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# **2015 PROSPECTING REPORT**

CLAIMS #4266337, 4266338, 4266341, 4266342, 4266343,  
4266344, 4266345, 4266346, 4266347, 4266348

Leslie Project

THUNDER BAY MINING DISTRICT

**Prepared By:** Martin Drennan, P. Eng  
May 6, 2017

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## 1. Work Summary

Work during 2015, was limited to surface anomaly identification and one set of assays for samples collected. The assays were of assistance to indicate potential anomaly areas. The period work was used to identify areas for further perspective in 2016.

Work was completed by myself, Martin Drennan and James Thompson.

## 2. Introduction

This report is a description of the work completed and the geology for 26 claims in the Leslie and Mapledoram Townships in the Thunder Bay Mining District. The claims can be described as being located in the Manitouwadge mining camp (as defined by previous copper producers – Wilroy and Geco Mines).

The work in this report has been reviewed by the author and determined to be accurate. These claims are held by the author.

## 3. Location and Access

Leslie Township is located south east of Thunder Bay. Access is via Regional Road 614 to Caramat Industrial road. Caramat Industrial leads to 2 access roads – Sand Bay Road and Swill Lake Road. Both access roads were used to access the work areas. See Figure 1 – Location and Access (work areas are highlighted with red lines). No area organize was established to define “working areas” as the initial work was to establish anomaly locations. Once anomaly locations are established – a reference will be defined.

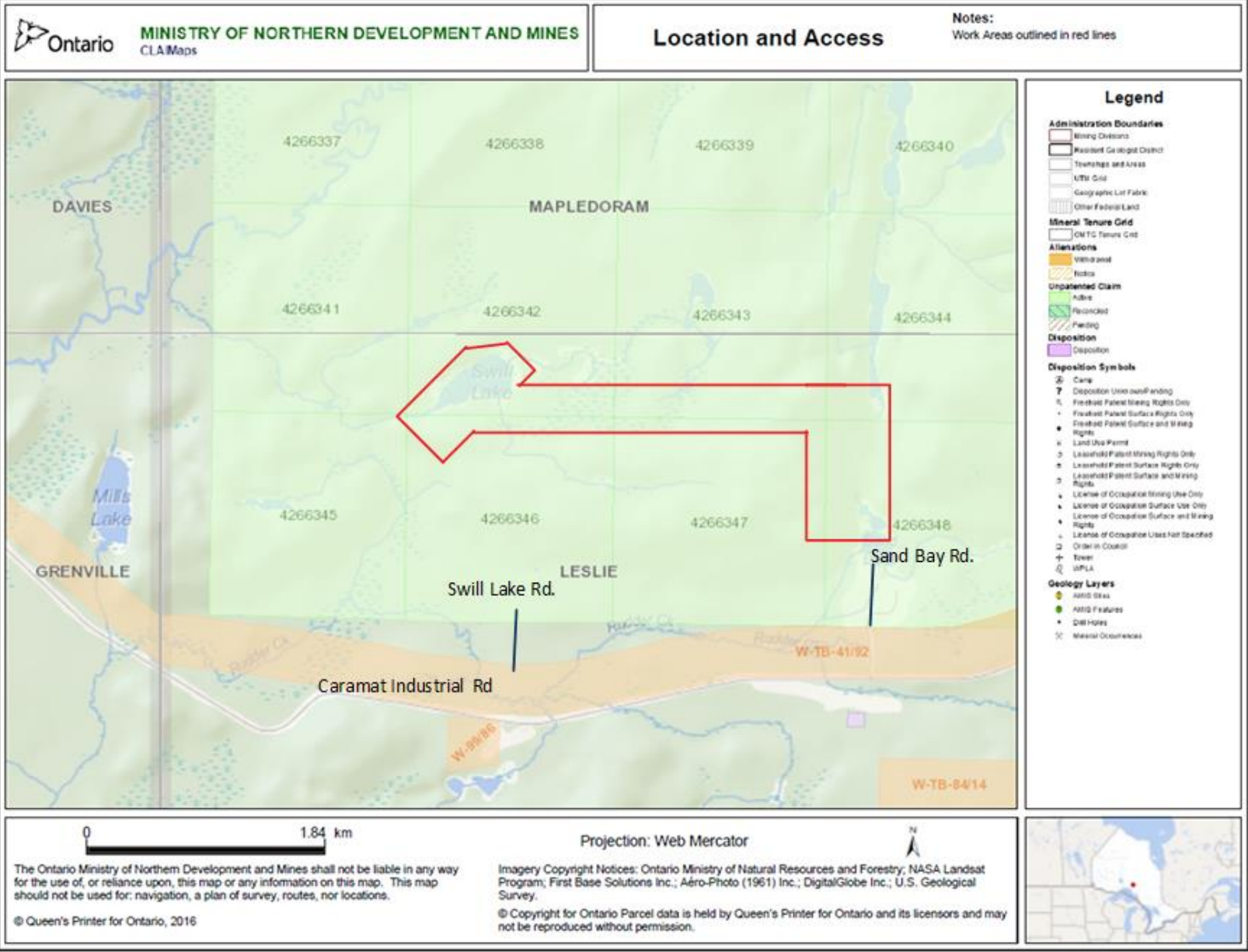


Figure 1 – Location and Access

Leslie Project

#### 4. Property Description

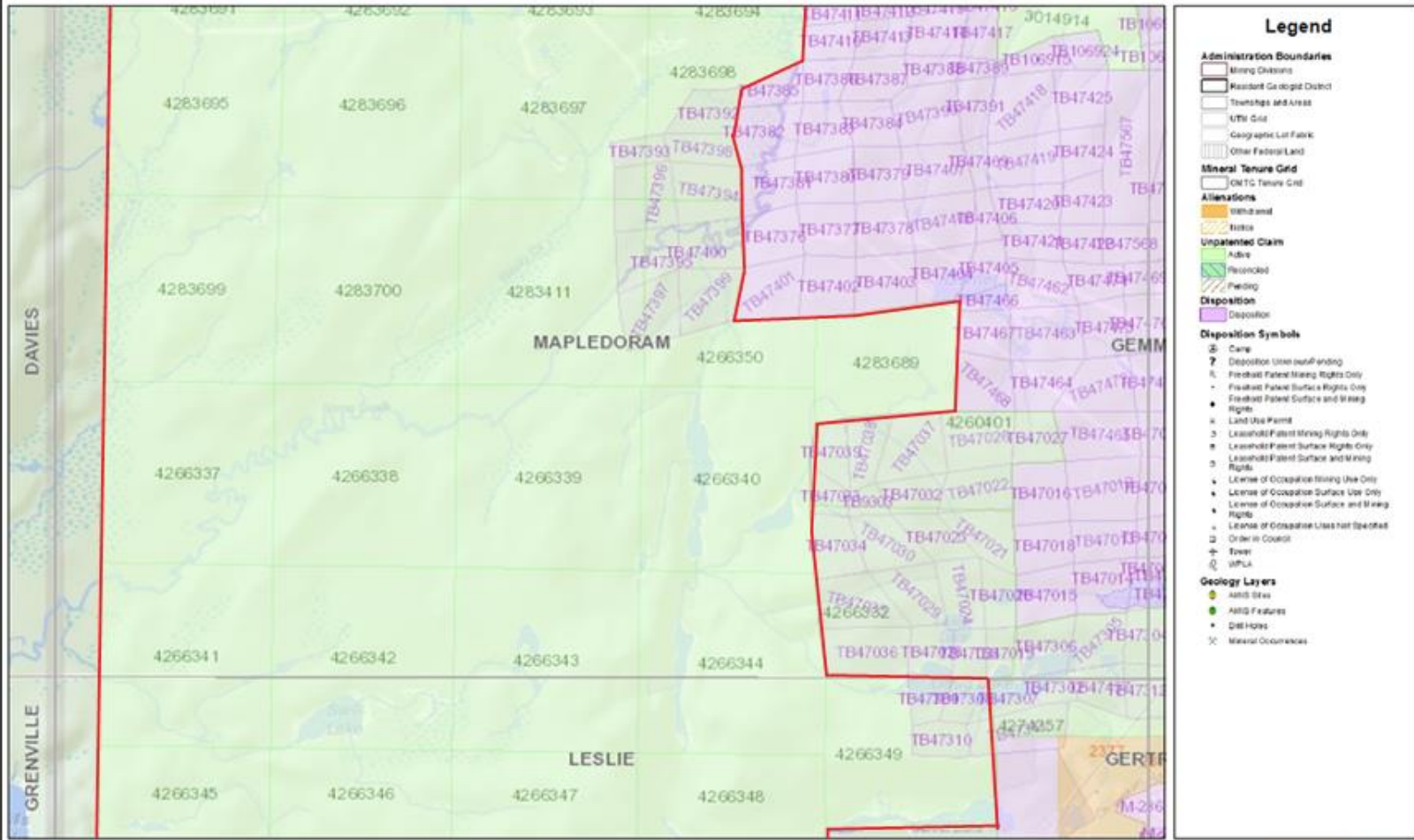
The claim group consists of 26 claims in Manitowadge area within the Thunder Bay Mining District. See Figure 2 –Claim Group Map. The claims are a continuous package with the eastern claims adjacent to the patented Geco Mine claims and some surface property lots. The claims are: 4266337, 4266338, 4266339, 4266340, 4266341, 4266342, 4266343, 4266344, 4266345, 4266346, 4266347, 4266348, 4266349, 4266350, 4283411, 4283689, 4283691, 4283692, 4283693, 4283694, 4283695, 4283696, 4283697, 4283698, 4283699, 4283700.



**MINISTRY OF NORTHERN DEVELOPMENT AND MINES**  
CLAMaps

### Claim Group

**Notes:**  
Claim Group outlined in red



#### Legend

**Administration Boundaries**

- Mining Division
- Resident Geographic District
- Townships and Areas
- UTM Grid
- Geographic Lot Fabric
- Other Federal Land

**Mineral Tenure Grid**

- ONTG Tenure Grid

**Alliations**

- Withdrawal
- Initial

**Unpatented Claim**

- Active
- Reconciled
- Pending
- Disposition

**Disposition Symbols**

- Circle with dot: Care
- Circle with cross: Disposition Under out/ending
- Circle with horizontal line: Freehold Patent Mining Rights Only
- Circle with vertical line: Freehold Patent Surface Rights Only
- Circle with diagonal line: Freehold Patent Surface and Mining Rights
- Circle with star: Rights
- Circle with triangle: Land Use Permit
- Circle with square: Leasehold Patent Mining Rights Only
- Circle with diamond: Leasehold Patent Surface Rights Only
- Circle with plus: Leasehold Patent Surface and Mining Rights
- Circle with asterisk: License of Occupation Mining Use Only
- Circle with x: License of Occupation Surface Use Only
- Circle with dot: License of Occupation Surface and Mining Rights
- Circle with dash: License of Occupation Uses Not Specified
- Circle with square: Order in Council
- Circle with triangle: Tower
- Circle with circle: WPLA

**Geology Layers**

- AMND Sites
- AMND Features
- Dred Holes
- Mineral Occurrences



Projection: Web Mercator



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Figure 2 – Claim Group Map

Leslie Project

## 5. Regional Geology

Topography in the area is a mix of low areas with water and hills/ridges with a general east-west orientation. Outcrops are common of hillsides with numerous fragmented rocks buried in soil.

Vegetation is principally coniferous, and deciduous trees as well as numerous alder bush. In low lying areas, grass and cedars are predominant.

The regional geology is a typical of the Abitibi-Wawa metavolcanic belt. Rock types consist of Gneiss group consisting of grey, granite and sedimentary Gneiss groups. Additionally, amphibolites and quartz-felspathic gneisses.<sup>1</sup> The quartz structures are narrow 1-15cms in width with occasional minor pyrite mineralization (bull quartz).

## 6. Work History

Work has been completed by Noranda which included magnetometer, followed by diamond drilling in any anomalous areas.<sup>2</sup> Other companies such as OKLECO, OKLEND, Delmico Mines and C.H.I.P. Mines performed magnetometer and geological surveys.<sup>3</sup> Anomalies appear to have been followed up with additional work including diamond drill. Unfortunately, no details on diamond drill results have been found by this author. Previous authors elude to finding results and reference to "G.D.I.F. 190 for further information".<sup>4</sup>

## 7. Work this Period

### a. March, 2015

March was the initial investigation of the Manitouwadge area. Several areas were looked. Weather conditions were a major limitation with over 60cms of snow and temperatures ranging between -15 and -30C.

Claim areas were investigated as best as possible visually. Four days were used for this investigation period.



## Leslie Project

### Period Daily Log:

March 25, 2015

- M. Drennan and James Thompson visited north and east areas of Manitouwadge. Drove toward Hornpayne and Hillsport.

March 26, 2015

- M. Drennan and James Thompson visited north and west areas of Manitouwadge. Drove toward Caramat and Hillsport.

March 27, 2015

- M. Drennan and James Thompson visited south areas of Manitouwadge. Drove toward Hemlo.

b. May, 2015

Arrangements were made with Alex Pleson to stake claims. During the staking, the author was able to visit several areas with the stakers. Several rock samples were looked at during this period and areas of note were identified by stakers. These were noted and taken as initial areas of investigation.

### Period Daily Log:

May 9, 2015

- M. Drennan met with Alex Pleson and crew at Sand Lake.

May 10, 2015

- M. Drennan met with Alex Pleson and crew along Caramat Industrial Road and Swill Rd.

c. July, 2015

July was the first focused work period where ground and terrain was visible. The initial work (Days 1 through 4) were traversing north of the Sand Lake area. Several outcrops were encountered. Rock types were granite. No sampling was warranted from mineralization noted. Traverse was limited to the loop bound by 580068E, 5442297N; 580135E, 5443262N; 579038E, 5443296N; 579057E, 5442929N; 579849E, 5442808N. Areas of previous exploration were encountered with drill steel and partial cores noted. Based on this encountered remnants of work the area was set aside as a focus. The previous work (assumed Noranda) had obviously not warranted further investigation. This data resulted in seeking a new area to investigate.

## Leslie Project

Days 5 through 11 were focused on a new area. Initial areas of investigation were bound by 576525E, 5442416N; 575951E, 5443067N; 576691E, 5443264N; 577008E, 5443004N; 576353E, 5442794N. Days 5 and 6 were used to identify areas of interest. Several areas were identified and from these areas samples were taken. A strategy was employed where 1 random sample was grabbed from a stream (576144E, 5442905N) for a background reference. Three sample areas were identified and the following sampling method was used.

The sampling method required 3 excavations. The rocks encountered during excavation were sorted and put into a sample bag. When bedrock was encountered – chip samples were taken and bagged.

The results of this campaign are in the Appendix - ActLabs. Samples are numbered as shown in Table 1.

Table 1 – Sample Assignments

| Sample No. | Location/ Chip or Grab or Random |
|------------|----------------------------------|
| 1          | 576178E, 5443101N / Chip         |
| 2          | 576178E, 5443101N / Grab         |
| 3          | 577221E, 5443030N/ Chip          |
| 4          | 577221E, 5443030N/ Grab          |
| 5          | 576686E, 5443120N/ Chip          |
| 6          | 576686E, 5443120N/ Grab          |
| 7          | 576127E, 5442924N / Random       |

Figure 3 – Example of Fragmented Rock by Outcrop



Period Daily Log:

July 12-13, 2015

2 prospectors went to Sand Lake. Walked animal trail north to water area. Encountered granite outcrop. No significant mineralization. All the work was completed on Claim #4266343

July 14-15, 2015

2 prospectors returned to Sand Lake. Progressed westerly at water/swamp area. Outcrops noted - granite and mafic volcanics further west. No significant mineralization noted. Found diamond drilling setup - broken cores and steel.

## Leslie Project

July 16-17, 2015

- 2 prospectors went to Swill Lake Rd area. Started looking for outcrops/areas for samples. Outcrops noted - mafic volcanic. Samples 1-4 taken. 1 and 3 chip 2 and 4 grab. All the work was completed on Claim #4266342

July 18, 2015

- 2 prospectors went to Swill Lake Rd area. Started looking for outcrops/areas in old Granges area. Area had mafic volcanic outcrops. Nothing warranted sampling.

July 19-20, 2015

- 2 prospectors went to Swill Lake Rd area. Started looking for outcrops/areas for samples. Outcrops noted - mafic volcanics. Samples 5-6 taken - 5 chip, 6 grab. All the work was completed on Claim #4266342

July 21, 2015

- 2 prospectors went to Swill Lake Rd area. Worked west side of road up creek. Grabbed a random sample from creek. Sample 7 taken - random grab. Nothing significant noted - bug country! All the work was completed on Claim #4266341

d. August, 2015

Assay results were not received. Surface inspections were undertaken. Samples were contemplated as an option for this period, however, it was warranted to wait to see what the initial samples returned.

With this rationale in place, surface traverses were undertaken in around the west, north and south portions of Swill Lake. Several "areas of interest" were identified. Based, on the assay results these areas would be classed in a graded primary, secondary and tertiary priority.

Areas in the South Swill were noted to have more granite with outcrops by the lake and fewer outcrops moving south away from the lake.

North Swill was noted as granite/ amphibolites and quartz-felspathic gneisses.

Lastly, areas west of Swill Lake were traversed and areas were identified with a positive/immediate investigative value.

## Leslie Project

This preliminary work was set to be valued by the assay data.

### Period Daily Log:

August 6, 2015

- 2 prospectors went to Swill Lake Rd area. Walked north of Swill Lake on the south hill side. Area had no outcrops noted. All the work was completed on Claim #4266342.

August 7-8, 2015

- 2 prospectors went to Swill Lake Rd area. Walked south of Swill Lake on the north hill side. Area had few outcrops noted - mafic volcanics. All the work was completed on Claim #4266342.

August 9-10, 2015

- 2 prospectors went to Swill Lake Rd area. Walked north and west of Swill Lake. Area had outcrops noted - amphibolites and quartz-felspathic. All the work was completed on Claim #4266342.

August 11, 2015

- 2 prospectors went to Swill Lake Rd area. Walked north and east of Swill Lake on the north slope side. Area had outcrops noted - mafic volcanics. All the work was completed on Claim #4266342.

August 12, 2015

- 2 prospectors went to Swill Lake Rd area. Walked south and west of Swill Lake on the north slope side. Area had outcrops noted - mafic volcanics. All the work was completed on Claim #4266342.

August 13-14, 2015

- 2 prospectors went to Swill Lake Rd area. Walked south and east of Swill Lake on the north slope side. Area had outcrops noted - mafic volcanics. All the work was completed on Claim #4266342.

August 15-16, 2015

- 2 prospectors went to Swill Lake Rd area. Walked south and west of Swill Lake on the south slope side. Area had few outcrops noted - mafic volcanics. All the work was completed on Claim #4266342.

e. September, 2015

Assay results were received in early September. Upon review of the assay report, a plan was developed to review specific areas. The areas determined were to the east of the access road and north of the old logging road access

Figure 4 - Old Logging Road Access



Work was initiated in September on the northwest of the random sample location as a preliminary investigation. The south hill side (north of the lake) was traversed to note any occurrences of similar rock type samples. No similarities were correlated from the precursor surface traverses. This area was found to not be of interest at this time and was set aside to be investigated in 2016.

Unfortunately, September's efforts were unexpectedly cut short due to personnel – personal issues. As such this work was moved to the next work period.



Figure 5 – Sample Traverses in August and September



Period Daily Log:

August 27-28, 2015

- 2 prospectors went to Swill Lake Rd area. Walked north of logging road eastward to Swill Lake. No significant mineralization noted. All the work was completed on Claim #4266342.

August 29, 2015

- 2 prospectors went to Swill Lake Rd area. Walked north of Swill Lake - on the south hill side. Looking specifically for assay type sample - Sample 2 - cu/zn anomaly. No significant mineralization noted. All the work was completed on Claim #4266342.

August 30-31, 2015

- 2 prospectors went to Swill Lake Rd area. Walked north of Swill Lake - on the south hill side. Looking specifically for assay type sample - Sample 2 - cu/zn anomaly. No significant mineralization noted. All the work was completed on Claim #4266342.

September 1, 2015

- 2 prospectors went to Swill Rd. Traversed further east of where were yesterday. No significant results.

## Leslie Project

September 2-3, 2015

- 2 prospectors went to Swill Lake. Went to same area as sample 2. Is this actual host rock or big piece of something else? Looking for similar rock...no luck. All the work was completed on Claim #4266342.

September 27, 2015

- 2 prospectors went to Swill Lake. Went to recheck west end on hill near Swill Lake. No significant mineralization noted.

f. October, 2015

Late October was the next rotation. The work was slower with only one person available for traverses and sampling. The assay results indicated grades for copper and zinc were elevated to west of random sample location. The grab samples were higher than the chip samples in all areas.

As such, the choices were limited to – where was the source of the buried grab samples? Weighing the terrain and other indicators, the assumption was to start on the west area of samples 2 and 4. Surface traverses were undertaken. Indicator rock types were found. As an example, the rock type as shown in Figure 6.



Figure 6 – Rock Type of Interest



Additionally, indicator rocks were found that are believed to show glacial movement - see Figure 7.

Figure 7 – Glacial Movement Indicator Rock



Period Daily Log:

October 27, 2015

- 1 prospector went to Swill Lake Rd area. Drove to end of logging road. Checked out west end of hill north of Swill Lake. Walked the hill - no significant mineralization noted. All the work was completed on Claim #4266342.

October 28-29, 2015

- 1 prospector went to Swill Lake Rd area. Drove to lake. Checked out west end of hill north of Swill Lake. Walked the hill on the north side (west portion) - no significant mineralization noted. All the work was completed on Claim #4266342.

## Leslie Project

October 30-31, 2015

- 1 prospector went to Swill Lake Rd area. Drove to lake. Checked out west end of hill north of Swill Lake. Walked back to west - no significant mineralization noted. All the work was completed on Claim #4266342.

November 1, 2015

- 1 prospector went to Swill Lake Rd area. Checked out north of logging road.. Walked north on traverse to see if could find similar sample mineralization - no significant mineralization noted. All the work was completed on Claim #4266342.

November 2-3, 2015

- 1 prospector went to Swill Lake Rd area. Checked out north of logging road.. Walked north on traverse to see if could find similar sample mineralization - no significant mineralization noted. All the work was completed on Claim #4266342.

November 4-5, 2015

- 1 prospector went to same area as yesterday. Went north then west for similar sample mineralization - no significant mineralization noted. All the work was completed on Claim #4266342.

November 6, 2015

- 1 prospector went to sample location again. Solution by elimination. Headed south east - no significant mineralization noted. All the work was completed on Claim #4266342.

November 7, 2015

- 1 prospector went to sample location again. Headed south west - no significant mineralization noted. All the work was completed on Claim #4266342.

November 8-9, 2015

- 1 prospector went to sample location again. Solution by elimination. Headed north west (more north)- no significant mineralization noted. All the work was completed on Claim #4266342.

November 10, 2015

- 1 prospector drove further up Swill Rd to active logging area. Headed east and traversed north/south- no significant mineralization noted. All the work was completed on Claim #4266338.

November 11-12, 2015

## Leslie Project

- 1 prospector drove further up Swill Rd to active logging area. Headed west and traversed north/south- no significant mineralization noted. All the work was completed on Claim #4266337.

November 12-13, 2015

- 1 prospector drove Swill Rd to logging rd access. Headed east and south - found similar rock type. All the work was completed on Claim #4266342.

November 14, 2015

- 1 prospector drove Swill Rd to logging rd access. Headed east and north of lake - no significant mineralization noted. All the work was completed on Claim #4266342.

November 15, 2015

- 1 prospector drove Swill Rd to logging rd access. Headed further east and south - no significant mineralization noted. All the work was completed on Claim #4266342.

### g. November, 2015

November was focused on gathering as much surface data as possible. Daily traverses were undertaken radiating out from the assay data sources (specifically samples 2 and 4) utilizing the indicators encountered as well as theories on sample migration sources. The only data accumulated in November was investigative areas for 2016.

#### Period Daily Log:

November 24, 2015

- 1 prospector drove Swill Rd to logging rd access. Headed east on south side of lake - no significant mineralization noted. All the work was completed on Claim #4266342.

November 25, 2015

- 1 prospector drove Swill Rd to logging rd access. Walked creek (north side) back to the road - no significant mineralization noted. All the work was completed on Claim #4266342.

November 26, 2015

- 1 prospector drove Swill Rd to logging rd access. Walked creek (south side) back to the road - no significant mineralization noted. All the work was completed on Claim #4266342.

## Leslie Project

November 27-28, 2015

- 1 prospector drove Swill Rd to logging rd access. Walked lake (south side), swamp areas freezing - no significant mineralization noted. All the work was completed on Claim #4266342.

November 29, 2015

- 1 prospector drove Swill Rd to logging rd end by lake. Walked south of lake up slope and hills- no significant mineralization noted. All the work was completed on Claim #4266342, #4266346.

### 8. Data Procedures

ActLabs was selected to completed detailed assays on 7 samples. The element analysis and standards are outlined in Table 1 – ActLabs QC.

QC

| Analyte Symbol          | Au   | Ag     | Ag   | Cu       | Cd     | Mo     | Pb     | Ni     | Ni   | Zn     | Zn   | S      | Al     | As    | Ba   | Ba     | Bi     | Br    | Ca     | Co   | Cr   | Cs   | Eu    |
|-------------------------|------|--------|------|----------|--------|--------|--------|--------|------|--------|------|--------|--------|-------|------|--------|--------|-------|--------|------|------|------|-------|
| Unit Symbol             | ppb  | ppm    | ppm  | ppm      | ppm    | ppm    | ppm    | ppm    | ppm  | ppm    | ppm  | %      | %      | ppm   | ppm  | ppm    | ppm    | ppm   | %      | ppm  | ppm  | ppm  | ppm   |
| Lower Limit             | 2    | 0.3    | 5    | 1        | 0.3    | 1      | 3      | 1      | 20   | 1      | 50   | 0.01   | 0.01   | 0.5   | 50   | 1      | 2      | 0.5   | 0.01   | 1    | 2    | 1    | 0.2   |
| Method Code             | INAA | TD-ICP | INAA | TD-ICP   | TD-ICP | TD-ICP | TD-ICP | TD-ICP | INAA | TD-ICP | INAA | TD-ICP | TD-ICP | INAA  | INAA | TD-ICP | TD-ICP | INAA  | TD-ICP | INAA | INAA | INAA | INAA  |
| GXR-1 Meas              | 3280 | 31.5   | 32   | 1130     | 1.8    | 14     | 725    | 40     | < 20 | 746    | 740  | 0.25   | 1.79   | 420   | 300  | 1      | 1380   | < 0.5 | 0.85   | 9    | 16   | < 1  | 0.5   |
| GXR-1 Cert              | 3300 | 31.0   | 31.0 | 1110     | 3.30   | 18.0   | 730    | 41.0   | 41.0 | 760    | 760  | 0.257  | 3.52   | 427   | 750  | 1.22   | 1380   | 0.500 | 0.950  | 8.20 | 12.0 | 3.00 | 0.590 |
| GXR-4 Meas              |      | 3.4    |      | 6500     | < 0.3  | 294    | 43     | 40     |      | 70     |      | 1.79   | 6.74   |       | 2    | 16     |        |       |        |      |      |      |       |
| GXR-4 Cert              |      | 4.0    |      | 6520     | 0.860  | 310    | 52.0   | 42.0   |      | 73.0   |      | 1.77   | 7.20   |       | 1.90 | 19.0   |        |       | 1.01   |      |      |      |       |
| SDC-1 Meas              |      |        |      | 32       |        |        | 20     | 39     |      | 99     |      |        | 8.05   |       | 3    |        |        |       |        |      |      |      |       |
| SDC-1 Cert              |      |        |      | 30.000   |        |        | 25.00  | 35.0   |      | 103.00 |      |        | 8.34   |       | 3.00 |        |        |       |        |      |      |      |       |
| DNC-1a Meas             |      |        |      | 101      |        |        | < 3    | 254    |      | 60     |      |        |        |       |      |        |        |       |        |      |      |      |       |
| DNC-1a Cert             |      |        |      | 100.00   |        |        | 5.3    | 247    |      | 70.0   |      |        |        |       |      |        |        |       |        |      |      |      |       |
| SBC-1 Meas              |      |        |      | 30       | < 0.3  | 2      | 29     | 55     |      | 181    |      |        |        |       |      | 3      | < 2    |       |        |      |      |      |       |
| SBC-1 Cert              |      |        |      | 31.0000  | 0.40   | 2.40   | 35.0   | 52.8   |      | 186.0  |      |        |        |       |      | 3.20   | 0.70   |       |        |      |      |      |       |
| OREAS 45d (4-Acid) Meas |      |        |      | 374      |        | 3      | 18     | 235    |      | 42     |      | 0.04   | 7.54   |       |      | < 1    | < 2    |       | 0.19   |      |      |      |       |
| OREAS 45d (4-Acid) Cert |      |        |      | 371.0    |        | 2.500  | 21.8   | 231.0  |      | 45.7   |      | 0.049  | 8.150  |       |      | 0.79   | 0.31   |       | 0.185  |      |      |      |       |
| SdAR-M2 (U.S.G.S.) Meas |      |        |      | 244      | 5.0    | 9      | 830    | 51     |      | 780    |      |        |        |       |      | 7      | < 2    |       |        |      |      |      |       |
| SdAR-M2 (U.S.G.S.) Cert |      |        |      | 236.0000 | 5.1    | 13.3   | 805    | 45.8   |      | 760    |      |        |        |       |      | 6.5    | 1.05   |       |        |      |      |      |       |
| DMMAS 118 Meas          | 1650 |        |      |          |        |        |        |        |      |        |      |        |        | 1720  | 1220 |        |        |       |        |      | 45   | 86   |       |
| DMMAS 118 Cert          | 1729 |        |      |          |        |        |        |        |      |        |      |        |        | 1651  | 1254 |        |        |       |        |      | 45   | 83   |       |
| DMMAS 118 Meas          | 1720 |        |      |          |        |        |        |        |      |        |      |        |        | 1700  | 1060 |        |        |       |        |      | 43   | 73   |       |
| DMMAS 118 Cert          | 1729 |        |      |          |        |        |        |        |      |        |      |        |        | 1651  | 1254 |        |        |       |        |      | 45   | 83   |       |
| Method Blank            |      | < 0.3  |      | < 1      | < 0.3  | < 1    | < 3    | < 1    |      | < 1    |      | < 0.01 | < 0.01 |       |      | < 1    | < 2    |       | < 0.01 |      |      |      |       |
| Method Blank            |      | < 0.3  |      | < 1      | < 0.3  | < 1    | < 3    | < 1    |      | < 1    |      | < 0.01 | < 0.01 |       |      | < 1    | < 2    |       | < 0.01 |      |      |      |       |
| Method Blank            |      | < 0.3  |      | 1        | < 0.3  | < 1    | < 3    | < 1    |      | < 1    |      | < 0.01 | < 0.01 |       |      | < 1    | < 2    |       | < 0.01 |      |      |      |       |
| Method Blank            |      | < 0.3  |      | < 1      | < 0.3  | < 1    | < 3    | < 1    |      | < 1    |      | < 0.01 | < 0.01 |       |      | < 1    | < 2    |       | < 0.01 |      |      |      |       |
| Method Blank            | < 2  |        | < 5  |          |        |        |        | < 20   |      | < 50   |      |        |        | < 0.5 | < 50 |        |        | < 0.5 |        | < 1  | < 2  | < 1  | < 0.2 |
| Method Blank            | < 2  |        | < 5  |          |        |        |        | < 20   |      | < 50   |      |        |        | < 0.5 | < 50 |        |        | < 0.5 |        | < 1  | < 2  | < 1  | < 0.2 |

QC

| Analyte Symbol          | Fe   | Hf    | Hg   | Ir   | K      | Li     | Mg     | Mn      | Na     | P      | Rb   | Sb   | Sc   | Se   | Sr     | Ta    | Ti     | Th   | U    | V      | W      | Y      | Zn   |
|-------------------------|------|-------|------|------|--------|--------|--------|---------|--------|--------|------|------|------|------|--------|-------|--------|------|------|--------|--------|--------|------|
| Unit Symbol             | %    | ppm   | ppm  | ppb  | %      | ppm    | %      | ppm     | %      | %      | ppm  | ppm  | ppm  | ppm  | ppm    | ppm   | %      | ppm  | ppm  | ppm    | ppm    | ppm    | ppm  |
| Lower Limit             | 0.01 | 1     | 1    | 5    | 0.01   | 1      | 0.01   | 1       | 0.01   | 0.001  | 15   | 0.1  | 0.1  | 3    | 1      | 0.5   | 0.01   | 0.2  | 0.5  | 2      | 1      | 1      | 0.5  |
| Method Code             | INAA | INAA  | INAA | INAA | TD-ICP | TD-ICP | TD-ICP | TD-ICP  | INAA   | TD-ICP | INAA | INAA | INAA | INAA | TD-ICP | INAA  | TD-ICP | INAA | INAA | TD-ICP | INAA   | TD-ICP | INAA |
| GXR-1 Meas              | 24.1 | < 1   | < 1  |      | 0.04   | 8      | 0.20   | 915     | 0.05   | 0.062  | < 15 | 120  | 1.5  | 15   | 255    | < 0.5 | 0.03   | 2.3  | 35.5 | 88     | 164    | 34     | 7.3  |
| GXR-1 Cert              | 23.6 | 0.950 | 3.90 |      | 0.050  | 8.20   | 0.217  | 852     | 0.0520 | 0.0650 | 14.0 | 122  | 1.55 | 15.6 | 275    | 0.175 | 0.036  | 2.44 | 34.9 | 80.0   | 164    | 32.0   | 7.50 |
| GXR-4 Meas              |      |       |      |      | 2.40   | 12     | 1.65   | 167     |        | 0.136  |      |      |      |      | 213    |       | 0.29   |      |      |        | 86     |        | 15   |
| GXR-4 Cert              |      |       |      |      | 4.01   | 11.1   | 1.66   | 155     |        | 0.120  |      |      |      |      | 221    |       | 0.29   |      |      |        | 87.0   |        | 14.0 |
| SDC-1 Meas              |      |       |      |      | 2.25   | 34     | 0.99   | 373     |        | 0.056  |      |      |      |      | 172    |       | 0.16   |      |      |        | 47     |        |      |
| SDC-1 Cert              |      |       |      |      | 2.72   | 34.00  | 1.02   | 350.00  |        | 0.0590 |      |      |      |      | 180.00 |       | 0.605  |      |      |        | 102.00 |        |      |
| DNC-1a Meas             |      |       |      |      | 4      |        |        |         |        |        |      |      |      |      | 125    |       | 0.29   |      |      |        | 141    |        | 17   |
| DNC-1a Cert             |      |       |      |      | 5.20   |        |        |         |        |        |      |      |      |      | 144.0  |       | 0.29   |      |      |        | 148.00 |        | 15.0 |
| SBC-1 Meas              |      |       |      |      | 154    |        |        |         |        |        |      |      |      |      | 172    |       | 0.49   |      |      |        | 212    |        | 31   |
| SBC-1 Cert              |      |       |      |      | 163.0  |        |        |         |        |        |      |      |      |      | 173.0  |       | 0.51   |      |      |        | 220.0  |        | 35.5 |
| OREAS 45d (4-Acid) Meas |      |       |      |      | 0.40   | 20     | 0.24   | 501     |        | 0.035  |      |      |      |      | 32     |       | 0.17   |      |      |        | 118    |        | 13   |
| OREAS 45d (4-Acid) Cert |      |       |      |      | 0.412  | 21.50  | 0.245  | 490.000 |        | 0.042  |      |      |      |      | 31.30  |       | 0.773  |      |      |        | 235.0  |        | 9.53 |
| SdAR-M2 (U.S.G.S.) Meas |      |       |      |      | 18     |        |        |         |        |        |      |      |      |      | 144    |       |        |      |      |        | 26     |        | 29   |



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Table 3 – Actlabs QC

| Analyte Symbol             | Fe     | Hf   | Hg   | Ir   | K      | Li     | Mg     | Mn     | Na     | P       | Rb   | Sb    | Sc    | Se   | Sr     | Ta    | Ti     | Th    | U     | V      | W    | Y      | La    |
|----------------------------|--------|------|------|------|--------|--------|--------|--------|--------|---------|------|-------|-------|------|--------|-------|--------|-------|-------|--------|------|--------|-------|
| Unit Symbol                | %      | ppm  | ppm  | ppb  | %      | ppm    | %      | ppm    | %      | %       | ppm  | ppm   | ppm   | ppm  | ppm    | ppm   | %      | ppm   | ppm   | ppm    | ppm  | ppm    | ppm   |
| Lower Limit                | 0.01   | 1    | 1    | 5    | 0.01   | 1      | 0.01   | 1      | 0.01   | 0.001   | 15   | 0.1   | 0.1   | 3    | 1      | 0.5   | 0.01   | 0.2   | 0.5   | 2      | 1    | 1      | 0.5   |
| Method Code                | INAA   | INAA | INAA | INAA | TD-ICP | TD-ICP | TD-ICP | TD-ICP | INAA   | TD-ICP  | INAA | INAA  | INAA  | INAA | TD-ICP | INAA  | TD-ICP | INAA  | INAA  | TD-ICP | INAA | TD-ICP | INAA  |
| SdAR-M2 (U.S.G.S.)<br>Cert |        |      |      |      |        | 17.9   |        |        |        |         |      |       |       |      | 144    |       |        |       |       | 25.2   |      | 32.7   |       |
| DMMAS 118 Meas             | 3.38   |      |      |      |        |        |        |        | 2.25   |         |      | 6.6   | 6.4   |      |        |       |        |       | 14.7  |        |      |        | 17.3  |
| DMMAS 118 Cert             | 3.25   |      |      |      |        |        |        |        | 2.21   |         |      | 6.6   | 6.1   |      |        |       |        |       | 15.9  |        |      |        | 16.9  |
| DMMAS 118 Meas             | 3.38   |      |      |      |        |        |        |        | 2.23   |         |      | 6.8   | 6.1   |      |        |       |        |       | 15.7  |        |      |        | 16.8  |
| DMMAS 118 Cert             | 3.25   |      |      |      |        |        |        |        | 2.21   |         |      | 6.6   | 6.1   |      |        |       |        |       | 15.9  |        |      |        | 16.9  |
| Method Blank               |        |      |      |      | < 0.01 | < 1    | < 0.01 |        |        | < 0.001 |      |       |       |      | < 1    |       | < 0.01 |       |       | < 2    |      | < 1    |       |
| Method Blank               |        |      |      |      | < 0.01 | < 1    | < 0.01 |        |        | < 0.001 |      |       |       |      | < 1    |       | < 0.01 |       |       | < 2    |      | < 1    |       |
| Method Blank               |        |      |      |      | < 0.01 | < 1    | < 0.01 |        |        | < 0.001 |      |       |       |      | < 1    |       | < 0.01 |       |       | < 2    |      | < 1    |       |
| Method Blank               |        |      |      |      | < 0.01 | < 1    | < 0.01 |        |        | < 0.001 |      |       |       |      | < 1    |       | < 0.01 |       |       | < 2    |      | < 1    |       |
| Method Blank               | < 0.01 | < 1  | < 1  | < 5  |        |        |        |        | < 0.01 |         | < 15 | < 0.1 | < 0.1 | < 3  |        | < 0.5 |        | < 0.2 | < 0.5 |        | < 1  |        | < 0.5 |
| Method Blank               | < 0.01 | < 1  | < 1  | < 5  |        |        |        |        | < 0.01 |         | < 15 | < 0.1 | < 0.1 | < 3  |        | < 0.5 |        | < 0.2 | < 0.5 |        | < 1  |        | < 0.5 |

QC

| Analyte Symbol             | Ce   | Nd   | Sm    | Sn      | Tb    | Yb    | Lu     | Mass |
|----------------------------|------|------|-------|---------|-------|-------|--------|------|
| Unit Symbol                | ppm  | ppm  | ppm   | %       | ppm   | ppm   | ppm    | g    |
| Lower Limit                | 3    | 5    | 0.1   | 0.01    | 0.5   | 0.2   | 0.05   |      |
| Method Code                | INAA | INAA | INAA  | INAA    | INAA  | INAA  | INAA   | INAA |
| GXR-1 Meas                 | 16   | 17   | 2.6   | < 0.01  | < 0.5 | 1.9   | 0.27   |      |
| GXR-1 Cert                 | 17.0 | 18.0 | 2.70  | 0.00540 | 0.830 | 1.90  | 0.280  |      |
| GXR-4 Meas                 |      |      |       |         |       |       |        |      |
| GXR-4 Cert                 |      |      |       |         |       |       |        |      |
| SDC-1 Meas                 |      |      |       |         |       |       |        |      |
| SDC-1 Cert                 |      |      |       |         |       |       |        |      |
| DNC-1a Meas                |      |      |       |         |       |       |        |      |
| DNC-1a Cert                |      |      |       |         |       |       |        |      |
| SBC-1 Meas                 |      |      |       |         |       |       |        |      |
| SBC-1 Cert                 |      |      |       |         |       |       |        |      |
| OREAS 45d (4-Acid)<br>Meas |      |      |       |         |       |       |        |      |
| OREAS 45d (4-Acid)<br>Cert |      |      |       |         |       |       |        |      |
| SdAR-M2 (U.S.G.S.)<br>Meas |      |      |       |         |       |       |        |      |
| SdAR-M2 (U.S.G.S.)<br>Cert |      |      |       |         |       |       |        |      |
| DMMAS 118 Meas             | 32   |      | 2.3   |         |       |       |        |      |
| DMMAS 118 Cert             | 30   |      | 2.2   |         |       |       |        |      |
| DMMAS 118 Meas             | 29   |      | 2.4   |         |       |       |        |      |
| DMMAS 118 Cert             | 30   |      | 2.2   |         |       |       |        |      |
| Method Blank               |      |      |       |         |       |       |        |      |
| Method Blank               |      |      |       |         |       |       |        |      |
| Method Blank               |      |      |       |         |       |       |        |      |
| Method Blank               |      |      |       |         |       |       |        |      |
| Method Blank               | < 3  | < 5  | < 0.1 | < 0.01  | < 0.5 | < 0.2 | < 0.05 | 1.00 |
| Method Blank               | < 3  | < 5  | < 0.1 | < 0.01  | < 0.5 | < 0.2 | < 0.05 | 30.0 |

## 9. Conclusion and Recommendations

The year was reasonable with respect to results. Assay results were indicative of Cu and Zn values. Though values were not significant relative to areas mined in the region, they were anomalous relative to the sample data. The data discovered and assembled over this year indicates that some increased Cu and Zn values are likely located to the easterly direction from where the sample data was retrieved. Rock migration distances are a significant question. This leads to a major question – were these rocks migrated from either Wilroy or Geco Mine areas?

For 2016, it is recommended that investigations be undertaken to the east (north, east and south portions). Assay data should be used only for chip samples from buried/covered rock to reduce the potential of leached values. More samples or inspection from bedrock.

## 10. References

1. GRANGES INC., MAN PROJECT, GEMMEL, GERTRUDE, MAPLEDORAM AND LESLIE TOWNSHIPS CENTRAL AND NORTH CENTRAL GRID GEOLOGY REPORT, Warren Bates, B.Se., Hons. Geol August 6, 1993 (Page 2)
2. GRANGES INC., MAN PROJECT, GEMMEL, GERTRUDE, MAPLEDORAM AND LESLIE TOWNSHIPS CENTRAL AND NORTH CENTRAL GRID GEOLOGY REPORT, Warren Bates, B.Se., Hons. Geol August 6, 1993 (Page 3)
3. GRANGES INC., MAN PROJECT, GEMMEL, GERTRUDE, MAPLEDORAM AND LESLIE TOWNSHIPS CENTRAL AND NORTH CENTRAL GRID GEOLOGY REPORT, Warren Bates, B.Se., Hons. Geol August 6, 1993 (Page 3)
4. GRANGES INC., MAN PROJECT, GEMMEL, GERTRUDE, MAPLEDORAM AND LESLIE TOWNSHIPS CENTRAL AND NORTH CENTRAL GRID GEOLOGY REPORT, Warren Bates, B.Se., Hons. Geol August 6, 1993 (Page 3)

## 11. Appendix





**Date Submitted:** 17-Aug-15  
**Invoice No.:** A15-06682  
**Invoice Date:** 03-Sep-15  
**Your Reference:**

Martin Drennan  
37 Spruceside Ave  
Hamilton ON L8P 3Y2  
Canada

ATTN: Martin Drennan

## CERTIFICATE OF ANALYSIS

7 Rock samples were submitted for analysis.

The following analytical package was requested:

Code 1H INAA(INAAGEO)/Total Digestion ICP(TOTAL)  
Code Weight Report (kg)-Internal Received Weights

REPORT      **A15-06682**

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

Notes:

Elements which exceed the upper limits should be analyzed by assay techniques. Some elements are reported by multiple techniques. These are indicated by MULT.

CERTIFIED BY:

A handwritten signature in black ink, appearing to read "Emmanuel Esemé".

Emmanuel Esemé , Ph.D.  
Quality Control



Results

| Analyte Symbol | Au   | Ag                       | Cu     | Cd     | Mo     | Pb     | Ni                       | Zn                       | S      | Al     | As    | Ba   | Be     | Bi     | Br    | Ca     | Co   | Cr   | Cs   | Eu    | Fe   | Hf   | Hg   |
|----------------|------|--------------------------|--------|--------|--------|--------|--------------------------|--------------------------|--------|--------|-------|------|--------|--------|-------|--------|------|------|------|-------|------|------|------|
| Unit Symbol    | ppb  | ppm                      | ppm    | ppm    | ppm    | ppm    | ppm                      | ppm                      | %      | %      | ppm   | ppm  | ppm    | ppm    | ppm   | %      | ppm  | ppm  | ppm  | ppm   | %    | ppm  | ppm  |
| Lower Limit    | 2    | 0.3                      | 1      | 0.3    | 1      | 3      | 1                        | 1                        | 0.01   | 0.01   | 0.5   | 50   | 1      | 2      | 0.5   | 0.01   | 1    | 2    | 1    | 0.2   | 0.01 | 1    | 1    |
| Method Code    | INAA | MULT<br>INAA /<br>TD-ICP | TD-ICP | TD-ICP | TD-ICP | TD-ICP | MULT<br>INAA /<br>TD-ICP | MULT<br>INAA /<br>TD-ICP | TD-ICP | TD-ICP | INAA  | INAA | TD-ICP | TD-ICP | INAA  | TD-ICP | INAA | INAA | INAA | INAA  | INAA | INAA | INAA |
| 1              | < 2  | 1.7                      | 120    | 0.9    | 5      | 18     | 88                       | 390                      | 10.9   | 1.43   | 10.1  | < 50 | < 1    | < 2    | < 0.5 | 0.29   | 48   | 39   | < 1  | 0.2   | 14.7 | < 1  | < 1  |
| 2              | < 2  | 3.9                      | 622    | 6.2    | 9      | 19     | 209                      | 2520                     | > 20.0 | 0.86   | 19.3  | < 50 | < 1    | 4      | < 0.5 | 0.43   | 135  | 68   | < 1  | < 0.2 | 41.8 | < 1  | < 1  |
| 3              | < 2  | 2.5                      | 366    | 0.6    | 4      | 17     | 210                      | 381                      | > 20.0 | 0.90   | < 0.5 | < 50 | < 1    | 3      | < 0.5 | 0.87   | 140  | 78   | < 1  | 0.4   | 43.3 | < 1  | < 1  |
| 4              | < 2  | 1.8                      | 328    | 1.8    | 4      | 33     | 85                       | 738                      | 10.9   | 2.94   | < 0.5 | < 50 | < 1    | 3      | < 0.5 | 0.28   | 50   | 47   | < 1  | < 0.2 | 14.9 | < 1  | < 1  |
| 5              | < 2  | 0.4                      | 49     | < 0.3  | < 1    | 46     | 25                       | 80                       | 1.37   | 8.60   | 3.0   | 540  | 1      | < 2    | < 0.5 | 2.43   | 11   | 41   | 2    | 0.5   | 3.08 | 2    | < 1  |
| 6              | < 2  | < 0.3                    | 13     | < 0.3  | < 1    | 7      | 19                       | 47                       | 0.22   | 6.78   | < 0.5 | 520  | 1      | < 2    | < 0.5 | 2.17   | 9    | 57   | 3    | < 0.2 | 2.44 | 2    | < 1  |
| 7              | < 2  | < 0.3                    | 8      | < 0.3  | < 1    | 8      | 25                       | 64                       | 0.08   | 6.68   | 1.1   | 560  | 1      | < 2    | < 0.5 | 2.36   | 10   | 68   | < 1  | 0.6   | 2.95 | 3    | < 1  |

Results

| Analyte Symbol | Ir   | K      | Li     | Mg     | Mn     | Na   | P      | Rb   | Sb    | Sc   | Se   | Sr     | Ta    | Ti     | Th    | U     | V      | W    | Y      | La   | Ce   | Nd   | Sm   |
|----------------|------|--------|--------|--------|--------|------|--------|------|-------|------|------|--------|-------|--------|-------|-------|--------|------|--------|------|------|------|------|
| Unit Symbol    | ppb  | %      | ppm    | %      | ppm    | %    | %      | ppm  | ppm   | ppm  | ppm  | ppm    | ppm   | %      | ppm   | ppm   | ppm    | ppm  | ppm    | ppm  | ppm  | ppm  | ppm  |
| Lower Limit    | 5    | 0.01   | 1      | 0.01   | 1      | 0.01 | 0.001  | 15   | 0.1   | 0.1  | 3    | 1      | 0.5   | 0.01   | 0.2   | 0.5   | 2      | 1    | 1      | 0.5  | 3    | 5    | 0.1  |
| Method Code    | INAA | TD-ICP | TD-ICP | TD-ICP | TD-ICP | INAA | TD-ICP | INAA | INAA  | INAA | INAA | TD-ICP | INAA  | TD-ICP | INAA  | INAA  | TD-ICP | INAA | TD-ICP | INAA | INAA | INAA | INAA |
| 1              | < 5  | 0.72   | 6      | 0.21   | 254    | 0.43 | 0.012  | < 15 | < 0.1 | 2.6  | < 3  | 45     | < 0.5 | 0.06   | < 0.2 | 1.6   | 19     | < 1  | 4      | 3.3  | < 3  | < 5  | 0.6  |
| 2              | < 5  | 0.19   | 6      | 0.34   | 473    | 0.26 | 0.016  | < 15 | < 0.1 | 2.9  | < 3  | 40     | < 0.5 | 0.05   | 1.1   | < 0.5 | 35     | < 1  | 3      | 4.5  | < 3  | < 5  | 0.6  |
| 3              | < 5  | 0.17   | 7      | 0.68   | 608    | 0.17 | 0.032  | < 15 | < 0.1 | 4.1  | < 3  | 37     | < 0.5 | 0.05   | 1.4   | < 0.5 | 37     | < 1  | 6      | 7.1  | 13   | < 5  | 1.6  |
| 4              | < 5  | 1.43   | 15     | 0.31   | 470    | 0.80 | 0.022  | < 15 | < 0.1 | 5.0  | < 3  | 98     | < 0.5 | 0.12   | 1.7   | < 0.5 | 47     | < 1  | 4      | 5.3  | 7    | < 5  | 1.0  |
| 5              | < 5  | 2.11   | 20     | 0.86   | 302    | 3.14 | 0.054  | 50   | < 0.1 | 3.4  | < 3  | 397    | < 0.5 | 0.21   | 3.2   | < 0.5 | 39     | < 1  | 7      | 19.3 | 49   | 10   | 3.2  |
| 6              | < 5  | 1.48   | 12     | 0.69   | 331    | 3.24 | 0.034  | < 15 | < 0.1 | 6.1  | < 3  | 459    | < 0.5 | 0.17   | 4.8   | < 0.5 | 45     | < 1  | 8      | 12.6 | 21   | < 5  | 2.1  |
| 7              | < 5  | 1.67   | 15     | 0.90   | 460    | 3.36 | 0.037  | < 15 | < 0.1 | 8.2  | < 3  | 382    | < 0.5 | 0.23   | 5.5   | < 0.5 | 59     | < 1  | 11     | 13.1 | 36   | 12   | 2.7  |

## Results

| Analyte Symbol | Sn     | Tb    | Yb    | Lu     | Mass |
|----------------|--------|-------|-------|--------|------|
| Unit Symbol    | %      | ppm   | ppm   | ppm    | g    |
| Lower Limit    | 0.01   | 0.5   | 0.2   | 0.05   |      |
| Method Code    | INAA   | INAA  | INAA  | INAA   | INAA |
| 1              | < 0.01 | < 0.5 | 0.4   | 0.09   | 1.46 |
| 2              | < 0.01 | < 0.5 | < 0.2 | < 0.05 | 1.98 |
| 3              | < 0.01 | < 0.5 | < 0.2 | 0.18   | 2.01 |
| 4              | < 0.01 | < 0.5 | 0.6   | 0.19   | 1.49 |
| 5              | < 0.01 | < 0.5 | 0.6   | < 0.05 | 31.8 |
| 6              | < 0.01 | < 0.5 | 0.9   | < 0.05 | 32.3 |
| 7              | < 0.01 | < 0.5 | 1.2   | 0.05   | 30.5 |

QC

| Analyte Symbol          | Au   | Ag     | Ag   | Cu       | Cd     | Mo     | Pb     | Ni     | Ni   | Zn     | Zn   | S      | Al     | As    | Ba   | Be     | Bi     | Br    | Ca     | Co   | Cr   | Cs   | Eu    |
|-------------------------|------|--------|------|----------|--------|--------|--------|--------|------|--------|------|--------|--------|-------|------|--------|--------|-------|--------|------|------|------|-------|
| Unit Symbol             | ppb  | ppm    | ppm  | ppm      | ppm    | ppm    | ppm    | ppm    | ppm  | ppm    | ppm  | %      | %      | ppm   | ppm  | ppm    | ppm    | ppm   | %      | ppm  | ppm  | ppm  | ppm   |
| Lower Limit             | 2    | 0.3    | 5    | 1        | 0.3    | 1      | 3      | 1      | 20   | 1      | 50   | 0.01   | 0.01   | 0.5   | 50   | 1      | 2      | 0.5   | 0.01   | 1    | 2    | 1    | 0.2   |
| Method Code             | INAA | TD-ICP | INAA | TD-ICP   | TD-ICP | TD-ICP | TD-ICP | TD-ICP | INAA | TD-ICP | INAA | TD-ICP | TD-ICP | INAA  | INAA | TD-ICP | TD-ICP | INAA  | TD-ICP | INAA | INAA | INAA | INAA  |
| GXR-1 Meas              | 3280 | 31.6   | 32   | 1130     | 1.8    | 14     | 725    | 40     | < 20 | 746    | 740  | 0.25   | 1.79   | 420   | 800  | 1      | 1380   | < 0.5 | 0.88   | 9    | 16   | < 1  | 0.8   |
| GXR-1 Cert              | 3300 | 31.0   | 31.0 | 1110     | 3.30   | 18.0   | 730    | 41.0   | 41.0 | 760    | 760  | 0.257  | 3.52   | 427   | 750  | 1.22   | 1380   | 0.500 | 0.960  | 8.20 | 12.0 | 3.00 | 0.690 |
| GXR-4 Meas              |      | 3.4    |      | 6500     | < 0.3  | 294    | 43     | 40     |      | 70     |      | 1.79   | 6.74   |       |      | 2      | 16     |       | 1.05   |      |      |      |       |
| GXR-4 Cert              |      | 4.0    |      | 6520     | 0.860  | 310    | 52.0   | 42.0   |      | 73.0   |      | 1.77   | 7.20   |       |      | 1.90   | 19.0   |       | 1.01   |      |      |      |       |
| SDC-1 Meas              |      |        |      | 32       |        |        | 20     | 39     |      | 99     |      |        | 8.05   |       |      | 3      |        |       | 1.08   |      |      |      |       |
| SDC-1 Cert              |      |        |      | 30.000   |        |        | 25.00  | 38.0   |      | 103.00 |      |        | 8.34   |       |      | 3.00   |        |       | 1.00   |      |      |      |       |
| DNC-1a Meas             |      |        |      | 101      |        |        | < 3    | 254    |      | 60     |      |        |        |       |      |        |        |       |        |      |      |      |       |
| DNC-1a Cert             |      |        |      | 100.00   |        |        | 6.3    | 247    |      | 70.0   |      |        |        |       |      |        |        |       |        |      |      |      |       |
| SBC-1 Meas              |      |        |      | 30       | < 0.3  | 2      | 29     | 86     |      | 181    |      |        |        |       |      | 3      | < 2    |       |        |      |      |      |       |
| SBC-1 Cert              |      |        |      | 31.0000  | 0.40   | 2.40   | 35.0   | 82.8   |      | 186.0  |      |        |        |       |      | 3.20   | 0.70   |       |        |      |      |      |       |
| OREAS 45d (4-Acid) Meas |      |        |      | 374      |        | 3      | 18     | 236    |      | 42     |      | 0.04   | 7.54   |       |      | < 1    | < 2    |       | 0.19   |      |      |      |       |
| OREAS 45d (4-Acid) Cert |      |        |      | 371.0    |        | 2.500  | 21.8   | 231.0  |      | 45.7   |      | 0.049  | 8.150  |       |      | 0.79   | 0.31   |       | 0.185  |      |      |      |       |
| SdAR-M2 (U.S.G.S.) Meas |      |        |      | 244      | 5.0    | 9      | 830    | 51     |      | 780    |      |        |        |       |      | 7      | < 2    |       |        |      |      |      |       |
| SdAR-M2 (U.S.G.S.) Cert |      |        |      | 236.0000 | 5.1    | 13.3   | 808    | 48.8   |      | 760    |      |        |        |       |      | 6.6    | 1.05   |       |        |      |      |      |       |
| DMMAS 118 Meas          | 1660 |        |      |          |        |        |        |        |      |        |      |        |        | 1720  | 1220 |        |        |       |        | 45   | 86   |      |       |
| DMMAS 118 Cert          | 1729 |        |      |          |        |        |        |        |      |        |      |        |        | 1661  | 1264 |        |        |       |        | 45   | 83   |      |       |
| DMMAS 118 Meas          | 1720 |        |      |          |        |        |        |        |      |        |      |        |        | 1700  | 1060 |        |        |       |        | 43   | 73   |      |       |
| DMMAS 118 Cert          | 1729 |        |      |          |        |        |        |        |      |        |      |        |        | 1661  | 1264 |        |        |       |        | 45   | 83   |      |       |
| Method Blank            |      | < 0.3  |      | < 1      | < 0.3  | < 1    | < 3    | < 1    |      | < 1    |      | < 0.01 | < 0.01 |       |      | < 1    | < 2    |       | < 0.01 |      |      |      |       |
| Method Blank            |      | < 0.3  |      | < 1      | < 0.3  | < 1    | < 3    | < 1    |      | < 1    |      | < 0.01 | < 0.01 |       |      | < 1    | < 2    |       | < 0.01 |      |      |      |       |
| Method Blank            |      | < 0.3  |      | 1        | < 0.3  | < 1    | < 3    | < 1    |      | < 1    |      | < 0.01 | < 0.01 |       |      | < 1    | < 2    |       | < 0.01 |      |      |      |       |
| Method Blank            |      | < 0.3  |      | < 1      | < 0.3  | < 1    | < 3    | < 1    |      | < 1    |      | < 0.01 | < 0.01 |       |      | < 1    | < 2    |       | < 0.01 |      |      |      |       |
| Method Blank            | < 2  |        | < 5  |          |        |        |        | < 20   |      | < 50   |      |        |        | < 0.5 | < 50 |        |        | < 0.5 |        | < 1  | < 2  | < 1  | < 0.2 |
| Method Blank            | < 2  |        | < 5  |          |        |        |        | < 20   |      | < 50   |      |        |        | < 0.5 | < 50 |        |        | < 0.5 |        | < 1  | < 2  | < 1  | < 0.2 |

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| Analyte Symbol          | Fe   | Hf    | Hg   | Ir   | K      | Li     | Mg     | Mn      | Na     | P      | Rb   | Sb   | Sc   | Se   | Sr     | Ta    | Ti     | Th   | U    | V      | W    | Y      | La   |
|-------------------------|------|-------|------|------|--------|--------|--------|---------|--------|--------|------|------|------|------|--------|-------|--------|------|------|--------|------|--------|------|
| Unit Symbol             | %    | ppm   | ppm  | ppb  | %      | ppm    | %      | ppm     | %      | %      | ppm  | ppm  | ppm  | ppm  | ppm    | ppm   | %      | ppm  | ppm  | ppm    | ppm  | ppm    | ppm  |
| Lower Limit             | 0.01 | 1     | 1    | 5    | 0.01   | 1      | 0.01   | 1       | 0.01   | 0.001  | 15   | 0.1  | 0.1  | 3    | 1      | 0.5   | 0.01   | 0.2  | 0.5  | 2      | 1    | 1      | 0.5  |
| Method Code             | INAA | INAA  | INAA | INAA | TD-ICP | TD-ICP | TD-ICP | TD-ICP  | INAA   | TD-ICP | INAA | INAA | INAA | INAA | TD-ICP | INAA  | TD-ICP | INAA | INAA | TD-ICP | INAA | TD-ICP | INAA |
| GXR-1 Meas              | 24.1 | < 1   | < 1  |      | 0.04   | 8      | 0.20   | 916     | 0.05   | 0.062  | < 15 | 120  | 1.6  | 18   | 285    | < 0.5 | 0.03   | 2.3  | 35.6 | 88     | 164  | 34     | 7.3  |
| GXR-1 Cert              | 23.6 | 0.960 | 3.90 |      | 0.050  | 8.20   | 0.217  | 852     | 0.0520 | 0.0650 | 14.0 | 122  | 1.58 | 16.6 | 275    | 0.175 | 0.036  | 2.44 | 34.9 | 80.0   | 164  | 32.0   | 7.50 |
| GXR-4 Meas              |      |       |      |      | 2.40   | 12     | 1.68   | 167     |        | 0.136  |      |      |      |      | 213    |       | 0.29   |      |      | 86     |      | 15     |      |
| GXR-4 Cert              |      |       |      |      | 4.01   | 11.1   | 1.66   | 155     |        | 0.120  |      |      |      |      | 221    |       | 0.29   |      |      | 87.0   |      | 14.0   |      |
| SDC-1 Meas              |      |       |      |      | 2.26   | 34     | 0.99   | 878     |        | 0.056  |      |      |      |      | 172    |       | 0.16   |      |      | 47     |      |        |      |
| SDC-1 Cert              |      |       |      |      | 2.72   | 34.00  | 1.02   | 880.00  |        | 0.0690 |      |      |      |      | 180.00 |       | 0.606  |      |      | 102.00 |      |        |      |
| DNC-1a Meas             |      |       |      |      |        | 4      |        |         |        |        |      |      |      |      | 128    |       | 0.29   |      |      | 141    |      | 17     |      |
| DNC-1a Cert             |      |       |      |      |        | 5.20   |        |         |        |        |      |      |      |      | 144.0  |       | 0.29   |      |      | 148.00 |      | 18.0   |      |
| SBC-1 Meas              |      |       |      |      |        | 154    |        |         |        |        |      |      |      |      | 172    |       | 0.49   |      |      | 212    |      | 31     |      |
| SBC-1 Cert              |      |       |      |      |        | 163.0  |        |         |        |        |      |      |      |      | 178.0  |       | 0.51   |      |      | 220.0  |      | 36.5   |      |
| OREAS 45d (4-Acid) Meas |      |       |      |      | 0.40   | 20     | 0.24   | 501     |        | 0.035  |      |      |      |      | 32     |       | 0.17   |      |      | 118    |      | 13     |      |
| OREAS 45d (4-Acid) Cert |      |       |      |      | 0.412  | 21.50  | 0.245  | 490.000 |        | 0.042  |      |      |      |      | 31.30  |       | 0.773  |      |      | 235.0  |      | 9.53   |      |
| SdAR-M2 (U.S.G.S.) Meas |      |       |      |      |        | 18     |        |         |        |        |      |      |      |      | 144    |       |        |      |      | 26     |      | 29     |      |

| Analyte Symbol             | Fe     | Hf   | Hg   | Ir   | K      | Li     | Mg     | Mn     | Na     | P       | Rb   | Sb    | Sc    | Se   | Sr     | Ta    | Ti     | Th    | U     | V      | W    | Y      | La    |
|----------------------------|--------|------|------|------|--------|--------|--------|--------|--------|---------|------|-------|-------|------|--------|-------|--------|-------|-------|--------|------|--------|-------|
| Unit Symbol                | %      | ppm  | ppm  | ppb  | %      | ppm    | %      | ppm    | %      | %       | ppm  | ppm   | ppm   | ppm  | ppm    | ppm   | %      | ppm   | ppm   | ppm    | ppm  | ppm    | ppm   |
| Lower Limit                | 0.01   | 1    | 1    | 5    | 0.01   | 1      | 0.01   | 1      | 0.01   | 0.001   | 15   | 0.1   | 0.1   | 3    | 1      | 0.5   | 0.01   | 0.2   | 0.5   | 2      | 1    | 1      | 0.5   |
| Method Code                | INAA   | INAA | INAA | INAA | TD-ICP | TD-ICP | TD-ICP | TD-ICP | INAA   | TD-ICP  | INAA | INAA  | INAA  | INAA | TD-ICP | INAA  | TD-ICP | INAA  | INAA  | TD-ICP | INAA | TD-ICP | INAA  |
| SdAR-M2 (U.S.G.S.)<br>Cert |        |      |      |      |        | 17.9   |        |        |        |         |      |       |       |      | 144    |       |        |       |       | 25.2   |      | 32.7   |       |
| DMMAS 118 Meas             | 3.38   |      |      |      |        |        |        |        | 2.25   |         |      | 6.6   | 6.4   |      |        |       |        |       | 14.7  |        |      |        | 17.3  |
| DMMAS 118 Cert             | 3.25   |      |      |      |        |        |        |        | 2.21   |         |      | 6.6   | 6.1   |      |        |       |        |       | 15.9  |        |      |        | 16.9  |
| DMMAS 118 Meas             | 3.38   |      |      |      |        |        |        |        | 2.23   |         |      | 6.8   | 6.1   |      |        |       |        |       | 15.7  |        |      |        | 16.8  |
| DMMAS 118 Cert             | 3.25   |      |      |      |        |        |        |        | 2.21   |         |      | 6.6   | 6.1   |      |        |       |        |       | 15.9  |        |      |        | 16.9  |
| Method Blank               |        |      |      |      | < 0.01 | < 1    | < 0.01 |        |        | < 0.001 |      |       |       |      | < 1    |       | < 0.01 |       |       | < 2    |      | < 1    |       |
| Method Blank               |        |      |      |      | < 0.01 | < 1    | < 0.01 |        |        | < 0.001 |      |       |       |      | < 1    |       | < 0.01 |       |       | < 2    |      | < 1    |       |
| Method Blank               |        |      |      |      | < 0.01 | < 1    | < 0.01 |        |        | < 0.001 |      |       |       |      | < 1    |       | < 0.01 |       |       | < 2    |      | < 1    |       |
| Method Blank               |        |      |      |      | < 0.01 | < 1    | < 0.01 |        |        | < 0.001 |      |       |       |      | < 1    |       | < 0.01 |       |       | < 2    |      | < 1    |       |
| Method Blank               | < 0.01 | < 1  | < 1  | < 5  |        |        |        |        | < 0.01 |         | < 15 | < 0.1 | < 0.1 | < 3  |        | < 0.5 |        | < 0.2 | < 0.5 |        | < 1  |        | < 0.5 |
| Method Blank               | < 0.01 | < 1  | < 1  | < 5  |        |        |        |        | < 0.01 |         | < 15 | < 0.1 | < 0.1 | < 3  |        | < 0.5 |        | < 0.2 | < 0.5 |        | < 1  |        | < 0.5 |

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| Analyte Symbol             | Ce   | Nd   | Sm    | Sn      | Tb    | Yb    | Lu     | Mass |
|----------------------------|------|------|-------|---------|-------|-------|--------|------|
| Unit Symbol                | ppm  | ppm  | ppm   | %       | ppm   | ppm   | ppm    | g    |
| Lower Limit                | 3    | 5    | 0.1   | 0.01    | 0.5   | 0.2   | 0.05   |      |
| Method Code                | INAA | INAA | INAA  | INAA    | INAA  | INAA  | INAA   | INAA |
| GXR-1 Meas                 | 16   | 17   | 2.6   | < 0.01  | < 0.5 | 1.9   | 0.27   |      |
| GXR-1 Cert                 | 17.0 | 18.0 | 2.70  | 0.00540 | 0.830 | 1.90  | 0.280  |      |
| GXR-4 Meas                 |      |      |       |         |       |       |        |      |
| GXR-4 Cert                 |      |      |       |         |       |       |        |      |
| SDC-1 Meas                 |      |      |       |         |       |       |        |      |
| SDC-1 Cert                 |      |      |       |         |       |       |        |      |
| DNC-1a Meas                |      |      |       |         |       |       |        |      |
| DNC-1a Cert                |      |      |       |         |       |       |        |      |
| SBC-1 Meas                 |      |      |       |         |       |       |        |      |
| SBC-1 Cert                 |      |      |       |         |       |       |        |      |
| OREAS 45d (4-Acid)<br>Meas |      |      |       |         |       |       |        |      |
| OREAS 45d (4-Acid)<br>Cert |      |      |       |         |       |       |        |      |
| SdAR-M2 (U.S.G.S.)<br>Meas |      |      |       |         |       |       |        |      |
| SdAR-M2 (U.S.G.S.)<br>Cert |      |      |       |         |       |       |        |      |
| DMMAS 118 Meas             | 32   |      | 2.3   |         |       |       |        |      |
| DMMAS 118 Cert             | 30   |      | 2.2   |         |       |       |        |      |
| DMMAS 118 Meas             | 29   |      | 2.4   |         |       |       |        |      |
| DMMAS 118 Cert             | 30   |      | 2.2   |         |       |       |        |      |
| Method Blank               |      |      |       |         |       |       |        |      |
| Method Blank               |      |      |       |         |       |       |        |      |
| Method Blank               |      |      |       |         |       |       |        |      |
| Method Blank               |      |      |       |         |       |       |        |      |
| Method Blank               | < 3  | < 5  | < 0.1 | < 0.01  | < 0.5 | < 0.2 | < 0.05 | 1.00 |
| Method Blank               | < 3  | < 5  | < 0.1 | < 0.01  | < 0.5 | < 0.2 | < 0.05 | 30.0 |