2	3.2	2.8	21.2	0.15	0.29	0.09	64	0.26	0.031
REP 640-M80	QC	4.96	22.49	8.32	75.7	125	11.4	8.6	303	2.82	37.2	1.3	30.8	3.1	21.1	0.12	0.32	0.12	66	0.28	0.034
649-M80	Soil Pulp	2.05	60.29	20.08	99.2	133	35.3	22.0	750	4.28	104.2	1.0	4.8	1.7	89.4	0.46	2.07	0.19	79	1.01	0.086
REP 649-M80	QC	2.11	60.38	20.48	98.1	133	34.8	22.4	751	4.22	102.8	1.0	6.5	2.0	84.9	0.43	2.01	0.14	78	1.00	0.085
Reference Materials																					
STD DS9	Standard	12.98	106.3	106.6	303.9	1900	38.6	7.2	582	2.30	24.8	2.4	117.5	5.6	66.3	2.22	5.18	6.00	40	0.73	0.085
STD DS9	Standard	13.48	104.4	121.5	309.4	1908	41.8	7.5	601	2.34	23.7	2.3	110.6	5.5	66.4	2.19	5,31	5.76	38	0.72	0.088
STD DS9 Expected		12.84	108	126	317	1830	40.3	7.6	575	2.33	25.5	2.69	118	6.38	69.6	2.4	4.94	6.32	40	0.7201	0.0819
BLK	Blank	<0.01	<0.01	<0,01	<0.1	<2	<0.1	<0.1	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001
BLK	Blank	0.02	0.03	0.02	0.2	4	<0.1	0.3	<1	<0.01	<0.1	<0.1	<0.2	<0.1	<0.5	<0.01	<0.02	<0.02	<2	<0.01	<0.001

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		1) 210.																			
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QUAELITT CO	ONTROL	REF	ÛR1													VA	N13(	000	332.	1	
QUALITY CO			ÜR1 1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	VA 1F15	N13(	1F15	332. 1F15	1 1F15	1F15
QUAELI Ϋ́ C(	DNTRCL Method Analyte	TF15 La	UR 1F15 Cr	1F15 Mg	1F15 Ba	1F15 Ti	1F15 B	1F15 Al	1F15 Na	1F15 K	1F15 W	1F15 Sc	1F15 Ti	1F15 S	1F15 Hg	VA 1F15 Se	N13( 1F15 Te	1F15 Ga	332. 1F15 Cs	1 1F15 Ge	1F15 H1
QUAELITT CC	Method Analyte Unit	REP 1F15 La ppm	1F15 Cr ppm	1F15 Mg %	1F15 Ba ppm	1F15 Ti %	1F15 B ppm	1F15 Al %	1F15 Na %	1F15 K %	1F15 W ppm	1F15 Sc ppm	1F15 Ti ppm	1F15 S %	1F15 Hg ppb	VAN 1F15 Se ppm	N130 1F15 Te ppm	1F15 Ga ppm	332. 1F15 Cs ppm	1F15 Ge ppm	1F15 Hf ppm
QUAELITT CC	Method Analyte Unit MDL	IF15 La ppm 0.5	1F15 Cr ppm 0.5	1F15 Mg % 0.01	1F15 Ba ppm 0.5	1F15 Ti % 0.001	1F15 B ppm 1	1F15 Al % 0.01	1F15 Na % 0.001	1F15 K % 0.01	1F15 W ppm 0.1	1F15 Sc ppm 0.1	1F15 Ті ppm 0.02	1F15 S % 0.02	1F15 Hg ppb 5	VAN 1F15 Se ppm 0.1	N130 1F15 Te ppm 0.02	1F15 Ga ppm 0.1	332. 1F15 Cs ppm 0.02	1F15 Ge ppm 0.1	1F15 Hf ppm 0.02
QUAELITT CC	Method Analyte Unit MDL	IF15 La ppm 0.5	1F15 Cr ppm 0.5	1F15 Mg % 0.01	1F15 Ba ppm 0.5	1F15 Ti % 0.001	1F15 B ppm 1	1F15 Al % 0.01	1F15 Na % 0.001	1F15 K % 0.01	1F15 W ppm 0.1	1F15 Sc ppm 0.1	1F15 Ті ppm 0.02	1F15 S % 0.02	1F15 Hg ppb 5	VA 1F15 Se ppm 0.1	1F15 Te ppm 0.02	1F15 Ga ppm 0.1	332. 1F15 cs ppm 0.02	1F15 Ge ppm 0.1	1F15 H1 ppm 0.02
QUAELTY CC Pulp Duplicates 640-M80	Method Analyte Unit MDL	IF15 La ppm 0.5	1F15 Cr ppm 0.5	1F15 Mg % 0.01	1F15 Ba ppm 0.5 54.1	1F15 Ti % 0.001 0.114	1F15 B ppm 1	1F15 Al % 0.01	1F15 Na % 0.001	1F15 K % 0.01	1F15 W ppm 0.1	1F15 Sc ppm 0.1 4.2	1F15 Ti ppm 0.02	1F15 S % 0.02 <0.02	1F15 Hg ppb 5	VA 1F15 Se ppm 0.1	V130 1F15 Te ppm 0.02	1F15 Ga ppm 0.1 8.6	332. 1F15 cs ppm 0.02	1F15 Ge ppm 0.1 <0.1	1F15 Hf 0.02
QUAELITT CC Pulp Duplicates 640-M80 REP 640-M80	Method Analyte Unit MDL Soil Pulp QC	1F15 La ppm 0.5 9.2 9.6	1F15 Cr ppm 0.5 18.1 18.8	1F15 Mg % 0.01 0.54 0.56	1F15 Ba ppm 0.5 54.1 55.6	1F15 Ti % 0.001 0.114 0.118	<b>1F15</b> B ppm 1 2 1	1F15 Al % 0.01 1.86 1.94	1F15 Na % 0.001 0.013 0.013	1F15 K % 0.01 0.06 0.07	1F15 W ppm 0.1 0.4	1F15 Sc ppm 0.1 4.2 4.4	1F15 Ti ppm 0.02 0.09 0.10	1F15 S % 0.02 <0.02 <0.02	1F15 Hg ppb 5 16 22	VA 1F15 Se ppm 0.1 <0.1 <0.1	N130 1F15 Te ppm 0.02 0.02	1F15 Ga ppm 0.1 8.6 8.7	332. 1F15 Cs ppm 0.02 1.85 1.98	1F15 Ge ppm 0.1 <0.1 <0.1	1F15 Hf 0.02 0.03 <0.02
QUALITT CC Pulp Duplicates 640-M80 REP 640-M80 649-M80	Method Analyte Unit MDL Soil Pulp QC Soil Pulp	REP 1F15 La ppm 0.5 9.2 9.6 7.8	1F15 Cr ppm 0.5 18.1 18.8 38.0	1F15 Mg % 0.01 0.54 0.56 1.51	1F15 Ba ppm 0.5 54.1 55.6 144.3	1F15 Ti % 0.001 0.114 0.118 0.086	1F15 B ppm 1 2 1 4	1F15 Al % 0.01 1.86 1.94 3.31	1F15 Na % 0.001 0.013 0.013 0.039	1F15 K % 0.01 0.06 0.07 0.16	1F15 W ppm 0.1 0.4 0.4 0.3	1F15 Sc ppm 0.1 4.2 4.4 6.8	1F15 Ti ppm 0.02 0.09 0.10 0.08	1F15 S % 0.02 <0.02 <0.02 0.03	1F15 Hg ppb 5 16 22 42	VA1 1F15 Se ppm 0.1 <0.1 <0.1 0.2	N130 1F15 Te ppm 0.02 0.02 0.02 0.02 0.05	1F15 Ga ppm 0.1 8.6 8.7 9.3	332. 1F15 Cs ppm 0.02 1.85 1.98 2.21	1F15 Ge ppm 0.1 <0.1 <0.1 <0.1	1F15 Hf 0.02 0.03 <0.02 <0.02
QUALITT CC Pulp Duplicates 640-M80 REP 640-M80 649-M80 REP 649-M80	Method Analyte Unit MDL Soil Pulp QC Soil Pulp QC	1F15 La ppm 0.5 9.2 9.6 7.8 7.7	1F15 Cr ppm 0.5 18.1 18.8 38.0 36.2	1F15 Mg % 0.01 0.54 0.56 1.51 1.49	1F15 Ba ppm 0.5 54.1 55.6 144.3 145.2	1F15 Ti % 0.001 0.114 0.118 0.086 0.086	1F15 B ppm 1 2 1 4 4	1F15 Al % 0.01 1.86 1.94 3.31 3.26	1F15 Na % 0.001 0.013 0.013 0.039 0.039	1F15 K % 0.01 0.06 0.07 0.16 0.16	1F15 W ppm 0.1 0.4 0.4 0.3 0.3	1F15 Sc ppm 0.1 4.2 4.4 6.8 6.8	1F15 TI ppm 0.02 0.09 0.10 0.08 0.08	1F15 S % 0.02 <0.02 <0.02 0.03 0.03	1F15 Hg ppb 5 16 22 42 43	VA1 1F15 Se ppm 0.1 <0.1 <0.1 <0.1 0.2 0.2	1F15 Te ppm 0.02 0.02 0.02 0.05 0.08	1F15 Ga ppm 0.1 8.6 8.7 9.3 9.1	332. 1F15 Cs ppm 0.02 1.85 1.98 2.21 2.28	1F15 Ge ppm 0.1 <0.1 <0.1 <0.1 <0.1 <0.1	1F15 Hf 0.02 0.03 <0.02 <0.02 0.03
QUALITY CC Pulp Duplicates 640-M80 REP 640-M80 649-M80 REP 649-M80 REP 649-M80 Reference Materials	Soil Pulp QC QC	REF 1F15 La ppm 0.5 9.2 9.6 7.8 7.7	1F15 Cr ppm 0.5 18.1 18.8 38.0 36.2	1F15 Mg % 0.01 0.54 0.56 1.51 1.49	1F15 Ba ppm 0.5 54.1 55.6 144.3 145.2	1F15 Ti % 0.001 0.114 0.118 0.086 0.086	1F15 B ppm 1 2 1 4 4	1F15 Al % 0.01 1.86 1.94 3.31 3.26	1F15 Na % 0.001 0.013 0.013 0.039 0.039	1F15 K % 0.01 0.06 0.07 0.16 0.16	1F15 W ppm 0.1 0.4 0.4 0.3 0.3	1F15 Sc ppm 0.1 4.2 4.4 6.8 6.8	1F15 TI ppm 0.02 0.09 0.10 0.08 0.08	1F15 S % 0.02 <0.02 <0.02 0.03 0.03	1F15 Hg ppb 5 16 22 42 43	VA1 1F15 Se ppm 0.1 <0.1 <0.1 <0.1 0.2 0.2	N130 1F15 Te ppm 0.02 0.02 0.02 0.05 0.08	1F15 Ga ppm 0.1 8.6 8.7 9.3 9.1	332. 1F15 Cs ppm 0.02 1.85 1.98 2.21 2.28	1F15 Ge ppm 0.1 <0.1 <0.1 <0.1 <0.1	1F15 Hf 0.02 0.03 <0.02 <0.02 <0.02
QUALITY CC Pulp Duplicates 640-M80 REP 640-M80 649-M80 REP 649-M80 Reference Materials STD DS9	Method Analyte Unit MDL Soil Pulp QC Soil Pulp QC Standard	<b>REF</b> <b>1F15</b> <b>La</b> <b>ppm</b> <b>0.5</b> 9.2 9.6 7.8 7.7 12.9	1F15 Cr ppm 0.5 18.1 18.8 38.0 36.2 113.1	1F15 Mg % 0.01 0.54 0.56 1.51 1.49 0.61	1F15 Ba ppm 0.5 54.1 55.6 144.3 145.2 304.6	1F15 Ti % 0.001 0.114 0.118 0.086 0.086 0.086	1F15 B ppm 1 2 1 4 4 4	1F15 Al % 0.01 1.86 1.94 3.31 3.26 0.95	1F15 Na % 0.001 0.013 0.013 0.039 0.039 0.039	1F15 K % 0.01 0.06 0.07 0.16 0.16 0.40	1F15 W ppm 0.1 0.4 0.4 0.3 0.3 0.3	1F15 Sc ppm 0.1 4.2 4.4 6.8 6.8 6.8 2.6	1F15 TI ppm 0.02 0.09 0.10 0.08 0.08 0.08	1F15 S % 0.02 <0.02 <0.02 0.03 0.03 0.16	1F15 Hg ppb 5 16 22 42 43 194	VA 1F15 Se ppm 0.1 <0.1 <0.1 <0.1 0.2 0.2 5.0	N13 1F15 Te ppm 0.02 0.02 0.02 0.02 0.05 0.08 5.30	1F15 Ga ppm 0.1 8.6 8.7 9.3 9.1 4.6	332. 1F15 Cs ppm 0.02 1.85 1.98 2.21 2.28 2.40	1F15 Ge ppm 0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	1F15 Hf ppm 0.02 0.03 <0.02 <0.02 0.03 0.03
QUALITT CC Pulp Duplicates 640-M80 REP 640-M80 649-M80 REP 649-M80 Reference Materials STD DS9 STD DS9	Soil Pulp QC Soil Pulp QC Standard Standard	<b>REF</b> <b>1F15</b> <b>La</b> <b>ppm</b> <b>0.5</b> 9.2 9.6 7.8 7.7 12.9 12.8	1F15 Cr ppm 0.5 18.1 18.8 38.0 36.2 113.1 123.1	1F15 Mg % 0.01 0.54 0.56 1.51 1.49 0.61 0.62	1F15 Ba ppm 0.5 54.1 55.6 144.3 145.2 304.6 293.3	1F15 Ti % 0.001 0.114 0.118 0.086 0.086 0.086 0.101 0.118	1F15 B ppm 1 2 1 4 4 4 2 3	1F15 Al % 0.01 1.86 1.94 3.31 3.26 0.95 0.94	1F15 Na % 0.001 0.013 0.013 0.039 0.039 0.039	1F15 K % 0.01 0.06 0.07 0.16 0.16 0.40 0.40	1F15 W ppm 0.1 0.4 0.3 0.3 0.3 0.3 0.3	1F15 Sc ppm 0.1 4.2 4.4 6.8 6.8 6.8 2.6 2.6	1F15 Ti ppm 0.02 0.09 0.10 0.08 0.08 5.43 5.27	1F15 S % 0.02 <0.02 <0.02 0.03 0.03 0.16 0.16	1F15 Hg ppb 5 16 22 42 43 194 209	VA 1F15 Se ppm 0.1 <0.1 <0.1 <0.1 0.2 0.2 5.0 5.6	N13 1F15 Te ppm 0.02 0.02 0.02 0.02 0.05 0.08 5.30 5.25	1F15 Ga ppm 0.1 8.6 8.7 9.3 9.1 4.6 4.9	332. 1F15 Cs ppm 0.02 1.85 1.98 2.21 2.28 2.40 2.27	1F15 Ge ppm 0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	1F15 Hf ppm 0.02 0.03 <0.02 <0.02 <0.02 0.03 0.08 0.08

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A Bureau Veritas	Group Company			www.	acmela	b.com						Project:		PELLA	VE-TWN
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	Mashad												4846		
	Method	1F15	1F15	1F15	1F15 T-	1F15	1F15	1F15	1F15	1F15	1F15 B-	1F15	1F15	1F15	
	Lipit	ND	KD	50	18	2r	T DDM	Ce	10	Re	De	LI	Pa nnh	onb	
	MOL	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	ρμυ 1	0.1	0.1	10	2	
Pulp Duplicates							·								
640-M80	Soil Pulp	0.91	11.4	0.5	<0.05	0.7	6.97	16.7	0.03	<1	0.5	20.0	<10	<2	
REP 640-M80	QC	0.87	11.1	0.5	<0.05	0.7	7.26	16.8	0.03	<1	0.4	21.4	<10	<2	
649-M80	Soil Pulp	0.43	8.5	0.4	<0.05	0.5	9.16	18,7	0.04	<1	0.8	26.4	<10	<2	
	QC	0.45	8.3	0.4	<0.05	0.5	8.92	19.0	0.04	2	0.7	26.6	<10	<2	
REP 649-M80															
REP 649-M80 Reference Materials															
REP 649-M80 Reference Materials STD DS9	Standard	1.47	32.7	6.6	<0.05	1.8	5,85	23.4	2.23	59	5.1	25.9	128	354	
REP 649-M80 Reference Materials STD DS9 STD DS9	Standard Standard	1.47	32.7 31.2	6.6 5.9	<0.05 <0.05	1.8 2.0	5.85 6.13	23.4 25.0	2.23 2.03	59 60	5.1 5.9	25.9 26.5	128 122	354 350	
REP 649-M80 Reference Materials STD DS9 STD DS9 STD DS9 Expected	Standard Standard	1.47 1.71 1.33	32.7 31.2 33.8	6.6 5.9 6.4	<0.05 <0.05 0.004	1.8 2.0 2	5.85 6.13 5.97	23.4 25.0 25.4	2.23 2.03 2.2	59 60 61	5.1 5.9 5.4	25.9 26.5 25.2	128 122 120	354 350 350	
REP 649-M80 Reference Materials STD DS9 STD DS9 STD DS9 Expected BLK	Standard Standard Blank	1.47 1.71 1.33 <0.02	32.7 31.2 33.8 <0.1	6.6 5.9 6.4 <0.1	<0.05 <0.05 0.004 <0.05	1.8 2.0 2 <0.1	5.85 6.13 5.97 <0.01	23.4 25.0 25.4 <0.1	2.23 2.03 2.2 <0.02	59 60 61 <1	5.1 5.9 5.4 <0.1	25.9 26.5 25.2 <0.1	128 122 120 <10	354 350 350 <2	

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Acme Analytical Laboratories (Vancouver) Ltd.

#### PHONE (604) 253-3158

# CERTIFICATE OF ANALYSIS

#### **CLIENT JOB INFORMATION**

Project: PELLAIVE-TWIN Shipment ID: P.O. Number Number of Samples: 34

#### SAMPLE DISPOSAL

DISP-PLP Dispose of Pulp After 90 days Dispose of Reject After 90 days

Acme does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

Invoice To:

CC

Zelon Enterprises Ltd. 1502 - 1320 Chesterfield Ave. North Vancouver BC V7W 0A6 CANADA

RAYMOND CHAN CHIEF ASSAYER BILLO

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted. \*\*\* asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.

#### Client:

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

**Code Description** 

Soil Pulverize

Number of

Samples

34

34

**ADDITIONAL COMMENTS** 

Zelon Enterprises Ltd. 1502 - 1320 Chesterfield Ave. North Vancouver BC V7W 0A6 CANADA

Submitted By:John HajekReceiving Lab:Canada-VancouverReceived:January 24, 2013Report Date:February 15, 2013Page:1 of 3

1:1:1 Aqua Regia digestion Ultratrace ICP-MS analysis

# www.acmelab.com

Method

Soil Pulverize

Code

1F05

# VAN13000333.1

Test

15

Wgt (g)

Report

Status

Completed

Lab

VAN

VAN

	<b>mo</b> l ah	)C <sup>™</sup>										Clien	t:	Zelo 1502 North	on Ent - 1320 C Vancouv	t <b>erpris</b> hesterfiel ver BC V7	d Ave. 7W 0A6 C	<b>d.</b> Canada			
A Bureau Ve	ritas Group Company aboratories (Vancouve	er) Ltd.		www.	.acmela	b.com						Project Report	: Date:	PELL. Febru	AIVE-TW ary 15, 2	/IN 013					
HONE (604) 253	8-3158											Page:		2 of 3					Pa	rt: 1	of 1
CERTIFIC	CATE OF AN	JALY	SIS													VA	N13	3000	333	.1	
	Method Analyte	1F15 Mo	1F15 Cu	1F15 Pb	1F15 Zn	1F15 Ag	1F15 Ni	1F15 Co	1F15 Mn	1F15 Fe	1F15 As	1F15 U	1F15 Au	1F15 Th	1F15 Sr	1F15 Cd	1F15 Sb	1F15 Bi	1F15 V	1F15 Ca	1F1
	Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	0.00
617 M40	MDL	0.01	0.01	0.01	0.1	16	0.1	0.1	1	2.00	0.1	0.1	0.2	7.9	0.5	0.01	0.02	0.02	100	0.01	0.00
618-M40	Soil	1.42	22.21	3.75	30.1	64	7.7	6.0	177	2.00	3.0	2.0	1.8	6.5	11.6	0.05	0.15	0.07	68	0.31	0.04
619-M40	Soil	0.95	19.90	3.56	37.0	52	7.0	6.1	222	2.77	4.0	1.9	8.7	3.8	17.8	0.03	0.19	0.10	62	0.30	0.00
621-M40	Soil	1.73	22.57	1.77	27.4	34	5.3	4.8	171	1.69	3.8	1.5	1.6	2.8	32.0	0.08	0.11	0.07	46	0.56	0.03
622-M40	Soil	1.26	29.87	8.34	45.4	75	10.9	8.2	380	4.33	16.0	5.1	7.7	5.3	22.6	0.19	0.35	0.07	163	0.43	0.05
623-M40	Soil	0.97	27.93	7.42	54.7	75	11.0	8.5	425	3.18	13.6	1.7	12.1	3.6	21.2	0.25	0.32	0.05	89	0.39	0.05
624-M40	Soil	0.89	33.42	10.81	52.3	86	11.6	8.9	370	4.54	12.3	3.9	12.0	6.1	22.1	0.20	0.35	0.07	178	0.43	0.06
625-M40	Soil	0.69	25.08	7.92	43.2	63	8.2	6.7	253	2.21	5.9	1.4	15.5	3.0	18.3	0.17	0.24	0.06	56	0.32	0.03
626-M40	Soil	0.59	33.71	9.80	47.3	40	10.8	8.8	330	3.20	6.3	2.5	12.2	4.8	18.1	0.21	0.23	0.04	104	0.38	0.04
627-M40	Soil	0.88	28.03	14.99	35.5	98	9.5	8.5	218	6.69	7.1	2.7	26.5	8.2	12.9	0.13	0.29	0.07	322	0.33	0.06
628-M40	Soil	0.73	29.55	6.81	58.0	107	12.2	9.1	449	3.31	23.7	0.8	10.7	2.8	18.9	0.08	0.50	0.06	72	0.33	0.07
630-M40	Soil	1.76	30.65	6.86	63.9	70	14.2	10.3	617	3.29	21.8	1.0	28.9	2.8	23.8	0.06	0.41	0.08	65	0.42	0.06
631-M40	Soil	0.99	26.58	6.24	56.4	77	11.8	9.0	549	3.16	16.1	0.7	3.7	2.6	18.5	0.08	0.32	0.05	73	0.32	0.06
632-M40	Soil	0.68	33.58	1.63	21.9	40	6.3	5.5	174	2.00	4.0	1.2	0.9	2.4	29.8	0.02	0.13	<0.02	54	0.62	0.02
633-M40	Soil	0.51	24.10	1.40	22.0	18	5.3	4.8	158	1.77	2.4	2.6	<0.2	4.7	26.8	<0.01	0.09	<0.02	50	0.54	0.02
634-M40	Soil	0.37	30.89	1.94	20.2	5	6.1	5.9	192	4.02	2.6	0.8	<0.2	3.9	24.1	0.02	0.14	0.02	135	0.38	0.02
635-M40	Soil	1.70	35.18	12.89	104.9	60	20.4	16.6	871	4.15	61.4	0.3	1.6	1.0	53.7	0.27	0.98	0.04	/8	0.67	0.09
637 M40	501	1.04	35.73	18.83	90.1	101	13.9	71.2	375	2.34	37.4	0.6	5.9	2.4	28.2	0.40	0.74	0.05	59	0.39	0.04
638-M40	Soil	0.07	21.07	8.77	64.0	173	0./	0.0	5/3	2.42	44.3	0.4	1.0	2.3	20.7	0.25	0.35	0.03	53	0.38	0.04
639-M40	Soil	1.83	29.02	8.78	76.9	83	10.1	7.6	656	2.80	42.3	0.5	10.6	2.2	24.9	0.09	0.50	0.02	57	0.33	0.00
640-M40	Soil	2 48	16.58	5 54	52.7	69	7.8	5.9	219	2.04	20.4	0.7	1.5	2.0	18.0	0.07	0.20	0.03	52	0.26	0.02
641-M40	Soil	4 49	23.27	10.49	55.8	180	8.8	7.3	376	2.40	22.4	3.1	1.7	3.6	22.3	0,16	0.44	0.12	57	0.37	0.02
642-M40	Soil	3.98	20.30	8.16	48.9	99	9.9	7.5	285	2.74	57.8	1.5	3.5	3.4	27.7	0.05	0.34	0.04	53	0.36	0.02
643-M40	Soil	2.50	27.05	3.96	36.3	18	7.8	6.1	235	2.05	7.6	2.2	0.5	3.6	17.7	0.06	0.26	<0.02	55	0.30	0.02
644-M40	Soil	1.80	21.66	7.08	54.0	102	7.8	8.2	520	2.31	26.0	1.5	<0.2	2.4	27.6	0.23	0.41	0.03	50	0.44	0.03
645-M40	Soil	0.76	26.98	7.44	59.6	74	8.8	8.2	433	2.23	40.2	0.6	3.7	2.7	27.8	0.14	0.35	0.02	45	0.47	0.04
646-M40	Soil	2.81	37.59	16.15	79.7	161	13.5	10.9	674	3.01	53.7	0.9	5.9	2.6	29.8	0.36	0.68	0.06	55	0.50	0.04
647-M40	Soil	2.32	35.98	12.05	75.7	83	16.5	14.3	726	3.38	41.8	1.1	1.7	1.5	57.7	0.20	0.95	0.06	70	0.96	0.06
648-M40	Soil	1.96	38.61	17.78	102.2	72	26.0	17.5	778	4.18	76.9	0.6	4.8	1.1	65.6	0.41	1.47	0.07	74	0.85	0.07

Δ	<b>me</b> l ah	)۲™										Clien	t:	Zelo 1502 North	on Ent - 1320 Cl Vancouv	terpris hesterfiel ver BC V	<b>Ses Lt</b> Id Ave. 7W 0A6 (	<b>d.</b> Canada			
A Bureau Ve	ritas Group Company aboratories (Vancouve	er) Ltd.		www	.acmela	ab.com						Project Report	:: Date:	PELL Febru	AIVE-TW ary 15, 2	/IN 013					
HONE (604) 253	3-3158											Page:		2 of 3					Pa	rt: 2	of 1
CERTIFIC	CATE OF AN	JALY	SIS													VA	N13	3000	333	.1	
	Method Analyte Unit	1F15 La ppm	1F15 Cr ppm	1F15 Mg %	1F15 Ba ppm	1F15 Ti %	1F15 B ppm	1F15 Al %	1F15 Na %	1F15 K %	1F15 W ppm	1F15 Sc ppm	1F15 TI ppm	1F15 S %	1F15 Hg ppb	1F15 Se ppm	1F15 Te ppm	1F15 Ga ppm	1F15 Cs ppm	1F15 Ge ppm	1F1 H
617 M40	MDL	0.5	0.5	0.01	0.5	0.001	1	0.01	0.001	0.01	0.1	0.1	0.02	0.02	5	0.1	0.02	0.1	0.02	0.1	0.0
618-M40	Soil	19.5	13.7	0.50	54.9	0.127	3	1.36	0.049	0.24	0.9	3.5	0.15	<0.02	9	0.2	<0.02	5.2	3.09	0.1	0.1
619-M40	Soil	10.1	14.2	0.44	47.4	0.113	2	0.90	0.020	0.14	0.8	3.2	0.10	<0.02	9	0.2	<0.02	5.0	2.40	<0.1	0.0
621-M40	Soil	4.5	10.7	0.37	51.8	0.076	2	1.02	0.078	0.11	0.6	2.6	0.10	<0.02	<5	0.5	<0.02	4.0	0.90	<0.1	0.0
622-M40	Soil	20.2	37.8	0.57	59.6	0.126	4	1.09	0.076	0.20	0.2	4.5	0.13	<0.02	15	0.5	<0.02	5.9	1.87	<0.1	0.2
623-M40	Soil	11.6	21.9	0.65	63.6	0.128	3	1.13	0.047	0.20	0.2	4.6	0.12	<0.02	21	0.4	<0.02	5.8	1.96	0.1	0.0
624-M40	Soil	18.5	40.1	0.65	60.6	0.145	3	1.16	0.063	0.20	0.4	5.0	0.10	<0.02	12	0.1	<0.02	6.4	2.12	<0.1	0.0
625-M40	Soil	8.0	12.4	0.52	48.4	0.119	3	0.88	0.055	0.20	0.2	3.3	0.12	<0.02	16	0.2	<0.02	4.4	1.84	<0.1	0.0
626-M40	Soil	13.2	22.3	0.67	58.9	0.152	4	1.10	0.062	0.26	0.2	4.3	0.13	<0.02	14	<0.1	<0.02	5.6	2.17	<0.1	0.0
627-M40	Soil	24.1	71.5	0.40	34.2	0.102	3	0.76	0.040	0.13	0.6	3.5	0.09	<0.02	13	<0.1	<0.02	5.9	1.22	<0.1	0.0
628-M40	Soil	11.1	21.4	0.68	77.1	0.120	3	1.31	0.041	0.20	0.4	5.6	0.08	<0.02	10	0.5	<0.02	6.0	1.81	<0.1	0.0
630-M40	Soil	11.5	22.2	0.77	77.3	0.135	3	1.41	0.042	0.17	0.3	6.3	0.10	<0.02	<5	0.2	<0.02	6.4	1.96	0.1	0.0
632-M40	Soil	11.0	21.5	0.66	65.4	0.117	3	1.31	0.033	0.17	0.3	5.0	0.09	<0.02	21	0.2	<0.02	6.3	1.//	<0.1	<0.0
633-M40	Soil	7.8	13.0	0.33	40.7	0.079	2	0.90	0.103	0.11	0.3	2.4	0.00	<0.02	<5	0.2	<0.02	3.7	0.75	0.1	0.0
634-M40	Soil	13.4	33.5	0.26	38.0	0.099	3	0.94	0.088	0.10	0.5	2.6	0.04	<0.02	12	0.2	<0.02	4.3	0.68	0.1	0.0
635-M40	Soil	7.5	27.2	1.25	86.2	0.082	6	2.98	0.037	0.15	0.1	6.9	0.08	<0.02	35	0.3	<0.02	10.1	2.07	<0.1	<0.0
636-M40	Soil	12.0	19.7	0.74	78.1	0.088	6	2.02	0.061	0.22	0.2	6.3	0.10	<0.02	26	0.3	<0.02	7.6	2.33	<0.1	<0.0
637-M40	Soil	8.1	15.0	0.55	58.5	0.094	3	1.30	0.056	0.16	0.3	4.2	0.07	<0.02	6	0.2	0.04	5.6	1.28	<0.1	0.0
638-M40	Soil	9.2	15.8	0.61	64.8	0.086	4	1.49	0.053	0.18	0.1	4.7	0.07	<0.02	14	0.4	<0.02	6.2	1.48	<0.1	0.0
639-M40	Soil	9,3	16.3	0.55	80.3	0,080	2	1.78	0.043	0.11	0.2	4.6	0.11	<0.02	15	0.3	0.04	8.1	1.80	<0.1	0.0
640-M40	Soil	9.1	14.2	0.38	43.7	0.107	3	1.31	0.042	0.09	0.3	3.5	0.07	<0.02	<5	0.2	<0.02	6.5	1.72	<0.1	0.0
641-M40	Soil	13.1	14.4	0.49	52.2	0.112	3	1.82	0.043	0.10	0.4	4.2	0.12	<0.02	13	0.3	<0.02	7.6	2.34	<0.1	0.0
642-W40	Soil	10.9	15.8	0.59	67.4	0.132	3	1.84	0.084	0.14	0.2	5.4	0.15	<0.02	<5	0.6	<0.02	7.8	1.82	<0.1	0.0
644-M40	Soil	8.4	14.6	0.43	41.3 51.0	0.104	3	1.16	0.041	0.08	0.3	3.3	0.09	<0.02	15	0.2	<0.02	5.0	1.32	<0.1	0.0
645-M40	Soil	9.7	14.0	0.55	59.5	0.109	4	1.39	0.051	0.11	0.2	4.2	0.10	<0.02	13	0.2	0.02	6.2	1 39	0.1	0.0
646-M40	Soil	11.5	18.2	0,76	72.9	0.095	4	1,92	0.046	0,17	0.2	6.1	0.09	<0.02	17	<0.1	0.02	7.4	2.07	<0.1	0.0
647-M40	Soil	7.6	24.5	1.09	80.4	0.103	4	2.44	0.055	0.15	0.4	6.0	0.10	0.02	38	0.2	0.02	9.0	1.82	<0.1	<0.0
648-M40	Soil	72	33.8	1.49	112.6	0.092	4	2.88	0.043	0.15	0.1	6.3	0.04	0.03	44	<0.1	0.02	9.2	1.61	<0.1	<0.0



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A Bureau Veri cme Analytical La	tas Group Company	er) Ltd.		www.	acmela	b.com						Projec Repor	t: t Date:	PELL Febru	AIVE-TW lary 15, 2	/IN 013					
HONE (604) 253-3	3158											Page:		3 of 3					Pa	rt: 1	of 1
CERTIFIC		JALY	้ราร													VA	N13	3000	333	.1	
	Method	1F15 Mo	1 <b>F15</b> Cu	1F15 Ph	1F15 7n	1F15	1F15 Ni	1F15 Co	1F15 Ma	1F15 Fe	1F15 As	1F15 U	1F15 Au	1F15 Th	1F15 Sr	1F15 Cd	1F15 Sb	1F15 Bi	1F15 V	1F15 Ca	1F15 P
	Unit MDL	ppm 0.01	ppm 0.01	ppm 0.01	ppm 0.1	ppb 2	ppm 0.1	ppm 0.1	ppm 1	% 0.01	ppm 0.1	ppm 0.1	ppb 0.2	ppm 0.1	ppm 0.5	ppm 0.01	ppm 0.02	ppm 0.02	ppm 2	% 0.01	% 0.001
649-M40	Soil	1.64	49.00	19.41	97.9	237	33.2	19.3	765	4.35	87.8	0.7	448.1	1.5	64.8	0.42	1.82	0.08	76	0.86	0.073
650-L20	Soil	2.49	64.75	356.5	149.9	812	71.1	58.8	665	11.12	53.7	1.7	232.0	5.1	13,5	0,67	2.12	0.83	11	0.35	0.082
650-L40	Soil	2.38	44.19	58.55	157.6	569	48.2	22.7	558	6.95	23.6	2.2	377.8	10.7	13.4	0.66	2.11	0.45	13	0.17	0.100
652-ROL-20	Soil	1.40	35,17	14.20	80.9	136	38.9	12.5	406	3.69	9.1	1.4	685.9	5.9	13.4	0.25	0.47	0.48	36	0.32	0.085

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A Bureau Ver Acme Analytical La	itas Group Company aboratories (Vancouver	r) Ltd.		<b>www.</b> :	acmela	ıb.com						Project Report	: Date:	PELL. Febru	AIVE-TW ary 15, 2	/IN 013					
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	-3158				,							Page:		3 of 3				000	Pa	rt: 2	of 1
CERTIFIC	CATE OF AN	ALY	ราร	r =	,							Page:		3 of 3		VA	N13	000	₽ª 333	rt: 2 .1	of 1
CERTIFIC	ATE OF AN Method Analyte	ALY 1F15 La	5 15 1F15 Cr	1F15 Mg	1F15 Ba	1F15 Ti	1F15 B	1F15 Al	1F15 Na	1F15 K	1F15 W	Page: 1F15 Sc	1F15 TI	3 of 3 1F15 S	1F15 Hg	VA 1F15 Se	N13 1F15 Te	1F15 Ga	Pa 333 1F15 Cs	rt: 2 . 1 1F15 Ge	of 1 1F1
CERTIFIC	-3158 CATE OF AN Method Analyte Unit	ALY 1F15 La ppm	STS 1F15 Cr ppm 0.5	1F15 Mg %	1F15 Ba ppm	1F15 Ti %	1F15 B ppm 1	1F15 Al %	1F15 Na %	1F15 K %	1F15 W ppm	Page: 1F15 Sc ppm 0.1	1F15 TI ppm 0.02	3 of 3 1F15 S % 0.02	1F15 Hg ppb 5	1F15 Se ppm 0.1	1F15 Te ppm 0.02	1F15 Ga ppm 0.1	Pa 333 1F15 Cs ppm 0.02	rt: 2 .1 1F15 Ge ppm 0.1	of 1 1F1 I pp 0.0
	-3158 CATE OF AN Method Analyte Unit MDL Soil	ALY 1F15 La ppm 0.5 7.8	1F15 Cr ppm 0.5 36.7	1F15 Mg % 0.01	1F15 Ba ppm 0.5 113.2	1F15 Ti % 0.001 0.104	<b>1F15</b> B ppm <u>1</u> 5	1F15 Al % 0.01 3.08	1F15 Na % 0.001 0.040	1F15 K % 0.01	1F15 W ppm 0.1 <0.1	Page: 1F15 Sc ppm 0.1 6.7	1F15 TI ppm 0.02 0.07	3 of 3 1F15 5 % 0.02 <0.02	1F15 Hg ppb 5 92	1F15 Se ppm 0.1 <0.1	N13 1F15 Te ppm 0.02 <0.02	1F15 Ga ppm 0.1 9.9	Pa 333 1F15 Cs ppm 0.02 1.78	rt: 2 . 1 1F15 Ge ppm 0.1 <0.1	of 1 1F1 1 <b>PP</b> 0.0
649-M40 650-L20	-3158 CATE OF AN Method Analyte Unit MDL Soil	ALY 1F15 La ppm 0.5 7.8 8.2	<b>515</b> <b>1F15</b> <b>Cr</b> <b>ppm</b> <b>0.5</b> <b>36.7</b> <b>15.5</b>	1F15 Mg % 0.01 1.59 0.77	<b>1F15</b> Ba ppm 0.5 113.2 54.3	1F15 Ti % 0.001 0.104 0.004	<b>1F15</b> B ppm 1 5	1F15 Al % 0.01 3.08 0.73	1F15 Na % 0.001 0.040 0.010	1F15 K % 0.01 0.14 0.11	1F15 W ppm 0.1 <0.1 92.7	Page: 1F15 Sc ppm 0.1 6.7 2.8	1F15 TI ppm 0.02 0.07 0.03	3 of 3 1F15 \$ % 0.02 <0.02 4.89	1F15 Hg ppb 5 92 19	1F15 Se ppm 0.1 <0.1 5.7	N13 1F15 Te ppm 0.02 <0.02 0.16	1F15 Ga ppm 0.1 9.9 2.2	Pa 333 1F15 Cs ppm 0.02 1.78 0.27	rt: 2 .1 1F15 Ge ppm 0.1 <0.1 <0.1	of 1 1F' 0.0 0.2
649-M40 650-L20 650-L40	-3158 CATE OF AN Method Analyte Unit MDL Soil Soil	ALY 1F15 La ppm 0.5 7.8 8.2 27.1	<b>1F15</b> Cr ppm 0.5 36.7 15.5 15.4	1F15 Mg % 0.01 1.59 0.77 0.45	1F15 Ba ppm 0.5 113.2 54.3 101.4	1F15 Ti % 0.001 0.104 0.004 0.003	<b>1F15</b> <b>B</b> <b>ppm</b> <b>1</b> 5 1 1	1F15 Al % 0.01 3.08 0.73 0.76	1F15 Na % 0.001 0.040 0.010 0.011	1F15 K % 0.01 0.14 0.11 0.13	1F15 W ppm 0.1 <0.1 92.7 >100	Page: 1F15 Sc ppm 0.1 6.7 2.8 2.0	1F15 TI ppm 0.02 0.07 0.03 0.03	3 of 3 1F15 S % 0.02 4.89 0.73	1F15 Hg ppb 5 92 19 37	VA 1F15 Se ppm 0.1 <0.1 5.7 1.1	N13 1F15 Te ppm 0.02 <0.02 0.16 0.05	1F15 Ga ppm 0.1 9.9 2.2 2.1	Pa 333 1F15 Cs ppm 0.02 1.78 0.27 0.29	rt: 2 . 1 1F15 Ge ppm 0.1 <0.1 <0.1 <0.1	of 1 1F1 1 0.0 0.2 0.1

<b>Acme</b> Labs <sup>™</sup>					Client:	<b>Zelon Enterprises Ltd.</b> 1502 - 1320 Chesterfield Ave. North Vancouver BC V7W 0A6 CANADA		
A Bureau Veritas Group Company	www.acmelab.com				Project:	PELLAIVE-TWN		
Acme Analytical Laboratories (Vancouver) Ltd.					Report Date:	February 15, 2013		
PHONE (604) 253-3158					Page:	3 of 3	Part:	3 of 1
CERTIFICATE OF ANALYSIS						VAN13000	333.1	
Method 1F15 1F15	1F15 1F15 1F15	1F15 1F15	1F15 1	F15 1F15	1F15 1F15	1F15		

Zr

ppm

0.1

0.8

13.<del>9</del>

12.2

5.1

Υ

ppm

0.01

9.99

4.65

5.79

7.61

Ce

0.1

20.3

16.9

56.8

39.2

ppm

Re

ppb

1

<1

2

<1

<1

In

ppm

0.02

0.02

0.06

<0.02

<0.02

Be

ppm

0.1

0.6

0.3

0.2

0.2

Li

ppm

0.1

25.3

10.3

9.5

14.8

Pd

ppb

10

<10

<10

12

<10

Pt

**ppb** 2 <2 10 <2 <2  $(\mathbf{i} \cdot \mathbf{i} \cdot \mathbf{i})$ 

Analyte

Soil

Soil

Soil

Soil

649-M40

650-L20

650-L40

652-ROL-20

Unit

MDL

Nb

ppm

0.02

0.46

0.12

0.05

0.44

Rb

ppm

0.1

6.8

5.1

5.9

10.6

Şn

ppm

0.1

0.3

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0.2

0.5

Та

ppm

0.05

<0.05

<0.05

<0.05

<0.05

<b>N</b> Acm	eLab	S™										Client		<b>Zelo</b> 1502 - North V	n Ente 1320 Chi /ancouve	erprise esterfield er BC V7\	<b>es Ltd</b> Ave. W 0A6 CA				
A Bureau Veritas	Group Company	-		ww.	acmela	b.com						Project	:	PELLA	IVE-TM	N					
												Report	Date:	Februa	ry 15, 20	13					
Acme Analytical Labora	atories (vancouve	#r) Lta.																			
PHONE (604) 253-315	8											Dage		1 of 1					Part	1.0	F 1
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QUALITY C	ONTROL	REP	OR													VA	N13	0003	333.	1	
<u>-</u>	Method	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1
	Analyte	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	v	Ca	
	Unit	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	
	MDL	0.01	0.01	0.01	0.1	2	0.1	0.1	1	0.01	0.1	0.1	0.2	0.1	0.5	0.01	0.02	0.02	2	0.01	0.
Pulp Duplicates									_						-						
622-M40	Soil	1.26	29.87	8.34	45.4	75	10.9	8.2	380	4.33	16.0	5.1	7.7	5.3	22.6	0.19	0.35	0.07	163	0.43	0.
REP 622-M40	QC	1.36	28.58	8.32	43.8	99	10.6	7.9	369	4.22	15.8	5.1	9.0	5.2	22.9	0.14	0.34	0.08	159	0.42	0.
650-L40	Soil	2.38	44.19	58.55	157.6	569	48.2	22.7	558	6.95	23.6	2.2	377.8	10.7	13.4	0.66	2.11	0.45	13	0.17	0.
REP 650-L40	QC	2.38	45.52	61.69	159.5	740	49.4	23.8	531	7.04	23.9	2.2	1845	11.0	13.8	0.67	2.00	0.46	13	0.17	0.
Reference Materials				400.0	220 E	1864	38.9	7,4	636	2.36	27.2	2.7	128.8	6.6	67.9	2.45	5.50	5.60	40	0.74	0.
Reference Materials STD DS9	Standard	12.93	104,0	128.9	320.0	1004	****														
Reference Materials STD DS9 STD DS9 Expected	Standard	12.93 12.84	104.0 108	128.9	320.5	1830	40.3	7.6	575	2.33	25.5	2.69	118	6.38	69.6	2.4	4.94	6.32	40	0.7201	0.0

Acm	el ab	) <b>S</b> ™										Client	:	<b>Zelo</b> 1502 - North \	n Ente 1320 Che /ancouve	e <b>rprise</b> esterfield r BC V7V	<b>es Ltd.</b> Ave. V 0A6 CA	NADA			
A Bureau Veritas G	iroup Company			www.	acmela	b.com						Project:		PELLA	IVE-TWI	4					
												Report	Date:	Februa	ry 15, 20	13					
cme Analytical Labora	tories (Vancouve	er) Ltd.													-						
PHONE (604) 253-3158	3											Page:		1 of 1					Part:	2 of	1
	JNTROL			1												VA	N 130		<u> </u>		-
	Method	1F15	1F15	1F15	1 <b>F15</b>	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F
	Analyte	La	Cr	Mg	Ba	τι	В	A	Na	ĸ	W	Sc	Π	S	Hg	Se	Te	Ga	Cs	Ge	
	Unit MDI	ppm 0.5	ppm 0.5	% 0.01	ppm 0.5	% 0.001	ppm 1	% 0.01	% 0.001	% 0.01	ppm 0.1	ppm 0.1	ppm 0.02	% 0.02	ррв 5	ppm 0.1	ppm 0.02	ppm 0.1	ррт 0.02	ррт 0.1	99 0.0
Pulp Duplicates								••••			•	•									
	Soil	20.2	37.8	0.57	59.6	0.126	4	1.09	0.076	0.20	0.2	4.5	0.13	<0.02	15	0.5	<0.02	5.9	1.87	<0.1	0.2
622-M40			37.1	0.56	57.3	0.124	4	1.08	0.075	0.20	0.3	4.5	0.14	<0.02	8	0.3	<0.02	5.7	1.74	0.1	0.0
622-M40 REP 622-M40	QC	19.4	<b>U</b> 1.1							0.42	>100	2.0	0.03	0.73	37	1.1	0.05	<b>2</b> .1	0.29	<0.1	0,1
622-M40 REP 622-M40 650-L40	QC Soil	19.4 27.1	15.4	0.45	101.4	0.003	1	0.76	0.011	0,13	- 100										
622-M40 REP 622-M40 650-L40 REP 650-L40	QC Soil QC	19.4 27.1 27.6	15.4 15.1	0.45 0.43	101.4 101.0	0.003	<u>1</u> 1	0.76 0.76	0.011	0.13	>100	2.1	0.03	0.75	47	1.4	.0.08	2.1	0.33	<0.1	0.1
622-M40 REP 622-M40 650-L40 REP 650-L40 Reference Materials	QC Soil QC	19.4 27.1 27.6	15.4 15.1	0.45 0.43	101.4 101.0	0.003 0.003.	1	0.76 0.76	0.011 0.011	0.13	>100	2.1	0.03	0.75	47	1.4	,0.08	2.1	0.33	<0.1	0.1
622-M40 REP 622-M40 650-L40 REP 650-L40 Reference Materials STD DS9	QC Soil QC Standard	19.4 27.1 27.6 14.4	15.4 15.1 116.2	0.45 0.43 0.62	101.4 101.0 330.5	0.003 0.003. 0.100	1	0.76	0.011 0.011 0.088	0.13	>100	2.1	0.03 5.92	0.75	47	1.4 5.8	.0.08 5.83	2.1 5.2	0.33	<0.1 0.2	0.1
622-M40 REP 622-M40 650-L40 REP 650-L40 Reference Materials STD DS9 STD DS9 Expected	QC Soil QC Standard	19.4 27.1 27.6 14.4 13.3	15.4 15.1 116.2 121	0.45 0.43 0.62 0.6165	101.4 101.0 330.5 295	0.003 0.003. 0.100 0.1108	1	0.76 0.76 0.96 0.9577	0.011 0.011 0.088 0.0853	0.13 0.15 0.41 0.395	>100 >100 3.1 2.89	2.1 2.7 2.5	0.03 5.92 5.3	0.75 0.16 0.1615	47 198 200	1.4 5.8 5.2	.0.08 5.83 5.02	2.1 5.2 4.59	0.33 2.75 2.37	<0.1 0.2 0.1	0. <sup>4</sup> 0.0
622-M40 REP 622-M40 650-L40 REP 650-L40 Reference Materials STD DS9 STD DS9 Expected BLK	QC Soil QC Standard Blank	19.4 27.1 27.6 14.4 13.3 <0.5	15.4 15.1 116.2 121 <0.5	0.45 0.43 0.62 0.6165 <0.01	101.4 101.0 330.5 295 <0.5	0.003 0.003. 0.100 0.1108 <0.001	1 1 3 <1	0.76 0.76 0.96 0.9577 <0.01	0.011 0.011 0.088 0.0853 <0.001	0.13 0.15 0.41 0.395 <0.01	>100 >100 3.1 2.89 <0.1	2.1 2.7 2.5 <0.1	0.03 5.92 5.3 <0.02	0.75 0.16 0.1615 <0.02	47 198 200 <5	1.4 5.8 5.2 <0.1	.0.08 5.83 5.02 <0.02	2.1 5.2 4.59 <0.1	0.33 2.75 2.37 <0.02	<0.1 0.2 0.1 <0.1	
622-M40 REP 622-M40 650-L40 REP 650-L40 Reference Materials STD DS9 STD DS9 STD DS9 Expected BLK Prep Wash	QC Soil QC Standard Blank	19.4 27.1 27.6 14.4 13.3 <0.5	15.4 15.1 116.2 121 <0.5	0.45 0.43 0.62 0.6165 <0.01	101.4 101.0 330.5 295 <0.5	0.003 0.003. 0.100 0.1108 <0.001	1 1 3 <1	0.76 0.76 0.96 0.9577 <0.01	0.011 0.011 0.088 0.0853 <0.001	0.13 0.15 0.41 0.395 <0.01	>100 3.1 2.89 <0.1	2.1 2.7 2.5 <0.1	0.03 5.92 5.3 <0.02	0.75 0.16 0.1615 <0.02	47 198 200 <5	1.4 5.8 5.2 <0.1	.0.08 5.83 5.02 <0.02	2.1 5.2 4.59 <0.1	0.33 2.75 2.37 <0.02	<0.1 0.2 0.1 <0.1	0. 0. 0. <0.

<b>Acme</b> Labs <sup>™</sup>		Client:	Zelon Enterprises Ltd. 1502 - 1320 Chesterfield Ave. North Vancouver BC V7W 0A6 CANADA
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Acme Analytical Laboratories (Vancouver) Ltd.		Report Date:	February 15, 2013

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Page:

Part: 3 of 1

VAN13000333.1

#### PHONE (604) 253-3158

# QUALITY CONTROL REPORT

	Method	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15	1F15
	Analyte	Nb	Rb	Sn	Та	Zr	Y	Ce	In	Re	Be	Li	Pd	Pt
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppb	ppb
	MDL	0.02	0.1	0.1	0.05	0.1	0.01	0.1	0.02	1	0.1	0.1	10	2
Pulp Duplicates														
622-M40	Soil	0.60	13.8	0.7	<0.05	1.2	9.99	41.0	<0.02	<1	0.3	13.9	<10	8
REP 622-M40	QC	0.56	13.7	0.6	<0.05	2.0	9.98	40.3	0.04	<1	0.3	13.5	<10	<2
650-L40	Soil	0.05	5.9	0.2	<0.05	12.2	5.79	56.8	<0.02	<1	0,2	9.5	12	<2
REP 650-L40	QC	0.07	6.0	<0.1	<0.05	13.3	5.83	58.0	0.08	.3	0.3	9.2	<10	<2
Reference Materials														
STD DS9	Standard	1.76	37.8	7.1	<0.05	2.1	6.44	28.4	2.36	65	5.8	28.3	162	337
STD DS9 Expected		1.33	33.8	6.4	0.004	2	5.97	25.4	2.2	61	5.4	25.2	120	350
BLK	Blank	<0.02	<0.1	<0.1	<0.05	<0.1	<0.01	<0.1	<0.02	<1	<0.1	<0.1	<10	<2
Prep Wash														
G1	Prep Blank	0.51	42.2	0.4	<0.05	1.3	4.58	18.7	0.04	<1	0.2	31.8	<10	<2
G1	Prep Blank	0.54	47.5	0.4	<0.05	1.5	5.16	20.2	0.03	<1	0.2	34.1	10	<2

# IX PHYSICAL REPORT OF WORK

1.	Physical road work	73
2.	Road Maintenance	74
3.	Event 5423524, December 27, 2012	75-76
4.	Documentation	77

# IX PHYSICAL REPORT OF WORK

# 1. Physical road work:

Road maintenance was done on 4,500 meters of roads, by a two men crew using a John Deer backhoe, chain saws, a one ton truck and two four wheelers;

- 3,000 meters of access road were cleared in talus slide to have access to the Falls River camp, also known as Pellaire camp.
- 1,500 meters of access trails were cleared for geological and sampling purposes.

(A backhoe was used for four days, for a total of 30 hours, see details on page 40)

• Environmental clean up Two men for three days to pick up trash and other items left on roads, camp sites and ditches.

# 2. Physical work as rock sampling, appendix #3:

• Samples of auger stream/soil & witness float rock were taken as follow up to the anomalous results.





Cancel

# Mineral Titles Online

Mineral Cl Change	aim Exploration and Develo	pment Work	/Expiry Date	Confirmation
<b>Recorder:</b>	HAJEK, JOHN HENRY (110734)	Submitter:	HAJEK, JOHN HENRY (1	10734)
<b>Recorded:</b>	2012/DEC/27	Effective:	2012/DEC/27	
D/E Date:	2012/DEC/27			

#### Confirmation

If you have not yet submitted your report for this work program, your technical work report is due in 90 days. The Exploration and Development Work/Expiry Date Change event number is required with your report submission. **Please attach a copy of this confirmation page to your report.** Contact Mineral Titles Branch for more information.

Event Number: 5423524

Work Type:Technical WorkTechnical Items:Technical, Geological, Geophysical, PAC Withdrawal (up to 30% of technical work<br/>performed), Preparatory Surveys, Prospecting

Work Start Date:	2012/SEP/10
Work Stop Date:	2012/OCT/30
Total Value of Work:	\$ 39800.00
Mine Permit No:	

Summary of the work value:

Tenure Number	Claim Name/Property	Issue Date	Good To Date	New Good To Date	# of Days For- ward	Area in Ha	Applied Work Value	Sub- mission Fee
209472	HI #3	1965/may/03	2014/may/03	2015/may/03	365	25.00	\$ 125.00	\$ 0.00
354065	HAMILTON	1997/mar/02	2016/mar/01	2017/mar/01	365	500.00	\$ 5000.00	\$ 0.00
209471	HI #2	1965/may/03	2014/may/03	2015/may/03	365	25.00	\$ 125.00	\$ 0.00
207934	LORD #2	1979/jul/19	2015/jul/19	2016/jul/19	366	500.00	\$ 2500.00	\$ 0.00
207933	LORD #1	1979/jul/19	2016/jul/19	2017/jul/19	365	500.00	\$ 2500.00	\$ 0.00
358595	MICHELE	1997/aug/15	2014/dec/29	2015/dec/29	365	500.00	\$ 5000.00	\$ 0.00
208501	LORD #5	1988/sep/02	2016/sep/02	2017/sep/02	365	100.00	\$ 1000.00	\$ 0.00
209473	HI #4	1965/may/03	2014/may/03	2015/may/03	365	25.00	\$ 125.00	\$ 0.00
209470	HI #1	1965/may/03	2014/may/03	2015/may/03	365	25.00	\$ 125.00	\$ 0.00
510770		2005/apr/14	2014/dec/29	2015/dec/29	365	405.90	\$ 4059.04	\$ 0.00
510824		2005/apr/15	2015/aug/15	2016/aug/15	366	81.22	\$ 812.18	\$ 0.00
514566		2005/jun/15	2014/dec/29	2015/dec/29	365	426.34	\$ 4263.43	\$ 0.00
514569		2005/jun/15	2014/dec/29	2015/dec/29	365	405.84	\$ 4058.44	\$ 0.00
514689		2005/jun/17	2014/dec/29	2015/dec/29	365	385.62	\$ 3856.17	\$ 0.00
514694		2005/jun/17	2015/aug/24	2016/aug/24	366	101.51	\$ 1015.09	\$ 0.00
569613	2 FRACTIONS	2007/nov/07	2013/nov/07	2015/nov/07	'730	40.60	\$ 406.05	\$ 0.00
569614	SUMMITFR.	2007/nov/07	2014/nov/07	2015/nov/07	365	20.30	\$ 101.51	\$ 0.00
588742	HAMILTON #2	2008/jul/22	2015/mar/08	2016/mar/08	366	405.80	\$ 2029.01	\$ 0.00
605792	RIDGEFR	2009/jun/10	2014/jun/10	2015/jun/10	365	60.91	\$ 304.54	\$ 0.00
922489	ESLOPE	2011/oct/24	2013/oct/24	2015/oct/24	730	20.30	\$ 304.52	\$ 0.00
947609	ADJACENT	2012/feb/09	2014/feb/09	2015/feb/09	365	507.94	\$ 2539.69	\$ 0.00

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514699		2005/jun/17	2014/dec/29	2015/dec/29	365	81.21	\$ 812.13	\$ 0.00
553960	TILL	2007/mar/09	2016/mar/09	2017/mar/09	365	467.03	\$ 2335.15	\$ 0.00
514556		2005/jun/15	2013/dec/29	2014/dec/29	365	365.58	\$ 1827.89	\$ 0.00
510763		2005/apr/14	2014/dec/29	2015/dec/29	365	689.52	\$ 6895.17	\$ 0.00

#### Financial Summary:

Total applied work value:\$ 52120.01

PAC name:	ZELON CHEMICALS
Debited PAC amount:	\$ 12320.01
Credited PAC amount:	\$ 0.0

#### Total Submission Fees: \$ 0.0

Total Paid: \$ 0.0

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The event was successfully saved.

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PROJECT : NTS :		ALLS 1 520	<u>liwn</u>			ZEL	ON			SAM	PLER: D.H.
SAMPLE	NO.	TYPE	рH	T°C	DEPTH	ORIG.	COLOR	TEXT	HOR.		NOTES
617-M	80		Boll	er	150	3-6	3-1	2-A	13-B2	911	m Sw of w PGod
617-M	40	R	fiel	٩	150	3-6	3-1	3-6	4000	n N	vg FALLS Ring
618-4	180	١	Enc	P 1	150	3-6	5-1	2-a	BZ	2	m swywPC17
618-1	140	R	Sh.	+c	150	3-6	3-1	3-6			Sox Norms. g.D.
613-1	480	1			150	3-6	3-1	2-a	BZ	110 1	n SWJ WP CIE
619-1	M40	R			150	3-6	3-2	3-5			Aux Ruch Marand S
620		R.	Fho	ers.	N. S.	i hs -	s hi .	Le.			
621 M	80	1	San	ely	150	3-6	3-2	3-a	Bz	5 1	NJ WP608
621 M	40	R			150	3-6	3-1	3-5			<b>`</b>
622 M	80	1	Drai	Nage	150	1-6	3-2	2-5	BZ	15	m wy wP621
622 M	40	R		•	150	1-6	3-2	3-5			_

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GEOCHEMICAL DATA SHEET

PROJECT: F.	1115 A 520	<u>i Ver</u>	ZELON							DATE: GN25, 2012 SAMPLER: G. Prumor		
SAMPLE NO.	TYPE	рН	тос	DEPTH	ORIG.	COLOR	TEXT	HOR.		NOTES		
623 180	1	Pear		20	1-6	3-2	2-5	13-3	150	no SE to Falls River		
623 M40	R	Bylow	L.	20	1-6	3-2	2-C	13-3	2 2001	flow Ditch. O.Tm de		
624 M 80	1	Belun	. Pert	50	3-6	3-2	1-a	B2	300	above WP623		
624 1140	R			50	3-6	3-2	3-a					
625 480	(	UPSt	rean.	50	3-6	3-1	3-a	B2	50	mabove wp 624		
625 MA0	R	upstr	(an	50	3-6	3-2	3-6.		133	m for Falls River		
626 180	1	Drai	wer	50	3-6	3-1	2-5	B2	2	mfm FALLS River		
626 M40	R	Dr	y	50	3-5	3-2	3-5					
6271180	l		[ 	30	3-6	3-2	2-5	B2	lun	N		
627140	R	Prat	•	50	3-6	3-2	3-5					
							<u> </u>					

PROJECT: F	ALLS S2.12	<u><u>R</u>.</u>			ZEL	NC			DATE: 0125,2012 SAMPLER:		
SAMPLE NO.	TYPE	рН	тос	DEPTH	ORIG.	COLOR	TEXT	HOR.		NOTES	
628180	1	UNVE	Pert	50	3-6	3-2	A-a.	ک	80m	GEYWP627	
628 M 40	R	R-N-C	irevily	50	3-6	3-3	A-5		North	10 WP625	
630 M80	۱	River	Frenk.	50	A	3-1	4-a	3	1100	pm up 623	
630 M 40	R	GRA	ee b	50	4	3-2	4-5	3			
631 11 80	1	River	Bark	30	4	3-2	2-a	3	80 n	n Pown stfm wp 6	
631 M 40	R	Sr-1	reb	50	4	3-2	2-6	2			
632 M 80	1	River	bank	60	4	3-2	2-a	3	200	m Down Stram for	
632 MQ0	R	Sur	nb	60	4	8-2	2-6	3		wP631	
633.M80	1	River	Bunk	So	4	5-3	3-4	C	1500	- Poww st wpl	
633 M 40	R			50	4	5-1	3-6	$\left  \right $	1		

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#### GEOCHEMICAL DATA SHEET

PROJECT: FA	14 12	<u>د</u>			ZELO	Л			E Samf	DATE: <u>Gol, ber 26, 2011</u> PLER: <u>D. H</u>
SAMPLE NO.	TYPE	рН	тос	DEPTH	ORIG.	COLOR	TEXT	HOR.		NOTES
634 1180	\ \	Barr		60	6	2-2	3-a	lon	wast	of FALLS RIVER Bonk
634 MA0	R	grave	65	60	6	2-1	3-6	Ken	y su	etc.
635M80	1	Drain	vage	40	1	5-2	2-4	c	10m	Jur613
635 M 40	R	Roit	c.,	40		5-1	3-6	C		·
636480	1	Bar	ś	50	2	3-1	3-a	Iom	abor	13Tupstope
636 M 40	R	R.M	×	50	2	3-2	3-6	L		
637 M 80	1			50	1	3-2	3- 4	20m	fm	UP 636 ingully
637M40	R	Ruch	7	50	1	3-2	3-6	С		· · · · · · · · · · · · · · · · · · ·
638 M 80	1			50	1	3-2	3-a	10-	fun	PG37 in Jullar
638 M 40	R	RM	7	50	1	3-2	3-6	C		64

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PROJECT: FAI	15 B	<u>asin</u>		ZELON					e Same	DATE: October 26,2012 DLER: D.H.
SAMPLE NO.	TYPE	рH	тос	DEPTH	ORIG.	COLOR	TEXT	HOR.		NOTES
639 H80	1			cm. 50	3	3-ь	2-a	10 m	fin	wp638
639 MAO	R	Rock	·	50	3	3-a	3-6	B-C	·····	
640 M80	1			50	3	5-a	3-a	lom	ins	fm w P639
640 MHO	R	nuch	~ <u>~</u>	50	3	3-6	3-5	B-C		
641 1180	1			60	4	4-2	3-a	20	en 1	h n P640
641 M 40	R	Ruci	ky_	60	4	4-2	3-6	BC		
6412 M80	1	Flat 1	Sach	60	4	3-6	2-6	10 4	$\overline{D}$	own for w P641
642 1140	R	Red	r.y	60	4	3-a	3-5	B-C		•
6431180	1			80	3	5-6	2-a	30	mer	n E an Banch.
643 H 40	R	Row	hy	80	3	5-b	3-6	B-C		
64141 1180	1	Flat.	hand	60	4	3-5	2-a	10 4	<u>nt</u>	SJ W P612

### GEOCHEMICAL DATA SHEET

PROJECT: FA	ILS B.	-sin			ZEL	ЛС		DATE: 0 Moher 27, 201 SAMPLER: C. P.		
SAMPLE NO.	TYPE	рH	тос	DEPTH	ORIG.	COLOR	TEXT	HOR.		NOTES
64 HMHO	R	Ruzia	·	66	4	3-a	3-6	B-6		
645 M 80	,	T-La	<b></b>	60	4	36	2.a	10 11	retu	5 fm w P 644
645 M 40	R	bene	L	60	4	3-a	3-6	Be		
646 11 80	1			60	3	3-a	2-9	10 m	den f	wp613
646 110	R	Rom	¥	60	3	3-6	3-b	B-C		
647 H 80	1	Par 1	1055	60	3	3.a	2 à	15	mg	h wpois
647 M 40	R	p.M.	y	60	3	3-5	3-6	Be		
648 11 80	1	Ban	h	5.	3	2-2	2-a	7-	etus	EdwPL13.
648 M 40	R	Red	y	56	3	3-6	3-5	BC		
649 n 80	1	Ben	4	50	6	3-6	2-4			•
649 M 40	R	Roy	ky	50	6	3-6	3-6	BL.		F

# ZELON GEOCHEMICAL DATA CODE

<ul> <li>TYPE of semple:</li> <li>St - Silt</li> <li>St - Silt</li> <li>Ba - Bank</li> <li>Depth in meters or feet.</li> <li>Gr - Ground rock</li> <li>St - Stream sediment</li> <li>St -</li></ul>	1.	Sample	e No PV.JH 321:	Sample location	on is	repre	esented by digits 321.
1.St = Salt4.Temperature recorded after 60s.2.So = Soil5.Depth in meters or feet.3.Ba = Bank5.Depth in meters or feet.4.Paleosoil6.ORIGIN:5.Gr = Ground rock1.St = Stream sediment7.V = Vegetation3.T = Talus8.Rt = Boots3.T = Talus9.Le = Laeves3.T = Talus10.Sg = Spring mud5.Rt = Ridge11.Se = Seepage mud7.Sg = Spring12.Lc = Lake sediment8.Se = Seepage13.Fd = Pond8.Se = Seepage14.Wi = Water-ice10.Sw = Swamp15.Fl = Plankton11.Wa = Mash, pediment1.Colour:11.Wa = Mash, pediment1.Colour:11.Wa = Mash, pediment2.Grey7.Green3.Brown8.Yellow3.Brown8.Yellow3.Brown8.Yellow3.Sand(1/16-2mm)C. Oarse3.All/16-2mm)C. Suspension5.Loame.Precipitate6.Oose onlyf. Cel7.Oose 6 inorgg. Pigment7.SolonetzicS.7.Oose 6 inorgg. Pigment9.Wood, Fiber i i. Koot orgS.9.Wood, Piber i i. Koot orgS.9.Wood, Piber i i.	2.	TYPE	of sample:		3.	Ph re	ead to 1/10 of one unit.
2.So = Soll3.Ba - Bank5.Depth in meters or feet.4.Pa - Paleosoil6.5.Gr - Ground rock1.6.R - Rock2.7.V vegetation3.8.Rt - Boots3.9.Le - Leaves4.10.Sg - Spring mud6.11.Se - Seepage mud7.12.Le - Lake sediment8.13.Pd - Pond9.14.Wi - Water-ice10.15.Pl - Plankton11.1.Black6.2.Grey7.3.Brown8.4.Ochre9.5.Red10.1.Light2.Grey7.3.Bark5.Red10.4.Ochre9.5.Red10.1.Light2.Silt3.Dark8.TEXTURE:1.Light2.Silt3.Bark8.Texting great7.Ooze 6 inorg g. Pignent7.Silt b.9.HORIZON:1.Clays a.1.Light2.Scond layer top3.Sadd(1/6-2mm) c.3.Sadd(1/6-2mm) c.3.Sadd(1/6-2mm) c.3.Sadd(1/6-2mm) c.4.Reble(2-64mm) d.5.Loam6.Orze solng		1.	St - Silt		4.	Tempe	erature recorded after 60s.
4.Pa = Paleosoil6.ORIGN:5.Gr - Ground rock6.St - Stream sediment6.R - Rock1.St - Stream sediment7.V - Vegetation3.T - Talus8.Rt - Roots4.Bk - Bank9.Le - Leaves5.Rf - Alluvial fan11.Sg - Spring mud6.Af - Alluvial fan12.Le - Lake sediment7.Sg - Spring13.Pd - Pond8.Se - Seepage14.Wf - Water-ice9.La - Lake, cirque15.Pf - Plankton11.Wa - Wash, pediment17.Colour:10.Sw - Swamp18.Se - Seepage10.Sw - Swamp19.Sa - Mater-ice10.Sw - Swamp10.Sa - Seepage10.Sw - Swamp11.Light13.Op - Grass playa2.Grey7.Green3.Bark9.HORIZON:11.Light19.Ss - Sea sediment2.Siltb. Medium2.3.Sand(1/16-2mm) c. Coarse3.4.Pebble(2-64mm) d. Suspension4.4.Pebble(2-64mm) d. Suspension4.5.Lozame.7.Ocze 6 inorg g.Pigment7.Goze 0nly f. Gel6.7.Goze 6 inorg g.Pigment8.Iorganic only h. Module8.9.Wood, Fiber i. Root org9.10.Scilche		2.	So - Soll Ra - Bank		5.	Depti	1 in meters or feet
<ul> <li>S. Gr - Ground rock</li> <li>R - Rock</li> <li>R - Rock</li> <li>St - Stream sediment</li> <li>St - Stream sediment<!--</td--><td></td><td>4.</td><td>Pa - Paleosoil</td><td></td><td></td><td></td><td></td></li></ul>		4.	Pa - Paleosoil				
<ul> <li>6. R - Bock</li> <li>7. V - Vegetation</li> <li>8. Rt - Boots</li> <li>9. Le - Leaves</li> <li>9. La - Lake, ctrue</li> <li>10. Sv - Svamp</li> <li>11. Wa - Wash, pediment</li> <li>12. Pl - Plankton</li> <li>12. Pl - Playa, dry lake</li> <li>13. Brown</li> <li>14. Vi - Watter ice</li> <li>19. Sv - Sea playa</li> <li>2. Grey</li> <li>10. White</li> <li>17. Bir - Soreal forest</li> <li>18. Sv - Sea vegetation</li> <li>19. Ss - Sea sediment</li> <li>20. Gl - Gulley</li> <li>21. Light</li> <li>22. Gray</li> <li>3. Bark</li> <li>3. Sand(1/16-2mm) c. Coarse</li> <li>3. Al - Top of first layer</li> <li>4. Dods enly f. Gel</li> <li>6. Bl - Second layer top</li> <li>7. Goze only f. Gel</li> <li>6. Bl - Second layer top</li> <li>7. Goze only f. Gel</li> <li>6. Bl - Second layer top</li> <li>7. Goze only f. Gel</li> <li>6. Bl - Second layer top</li> <li>7. Goze only f. Gel</li> <li>6. Bl - Second layer top</li> <li>7. Goze only f. Gel</li> <li>6. Bl - Second layer top</li> <li>7. Goze fiber i. Root org</li> <li>9. Be - Altigol, tropical Bl</li> <li>9. Wood, Fiber i. Koot org</li> <li>9. Be - Altigol, tropical Bl</li> <li>10. Scill Order:</li> <li>11. Chernozemic</li> <li>12. Fiber oi. Root org</li> <li>13. Piter i. Root org</li> <li>14. BC - Interface of A &amp; B</li> <li>15. C - Third layer mixed soil \$ rocks</li> <li>16. Ga - Saprolite, tropical C</li> <li>17. Sh - Volcanic ash</li> <li>18. Piter i. Peat fiber</li> <li>19. Volcanic ash</li> <li>19. Cae-Caliche</li> <li>10. Scill order:</li> <li>1</li></ul>		5.	Gr - Ground roc	:k	ь.		LN: St - Stroop godingent
<ul> <li>7. V - Vegetation</li> <li>8. Rt - Boots</li> <li>9. Le - Leaves</li> <li>9. Le - Lake sediment</li> <li>8. Se - Seepage</li> <li>9. La - Lake, cirque</li> <li>10. Sg - Spring</li> <li>11. Va - Wash, pediment</li> <li>12. L - Lake sediment</li> <li>13. GP - Grass playa</li> <li>14. Wi - Water - fice</li> <li>10. Su - Swamp</li> <li>11. Va - Wash, pediment</li> <li>12. Pl - Playa, dry lake</li> <li>11. Va - Wash, pediment</li> <li>12. Pl - Playa, dry lake</li> <li>12. Pl - Playa, dry lake</li> <li>13. Grayn</li> <li>14. Wi - Water - Sorean</li> <li>14. Wa - Aquifer, well</li> <li>15. Pf - Permafrost</li> <li>16. Tf - Tundra</li> <li>17. Bf - Boreal forest</li> <li>18. Sv - Sea vegetation</li> <li>19. Se - Sea sediment</li> <li>20. Gl - Gulley</li> <li>3. Bark</li> <li>7. Tore:</li> <li>10. Clays</li> <li>a. Fine</li> <li>11. Clays</li> <li>a. Fine</li> <li>12. Propical forest</li> <li>13. Stad(1/16-2mm) c. Coarse</li> <li>3. Al - Top of first layer</li> <li>4. Pebble(2-64mm) d. Suspension</li> <li>4. On - Becomposed layer</li> <li>5. Loam</li> <li>a. Precipitate</li> <li>5. On - Highly decomposed</li> <li>6. Ozze only f. Cel</li> <li>6. Bl - Second layer top</li> <li>7. Colorig f. Figment</li> <li>7. E2 - Second layer top</li> <li>7. Cost i fnorg f. Figment</li> <li>7. E2 - Second layer top</li> <li>7. Coronatite j. Caliche</li> <li>10. Acronatite j. Caliche</li> <li>10. Acronatite j. Caliche</li> <li>11. Ale - Interface of 8 6 C</li> <li>12. Fin - Fibrous moss</li> <li>13. Pf - Peat fiber</li> <li>14. BC - Interface of 4 6 B</li> <li>15. Supmi interface</li> <li>16. Soliche</li> <li>17. Sh - Volcanic ash</li> <li>18. Fan - Paleo-horizon</li> <li>19. Geaveliang weak horizon, Ah</li> <li>7. Gleysolic</li> <li>7. Transport</li></ul>		6.	R - Rock			2	St = Stream sediment
<ul> <li>8. Rt - Roots</li> <li>9. Le - Leaves</li> <li>10. Sg - Spring mud</li> <li>11. Se - Seepage mud</li> <li>12. Le - Lake sediment</li> <li>13. Pd - Pond</li> <li>14. Wit - Water-ice</li> <li>15. Pl - Plankton</li> <li>16. Sw - Swamp</li> <li>17. Colour: <ul> <li>18. Pd - Pond</li> <li>19. La - Lake, cirque</li> <li>10. Sw - Swamp</li> <li>11. Wa - Wash, pediment</li> <li>11. Wa - Wash, pediment</li> <li>12. Pl - Playa, dry lake</li> <li>13. Brown 8. Yellow</li> <li>15. Pl - Plankton</li> <li>11. Wa - Wash, pediment</li> <li>12. Pl - Playa, dry lake</li> <li>13. Brown 8. Yellow</li> <li>15. Red</li> <li>10. White</li> <li>17. Bf - Boreal forest</li> <li>18. Sv - Sea vegetation</li> <li>19. Ss - Sea sediment</li> <li>20. Gl - Gulley</li> <li>3. Dark</li> </ul> </li> <li>8. TEXTURE: <ul> <li>9. HORIZON:</li> <li>1. Light</li> <li>2. Grays a. Fine</li> <li>1. Light</li> <li>2. Medium</li> <li>3. Sand(1/16-2mm) c. Coarse</li> <li>3. Al - Top of first layer</li> <li>4. Pebble(2-64mm) d. Suspension</li> <li>4. Doze 6 inorg g. Pigment</li> <li>7. B2 - Second layer top</li> <li>7. Ooze 6 inorg g. Pigment</li> <li>7. B2 - Second layer top</li> <li>7. Ooze 6 inorg g. Pigment</li> <li>7. B2 - Second layer top</li> <li>7. Ooze 6 inorg g. Pigment</li> <li>7. B2 - Second layer top</li> <li>7. Ooze 6 inorg g. Pigment</li> <li>7. B2 - Second layer top</li> <li>7. Ooze 6 inorg g. Pigment</li> <li>7. B2 - Second layer top</li> <li>7. Ooze 6 inorg g. Pigment</li> <li>7. B2 - Second layer top</li> <li>7. Ooze 6 inorg g. Pigment</li> <li>8. Bi - Inceptical B1</li> <li>9. Wood, Fiber i. Root org 9. Ba - Altigol, tropical B2</li> <li>10. Soil Order:</li> <li>13. Pf - Peat fiber</li> <li>14. B2 - Interface of B 6 C</li> <li>2. Solonetzic</li> <li>3. Suptice in the fiber</li> <li>3. Lowisolic</li> <li>3. Suptice in the fiber</li> <li>4. B2 - Interface of B 6 C</li> <li>5. Brunisolic</li> <li>5. Senotic in the fiber</li> <li>5. Red Stand forest Veg</li> <li>5. Suppoint in the face</li> <li>7. Cizysolic</li> <li>7. Si - Swamp inte</li></ul></li></ul>		7.	V - Vegetation	1		3.	T - Talus
<ul> <li>9. Le - Leaves</li> <li>10. Sg - Spring mud</li> <li>11. Se - Seepage mud</li> <li>12. Le - Lake sedIment</li> <li>13. Fd - Pond</li> <li>14. Wi - Water-ice</li> <li>15. Fl - Plankton</li> <li>16. Sw - Swamp</li> <li>17. Colour:</li> <li>18. Black</li> <li>18. Pd - Pinkton</li> <li>19. Black</li> <li>10. Sw - Swamp</li> <li>10. Sw - Swamp</li> <li>11. Wa - Wash, pediment</li> <li>12. Pl - Playa, dry lake</li> <li>13. Grey</li> <li>14. Wi - Water-ice</li> <li>15. Fl - Plankton</li> <li>16. Sw - Swamp</li> <li>17. Colour:</li> <li>18. Black</li> <li>18. Proven</li> <li>19. Ser Sea ediment</li> <li>20. Grey</li> <li>21. Light</li> <li>22. Sand(1/16-2mm)</li> <li>23. Bark</li> <li>24. FEXTURE:</li> <li>25. Loam</li> <li>26. Precipitate</li> <li>27. Sand(1/16-2mm)</li> <li>28. Sw - Sea sediment</li> <li>29. HORIZON:</li> <li>20. Gl - Gulley</li> <li>3. Dark</li> <li>29. HORIZON:</li> <li>20. Gl - Gulley</li> <li>3. Dark</li> <li>21. Light</li> <li>22. Second layer top</li> <li>3. Loam</li> <li>23. Precipitate</li> <li>3. Soci Align, Cal/Na-10</li> <li>3. Nodulie</li> <li>3. Biorianic only h. Nodule</li> <li>3. Solonetzic</li> <li>3. Carbonatite j. Caliche</li> <li>4. Probial (2-64mm)</li> <li>4. Biorianic (2)</li> <li>2. Solonetzic</li> <li>3. Heare allowing the set of a 6 C</li> <li>3. Luvisolic</li> <li>3. Heare allowing the set of a 6 C</li> <li>3. Luvisolic</li> <li>3. Biorianic (2)</li> <li>3. Carbonatite j. Caliche</li> <li>4. Podzolic</li> <li>3. Biorianic (2)</li> <li>4. Cherrozemic</li> <li>4. Podzolic</li> <li>5. Brunisolic</li> <li>5. Solonetzic</li> <l< td=""><td></td><td>8.</td><td>Rt - Roots</td><td></td><td></td><td>4.</td><td>Bk – Bank</td></l<></ul>		8.	Rt - Roots			4.	Bk – Bank
<ul> <li>10. 3g = opting mod</li> <li>11. Se - Seepage mud</li> <li>12. Lc - Lake sediment</li> <li>13. Pd - Pond</li> <li>14. Wi - Water-ice</li> <li>15. Pl - Plankton</li> <li>16. Wa - Vawapp</li> <li>17. Colour:</li> <li>18. Black</li> <li>1. Black</li> <li>2. Grey</li> <li>2. Grey</li> <li>3. Brown</li> <li>3. Yellow</li> <li>4. Ochre</li> <li>9. Colour:</li> <li>1. Light</li> <li>1. Light</li> <li>2. Garey</li> <li>3. Bark</li> <li>3. Bark</li> <li>4. Ochre</li> <li>9. Orange</li> <li>16. Tf - Fundra</li> <li>17. Colour:</li> <li>18. Sv - Sea vegetation</li> <li>19. Se - Seepage</li> <li>10. White</li> <li>17. Bight</li> <li>18. Sv - Sea vegetation</li> <li>19. Se - Sea vegetation</li> <li>10. White</li> <li>11. Light</li> <li>20. Gl - Gulley</li> <li>3. Dark</li> <li>3. Sand(1/16-2mm)</li> <li>3. Coarse</li> <li>3. All - Top of first layer</li> <li>4. Pebble(2-64mm)</li> <li>4. Pebble(2-64mm)</li> <li>4. Doze &amp; inorg</li> <li>9. Homeric only h. Nodule</li> <li>8. Diamong P. Pigment</li> <li>7. Boz - Second layer top</li> <li>7. Ooze &amp; inorg</li> <li>9. Hartface of B &amp; G</li> <li>10. Carbonatize</li> <li>11. Skeletal soil k. Bleached</li> <li>11. Skeletal soil k. Bleached</li> <li>12. Cherrozemic</li> <li>13. Grill Order:</li> <li>14. Cherrozemic</li> <li>15. Cherrozemic</li> <li>16. Ge - Sanyolice</li> <li>17. Corse inorg</li> <li>18. Second layer bottom</li> <li>19. Vood, Fiber i. Root org</li> <li>9. Ba - Altigol, tropical B2</li> <li>10. Carbonatize j. Caliche</li> <li>10. Soil Order:</li> <li>11. Cherrozemic</li> <li>12. Pir - Fibrous moss</li> <li>13. Pf - Peat fiber</li> <li>14. BC - Interface of B &amp; C</li> <li>15. C - Third layer mixed soil &amp; rocks</li> <li>16. C as Saprolite, tropical C</li> <li>17. Sh - Volcanic ash</li> <li>18. She - Bedrock</li> <li>20. Ca. Caliche</li> <li>21. Si - Swamp interface</li> <li>22. Tr - Transported</li> <li>23. R - Bedrock</li> </ul>		9. 10	Le - Leaves			5.	Ri - Ridge
12.12.13.14		11.	Se - Seepage mu	ad		6.	Af - Alluvial fan
<ul> <li>Pd - Pond</li> <li>Ba - Seepage</li> <li>Weit - Water-ice</li> <li>Water-ice</li> <li>Water-ice<td></td><td>12.</td><td>Lc - Lake sedin</td><td>nent</td><td></td><td>7.</td><td>Sg - Spring</td></li></ul>		12.	Lc - Lake sedin	nent		7.	Sg - Spring
14. Wi - Water-ice       9. La - Lake, Cirque         15. Pi - Plankton       10. Sw - Swamp         1. Black       6. Purple       11. Wa - Wash, pediment         1. Black       6. Purple       13. Gp - Grass playa         2. Grey       7. Green       14. Aq - Aquifer, well         3. Brown       8. Yellow       15. Pf - Permsfrost         4. Ochre       9. Orange       16. Tf - Tundra         5. Red       10. White       17. Bf - Boreal forest         1. Light       20. Gl - Gulley         2. Medium       20. Gl - Gulley         3. Dark       9. HORIZON:         1. Clays       a. Fine         1. Clays       a. Fine         2. Silt       b. Medium         3. Sand(1/16-Zmm) c. Coarse       3. Al - Top of first layer         4. Pebble(2-64mm) d. Suspension       4. Om - Decomposed layer         5. Loam       e. Precipitate         6. Ooze only       f. Gel         7. Ooze & inorg g. Pigment       7. B2 - Second layer top         7. Ooze & inorg g. Pigment       7. B2 - Second layer top         8. Inorganic only h. Nodule       8. Bi - Inceptisol, tropical B1         9. Wood, Fiber i. Root org       9. Ba - Altigol, tropical B2         10. Carbonazite j. Caliche       <		13.	Pd - Pond			8.	Se – Seepage
<ul> <li>15. Pl - Plankton</li> <li>10. SW - Swamp</li> <li>11. Wa - Wash, pediment</li> <li>12. Pl - Playa, dry lake</li> <li>13. Grey 7. Green</li> <li>14. Aq - Aquifer, well</li> <li>3. Brown 8. Yellow</li> <li>15. Pf - Pernafrost</li> <li>14. Aq - Aquifer, well</li> <li>15. Red</li> <li>10. White</li> <li>17. Bf - Boreal forest</li> <li>18. Sv - Sea vegtation</li> <li>19. Ss - Sea sediment</li> <li>20. Gl - Gulley</li> <li>3. Dark</li> <li>3. Sand(1/16-2nm) c. Coarse</li> <li>3. Loam e. Precipitate</li> <li>4. Pebble(2-64nm) d. Suspension</li> <li>5. Loam e. Precipitate</li> <li>6. Ooze only f. Gel</li> <li>7. Ooze 6 inorg g. Pigment</li> <li>7. B2 - Second layer top</li> <li>7. Ooze 6 inorg g. Pigment</li> <li>8. Inorganic only h. Nodule</li> <li>8. Inorganic only h. Nodule</li> <li>8. Bi - Inception, tropical B1</li> <li>10. Carbonattie j. Caliche</li> <li>11. Skeletal soil k. Bleached</li> <li>11. AB - Interface of A &amp; B</li> <li>12. Fm - Fibrous moss</li> <li>13. Luvisolic</li> <li>14. BC - Third layer mixed soil 6 rocks</li> <li>15. Cal-chain (2)</li> <li>2. Solonetzic</li> <li>15. Chernozemic</li> <li>16. Chernozemic</li> <li>17. B2 - Second layer mixed soil 6 rocks</li> <li>18. Pa - Paleo-horizon</li> <li>19. CcaCaliche</li> <li>10. Garbonic forest Veg</li> <li>20. De - Detrital</li> <li>21. Si - Swam interface</li> <li>22. Tr - Transported</li> <li>23. K - Bedrock</li> </ul>		14.	Wi - Water-ice			9.	La - Lake, cirque
<ul> <li>7. Colour: <ol> <li>Playa, dry lake</li> <li>Black</li> <li>Purple</li> <li>Grey 7. Green</li> <li>Aq Aquifer, well</li> <li>Grown 8. Yellow</li> <li>Pf - Permafrost</li> <li>Aq Aquifer, well</li> <li>Brown 8. Yellow</li> <li>Pf - Permafrost</li> <li>Aq Aquifer, well</li> <li>Sprown 8. Yellow</li> <li>Pf - Permafrost</li> <li>Aq Aquifer, well</li> <li>Sprown 8. Yellow</li> <li>Pf - Permafrost</li> <li>Aq Aquifer, well</li> <li>Sprown 8. Yellow</li> <li>Pf - Permafrost</li> <li>Aq Aquifer, well</li> <li>Sprown 8. Yellow</li> <li>Pf - Permafrost</li> <li>Aq Aquifer, well</li> <li>Sprown 8. Yellow</li> <li>Pf - Permafrost</li> <li>Aq Aquifer, well</li> <li>Sprown 8. Yellow</li> <li>Pf - Permafrost</li> <li>Sprown 9. Sprown</li> <li>Sprown 9. Sea vegetation</li> <li>Sprown 9. Sea vegetation</li> <li>Sprown 8. Yellow</li> <li>Pf - Permafrost</li> <li>Sprown 9. Sea vegetation</li> <li>Sprown 9. Sea vegetat</li></ol></li></ul>		15.	Pl - Plankton			10.	Sw - Swamp Wa - Wash podiment
1.       Black       6.       Purple       13.       GP = Grass playa         2.       Grey       7.       Green       14.       Aq = Aquifer, well         3.       Brown       8.       Yellow       15.       Pf = Permafrost         4.       Ochre       9.       Otange       16.       Tf = Tundra         5.       Red       10.       White       17.       Bf = Boreal forest         7.       Gres       18.       Sv - Sea vegetation         1.       Light       20.       Gl = Gulley         3.       Dark       20.       Gl = Gulley         3.       Sard(1/16-2mm)       C. Coarse       3.       Al = Top of first layer         4.       Pebble(2-64mm)       d. Suspension       4.       Om = Decomposed layer         5.       Loam       e. Precipitate       5.       Oh = Highly decomposed         6.       Ooze only       f. Gel       6.       Bl = Second layer top         7.       Ooze & inorg       g. Pigment	7.	Colou	r:			12.	P1 - Plava, dry lake
<ul> <li>2. Grey 7. Green 14. Aq - Aquifer, well</li> <li>3. Brown 8. Yellow 15. Pf - Permafrost</li> <li>4. Ochre 9. Orange 16. Tf - Tundra</li> <li>5. Red 10. White 17. Bf - Boreal forest</li> <li>18. Sv - Sea vegtation</li> <li>19. Ss - Sea sediment</li> <li>20. Gl - Gulley</li> <li>3. Dark</li> <li>8. TEXTURE: 9. MORIZON:</li> <li>1. Clays a. Fine 1. Th - Semidecomposed organic</li> <li>2. Silt b. Medium 2. Ae - Sandy loam</li> <li>3. Sand(1/16-Zmm) c. Coarse 3. Al - Top of first layer</li> <li>4. Pebble(2-64mm) d. Suspension 4. Om - Decomposed layer</li> <li>5. Loam e. Precipitate</li> <li>6. Ooze only f. Gel 6. Bl - Second layer top</li> <li>7. Ooze &amp; inorg g. Pigment 7. B2 - Second layer top</li> <li>7. Ooze &amp; inorg g. Pigment 7. B2 - Second layer top</li> <li>7. Ooze &amp; inorg g. Pigment 7. B2 - Second layer top</li> <li>10. Carbonatite j. Caliche 10. Ap - Cultivation, pasture</li> <li>11. Skeletal soil k. Bleached 11. AB - Interface of A &amp; B</li> <li>12. Solonetzic "B" &amp; "C" saline, Ca/Na=-10 1: mimperfectly drained ' <ul> <li>4. Podzolic 1: mimperfectly drained ' <ul> <li>4. Podzolic 2: Solonetzic 2: Solonetzic 3: Brunisolic 3: Brunisolic</li></ul></li></ul></li></ul>		1.	Black	6. Purple		13.	Gp - Grass playa
<ul> <li>3. Brown 8. Yellow 15. Pf - Permafrost</li> <li>4. Ochre 9. Orange 16. Tf - Tundra</li> <li>5. Red 10. White 17. Bf - Boreal forest</li> <li>18. Sv - Sea vegetation</li> <li>19. Ss - Sea sediment</li> <li>20. Gl - Gulley</li> <li>3. Dark</li> <li>3. Dark</li> <li>8. TEXTURE: 9. HORIZON:</li> <li>1. Clays a. Fine 1. Lh - Semidecomposed organic</li> <li>2. Silt b. Medium 2. Ae - Sandy loam</li> <li>3. Sand(1/16-2mm) d. Suspension 4. Om - Decomposed layer</li> <li>5. Loam e. Precipitate 5. Oh - Highly decomposed</li> <li>6. Ooze only f. Gel</li> <li>6. Doze only f. Gel</li> <li>7. Ooze &amp; inorg g. Pigment 7. B2 - Second layer top</li> <li>7. Ooze &amp; inorg g. Pigment 7. B2 - Second layer top</li> <li>9. Wood, Fiber i. Root org 9. Ba - Altigol, tropical B1</li> <li>9. Wood, Fiber i. Root org 9. Ba - Altigol, tropical B2</li> <li>10. Carbonatite j. Caliche 10. Ap - Cultivation, pasture</li> <li>11. Skeletal soil k. Bleached 11. AB - Interface of A &amp; B</li> <li>12. Solonetzic "B" &amp; "0" saline, Ca/Na=-10</li> <li>3. Luvisolic "B" &amp; "0" saline, Ca/Na=-10</li> <li>4. Podzolic under mixed forest Veg 5. Brunisolic good oxidizing forest floor 6. Regosolic oxidizing weak horizon, Ah 7. Gleysolic reducing, saturated with water</li> </ul>		2.	Grey	7. Green		14.	Aq - Aquifer, well
<ul> <li>4. Ochre 9. Orange 16. Tf - Tundra</li> <li>5. Red 10. White 17. Bf - Boreal forest</li> <li>10. Light 18. Sv - Sea vegetation 19. Ss - Sea sediment 20. G1 - Gulley</li> <li>3. Dark 20. G1 - Gulley</li> <li>8. TEXTURE: 9. HORIZON:</li> <li>1. Clays a. Fine 2. Silt b. Medium 2. Ae - Sandy loam 3. Sand(1/16-2mm) d. Suspension 4. Om - Decomposed layer 4. Pebble(2-64mm) d. Suspension 4. Om - Decomposed layer 5. Loam e. Precipitate 5. Oh - Highly decomposed 6. Ooze only f. Gel 6. Bl - Second layer top 7. Ooze &amp; inorg g. Pigment 7. B2 - Second layer top 7. Ooze &amp; inorg g. Pigment 7. B2 - Second layer top 10. Carbonatite j. Caliche 10. Ap - Cultivation, pasture 11. Skeletal soil k. Bleached 11. AB - Interface of A &amp; B</li> <li>10. Soil Order: 12. Fm - Fibrous moss 13. Pf - Peat fiber 14. BC - Interface of B &amp; C</li> <li>12. Solonetzic 15. C - Third layer mixed soil &amp; rocks 16. Ca - Saprolite, tropical C</li> <li>13. Luvisolic 16. imperfectly drained '</li> <li>4. Podzolic 16. Gaysaturated with water</li> </ul>		3.	Brown	8. Yellow		15.	Pf - Permafrost
<ul> <li>5. Red 10. White 17. Bf - Boreal forest 18. Sv - Sea vegetation 18. Sv - Sea vegetation 19. Ss - Sea sediment 20. Gl - Gulley</li> <li>3. Dark 20. Gl - Gulley</li> <li>8. TEXTURE: 9. HORIZON:</li> <li>1. Clays a. Fine 1. Lh - Semidecomposed organic 2. Ac - Sandy loam 3. Sand(1/16-2mm) c. Coarse 3. Al - Top of first layer 4. Pebble(2-64mm) d. Suspension 4. Om - Decomposed layer 5. Loam e. Precipitate 5. Oh - Highly decomposed 6. Ooze only f. Gel 6. Bl - Second layer top 7. Ooze 6 inorg g. Pigment 7. B2 - Second layer bottom 8. Inorganic only h. Nodule 8. Bi - Inceptiol, tropical B1 9. Wood, Fiber i. Root org 9. Ba - Altigol, tropical B2 10. Carbonatite j. Caliche 10. Ap - Cultivation, pasture 11. Skeletal soil k. Bleached 11. AB - Interface of A &amp; B</li> <li>10. Soil Order: 12. Solonetzic base saturation, cations (2) 2. Solonetzic base saturation, cations (2) 3. Luvisolic base saturation, cations (2) 4. BC - Interface of B &amp; C 15. C - Third layer mixed soil &amp; rocks 16. Cs - Saprolite, tropical C 17. Sh - Volcanic ash 18. Pa - Paleo-horizon 19. Cca Caliche 20. De - Detrital 21. Si - Swamp interface 22. Tr - Transported 23. R - Bedrock</li> <li>3. R - Bedrock 23. R - Bedrock</li> </ul>		4.	Ochre	9. Orange		16.	Tf - Tundra
Tone:18.Sv - Sea vegetation1.Light19.Ss - Sea sediment2.Medium20.Gl - Gulley3.Dark20.Gl - Gulley8.TEXTURE:9.HORIZON:1.Claysa. Fine1.Lh - Semidecomposed organic2.Siltb. Medium2.Ae - Sandy loam3.Sand(1/16-Zmm) c. Coarse3.Al - Top of first layer4.Pebble(2-64mm) d. Suspension4.Om - Decomposed layer5.Loame. Precipitate5.Oh - Highly decomposed6.Ooze onlyf. Gel6.Bl - Second layer top7.Ooze 6 inorgg. Figment7.B2 - Second layer top8.Inorganic only h. Nodule8.Bi - Inceptisol, tropical Bl9.Wood, Fiber 1. Root org9.Ba - Altigol, tropical Bl9.Wood, Fiber 1. Root org9.Ba - Altigol, tropical Bl10.Carbonatite j. Caliche10.Ap - Cultivation, pasture11.Skeletal soil k. Bleached11.AB - Interface of A & B10.Soll Order:13.Pf - Peat fiber11.Chernozemic14.BC - Interface of B & C13.Luvisolic15.C - Third layer mixed soil & rocks14.Bc - Interface20.De - Detrital15.Brunisolic20.De - Detrital16.Cs - Saprolite, tropical C15.Si - Swamp interface17.Marcel or stip		5.	Red	10. White		17.	Bf - Boreal forest
1.19.Ss - Sea sediment2.Medium20.GI - Gulley3.Dark20.GI - Gulley8.TEXTURE:9.MORIZON:1.Claysa. Fine1.Lh - Semidecomposed organic2.Siltb. Medium2.Ae - Sandy loam3.Sand(1/16-2mm) c. Coarse3.Al - Top of first layer3.Sand(1/16-2mm) c. Coarse3.Al - Top of first layer5.Loame. Precipitate5.On - Decomposed layer top6.Ooze onlyf. Gel6.Bl - Second layer top7.Ooze 6 inorgg. Pigment7.B2 - Second layer top8.Inorganic onlyh. Nodule8.Bi - Inceptisol, tropical B19.Wood, Fiberi. Root org9.Ba - Altigol, tropical B210.Carbonatitej. Caliche10.Ap - Cultivation, pasture11.Skeletal soil k. Bleached11.AB - Interface of B & C11.Chernozemic13.Pf - Peat fiber12.Fm - Fibrous moss13.Pf - Peat fiber13.Luvisolic16.Cc - Saprolite, tropical C15.Brunisolic20.De - Detrital16.Regosolic20.De - Detrital17.Sh - Volcanic ash18.18.Pa - Paleo-horizon19.19.Cca Caliche20.20.De - Detrital21.Si - Swamp interface22.Tr - Transpor		Tone:			-	18.	Sv - Sea vegetation
<ul> <li>Medium</li> <li>Dark</li> <li>Dark</li> <li>TEXTURE:</li> <li>Clays <ul> <li>Fine</li> <li>Clays <ul> <li>Fine</li> <li>Clays <ul> <li>Sand(1/16-2mm)</li> <li>Sand(1/16-2mm)</li> <li>Coarse</li> <li>Sand(1/16-2mm)</li> <li>Coarse</li> <li>Al - Top of first layer</li> <li>Ae - Sandy loam</li> <li>Al - Top of first layer</li> <li>Ae - Sandy loam</li> </ul> </li> <li>Sand(1/16-2mm)</li> <li>Sand(1/16-2mm)</li> <li>Supersion</li> <li>Sand(1/16-2mm)</li> <li>Supersion</li> <li>Solo et al.</li> <li>Solo et al.</li> <li>Second layer top</li> <li>Carbonatite j. Caliche</li> <li>Seletal soil k. Bleached</li> </ul> </li> <li>Solo et al.</li> <li>Solo et al.</li> <li>Solonetzic <ul> <li>"B" &amp; "C" saline, Ca/Na=-10</li> <li>Lowisolic <ul> <li>Imperfectly drained</li> <li>Solonetzic <ul> <li>"B" &amp; "C" saline, Ca/Na=-10</li> <li>Lowisolic <ul> <li>Imperfectly drained</li> <li>Podzolic <ul> <li>Modi forest Veg</li> <li>Brunisolic <ul> <li>good oxidizing forest floor</li> <li>Regosolic <ul> <li>Caleysolic</li> <li>reducing, saturated with water</li> </ul> </li> <li>20. Gif - Guiley</li> <li>MORIZON: <ul> <li>Interface</li> <li>Interface</li> <li>Interface</li> <li>Interface</li> <li>Solonetzic <ul> <li>"B" &amp; "C" saline, Ca/Na=-10</li> </ul> </li> </ul> </li> </ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul></li></ul>		1.	Light			19.	Ss - Sea sediment
<ul> <li>3. Dark</li> <li>8. TEXTURE: <ul> <li>Clays</li> <li>A. Fine</li> <li>L. Lh - Semidecomposed organic</li> <li>Sand(1/16-2mm)</li> <li>C. Coarse</li> <li>Al - Top of first layer</li> <li>Sand(1/16-2mm)</li> <li>C. Coarse</li> <li>Al - Top of first layer</li> <li>Bl - Interface</li> <li>Bl - Interface of A &amp; B</li> <li>C - Third layer mixed soil &amp; rocks</li> <li>C - Third layer mixed soil &amp; rocks</li> <li>C - Caliche</li> <li>Caliche</li> <li>C - Third layer mixed soi</li></ul></li></ul>		2.	Medium			20.	GI – Gulley
<ul> <li>8. TEXTURE: <ul> <li>Clays</li> <li>Clays</li> <li>Silt</li> <li>Medium</li> <li>Ae - Sandy loam</li> <li>Sand(1/16-2mm)</li> <li>Coarse</li> <li>Al - Top of first layer</li> <li>Pebble(2-64mm)</li> <li>Suspension</li> <li>Coarse</li> <li>Al - Top of first layer</li> <li>Coarse</li> <li>Coarse</li> <li>Coarse</li> <li>Al - Top of first layer</li> <li>Coarse</li> <li>Al - Top of first layer</li> <li>Coarse</li> <li>Coarse</li> <li>Coze only</li> <li>Cel</li> <li>Bi - Second layer top</li> <li>Coze only</li> <li>Nodule</li> <li>Bi - Inceptisol, tropical B1</li> <li>Second layer top</li> <li>Ba - Altigol, tropical B2</li> <li>Carbonatite</li> <li>Caliche</li> <li>Ap - Cultivation, pasture</li> <li>Second layer mixed soil &amp; Bia - Interface of A &amp; B</li> <li>Chernozemic</li> <li>Ba - Sandy Potentian</li> <li>Chernozemic</li> <li>Chernozemic</li> <li>Bi - Fibrous moss</li> <li>Pf - Peat fiber</li> <li>Bconies (2)</li> <li>Solonetzic</li> <li>B' C'' saline, Ca/Na=-10</li> <li>Luvisolic</li> <li>Imperfectly drained</li> <li>Pa - Paleo-horizon</li> <li>Pa - Paleo-horizon</li> <li>Pa - Paleo-horizon</li> <li>Pa - Paleo-horizon</li> <li>Si - Swamp interface</li> <li>Si - Swamp interface</li> <li>R - Bedrock</li> <li>R - Bedrock</li> </ul></li></ul>		3.	Dark				
1.Claysa. Fine1.Lh - Semidecomposed organic2.Siltb. Medium2.Ae - Sandy loam3.Sand(1/16-2mm) c. Coarse3.Al - Top of first layer4.Pebble(2-64mm) d. Suspension4.Om - Decomposed layer5.Loame. Precipitate5.Oh - Highly decomposed6.Ooze onlyf. Gel6.Bl - Second layer top7.Ooze & inorgg. Pigment7.B2 - Second layer bottom8.Inorganic only h. Nodule8.Bi - Inceptisol, tropical Bl9.Wood, Fiber i. Root org9.Ba - Altigol, tropical B210.Carbonatite j. Caliche10.Ap - Cultivation, pasture11.Skeletal soil k. Bleached11.AB - Interface of A & B10.Soll Order:13.Pf - Peat fiber11.Chernozemic13.Pf - Peat fiber12.Solonetzic14.BC - Interface of B & C13.Luvisolic15.C - Third layer mixed soil & rocks14.BC - Interface of B & C15.C - Third layer mixed soil & rocks15.Brunisolic10.Cca Caliche16.Cs - Saprolite, tropical C17.17.Sh - Volcanic ash18.18.Pa - Paleo-horizon19.Cca Caliche20.De - Detrital21.Si - Swamp interface22.Tr - Transported23.R - Bedrock24.Stargenck25. <td< td=""><td>8.</td><td>TEXTU</td><td>RE:</td><td></td><td>9.</td><td>HORIZ</td><td>zon:</td></td<>	8.	TEXTU	RE:		9.	HORIZ	zon:
<ul> <li>2. Silt b. Medium 2. Ae - Sandy loam</li> <li>3. Sand(1/16-2mm) c. Coarse 3. Al - Top of first layer</li> <li>4. Pebble(2-64mm) d. Suspension 4. Om - Decomposed layer</li> <li>5. Loam e. Precipitate 5. Oh - Highly decomposed</li> <li>6. Ooze only f. Cel 6. Bl - Second layer top</li> <li>7. Ooze &amp; inorg g. Pigment 7. B2 - Second layer bottom</li> <li>8. Inorganic only h. Nodule 8. Bi - Inceptisol, tropical B1</li> <li>9. Wood, Fiber i. Root org 9. Ba - Altigol, tropical B2</li> <li>10. Carbonatite j. Caliche 10. Ap - Cultivation, pasture</li> <li>11. Skeletal soil k. Bleached 11. AB - Interface of A &amp; B</li> <li>12. Solonetzic "B" &amp; "C" saline, Ca/Na=-10</li> <li>3. Luvisolic "Brunisolic good oxidizing forest floor</li> <li>6. Brunisolic reducing, saturated with water</li> </ul>		1.	Clays	a. Fine		1.	Lh - Semidecomposed organic
<ul> <li>3. Sand(1/16-2mm) c. Coarse</li> <li>3. Al - Top of first layer</li> <li>4. Pebble(2-64mm) d. Suspension</li> <li>4. Om - Decomposed layer</li> <li>5. Loam e. Precipitate</li> <li>6. Ooze only f. Gel</li> <li>6. Ooze only f. Gel</li> <li>7. Ooze &amp; inorg g. Pigment</li> <li>7. B2 - Second layer bottom</li> <li>8. Inorganic only h. Nodule</li> <li>8. Bi - Inceptisol, tropical B1</li> <li>9. Wood, Fiber i. Root org</li> <li>9. Ba - Altigol, tropical B2</li> <li>10. Carbonatite j. Caliche</li> <li>11. Skeletal soil k. Bleached</li> <li>11. Skeletal soil k. Bleached</li> <li>10. Soil Order: <ul> <li>1. Chernozemic</li> <li>base saturation, cations (2)</li> <li>2. Solonetzic</li> <li>"B" &amp; "C" saline, Ca/Na=-10</li> <li>3. Luvisolic</li> <li>imperfectly drained '</li> <li>4. Podzolic</li> <li>under mixed forest Veg</li> <li>5. Brunisolic</li> <li>good oxidizing forest floor</li> <li>6. Regosolic</li> <li>oxidizing weak horizon, Ah</li> </ul> </li> <li>3. Al - Top of first layer</li> <li>3. Al - Top of first layer</li> <li>4. Polyoing the set of the</li></ul>		2.	Silt	b. Medium		2.	Ae - Sandy loam
<ul> <li>4. Pebble(2-64mm) d. Suspension</li> <li>4. Om - Decomposed layer</li> <li>5. Loam e. Precipitate</li> <li>6. Ooze only f. Gel</li> <li>6. Ooze &amp; inorg g. Pigment</li> <li>7. B2 - Second layer top</li> <li>7. B2 - Second layer bottom</li> <li>8. Inorganic only h. Nodule</li> <li>8. Bi - Inceptisol, tropical B1</li> <li>9. Wood, Fiber i. Root org</li> <li>9. Ba - Altigol, tropical B2</li> <li>10. Carbonatite j. Caliche</li> <li>10. Soil Order:</li> <li>11. Skeletal soil k. Bleached</li> <li>12. Fm - Fibrous moss</li> <li>13. Pf - Peat fiber</li> <li>14. BC - Interface of B &amp; C</li> <li>15. C - Third layer mixed soil &amp; rocks</li> <li>16. Cs - Saprolite, tropical C</li> <li>17. Sh - Volcanic ash</li> <li>18. Pa - Paleo-horizon</li> <li>19. Cca Caliche</li> <li>20. De - Detrital</li> <li>21. Si - Swamp interface</li> <li>22. Tr - Transported</li> <li>23. R - Bedrock</li> </ul>		3.	Sand(1/16-2mm)	c. Coarse		3.	Al - Top of first layer
<ul> <li>5. Loam e. Precipitate</li> <li>6. Ooze only f. Gel</li> <li>6. B1 - Second layer top</li> <li>7. Goze &amp; inorg g. Pigment</li> <li>8. Inorganic only h. Nodule</li> <li>8. Inorganic only h. Nodule</li> <li>8. Bi - Inceptisol, tropical B1</li> <li>9. Wood, Fiber i. Root org</li> <li>9. Ba - Altigol, tropical B2</li> <li>10. Carbonatite j. Caliche</li> <li>11. Skeletal soil k. Bleached</li> <li>11. Skeletal soil k. Bleached</li> <li>11. Chernozemic base saturation, cations (2)</li> <li>2. Solonetzic "B" &amp; "C" saline, Ca/Na=-10</li> <li>3. Luvisolic imperfectly drained</li> <li>4. Podzolic under mixed forest Veg</li> <li>5. Brunisolic forest floor</li> <li>6. Regosolic oxidizing forest floor</li> <li>6. Regosolic reducing, saturated with water</li> <li>5. Ioam e. Precipitate</li> <li>5. Interface of A &amp; B</li> <li>6. Cs - Saprolite, tropical C</li> <li>7. Sh - Volcanic ash</li> <li>7. Sh - Volcanic ash</li> <li>7. Sh - Paleo-horizon</li> <li>7. Si - Swamp interface</li> <li>7. Reducing, saturated with water</li> </ul>		4.	Pebble(2-64mm)	d. Suspension		4.	Om - Decomposed layer
<ul> <li>b. bozz bily f. ter of the second layer top</li> <li>7. Gozz &amp; inorg g. Pigment f. ber fibrors</li> <li>8. Inorganic only h. Nodule fibre for the second layer bottom for the second layer bo</li></ul>		5.	Loam	e. Precipitat	e	5.	Oh - Highly decomposed
<ul> <li>8. Inorganic only h. Nodule</li> <li>9. Wood, Fiber i. Root org</li> <li>9. Ba - Altigol, tropical B1</li> <li>9. Wood, Fiber i. Root org</li> <li>9. Ba - Altigol, tropical B1</li> <li>10. Carbonatite j. Caliche</li> <li>10. Selectal soil k. Bleached</li> <li>11. Skeletal soil k. Bleached</li> <li>11. Skeletal soil k. Bleached</li> <li>11. Skeletal soil k. Bleached</li> <li>11. Chernozemic base saturation, cations (2)</li> <li>2. Solonetzic "B" &amp; "C" saline, Ca/Na=-10</li> <li>3. Luvisolic imperfectly drained</li> <li>4. Podzolic under mixed forest Veg</li> <li>5. Brunisolic good oxidizing forest floor</li> <li>6. Regosolic oxidizing weak horizon, Ah</li> <li>7. Bit 2 - Second Tayer Bottom</li> <li>8. Bi - Inceptisol, tropical B1</li> <li>8. Bi - Inceptisol, tropical B2</li> <li>10. Ap - Cultivation, pasture</li> <li>11. AB - Interface of A &amp; B</li> <li>12. Fm - Fibrous moss</li> <li>13. Pf - Peat fiber</li> <li>14. BC - Interface of B &amp; C</li> <li>15. C - Third layer mixed soil &amp; rocks</li> <li>16. Cs - Saprolite, tropical C</li> <li>17. Sh - Volcanic ash</li> <li>18. Pa - Paleo-horizon</li> <li>19. Cca Caliche</li> <li>20. De - Detrital</li> <li>21. Si - Swamp interface</li> <li>22. Tr - Transported</li> <li>23. R - Bedrock</li> </ul>		0. 7	Ooze only	I. Gel		0. 7	B1 - Second layer top
<ul> <li>9. Wood, Fiber i. Root org</li> <li>9. Wood, Fiber i. Root org</li> <li>9. Ba - Altigol, tropical B2</li> <li>10. Carbonatite j. Caliche</li> <li>11. Skeletal soil k. Bleached</li> <li>11. AB - Interface of A &amp; B</li> <li>12. Fm - Fibrous moss</li> <li>13. Pf - Peat fiber</li> <li>14. BC - Interface of B &amp; C</li> <li>15. C - Third layer mixed soil &amp; rocks</li> <li>16. Cs - Saprolite, tropical C</li> <li>17. Sh - Volcanic ash</li> <li>18. Pa - Paleo-horizon</li> <li>19. Cca Caliche</li> <li>20. De - Detrital</li> <li>21. Si - Swamp interface</li> <li>22. Tr - Transported</li> <li>23. R - Bedrock</li> </ul>		8.	Inorganic only	h. Nodule		8.	Bi - Incentical tropical Bl
<ul> <li>10. Carbonatite j. Caliche</li> <li>11. Skeletal soil k. Bleached</li> <li>10. Soil Order: <ol> <li>Soil Order:</li> <li>Chernozemic</li> <li>base saturation, cations (2)</li> <li>Solonetzic</li> <li>"B" &amp; "C" saline, Ca/Na=-10</li> <li>Luvisolic</li> <li>imperfectly drained</li> <li>Podzolic</li> <li>under mixed forest Veg</li> <li>Brunisolic</li> <li>Strunisolic</li> <li>Brunisolic</li> <li>Serunisolic</li> <li>Regosolic</li> <li>Oxidizing weak horizon, Ah</li> </ol> </li> <li>10. Carbonatite j. Caliche</li> <li>10. Ap - Cultivation, pasture</li> <li>11. AB - Interface of A &amp; B</li> <li>12. Fm - Fibrous moss</li> <li>13. Pf - Peat fiber</li> <li>14. BC - Interface of B &amp; C</li> <li>15. C - Third layer mixed soil &amp; rocks</li> <li>16. Cs - Saprolite, tropical C</li> <li>17. Sh - Volcanic ash</li> <li>18. Pa - Paleo-horizon</li> <li>19. Cca Caliche</li> <li>20. De - Detrital</li> <li>21. Si - Swamp interface</li> <li>22. Tr - Transported</li> <li>23. R - Bedrock</li> </ul>		9.	Wood. Fiber	i. Root org		9.	Ba - Altigol, tropical B2
<ul> <li>11. Skeletal soil k. Bleached</li> <li>11. AB - Interface of A &amp; B</li> <li>12. Fm - Fibrous moss</li> <li>13. Pf - Peat fiber</li> <li>14. BC - Interface of B &amp; C</li> <li>15. C - Third layer mixed soil &amp; rocks</li> <li>16. Cs - Saprolite, tropical C</li> <li>17. Sh - Volcanic ash</li> <li>18. Pa - Paleo-horizon</li> <li>19. Cca Caliche</li> <li>20. De - Detrital</li> <li>21. Si - Swamp interface</li> <li>22. Tr - Transported</li> <li>23. R - Bedrock</li> </ul>		10.	Carbonatite	j. Caliche		10.	Ap - Cultivation, pasture
<ul> <li>10. Soil Order: <ol> <li>Chernozemic</li> <li>base saturation, cations (2)</li> <li>Solonetzic</li> <li>"B" &amp; "C" saline, Ca/Na=-10</li> <li>Luvisolic</li> <li>imperfectly drained</li> <li>Podzolic</li> <li>under mixed forest Veg</li> <li>Brunisolic</li> <li>good oxidizing forest floor</li> <li>Regosolic</li> <li>oxidizing weak horizon, Ah</li> </ol> </li> <li>12. Fm - Fibrous moss</li> <li>13. Pf - Peat fiber</li> <li>14. BC - Interface of B &amp; C</li> <li>15. C - Third layer mixed soil &amp; rocks</li> <li>16. Cs - Saprolite, tropical C</li> <li>17. Sh - Volcanic ash</li> <li>18. Pa - Paleo-horizon</li> <li>19. Cca Caliche</li> <li>20. De - Detrital</li> <li>21. Si - Swamp interface</li> <li>22. Tr - Transported</li> <li>23. R - Bedrock</li> </ul>		11.	Skeletal soil	k. Bleached		11.	AB - Interface of A & B
<ul> <li>10. Chernozemic base saturation, cations (2)</li> <li>2. Solonetzic "B" &amp; "C" saline, Ca/Na=-10</li> <li>3. Luvisolic imperfectly drained</li> <li>4. Podzolic under mixed forest Veg</li> <li>5. Brunisolic good oxidizing forest floor</li> <li>6. Regosolic oxidizing weak horizon, Ah</li> <li>7. Gleysolic reducing, saturated with water</li> <li>13. Pf - Peat fiber</li> <li>14. BC - Interface of B &amp; C</li> <li>15. C - Third layer mixed soil &amp; rocks</li> <li>16. Cs - Saprolite, tropical C</li> <li>17. Sh - Volcanic ash</li> <li>18. Pa - Paleo-horizon</li> <li>19. Cca Caliche</li> <li>20. De - Detrital</li> <li>21. Si - Swamp interface</li> <li>22. Tr - Transported</li> <li>23. R - Bedrock</li> </ul>	10	Sail	Order			12.	Fm - Fibrous moss
<ul> <li>base saturation, cations (2)</li> <li>2. Solonetzic "B" &amp; "C" saline, Ca/Na=-10</li> <li>3. Luvisolic imperfectly drained</li> <li>4. Podzolic under mixed forest Veg</li> <li>5. Brunisolic good oxidizing forest floor</li> <li>6. Regosolic oxidizing weak horizon, Ah</li> <li>7. Gleysolic reducing, saturated with water</li> <li>4. BC - Interface of B &amp; C 15. C - Third layer mixed soil &amp; rocks 16. Cs - Saprolite, tropical C 17. Sh - Volcanic ash 18. Pa - Paleo-horizon 19. Cca Caliche 20. De - Detrital 21. Si - Swamp interface 22. Tr - Transported 23. R - Bedrock</li> </ul>	10.	$\frac{3011}{1}$	Chernozemic			13.	Pf - Peat fiber
<ul> <li>2. Solonetzic "B" &amp; "C" saline, Ca/Na=-10</li> <li>3. Luvisolic imperfectly drained</li> <li>4. Podzolic under mixed forest Veg</li> <li>5. Brunisolic good oxidizing forest floor</li> <li>6. Regosolic oxidizing weak horizon, Ah</li> <li>7. Gleysolic reducing, saturated with water</li> <li>15. C - Third layer mixed soil &amp; rocks</li> <li>16. Cs - Saprolite, tropical C</li> <li>17. Sh - Volcanic ash</li> <li>18. Pa - Paleo-horizon</li> <li>19. Cca Caliche</li> <li>20. De - Detrital</li> <li>21. Si - Swamp interface</li> <li>22. Tr - Transported</li> <li>23. R - Bedrock</li> </ul>			base saturation	n, cations (2)		14.	BC - Interface of B & C
<ul> <li>"B" &amp; "C" saline, Ca/Na=-10</li> <li>Luvisolic imperfectly drained</li> <li>Podzolic under mixed forest Veg</li> <li>Sumisolic good oxidizing forest floor</li> <li>Regosolic oxidizing weak horizon, Ah</li> <li>Gleysolic reducing, saturated with water</li> <li>"B" &amp; "C" saline, Ca/Na=-10</li> <li>"B" &amp; "C' saline, Ca/Na=-10</li> <li>"B" &amp; "C' saline, Ca/Na=-10</li> <li>"B" &amp; "C' saline, Ca/Na=-10</li> <li>"</li></ul>		2.	Solonetzic			15.	C - Third layer mixed soil & rocks
<ul> <li>3. Luvisolic imperfectly drained</li> <li>4. Podzolic under mixed forest Veg</li> <li>5. Brunisolic good oxidizing forest floor</li> <li>6. Regosolic oxidizing weak horizon, Ah</li> <li>7. Gleysolic reducing, saturated with water</li> <li>17. Sh - Voltanit ash</li> <li>18. Pa - Paleo-horizon</li> <li>19. Cca Caliche</li> <li>20. De - Detrital</li> <li>21. Si - Swamp interface</li> <li>22. Tr - Transported</li> <li>23. R - Bedrock</li> </ul>			"B" & "C" salin	ne, Ca/Na=-10		10. 17	CS - Saprolite, tropical C
<ul> <li>imperfectly drained</li> <li>4. Podzolic</li> <li>under mixed forest Veg</li> <li>5. Brunisolic</li> <li>good oxidizing forest floor</li> <li>6. Regosolic</li> <li>oxidizing weak horizon, Ah</li> <li>7. Gleysolic</li> <li>reducing, saturated with water</li> </ul>		3.	Luvisolic			18.	Pa - Paleo-horizon
<ul> <li>4. Podzolic under mixed forest Veg</li> <li>5. Brunisolic good oxidizing forest floor</li> <li>6. Regosolic oxidizing weak horizon, Ah</li> <li>7. Gleysolic reducing, saturated with water</li> </ul>			imperfectly dra	ained		19.	Cca Caliche
<ul> <li>under mixed forest Veg</li> <li>5. Brunisolic good oxidizing forest floor</li> <li>6. Regosolic oxidizing weak horizon, Ah</li> <li>7. Gleysolic reducing, saturated with water</li> <li>21. Si - Swamp interface</li> <li>22. Tr - Transported</li> <li>23. R - Bedrock</li> </ul>		4.	Podzolic			20.	De - Detrital
<ul> <li>5. Brunisolic good oxidizing forest floor</li> <li>6. Regosolic oxidizing weak horizon, Ah</li> <li>7. Gleysolic reducing, saturated with water</li> <li>22. Tr - Transported 23. R - Bedrock</li> </ul>		r	under mixed for	rest Veg		21.	Si - Swamp interface
<ul> <li>6. Regosolic</li> <li>6. Regosolic</li> <li>7. Gleysolic</li> <li>7. Gleysolic</li> <li>7. reducing, saturated with water</li> </ul>		5.	prunisoiic	forest floor		22.	Tr - Transported
oxidizing weak horizon, Ah 7. Gleysolic reducing, saturated with water		6.	Regosolic	TOTEOF ITONI		23.	R - Bedrock
7. Gleysolic reducing, saturated with water			oxidizing weak	horizon, Ah			
reducing, saturated with water		7.	Gleysolic				
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