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ZEN GEOMAP INC.

Assessment Report

Remote Sensing Survey
and
Outcrop Sampling Program 2022

## Seymour Extension Property

Crescent Lake Area<br>Thunder Bay Mining Division

Prepared for:
Joshua Gold Resources Inc.
(Client \# 410637)

Prepared by:
Kevin Cool - Technical Report

Mining Claims Surveyed:

537741,537742,538061,538066,538051,538060,538063,
538048,538064,538065,538049,538054,538062,538047

December $20^{\text {th }}, 2022$

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### 1.0 Introduction

The Seymour Extension Property consists of 27 Active Mining Claims located in the Crescent Lake Area, Thunder Bay Mining Division. This report covers a remote sensing survey and outcrop sampling program carried out across 14 of the Active Claims in October / November 2022.

The remote sensing survey covers 14 mining claims, and the sampling program covers 3 mining claims.

Figure 2 shows the outline of the remote sensing survey and the outcrop / sample locations overlaid on a current claim map.

Table 1 provides a list of mining claims, including the work value completed on each claim.

### 1.1 Summary

## Remote Sensing Survey

On October $11^{\text {th }}, 2022$, the mining claims were surveyed using an eBee fixed-wing drone equipped with a 20 -megapixel S.O.D.A. Camera. Zen Geomap Inc. of Timmins, Ontario carried out the survey on a contract basis for the client. The objectives of the survey were as follows;

1) Provide a high-resolution air photo mosaic across the proposed work area, to identify outcrop / exposed bedrock to be sampled in Fall, 2022.
2) Identify the type of terrain and ground access for the Fall 2022 sampling program.

Data processing and maps were completed between October $12^{\text {th }}$ and $15^{\text {th }}, 2022$ and the assessment report was prepared between October $10^{\text {th }}$ and December $20^{\text {th }}, 2022$. All of the objectives were reached and are described in detail under Section 5.

## Fall 2022 Sampling Program

Between October $11^{\text {th }}$ and November $5^{\text {th }}, 2022$, six (6) outcrops were sampled. Samples were sent to Actlabs for analysis using their Ultratrace 7 (UT-7) package.

Sample Logs are provided in Appendix 3.
Analytical Results are provided in Appendix 4.
The coordinate system used throughout this report is Nad83, UTM Zone 16.

### 2.0 Location and Access

The property is accessed from Timmins by travelling to Armstrong, ON along highways 655, 11 and $527(993 \mathbf{~ k m})$, then along a well-maintained gravel road for $\mathbf{6 5 k m}$. The total driving distance from Timmins to site is $\mathbf{1 0 5 8} \mathbf{k m}$.

Figure 1 shows location and access from Armstrong to Site.


Figure 1 - Location and Access
-6-

| Tenure ID | Anniversary | Tenure | Work | (Sq.m) | Area (\%) | (\$) | Number of | (\%) | (\$) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Date | Status | Required | Area Surveyed | of total | Work Completed | Samples Taken | of total | Work Completed |
|  |  |  |  | (Remote Sensing) |  | (Remote Sensing) | (Sampling) |  | (Sampling) |
|  |  |  |  |  |  |  |  |  |  |
| 537741 | 2022-12-21 | Active | 400 | 17078 | 1.2 | 85 |  |  |  |
| 537742 | 2022-12-21 | Active | 400 | 19418 | 1.3 | 96 |  |  |  |
| 538031 | 2022-12-27 | Active | 400 |  |  |  |  |  |  |
| 538032 | 2022-12-27 | Active | 400 |  |  |  |  |  |  |
| 538033 | 2022-12-27 | Active | 400 |  |  |  |  |  |  |
| 538034 | 2022-12-27 | Active | 400 |  |  |  |  |  |  |
| 538036 | 2022-12-27 | Active | 400 |  |  |  |  |  |  |
| 538045 | 2022-12-27 | Active | 400 |  |  |  |  |  |  |
| 538046 | 2022-12-27 | Active | 400 |  |  |  |  |  |  |
| 538047 | 2022-12-27 | Active | 400 | 8805 | 0.6 | 44 |  |  |  |
| 538048 | 2022-12-27 | Active | 400 | 31165 | 2.1 | 155 |  |  |  |
| 538049 | 2022-12-27 | Active | 400 | 45173 | 3.1 | 224 |  |  |  |
| 538050 | 2022-12-27 | Active | 400 |  |  |  |  |  |  |
| 538051 | 2022-12-27 | Active | 400 | 5253 | 0.4 | 26 |  |  |  |
| 538052 | 2022-12-27 | Active | 400 |  |  |  |  |  |  |
| 538053 | 2022-12-27 | Active | 400 |  |  |  |  |  |  |
| 538054 | 2022-12-27 | Active | 400 | 136944 | 9.3 | 679 |  |  |  |
| 538060 | 2022-12-28 | Active | 400 | 166065 | 11.2 | 824 |  |  |  |
| 538061 | 2022-12-28 | Active | 400 | 199509 | 13.5 | 990 | 2 | 33.33 | 4866 |
| 538062 | 2022-12-28 | Active | 400 | 105805 | 7.2 | 525 |  |  |  |
| 538063 | 2022-12-28 | Active | 400 | 205762 | 13.9 | 1021 | 1 | 16.66 | 2434 |
| 538064 | 2022-12-28 | Active | 400 | 135210 | 9.2 | 671 |  |  |  |
| 538065 | 2022-12-28 | Active | 400 | 205781 | 13.9 | 1021 |  |  |  |
| 538066 | 2022-12-28 | Active | 400 | 195210 | 13.2 | 967 | 3 | 50 | 7300 |
| 538067 | 2022-12-28 | Active | 400 |  |  |  |  |  |  |
| 538068 | 2022-12-28 | Active | 400 |  |  |  |  |  |  |
| 538069 | 2022-12-28 | Active | 400 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | 1477178 | 100.0 | 7328 |  | 100 | 14600 |
|  |  |  |  | (148 ha) | CHK \% | (Remote Sensing) |  |  | (Sampling) |

Table 1 - Work Completed on Active Mining Claims
-7-


Figure 2 - Survey Outline and Sample Locations

### 3.0 Regional and Local Geology

The Seymour Extension Property is located 230km NNE of Thunder Bay and sits within the Superior Province, near the subprovincial boundary between the English River and Wabigoon subprovinces. The property is located within the Caribou Lake Greenstone Belt, which sits along the north shore of Lake Nipigon and trends east-northeast.

Figure 3 shows the Seymour Extension Property location within the Superior Province.


Figure 3 Seymour Extension Property

Project Location within the Superior Province

Figure 3 - Project Location within the Superior Province

## MRD126

Overlaid on available bedrock geology (Ref: MRD126 - Revised Bedrock 250K available through OGS Earth);

The Seymour Extension Property covers rock types 5,11 and 12b, as identified on the MRD126 rocktype legend.

Figure 4 presents above rock types, with the property outline and the location of 10 nearby MDI showings. Some of the key Lithium showings are described below;

## MDI52I08NW00013 (North Aubry)

The North Aubry showing sits 2.8 km west of the Seymour Extension Property and is listed as a "developed prospect with reported reserves or resources" within MDI records. At the current time, the Aubry North showing is the focus of a diamond drill program by Green Technology Metals (see reference 4, Clapp, L., Jeffs, C., 2020 page 4).

According to Green Technology Metals’ website (2022), the Seymour Project resource currently stands at "4.8 Mt at $1.25 \%$ Li20 resource in accordance with the JORC Code".

## MDI52I08NW00012 (South Aubry)

The South Aubry showing sits 3.2 km west of the Seymour Extension Property and is listed as a "developed prospect with reported reserves or resources" within MDI records. At the current time, the Aubry South showing is held by Green Technology Metals and is part of their exploration effort.

## MDI0000000001274 (Kilometre 61)

The Kilometre 61 showing is listed with primary commodity as Molybdenum and secondary commodities as Copper and Silver. It is listed as a "developed prospect with reported reserves or resources" within MDI records.

## MDI52I08NW00014 / 18 / 19 / 20 / 21

Above MDI records are all Lithium showings listed as "Occurrences" within MDI records.

## MDI52I08NW00017 (Zig Zag Lake)

The Zig Zag Lake showing is listed with primary commodities as Lithium, Rubidium and Tantalum and secondary commodities as Cesium and Gallium. It is listed as a "Prospect" within MDI records.


Legend - MRD126

Figure 4
Local Geology - MRD126


- Mapped Pegmatite

Source: Green Technology Metals website map - Seymour Project
(5) Mafic to intermediate metavolcanic rocks Basaltic and andesitic flows, tuffs and breccias, chert, iron formation minor metasedimentary and intrusive rocks, related migmatites
(6) Felsic to intermediate metavolcanic rocks

Rhyolitic, rhyodacitic, dacitic and andesitic flows, tuffs and breccias, chert, iron formation minor metasedimentary and intrusive rocks; related migmatites


Gneissic tonalite suite
Tonalite to granodiorite-foliated to gneissic-with minor supracrustal inclusions
(120)

Foliated tonalite suite
Hornblende tonalite to granodiorite

Figure 4 - Seymour Extension Property overlaid on MRD126 bedrock geology

### 4.0 Property History

In February 2020 Ardiden Limited filed a lengthy report on their 2018 drill program ( 877 pages) carried out on the Seymour Lake LCT Pegmatite Property. This is the same property now / currently held by Green Technology Metals, which is directly adjacent / attached to the Seymour Extension Property.

As the history of the Seymour Pegmatite Property directly applies to the Seymour Extension Property, the exploration history section from the Ardiden report is included below. (See reference 4, Clapp, L., Jeffs, C., 2020 page 14).

## Exploration History on the Property

Since the discovery of the "Aubry Pegmatites" in the 1950s, exploration work has identified significant concentrations of Ta, Be, and Li within the LCT Pegmatite dikes (e.g., Dimmell and Morgan, 2005). The exploration history is summarized as follows:

1957: Discovery of the Aubry Pegmatites by prospector Nelson Aubry (Nakina, Ontario).
1957: Anaconda Company (Canada) Limited - optioned from Aubry; mapping, sampling, diamond drilling (11 holes, 398m on North Aubry/4 holes, 100m on South Aubry). Drill core assayed for Li and Be .
1959-62: E.G. Pye (Ontario Department of Mines) mapped the area and described lithium occurrences in the area in addition to the Aubry pegmatites (Pye, 1968).
1969-70: Tantalum Corporation of Canada (Tanco) - ACA Howe International Ltd. completed geological mapping, geophysics, stripping, and chip sampling (110 samples) on North Aubry.

1979: E\&B Explorations Inc. and Cominco Ltd. - line cutting and ground magnetic surveys.
1999: Clark Exploration (Garry Clark) - grab sampling (Clark and Maitland, 2000).
2000-02: Linear Resources Inc. - gridding, prospecting, geological mapping, soil and Lithogeochemical sampling, trenching, channel sampling, and diamond drilling ( $1,866 \mathrm{~m}$ in 32 holes).

2005: Dimmell and Morgan (2005) publish summary paper in Exploration and Mining Geology.
2008-09: Linear Resources Inc. - geological mapping, soil ( 640 enzyme leach samples; 200 m lines $/ 50 \mathrm{~m}$ stations) and rock sampling, and diamond drilling ( $2,362 \mathrm{~m}$ in 19 holes; North (12) and South (7)).
2016: Benton Resources: diamond drilling (281m in 6 holes; February-March).
2016: Ardiden Limited: surface exploration (mapping, channel sampling; July-November).
2016: Ardiden Limited: diamond drilling (1728m in 27 holes; October-December)
2017: Ardiden Limited: diamond drilling (5049 meters; April $5^{\text {th }}$-September $29^{\text {th }}$ )

### 5.0 Summary of the 2022 Remote Sensing Survey and Sampling Program

## Objectives;

The objectives of the Remote Sensing survey are outlined below;

1) Provide a high-resolution air photo mosaic across the proposed work area, to identify outcrop / exposed bedrock to be sampled in Fall, 2022.
2) Identify the type of terrain and ground access for the Fall 2022 sampling program.

The objectives of the Sampling Program were to collect rock samples from outcrop / exposed bedrock as identified from the Remote Sensing survey. Samples were sent to Actlabs for analysis using their Ultratrace 7 (UT-7) package.

## Remote Sensing Survey

A total of 279 air photos were taken using an eBee fixed-wing drone, with a 20 -megapixel S.O.D.A. Camera. The air photos were processed using Pix4D software, to produce a seamless air photo mosaic across the Seymour Extension Property.

The resulting mosaic was used to identify four (4) outcrops, which were sampled during the November 2022 sampling program. The 2 outcrops sampled in October 2022 had been identified earlier in 2022, based on a LiDAR survey.

The 2022 remote sensing survey is summarized as follows;

| Survey Date: | ${\text { October } 11^{\text {th }}, 2022}^{\text {Survey Area: }}$ |
| :--- | :--- |
| 148 ha |  |
| Altitude: | 150 m above terrain |
| Number of Pics: | 279 |

Technical specs for the eBee drone are provided in Appendix 1.
A list of the 279 air photo images is provided in Appendix 2.

## Sampling Program

Four (4) samples were collected from outcrop identified from the Remote Sensing Survey and 2 samples were collected from outcrop identified from a LiDAR survey carried out earlier in summer 2022.

Sampling Dates: $\quad$ October $11^{\text {th }}$ and November $5^{\text {th }}, 2022$
Number of Samples:
Analysis: $\quad$ Actlabs UT7 (Results provided in Appendix 4).

## Scintillometer Readings

An RS-121 Gamma-ray scintillometer was used to collect readings at the 6 sample sites. Readings are expressed in cps (counts per second), where a background reading in a non-radioactive setting will typically range between 90 and 100 cps . The scintillometer readings are included on the sample logs in Appendix 3. Readings at all of the sites were elevated, ranging between 126 and 182 cps . Technical specifications for the RS-121 scintillometer are included as Appendix 5.

### 6.0 Processing

## Remote Sensing Survey

279 air photo images were processed using Pix4D software, to produce a seamless air photo mosaic across the Seymour Extension Property.

Technical specs for the eBee drone are provided in Appendix 1.
A list of the 279 air photo images is provided in Appendix 2.

### 7.0 Interpretation, Conclusions and Recommendations

The 2022 Remote Sensing survey, carried out in October 2022, was successful at identifying outcrop within the Seymour Extension Property. The survey was further used to identify trails which were used during the November 2022 field sampling program. Figure 5 identifies 6 outcrops along with sample locations and access trails.

Sample results are summarized below. The full analytical results from Actlabs are found in Appendix 4. Analytical results for $\mathrm{Cs}, \mathrm{Li}, \mathrm{Nb}, \mathrm{Rb}$ and Ta (rare elements) from the 6 samples were compared to the average rare-element abundances for the upper continental crust as published by Taylor and McLennan 1985 (See Reference 6). The same 6 samples were compared to values that would be considered "Enriched", according to Taylor and McLennan 1985. Table 2 presents a summary of the results.

| Report Number: A22-16831 |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Report Date: 23/11/2022 |  |  |  |  |  |  |  |  |  |
| Analyte Symbol | Li | Mg | K | Rb | Nb | Ta | Cs | Ba | Sr |
| Unit Symbol | ppm | \% | \% | ppm | ppm | ppm | ppm | ppm | ppm |
| Detection Limit | 15 | 0.01 | 0.1 | 0.4 | 2.4 | 0.2 | 0.1 | 3 | 3 |
| Analysis Method | FUS-Na2O2 | FUS-Na2O2 | FUS-Na2O2 | FUS-MS-Na2O2 | FUS-MS-Na2O2 | FUS-MS-Na2O2 | FUS-MS-Na2O2 | FUS-MS-Na2O2 | FUS-MS-Na2O2 |
| T2-A | 41 | 4.83 | 1.1 | 85.5 | 4 | 1.1 | 2.1 | 638 | 251 |
| 3 | 75 | 0.23 | 0.7 | 46.8 | 7 | 1 | 3.2 | 116 | 218 |
| 4 | 104 | 0.99 | 2.5 | 83.3 | 7.2 | 1 | 5.8 | 1250 | 821 |
| 5 | 15 | 0.06 | 3.7 | 139 | 5.2 | 1.8 | 1.4 | 408 | 111 |
| 6 | 159 | 0.96 | 3.1 | 90.7 | 6.5 | 0.8 | 3.7 | 1550 | 866 |
| T7-A | 96 | 0.19 | 1.8 | 74.3 | 6.8 | 0.9 | 8.2 | 318 | 149 |
|  |  |  |  |  |  |  |  |  |  |
| Green box indicates values exceeding what is considered to be Enriched (Lithium) |  |  |  |  |  |  |  |  |  |
| Yellow box indicates values exceeding the average upper continental crust (Cesium) |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| Average rare-element abundances for the upper continent crust (Taylor and McLennan 1985) |  |  |  |  |  |  |  |  |  |
| Symbol | Element | Upper <br> Continental <br> Crust (UCC) | UCC Enriched x3 |  |  |  |  |  |  |
|  |  | (Average ppm) |  |  |  |  |  |  |  |
| Cs | Cesium | 3.7 | 11.1 |  |  |  |  |  |  |
| Li | Lithium | 20 | 60 |  |  |  |  |  |  |
| Nb | Niobium | 25 | 75 |  |  |  |  |  |  |
| Rb | Rubidium | 112 | 336 |  |  |  |  |  |  |
| Ta | Tantalum | 2.2 | 6.6 |  |  |  |  |  |  |

Table 2 - Enriched Lithium values Highlighted in Green

Four (4) out of 6 samples show Lithium values exceeding what is considered "enriched" relative to the average Lithium values found in the upper continental crust. Three (3) out of 6 samples show Cesium values exceeding what is considered to be the average found in the upper continental crust.

## Recommendations

During the October and November field work programs, 7 additional outcrops (or broader areas with exposed bedrock) were visually identified in the field. The 7 areas are shown on Figure 5 as orange dashed outlines. Two (2) additional outcrops that fall within Seymour Extension Property were subsequently identified from satellite imagery.

It is recommended that the 9 additional outcrop areas be overlaid on the LiDar survey that was completed by the client in early summer 2022. This would help to further define or constrain the 9 outcrop areas. LiDar would help to resolve any exposed bedrock hidden below tree canopy. This basic map work would cost approximately $\$ 400$ to complete.

The resulting 9 outcrop areas (once better-defined using the existing LiDar data...) could be sampled in spring or summer 2023. Scintillometer readings could be taken in a grid pattern across the 9 outcrop areas, particularly in places that may have thin moss cover. This type of field sampling and scintillometer program would cost approximately $\$ 20,000$ to complete.

## References;

1) MRD126 - Revised Bedrock 250K available through OGSEarth.

OGSEarth can be found at link: geologyontario.mndm.gov.on.ca/ogsearth.html
Under the main menu, you will see "Bedrock Geology" which includes a tab to download a KML file.
The KML file will launch automatically if you already have Google Earth installed on your computer.
2) MDI - Mineral Deposits Inventory, available through OGS Earth

OGSEarth can be found at link: geologyontario.mndm.gov.on.ca/ogsearth.html
Under the main menu, you will see "Ontario Mineral Inventory (OMI)" which includes a tab to download a KML file.

The KML file will launch automatically if you already have Google Earth installed on your computer.
3) OAFD - Ontario Assessment File Database, available through OGS Earth

OGSEarth can be found at link: geologyontario.mndm.gov.on.ca/ogsearth.html
Under the main menu, you will see "Ontario Assessment File Database (OAFD)" which includes a tab to download a KML file.

The KML file will launch automatically if you already have Google Earth installed on your computer.
4) Clapp, L., Jeffs, C. (2020). Technical Report for MNDM Assessment, 2018 Diamond Drill Program, Seymour Lake LCT Pegmatite Property. Prepared for Ardiden Limited, Feb 27, 2020.
5) Weicker, R. (2019). Assessment Report on Aerial Survey (Lidar) conducted by RME Geomatics on the Jackpot Property. Prepared for Infinite Lithium Corp, May 29, 2019.
6) Taylor, S R. and McLennan, S M. (1985). The continental crust : Its composition and evolution. Book published in the U.S.


Figure 5 - Interpretive Map

## Statement of Qualifications

| Author - Kevin Cool |  |  |
| :---: | :---: | :---: |
| Education |  |  |
| from | to | Description |
|  | 1983 | Photography - 1 year, Humber College, Toronto Ontario |
| 1988 | 1990 | Survey Engineering Technician - 2 year honours diploma, Northern College Porcupine Campus |
|  | 2014 | Received Permanent Prospectors Licence, by reason of having held a Prospector's Licence for 25 years or more |
|  | 2014 | Aviation Ground School, Transport Canada Compliant Unmanned Aerial System training seminar |
|  | 2014 | Radio Operators Certificate - Aeronautical |
| Companies owned and operated |  |  |
| 1990 | 2001 | General Surveys \& Exploration - mining, exploration, aggregate, construction survey and computer drafting. |
| 2000 | 2005 | Big Red Diamond Corp. - traded publicly on TSX Venture excahange under symbol DIA. Junior mining company exploring for diamonds. |
|  |  | Participated in and managed regional-scale airborne geophysical programs, stream sampling, geochem sampling and camp construction. |
|  |  | Property-scale work includes ground magnetometer, grid cutting and survey. |
| 2005 | 2011 | True North Mineral Laboratories Inc. - heavy mineral separation by heavy liquid. Crushing / pulverizing for other assay. 30+ employees. |
|  |  | Provided services to the mining and exploration industry such as claim staking, till and geochem sampling, magnetometer survey. |
| 2014 | current | UAV Timmins - drone aerial mapping and survey. 1st company to apply drone air photo survey as valid mining claim assessment in Ontario. |
| 2017 | current | Zen Geomap Inc. - drone magnetometer survey. 1st company to apply drone mag survey as valid mining claim assessment in Ontario. |

I, Kevin Scott Cool, of 15 Prospector St., Gold Centre in the City of Timmins, Province of Ontario, hereby certify that:

1) I am a graduate of Northern College of Applied Arts and Technology, May $26^{\text {th }}$ 1990, Porcupine Campus, with a 2 year Honors Diploma in Survey Engineering Technology
2) I have subsequently operated above businesses, directly engaged with the mining and exploration industry.
3) I have been actively engaged in my profession since May, 1990, in all aspects of ground and airborne exploration programs including the planning and execution of regional and property-scale programs, supervision, data processing, maps, interpretation and reports.


Zen Geomap
204-70C Mountjoy ST. N. Timmins, ON P4N 4V7


## Appendix 1

## Sensefly - eBee Specifications

## Technical specifications

- 96 cm wingspan
- Less than 700 g ( 1.5 lbs ) take-off weight
- Lithium polymer battery powered
- 45 minutes of flight
- $36-57 \mathrm{~km} / \mathrm{h}(10-16 \mathrm{~m} / \mathrm{s})$ cruise speed
- Up to $45 \mathrm{~km} / \mathrm{h}(12 \mathrm{~m} / \mathrm{s})$ wind resistance
- Ground sensor and reverse engine technology for linear landing
- Up to 3 km radio link
- 16MP camera, electronically integrated and controlled
- On-board data logging
- Covers areas up to $10 \mathrm{~km}^{2}$
- Down to 3 cm Orthomosaic accuracy
- Down to 5 cm Digital Elevation Model (DEM) accuracy
- 3D flight planning and visualization
- Flight simulator
- Real time mission update and control
- Multiple drones operation capable (with midair collision avoidance)
- Easy data management system (geotag images, create KML files and memorize flight history)


## Package contents

- eBee central body complete system with senseFly's built-in autopilot \& all electronics (ready to fly)
- Pair of detachable wings
- Still camera (includes memory card, battery, USB cable and charger)
- 2.4 GHz USB radio modem for data link (includes USB cable)
- Lithium-Polymer battery packs (includes charger)
- Spare propeller
- Carrying case with foam protection
- Remote control \& its accessories for safety pilots (if legally required)
- User manual
- Software access codes \& license keys (eMotion 2, Postflight Terra 3D-EB)



## Appendix 2

## List of 279 air Photo Images



## Appendix 3

## Field Sample Logs Summarized in Table format

| Sample | Easting | Northing | Scintillometer | Type | Description |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Reading (cps) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T2-A | 402164 | 5586010 | 135 | Metavolcanic | Fine grained, d | d, dark green to black |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | 401838 | 5586775 | 126 | Granodiorite | Fine grained, | , uniform groundmas | s, no phenocr | ocrysts, mino | or amounts | f fine grained biotite |  |  |  |  |  |  |  |  |
| 4 | 401874 | 5586731 | 155 | Granite | medium grain | ined, uniform ground | dmass, up to | ~10\% biotit |  |  |  |  |  |  |  |  |  |  |
| 5 | 401999 | 5586544 | 182 | Granite | Fine grained, somer | d, some 1.3 cm feldsp | ar, plagioclas | , pheocyry | rsts. Some fi | fine grained mico (mus | scovite?) on | fracture su | rface |  |  |  |  |  |
| 6 | 402126 | 5586563 | 140 | Granite | Fine grained g | groundmass with elo | ongate plaigi | ioclase phen | enocrysts up | to 1 cm |  |  |  |  |  |  |  |  |
| T7-A | 402052 | 5586489 | 138 | Gneissic Tonalite, Tonalite | Part is gneissic | sic tonalite, with an a | Iterted (Tona | nalite?) in a fi | fine grained | d white ground mass w | with large pl | agioclase cr | crystals < 4cm | m. Some fin | ne grained bi | biotite throu | ughout |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | rdinates are | Nad83, UTM | M Zone 16 |  |  |  |  |  |  |  |  |  |

## Appendix 4

## Analytical Results and Certificate of Analysis <br> (Actlabs)

| Report No.: | A22-16831 |
| :--- | :--- |
| Report Date: | 23-Nov-22 |
| Date Submitted: | 11-Nov-22 |
| Your Reference: | SEYMOUR EXTENSION |

## ATTN: Drew Currah

## CERTIFICATE OF ANALYSIS

7 Rock samples were submitted for analysis.

| The following analytical package(s) were requested: | Testing Date: |  |
| :--- | :--- | :--- |
| UT-7 | QOP Sodium Peroxide (Sodium Peroxide Fusion <br> ICPOES + ICPMS) | $2022-11-16$ 14:26:58 |

REPORT A22-16831
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:


LabID: 266


Mark Vandergeest
Quality Control Coordinator

| Analyte Symbol | AI | As | B | Ba | Be | Bi | Ca | Cd | Ce | Co | Cr | Cs | Cu | Dy | Er | Eu | Fe | Ga | Gd | Ge | Ho | Hf | In |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Unit Symbol | \% | ppm | ppm | ppm | ppm | ppm | \% | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | \% | ppm | ppm | ppm | ppm | ppm | ppm |
| Lower Limit | 0.01 | 5 | 10 | 3 | 3 | 2 | 0.01 | 2 | 0.8 | 0.2 | 30 | 0.1 | 2 | 0.3 | 0.1 | 0.1 | 0.05 | 0.2 | 0.1 | 0.7 | 0.2 | 10 | 0.2 |
| Method Code | FUSNa 2 O 2 | $\begin{aligned} & \hline \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na2O2} \end{aligned}$ | $\begin{aligned} & \hline \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na2O2} \end{aligned}$ | FUS-MSNa 2 O 2 | $\begin{aligned} & \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \text { MS- } \\ \text { Na2O2 } \\ \hline \end{array}$ | FUSNa 2 O 2 | $\begin{aligned} & \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \end{aligned}$ | $\begin{aligned} & \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \end{aligned}$ | $\begin{aligned} & \left\lvert\, \begin{array}{l} \text { FUS- } \\ \text { MS- } \\ \mathrm{Na2O2} \end{array}\right. \\ & \hline \end{aligned}$ | $\begin{aligned} & \left\lvert\, \begin{array}{l} \text { FUS- } \\ \text { MS- } \\ \mathrm{Na2O2} \end{array}\right. \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { FUS- } \\ & \mathrm{MS}-- \\ & \mathrm{Na} 2 \mathrm{O} 2 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}- \\ \mathrm{Na2O2} \\ \hline \end{array}$ | $\begin{array}{\|l} \hline \text { FUS- } \\ \text { MS- } \\ \mathrm{Na2O2} \end{array}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \text { MS- } \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | FUSNa 2 O 2 | $\begin{aligned} & \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \text { MS- } \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \text { MS- } \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na2O2} \\ & \hline \end{aligned}$ | $\begin{array}{\|l} \hline \text { FUS- } \\ \text { MS- } \\ \mathrm{Na2O2} \end{array}$ |
| P100 | 6.86 | <5 | < 10 | 544 | 4 | <2 | 0.29 | <2 | 4.3 | 0.8 | 30 | 14.6 | 5 | 1.5 | 0.4 | 0.4 | 0.43 | 40.9 | 1.2 | 2.7 | <0.2 | 10 | <0.2 |
| T2-A | 7.24 | < 5 | 10 | 638 | <3 | <2 | 7.91 | <2 | 5.2 | 50.1 | 310 | 2.1 | 146 | 2.8 | 1.6 | 0.9 | 8.27 | 16.0 | 1.6 | 1.9 | 0.5 | $<10$ | <0.2 |
| 3 | 7.00 | <5 | 20 | 116 | <3 | <2 | 1.96 | <2 | 10.2 | 4.0 | 30 | 3.2 | 13 | 0.5 | 0.4 | 0.1 | 1.46 | 19.2 | 0.4 | 0.7 | <0.2 | <10 | <0.2 |
| 4 | 8.15 | <5 | 20 | 1250 | <3 | <2 | 2.18 | <2 | 49.3 | 10.5 | 50 | 5.8 | 6 | 1.3 | 0.5 | 1.3 | 2.51 | 21.5 | 2.0 | < 0.7 | 0.2 | <10 | <0.2 |
| 5 | 7.32 | < 5 | < 10 | 408 | < 3 | <2 | 0.94 | <2 | 6.7 | 0.7 | 30 | 1.4 | 8 | 1.6 | 0.8 | 0.5 | 0.71 | 14.4 | 1.2 | 0.9 | 0.4 | <10 | <0.2 |
| 6 | 8.40 | <5 | < 10 | 1550 | <3 | <2 | 2.31 | <2 | 75.1 | 10.6 | 60 | 3.7 | 14 | 1.5 | 1.0 | 1.8 | 2.43 | 22.9 | 3.4 | 0.7 | 0.3 | <10 | $<0.2$ |
| T7-A | 6.80 | < 5 | <10 | 318 | <3 | <2 | 1.47 | <2 | 10.6 | 2.2 | <30 | 8.2 | 4 | 1.1 | 0.6 | 0.5 | 1.06 | 15.2 | 0.7 | 1.1 | <0.2 | <10 | <0.2 |


| Analyte Symbol | K | La | Li | Mg | Mn | Mo | Nb | Nd | Ni | Pb | Pr | Rb | S | Sb | Se | Si | Sm | Sn | Sr | Ta | Tb | Te | Th |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Unit Symbol | \% | ppm | ppm | \% | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | \% | ppm | ppm | \% | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Lower Limit | 0.1 | 0.4 | 15 | 0.01 | 3 | 1 | 2.4 | 0.4 | 10 | 0.8 | 0.1 | 0.4 | 0.01 | 2 | 8 | 0.01 | 0.1 | 0.5 | 3 | 0.2 | 0.1 | 6 | 0.1 |
| Method Code | FUSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS- <br> Na 2 O 2 | FUSNa 2 O 2 | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \text { MS- } \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \text { MS- } \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | $\begin{aligned} & \hline \text { FUS- } \\ & \mathrm{MS}- \\ & \mathrm{Na} 2 \mathrm{O} 2 \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { FUS- } \\ & \mathrm{MS}- \\ & \mathrm{Na} 2 \mathrm{O} 2 \\ & \hline \end{aligned}$ | FUSNa 2 O 2 | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MSS}- \\ \mathrm{Na} 2 \mathrm{O} 22 \\ \hline \end{array}$ | FUSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \text { MS- } \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{aligned} & \mid \text { FUS- } \\ & \mathrm{MS}- \\ & \mathrm{Na} 2 \mathrm{O} 2 \end{aligned}$ | $\begin{aligned} & \hline \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \\ & \hline \end{aligned}$ | FUS-MSNa 2 O 2 |
| P100 | 5.1 | 1.4 | < 15 | 0.02 | 853 | 8 | 30.0 | 2.1 | 20 | 53.7 | 0.6 | 820 | 0.03 | <2 | 13 | > 30.0 | 1.2 | 2.0 | 128 | 12.9 | 0.3 | 12 | 8.4 |
| T2-A | 1.1 | 2.3 | 41 | 4.83 | 1610 | 7 | 4.0 | 3.0 | 140 | 1.3 | 0.7 | 85.5 | 0.06 | <2 | 15 | 22.9 | 1.8 | 1.0 | 251 | 1.1 | 0.4 | 8 | 0.2 |
| 3 | 0.7 | 5.6 | 75 | 0.23 | 276 | 9 | 7.0 | 2.9 | 40 | 11.6 | 0.9 | 46.8 | 0.03 | <2 | <8 | > 30.0 | 0.6 | 1.8 | 218 | 1.0 | <0.1 | 11 | 8.9 |
| 4 | 2.5 | 22.6 | 104 | 0.99 | 420 | 9 | 7.2 | 20.5 | 30 | 26.9 | 5.6 | 83.3 | 0.03 | <2 | 13 | > 30.0 | 3.6 | 1.0 | 821 | 1.0 | 0.3 | 9 | 8.5 |
| 5 | 3.7 | 3.6 | <15 | 0.06 | 135 | 7 | 5.2 | 2.1 | 20 | 20.9 | 0.8 | 139 | 0.02 | <2 | 17 | > 30.0 | 1.0 | < 0.5 | 111 | 1.8 | 0.3 | 12 | 7.5 |
| 6 | 3.1 | 42.6 | 159 | 0.96 | 451 | 9 | 6.5 | 30.8 | 30 | 36.8 | 8.5 | 90.7 | 0.06 | <2 | 8 | > 30.0 | 4.9 | < 0.5 | 866 | 0.8 | 0.4 | 11 | 9.9 |
| T7-A | 1.8 | 5.3 | 96 | 0.19 | 209 | 9 | 6.8 | 3.5 | 20 | 11.9 | 0.9 | 74.3 | 0.02 | <2 | 10 | > 30.0 | 0.7 | 1.5 | 149 | 0.9 | 0.1 | 12 | 4.8 |


| Analyte Symbol | Ti | TI | Tm | U | V | W | Y | Yb | Zn |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Unit Symbol | \% | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Lower Limit | 0.01 | 0.1 | 0.1 | 0.1 | 5 | 0.7 | 0.1 | 0.1 | 30 |
| Method Code | FUSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \text { MS- } \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \text { MS- } \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | FUS-MSNa 2 O 2 |
| P100 | < 0.01 | 5.4 | < 0.1 | 6.0 | 6 | 1.6 | 18.0 | 1.2 | 50 |
| T2-A | 0.36 | 0.7 | 0.3 | 0.1 | 246 | 1.1 | 14.6 | 1.6 | 120 |
| 3 | 0.09 | 0.3 | < 0.1 | 1.0 | 19 | $<0.7$ | 2.9 | 0.3 | 90 |
| 4 | 0.23 | 0.4 | <0.1 | 3.3 | 48 | 1.3 | 6.1 | 0.4 | 90 |
| 5 | 0.03 | 0.8 | 0.2 | 5.5 | 6 | 0.8 | 10.9 | 1.1 | 40 |
| 6 | 0.23 | 0.4 | <0.1 | 3.0 | 52 | 0.8 | 7.1 | 0.6 | 80 |
| T7-A | 0.06 | 0.2 | <0.1 | 3.0 | 11 | 0.7 | 6.6 | 0.7 | 50 |


| Analyte Symbol | AI | As | B | Ba | Be | Bi | Ca | Cd | Ce | Co | Cr | Cs | Cu | Dy | Er | Eu | Fe | Ga | Gd | Ge | Ho | Hf | In |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Unit Symbol | \% | ppm | ppm | ppm | ppm | ppm | \% | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | \% | ppm | ppm | ppm | ppm | ppm | ppm |
| Lower Limit | 0.01 | 5 | 10 | 3 | 3 | 2 | 0.01 | 2 | 0.8 | 0.2 | 30 | 0.1 | 2 | 0.3 | 0.1 | 0.1 | 0.05 | 0.2 | 0.1 | 0.7 | 0.2 | 10 | 0.2 |
| Method Code | FUSNa 2 O 2 | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \text { MS- } \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { FUS- } \\ & \mathrm{MS}- \\ & \mathrm{Na} 2 \mathrm{O} 2 \\ & \hline \end{aligned}$ | FUS-MSNa 2 O 2 | $\begin{aligned} & \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \end{aligned}$ | FUS-MS- <br> Na 2 O 2 | $\begin{aligned} & \left\lvert\, \begin{array}{l} \text { FUS- } \\ \mathrm{Na} 2 \mathrm{O} 2 \end{array}\right. \end{aligned}$ | $\begin{aligned} & \hline \text { FUS- } \\ & \text { MS-- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { FUS- } \\ & \text { MS-- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { FUS- } \\ & \mathrm{MS}-- \\ & \mathrm{Na} 2 \mathrm{O} 2 \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}-- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | $\begin{aligned} & \hline \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \\ & \hline \end{aligned}$ | FUSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MS- <br> Na 2 O 2 | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { FUS- } \\ & \mathrm{MS}- \\ & \mathrm{Na} 2 \mathrm{O} 2 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { FUS- } \\ & \text { MS-- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \\ & \hline \end{aligned}$ | $\begin{aligned} & \left\lvert\, \begin{array}{l} \text { FUS- } \\ \text { MS- } \\ \text { Na2O2 } \end{array}\right. \\ & \hline \end{aligned}$ |
| PTM-1a Meas |  | 2210 |  |  |  |  |  |  |  | > 5000 |  |  | $>10000$ |  |  |  |  |  |  |  |  |  |  |
| PTM-1a Cert |  | 2200 |  |  |  |  |  |  |  | $\begin{array}{r} 20500 . \\ 00 \\ \hline \end{array}$ |  |  | $\begin{array}{r} \hline 249600 \\ \hline .00 \\ \hline \end{array}$ |  |  |  |  |  |  |  |  |  |  |
| NIST 696 Meas | > 25.0 |  |  |  |  |  |  |  |  |  | 340 |  |  |  |  |  |  |  |  |  |  |  |  |
| NIST 696 Cert | 28.9 |  |  |  |  |  |  |  |  |  | 321.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| Oreas 74a (Fusion) Meas |  | 46 |  |  |  |  |  |  |  | 578 | 1720 |  | 1180 |  |  |  | 13.7 |  |  |  |  |  |  |
| Oreas 74a (Fusion) Cert |  | 50 |  |  |  |  |  |  |  | 581 | 1800.00 |  | $\begin{array}{r}1240.0 \\ 00 \\ \hline\end{array}$ |  |  |  | 13.7 |  |  |  |  |  |  |
| OREAS 101a (Fusion) Meas |  |  |  |  |  |  |  |  | 1420 | 49.4 |  |  | 436 | 35.6 | 19.2 | 8.6 | 11.0 |  | 46.3 |  | 6.7 |  |  |
| OREAS 101a (Fusion) Cert |  |  |  |  |  |  |  |  | 1400 | 48.8 |  |  | 434 | 33.3 | 19.5 | 8.06 | 11.06 |  | 43.4 |  | 6.46 |  |  |
| NCS DC86314 Meas |  |  |  |  |  |  |  |  |  |  |  | 2850 |  |  |  |  |  |  |  |  |  |  |  |
| NCS DC86314 Cert |  |  |  |  |  |  |  |  |  |  |  | 2830 |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \hline \begin{array}{l} \text { NCS DC86313 } \\ \text { Meas } \end{array} \\ & \hline \end{aligned}$ |  |  |  |  | > 5000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { NCS DC86313 } \\ & \text { Cert } \end{aligned}$ |  |  |  |  | 10880 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CZN-4 Meas | 0.08 | 360 |  |  |  |  |  | 2660 |  | 97.3 |  |  | 4070 |  |  |  |  |  |  |  |  |  |  |
| CZN-4 Cert | 0.0715 | $\begin{array}{r} 356.00 \\ 00 \\ \hline \end{array}$ |  |  |  |  |  | $\begin{array}{r} 2604.0 \\ 000 \\ \hline \end{array}$ |  | 93.5 |  |  | $\begin{array}{r} 4030.0 \\ 00 \\ \hline \end{array}$ |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \hline \text { OREAS 183 } \\ & \text { (Fusion ICP) } \\ & \text { Meas } \\ & \hline \end{aligned}$ |  |  |  |  |  |  |  |  |  | 222 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OREAS 183 (Fusion ICP) Cert |  |  |  |  |  |  |  |  |  | $\begin{array}{r}222.00 \\ 00 \\ \hline\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lithium <br> Tetraborate FX-LT <br> 100 lot\#220610B <br> Meas |  |  | 10000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lithium Tetraborate FX-LT 100 lot\#220610B Cert |  |  | 255700 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OREAS 922 (Peroxide Fusion) Meas | 7.95 |  |  |  |  |  | 0.41 |  |  |  |  |  |  |  |  |  | 5.81 |  |  |  |  |  |  |
| OREAS 922 <br> (Peroxide Fusion) <br> Cert | 7.59 |  |  |  |  |  | 0.49 |  |  |  |  |  |  |  |  |  | 5.71 |  |  |  |  |  |  |
| OREAS 621 (Peroxide Fusion) Meas | 6.68 | 82 |  | 2620 | <3 | 4 | 2.02 | 267 | 54.2 | 30.0 | 70 | 3.6 | 3570 |  |  |  | 3.74 | 26.6 |  |  |  |  | 1.8 |
| OREAS 621 <br> (Peroxide Fusion) Cert | 6.63 | 85 |  | 2610 | 2 | 4 | 2.00 | 295 | 52.0 | 31.4 | 50 | 3.6 | 3680 |  |  |  | 3.71 | 26.5 |  |  |  |  | 1.9 |
| CCU-1e Meas | 0.14 | 1110 |  |  |  |  |  | 75 |  | 318 |  |  | $>10000$ |  |  |  | > 30.0 |  |  |  |  |  |  |
| CCU-1e Cert | 0.139 | 1010 |  |  |  |  |  | 74.2 |  | 301 |  |  | 229000 |  |  |  | 30.7 |  |  |  |  |  |  |
| $\begin{array}{\|l\|} \hline \text { OREAS 680 } \\ \text { (Peroxide Fusion) } \end{array}$ Meas | 7.26 |  |  |  |  |  | 5.80 |  |  |  |  |  |  |  |  |  | 11.7 |  |  |  |  |  |  |
| OREAS 680 (Peroxide Fusion) Cert | 7.19 |  |  |  |  |  | 5.80 |  |  |  |  |  |  |  |  |  | 11.9 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


| Analyte Symbol | AI | As | B | Ba | Be | Bi | Ca | Cd | Ce | Co | Cr | Cs | Cu | Dy | Er | Eu | Fe | Ga | Gd | Ge | Ho | Hf | In |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Unit Symbol | \% | ppm | ppm | ppm | ppm | ppm | \% | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | \% | ppm | ppm | ppm | ppm | ppm | ppm |
| Lower Limit | 0.01 | 5 | 10 | 3 | 3 | 2 | 0.01 | 2 | 0.8 | 0.2 | 30 | 0.1 | 2 | 0.3 | 0.1 | 0.1 | 0.05 | 0.2 | 0.1 | 0.7 | 0.2 | 10 | 0.2 |
| Method Code | FUSNa 2 O 2 | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \end{aligned}$ | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | $\begin{array}{\|l\|l\|} \hline \text { FUS- } \\ \text { Na2OO } \end{array}$ | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | $\begin{aligned} & \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \end{aligned}$ | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | $\begin{aligned} & \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \end{aligned}$ |
| OREAS 139 (Peroxide Fusion) Meas | 3.86 |  |  |  |  |  | 1.24 |  |  |  |  |  |  |  |  |  | 11.8 |  |  |  |  |  |  |
| OREAS 139 (Peroxide Fusion) Cert | 3.70 |  |  |  |  |  | 1.20 |  |  |  |  |  |  |  |  |  | 11.9 |  |  |  |  |  |  |
| OREAS 624 (Peroxide Fusion) Meas | 4.36 | 122 |  | 992 |  | 21 | 1.48 | 125 | 29.6 | 280 |  | 1.5 | > 10000 |  |  |  | 16.3 | 20.3 |  |  |  |  | 3.9 |
| OREAS 624 (Peroxide Fusion) Cert | 4.32 | 115 |  | 1070 |  | 21.3 | 1.49 | 133 | 32.9 | 273 |  | 1.32 | 30800 |  |  |  | 16.3 | 22.1 |  |  |  |  | 4.14 |
| OREAS 124 (Peroxide Fusion) Meas | 4.72 |  |  | 1040 | <3 |  | 0.10 |  | 46.1 |  | 90 |  |  | 2.6 | 1.6 | 1.6 | 1.57 | 9.7 | 3.5 |  | 0.5 | <10 |  |
| OREAS 124 <br> (Peroxide Fusion) Cert | 4.62 |  |  | 1020 | 1.83 |  | 0.0880 |  | 47.6 |  | 51.0 |  |  | 2.82 | 1.60 | 1.15 | 1.56 | 10.5 | 3.47 |  | 0.580 | 6.22 |  |
| AMIS 0346 (Peroxide Fusion) Meas |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | > 30.0 |  |  |  |  |  |  |
| AMIS 0346 <br> (Peroxide Fusion) Cert |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 44.3 |  |  |  |  |  |  |
| NCS DC73520 Meas |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \begin{array}{l} \text { NCS DC73520 } \\ \text { Cert } \end{array} \\ & \hline \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OREAS 148 <br> (Peroxide Fusion) Meas | 5.36 |  |  |  |  |  | 0.86 |  |  |  |  |  |  |  |  |  | 3.02 |  |  |  |  |  |  |
| OREAS 148 <br> (Peroxide Fusion) Cert | 5.37 |  |  |  |  |  | 0.90 |  |  |  |  |  |  |  |  |  | 3.06 |  |  |  |  |  |  |
| Method Blank | < 0.01 |  |  |  |  |  | $<0.01$ |  |  |  |  |  |  |  |  |  | < 0.05 |  |  |  |  |  |  |
| Method Blank | < 0.01 |  |  |  |  |  | <0.01 |  |  |  |  |  |  |  |  |  | <0.05 |  |  |  |  |  |  |
| Method Blank | < 0.01 |  |  |  |  |  | < 0.01 |  |  |  |  |  |  |  |  |  | < 0.05 |  |  |  |  |  |  |
| Method Blank | < 0.01 |  |  |  |  |  | <0.01 |  |  |  |  |  |  |  |  |  | < 0.05 |  |  |  |  |  |  |
| Method Blank | < 0.01 |  |  |  |  |  | <0.01 |  |  |  |  |  |  |  |  |  | <0.05 |  |  |  |  |  |  |
| Method Blank | < 0.01 | < 5 | <10 | <3 | <3 | <2 | < 0.01 | <2 | < 0.8 | <0.2 | 40 | 0.3 | <2 | < 0.3 | < 0.1 | < 0.1 | < 0.05 | <0.2 | 0.2 | < 0.7 | <0.2 | < 10 | <0.2 |
| Method Blank | < 0.01 |  |  |  |  |  | <0.01 |  |  |  |  |  |  |  |  |  | <0.05 |  |  |  |  |  |  |


| Analyte Symbol | K | La | Li | Mg | Mn | Mo | Nb | Nd | Ni | Pb | Pr | Rb | S | Sb | Se | Si | Sm | Sn | Sr | Ta | Tb | Te | Th |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Unit Symbol | \% | ppm | ppm | \% | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | \% | ppm | ppm | \% | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Lower Limit | 0.1 | 0.4 | 15 | 0.01 | 3 | 1 | 2.4 | 0.4 | 10 | 0.8 | 0.1 | 0.4 | 0.01 | 2 | 8 | 0.01 | 0.1 | 0.5 | 3 | 0.2 | 0.1 | 6 | 0.1 |
| Method Code | FUSNa 2 O 2 | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}-- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{Na} 2 \mathrm{O} 2 \end{array}$ | $\begin{aligned} & \hline \text { FUS- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \end{aligned}$ | FUS-MSNa 2 O 2 | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}-- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}-- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}-- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | FUS-MSNa 2 O 2 | $\begin{aligned} & \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \end{aligned}$ | $\begin{aligned} & \mid \text { FUS- } \\ & \mathrm{MS}- \\ & \mathrm{Na} 2 \mathrm{O} 2 \end{aligned}$ | $\begin{aligned} & \left\lvert\, \begin{array}{l} \text { FUS- } \\ \mathrm{Na} 2 \mathrm{O} 2 \end{array}\right. \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MSS}- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MSS}- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | FUS- <br> Na 2 O 2 | FUS-MSNa 2 O 2 | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}-- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}-- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{aligned} & \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na2O2} \end{aligned}$ | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}-- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ |
| PTM-1a Meas |  |  |  |  |  |  |  |  | $>10000$ |  |  |  | 23.1 |  |  |  |  |  |  |  |  |  |  |
| PTM-1a Cert |  |  |  |  |  |  |  |  | $\begin{array}{\|r\|} \hline 474400 \\ \hline .00 \\ \hline \end{array}$ |  |  |  | 22.4 |  |  |  |  |  |  |  |  |  |  |
| NIST 696 Meas |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NIST 696 Cert |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Oreas 74a <br> (Fusion) Meas |  |  |  |  |  |  |  |  | > 10000 |  |  |  | 7.50 |  |  | 15.6 |  |  |  |  |  |  |  |
| Oreas 74a <br> (Fusion) Cert |  |  |  |  |  |  |  |  | $\begin{array}{r} 32400 . \\ 00 \\ \hline \end{array}$ |  |  |  | 7.25 |  |  | 15.14 |  |  |  |  |  |  |  |
| OREAS 101a (Fusion) Meas | 2.2 | 841 |  | 1.17 | 962 | 21 |  | 447 |  |  | 135 |  |  |  |  |  | 49.3 |  |  |  | 5.9 |  | 35.0 |
| OREAS 101a (Fusion) Cert | 2.34 | 816 |  | 1.23 | 964 | 22 |  | 403 |  |  | 134 |  |  |  |  |  | 48.8 |  |  |  | 5.92 |  | 36.6 |
| NCS DC86314 Meas |  |  | > 10000 |  |  |  |  |  |  |  |  | > 5000 |  |  |  |  |  | 147 |  |  |  |  |  |
| $\begin{aligned} & \text { NCS DC86314 } \\ & \text { Cert } \end{aligned}$ |  |  | $\begin{array}{r} 18100 . \\ 00 \end{array}$ |  |  |  |  |  |  |  |  | 11400 |  |  |  |  |  | 152 |  |  |  |  |  |
| NCS DC86313 Meas |  |  |  |  |  | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NCS DC86313 Cert |  |  |  |  |  | 3.37 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CZN-4 Meas |  |  |  |  |  |  |  |  |  | 1780 |  |  | > 25.0 |  | 92 | 0.28 |  |  |  |  |  |  |  |
| CZN-4 Cert |  |  |  |  |  |  |  |  |  | $\begin{array}{r} 1861.0 \\ 000 \end{array}$ |  |  | 33.07 |  | 86.7 | 0.295 |  |  |  |  |  |  |  |
| OREAS 183 (Fusion ICP) Meas |  |  |  |  |  |  |  |  | 9620 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OREAS 183 <br> (Fusion ICP) Cert |  |  |  |  |  |  |  |  | $\begin{array}{r} 9830.0 \\ 00 \end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | 98 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Lithium <br> Tetraborate FX-LT 100 lot\#220610B Cert |  |  | 82100 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OREAS 922 <br> (Peroxide Fusion) Meas | 2.4 |  | 31 | 1.63 |  |  |  |  |  |  |  |  | 0.37 |  |  | 29.6 |  |  |  |  |  |  |  |
| OREAS 922 (Peroxide Fusion) Cert | 2.60 |  | 29 | 1.61 |  |  |  |  |  |  |  |  | 0.389 |  |  | 30.51 |  |  |  |  |  |  |  |
| OREAS 621 (Peroxide Fusion) Meas | 2.2 | 29.3 |  | 0.50 | 563 | 14 | 10.5 | 22.0 |  | > 5000 | 6.5 | 82.7 | 4.43 | 135 |  | 27.5 |  |  | 101 |  |  |  | 8.1 |
| OREAS 621 <br> (Peroxide Fusion) Cert | 2.23 | 26.1 |  | 0.516 | 554 | 14 | 10.4 | 24.2 |  | 13300 | 6.64 | 89.0 | 4.51 | 146 |  | 28.1 |  |  | 101 |  |  |  | 8.6 |
| CCU-1e Meas |  |  |  | 0.71 | 104 |  |  |  |  | > 5000 |  |  | > 25.0 | 107 |  |  |  |  |  |  |  | 60 |  |
| CCU-1e Cert |  |  |  | 0.706 | 96.0 |  |  |  |  | 7030 |  |  | 35.3 | 104 |  |  |  |  |  |  |  | 61.8 |  |
| OREAS 680 (Peroxide Fusion) Meas | 1.3 |  | < 15 | 3.61 |  |  |  |  |  |  |  |  | 5.08 |  |  | 20.6 |  |  |  |  |  |  |  |
| OREAS 680 (Peroxide Fusion) Cert | 1.29 |  | 14.5 | 3.71 |  |  |  |  |  |  |  |  | 5.14 |  |  | 20.6 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


| Analyte Symbol | K | La | Li | Mg | Mn | Mo | Nb | Nd | Ni | Pb | Pr | Rb | S | Sb | Se | Si | Sm | Sn | Sr | Ta | Tb | Te | Th |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Unit Symbol | \% | ppm | ppm | \% | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm | \% | ppm | ppm | \% | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Lower Limit | 0.1 | 0.4 | 15 | 0.01 | 3 | 1 | 2.4 | 0.4 | 10 | 0.8 | 0.1 | 0.4 | 0.01 | 2 | 8 | 0.01 | 0.1 | 0.5 | 3 | 0.2 | 0.1 |  | 0.1 |
| Method Code | FUSNa 2 O 2 | FUS-MSNa 2 O 2 | FUSNa 2 O 2 | $\begin{aligned} & \left\lvert\, \begin{array}{l} \text { FUS- } \\ \mathrm{Na} 2 \mathrm{O} 2 \end{array}\right. \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | FUS-MS- <br> Na 2 O 2 | $\begin{aligned} & \mid \text { FUS- } \\ & \mathrm{MS}- \\ & \mathrm{Na} 2 \mathrm{O} 2 \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \text { MS- } \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUSNa 2 O 2 | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | FUS-MSNa 2 O 2 | FUSNa 2 O 2 | FUS-MSNa 2 O 2 | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \text { MS- } \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \mathrm{MS}- \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { FUS- } \\ \text { MS- } \\ \mathrm{Na} 2 \mathrm{O} 2 \\ \hline \end{array}$ | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | $\begin{aligned} & \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \end{aligned}$ |
| $\begin{aligned} & \text { OREAS 139 } \\ & \text { (Peroxide Fusion) } \end{aligned}$ Meas | 3.3 |  | 45 | 0.49 |  |  |  |  |  |  |  |  | 16.7 |  |  | 16.7 |  |  |  |  |  |  |  |
| $\begin{aligned} & \begin{array}{l} \text { OREAS 139 } \\ \text { (Peroxide Fusion) } \\ \text { Cert } \end{array} \\ & \hline \end{aligned}$ | 3.30 |  | 40.4 | 0.501 |  |  |  |  |  |  |  |  | 16.04 |  |  | 16.34 |  |  |  |  |  |  |  |
| OREAS 624 (Peroxide Fusion) Meas | 1.0 | 16.4 | < 15 | 1.29 | 659 | 16 | 5.8 | 13.4 |  | > 5000 | 3.6 | 35.4 | 13.3 | 71 |  | 20.3 |  |  | 50 |  |  |  | 4.0 |
| OREAS 624 <br> (Peroxide Fusion) <br> Cert | 0.991 | 17.3 | 10.3 | 1.31 | 660 | 17.8 | 5.78 | 16.8 |  | 6120 | 4.27 | 33.0 | 13.2 | 72.0 |  | 20.5 |  |  | 47.6 |  |  |  | 4.12 |
| OREAS 124 (Peroxide Fusion) Meas | 2.7 | 19.8 |  | 0.22 | 703 |  |  | 19.3 |  |  | 5.3 | 81.0 |  |  |  | > 30.0 | 3.6 |  |  |  | 0.5 |  | 5.8 |
| OREAS 124 <br> (Peroxide Fusion) <br> Cert | 2.62 | 21.6 |  | 0.224 | 700 |  |  | 20.8 |  |  | 5.39 | 86.0 |  |  |  | 38.2 | 4.21 |  |  |  | 0.480 |  | 5.74 |
| AMIS 0346 (Peroxide Fusion) Meas |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| AMIS 0346 <br> (Peroxide Fusion) Cert |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \begin{array}{l} \text { NCS DC73520 } \\ \text { Meas } \end{array} \\ & \hline \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |  |  | 0.45 |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { NCS DC73520 } \\ & \text { Cert } \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |  |  | 0.44 |  |  |  |  |  |  |  |  |  |  |
| OREAS 148 (Peroxide Fusion) Meas | 1.6 |  | 4790 | 0.46 |  |  |  |  |  |  |  |  |  |  |  | > 30.0 |  |  |  |  |  |  |  |
| $\begin{array}{\|l} \hline \begin{array}{l} \text { OREAS } 148 \\ \text { (Peroxide Fusion) } \\ \text { Cert } \end{array} \\ \hline \end{array}$ | 1.5 |  | 4760 | 0.47 |  |  |  |  |  |  |  |  |  |  |  | 36.0 |  |  |  |  |  |  |  |
| Method Blank | < 0.1 |  | < 15 | < 0.01 |  |  |  |  |  |  |  |  | 0.01 |  |  | <0.01 |  |  |  |  |  |  |  |
| Method Blank | $<0.1$ |  | < 15 | $<0.01$ |  |  |  |  |  |  |  |  | $<0.01$ |  |  | $<0.01$ |  |  |  |  |  |  |  |
| Method Blank | <0.1 |  | < 15 | < 0.01 |  |  |  |  |  |  |  |  | 0.02 |  |  | < 0.01 |  |  |  |  |  |  |  |
| Method Blank | <0.1 |  | <15 | < 0.01 |  |  |  |  |  |  |  |  | 0.01 |  |  | < 0.01 |  |  |  |  |  |  |  |
| Method Blank | <0.1 |  | <15 | < 0.01 |  |  |  |  |  |  |  |  | 0.01 |  |  | < 0.01 |  |  |  |  |  |  |  |
| Method Blank | < 0.1 | $<0.4$ | < 15 | $<0.01$ | 4 | 2 | <2.4 | < 0.4 | <10 | 1.6 | $<0.1$ | 2.0 | 0.01 | $<2$ | < 8 | < 0.01 | <0.1 | 1.3 | 13 | <0.2 | $<0.1$ | 6 | $<0.1$ |
| Method Blank | <0.1 |  | < 15 | < 0.01 |  |  |  |  |  |  |  |  | 0.01 |  |  | <0.01 |  |  |  |  |  |  |  |


| Analyte Symbol | Ti | TI | Tm | U | V | W | Y | Yb | Zn |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Unit Symbol | \% | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Lower Limit | 0.01 | 0.1 | 0.1 | 0.1 | 5 | 0.7 | 0.1 | 0.1 | 30 |
| Method Code | FUSNa2O2 | $\begin{aligned} & \hline \text { FUS- } \\ & \mathrm{MS}- \\ & \mathrm{Na} 2 \mathrm{O} 2 \\ & \hline \end{aligned}$ | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MSNa 2 O 2 | FUS-MS- <br> Na 2 O 2 | $\begin{aligned} & \hline \text { FUS- } \\ & \text { MS- } \\ & \mathrm{Na} 2 \mathrm{O} 2 \end{aligned}$ | FUS-MSNa 2 O 2 |
| PTM-1a Meas |  |  |  |  |  |  |  |  |  |
| PTM-1a Cert |  |  |  |  |  |  |  |  |  |
| NIST 696 Meas |  |  |  |  | 402 |  |  |  |  |
| NIST 696 Cert |  |  |  |  | $\begin{array}{r} 403.00 \\ 00 \end{array}$ |  |  |  |  |
| $\begin{array}{\|l} \hline \text { Oreas 74a } \\ \text { (Fusion) Meas } \\ \hline \end{array}$ |  |  |  |  |  |  |  |  |  |
| Oreas 74a <br> (Fusion) Cert |  |  |  |  |  |  |  |  |  |
| OREAS 101a <br> (Fusion) Meas | 0.38 |  | 2.5 | 419 | 82 |  | 184 | 19.5 |  |
| OREAS 101a <br> (Fusion) Cert | 0.395 |  | 2.90 | 422 | 83 |  | 183 | 17.5 |  |
| NCS DC86314 Meas |  |  |  |  |  | 74.6 |  |  |  |
| NCS DC86314 Cert |  |  |  |  |  | 79.0 |  |  |  |
| $\begin{array}{\|l} \hline \text { NCS DC86313 } \\ \text { Meas } \end{array}$ |  |  |  |  |  |  |  |  |  |
| NCS DC86313Cert |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| CZN-4 Cert |  |  |  |  |  |  |  |  | $\begin{array}{\|r\|} \hline 550700 \\ .00 \end{array}$ |
| OREAS 183 <br> (Fusion ICP) <br> Meas         100 <br> OREAS 183          |  |  |  |  |  |  |  |  |  |
| OREAS 183 <br> (Fusion ICP) Cert           |  |  |  |  |  |  |  |  |  |
| Lithium <br> Tetraborate FX-LT <br> 100 lot\#220610B <br> Meas |  |  |  |  |  |  |  |  |  |
| Lithium <br> Tetraborate FX-LT <br> 100 lot\#220610B <br> Cert |  |  |  |  |  |  |  |  |  |
| OREAS 922 <br> (Peroxide Fusion) <br> Meas 0.45 |  |  |  |  |  |  |  |  |  |
| (Peroxide Fusion) <br> Cert |  |  |  |  |  |  |  |  |  |
| OREAS 621 <br> (Peroxide Fusion) Meas | 0.18 | 1.8 |  | 2.9 | 32 | 3.1 | 13.9 | 1.1 | > 10000 |
| OREAS 621 <br> (Peroxide Fusion) <br> Cert Cert | 0.181 | 2.0 |  | 3.0 | 36.3 | 2.6 | 13.9 | 1.03 | 52200 |
| CCU-1e Meas |  | 2.7 |  |  |  |  |  |  | $>10000$ |
| CCU-1e Cert |  | 2.69 |  |  |  |  |  |  | 30200 |
| OREAS 680 (Peroxide Fusion) Meas | 0.51 |  |  |  |  |  |  |  |  |
| OREAS 680 (Peroxide Fusion) Cert | 0.523 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |


| Analyte Symbol | Ti | TI | Tm | U | V | W | Y | Yb | Zn |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Unit Symbol | \% | ppm | ppm | ppm | ppm | ppm | ppm | ppm | ppm |
| Lower Limit | 0.01 | 0.1 | 0.1 | 0.1 | 5 | 0.7 | 0.1 | 0.1 | 30 |
| Method Code | FUSNa 2 O 2 | FUS-MS- <br> Na 2 O 2 | FUS-MS- <br> Na 2 O 2 | FUS-MS- <br> Na 2 O 2 | FUS-MS- <br> Na 2 O 2 | FUS-MS- <br> Na 2 O 2 | FUS-MS- <br> Na 2 O 2 | FUS-MS- <br> Na 2 O 2 | FUS-MSNa 2 O 2 |
| OREAS 139 (Peroxide Fusion) Meas | 0.16 |  |  |  |  |  |  |  |  |
| OREAS 139 <br> (Peroxide Fusion) Cert | 0.157 |  |  |  |  |  |  |  |  |
| OREAS 624 (Peroxide Fusion) Meas | 0.15 | 1.1 |  | 1.3 | 32 | 4.5 | 14.5 | 1.6 | P10000 |
| OREAS 624 (Peroxide Fusion) Cert | 0.146 | 0.940 |  | 1.34 | 43.3 | 4.58 | 17.3 | 1.94 | 24100 |
| OREAS 124 <br> (Peroxide Fusion) <br> Meas | 0.26 |  | 0.2 | 1790 | 27 |  | 15.3 | 2.0 |  |
| OREAS 124 <br> (Peroxide Fusion) <br> Cert | 0.254 |  | 0.220 | 1790 | 23.3 |  | 14.2 | 1.63 |  |
| AMIS 0346 (Peroxide Fusion) Meas | 14.9 |  |  |  | 2780 |  |  |  |  |
| AMIS 0346 <br> (Peroxide Fusion) <br> Cert | 15.0 |  |  |  | 2700 |  |  |  |  |
| $\begin{aligned} & \text { NCS DC73520 } \\ & \text { Meas } \end{aligned}$ |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { NCS DC73520 } \\ & \text { Cert } \end{aligned}$ |  |  |  |  |  |  |  |  |  |
| OREAS 148 (Peroxide Fusion) Meas | 0.35 |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \hline \text { OREAS } 148 \\ & \text { (Peroxide Fusion) } \\ & \text { Cert } \end{aligned}$ | 0.35 |  |  |  |  |  |  |  |  |
| Method Blank | $<0.01$ |  |  |  |  |  |  |  |  |
| Method Blank | $<0.01$ |  |  |  |  |  |  |  |  |
| Method Blank | <0.01 |  |  |  |  |  |  |  |  |
| Method Blank | $<0.01$ |  |  |  |  |  |  |  |  |
| Method Blank | $<0.01$ |  |  |  |  |  |  |  |  |
| Method Blank | <0.01 | <0.1 | <0.1 | <0.1 | < 5 | <0.7 | <0.1 | <0.1 | <30 |
| Method Blank | <0.01 |  |  |  |  |  |  |  |  |

## Appendix 5

RS-121 Scintillometer Specifications

## RS-121 Super GAMMA-RAY SCINTILLOMETER with Memory Providing Search and Scan Modes of Operation



## RS-121 - Ideal For Field Exploration

The RS-121 Scintillometer is the state-of-the-art in a portable hand-held radiation survey search device for the geophysical industry. It offers an integrated design with a large detector, direct Survey readout, Scan mode, data storage, full weather protection and ease of use. In addition, it has Bluetooth (BT) connectivity providing for wireless connection to a Bluetooth equipped external GPS receiver, earphone or computer.


## Features Include:

- High Sensitivity with large $2.0 \times 2.0 \mathrm{NaI}$ crystal $103 \mathrm{~cm}^{3}$ ( $6.3 \mathrm{in}^{3}$ )
- Lightweight \& rugged $4.4 \mathrm{lb}(2 \mathrm{~kg})$, including batteries
- Easy to use, single button
- survey and scan modes of operation
- 5-digit LCD display with high count rate $65,535 \mathrm{cps}$
- scrolling histogram graph display of last 100 readings
- Fast audio output with adjustable audio threshold set point
- BT earphone audio support for noisy area surveying
- Bluetooth and USB equipped with external GPS integrated into data stream via BT
- Special rugged design to withstand typical field usage, full IP67 weatherproofing short term water immersion and fully dust protected
- Low power (4 x AA batteries)
- typical 8-12 hour battery life at $20^{\circ} \mathrm{C}$
- No radioactive sources required for proper operation


The RS-121 allows the user to produce profiles of the total count data from either the Search or Scan modes. The data can be from a drill core scan or from a survey with GPS positioning data.

## Survey Mode (Total Count)

The loud linear audio permits eyes-free operation with large easy to read 5 digit display showing the total count in cps at $1 / \mathrm{sec}$ update rate. It also has Bluetooth earphone support for noisy area surveying.

## Specifications:

## Temperature Range:

- $-20^{\circ} \mathrm{C}$ to $+50{ }^{\circ} \mathrm{C}$


## Scan Mode

A variable rate scan mode ( $1-20 \mathrm{sec}$.) stores the data in memory. An external GPS can also be integrated into the data system via Bluetooth connection to provide location data.

## RS-Analyst Software

The RS-121 is provided with utility software to download the data that is stored in memory. All data in memory can be transmitted via Bluetooth or USB to the RS-Analyst program on a PC. This may take the form of field or Scan data + GPS. The program also gives graphical and numeric views of the data. The data can also be re-exported as a text file for further processing.


## Standard Accessories

- RS-121 Scintillometer with carrying handle
- Removable protective boot with shoulder strap
- Battery cartridge with $4 \times$ AA rechargeable batteries \& charger
- Spare battery holder cartridge
- RS-Analyst utility software
- USB cable
- User guide
- Delivered in hard case with foam insert


## Control:

- Single one button, thumb activated


## Internal Memory:

- 4 MB providing more than $1,146,870$ one second readings


## Data Output:

- Bluetooth (BT) and USB


## Alarm:

- Audio via miniature speaker
- Variable audio threshold set point
- Audio proportional to count rate


## Weight:

- $\quad 4.4 \mathrm{lb}(2 \mathrm{~kg})$ including batteries


## Size \& Package Style:

- $10.2^{" \times} 3.2 " \times 3.8 "(259 \mathrm{~mm} \times 81 \mathrm{~mm} \times 96 \mathrm{~mm})$
- 1 mm aluminum thick outer case
- In a flashlight configuration with detachable handle


## Display:

- $128 \times 64$ pixels, $11 / 8 \times 23 / 8$ "
- Graphic LCD display with white black light and automatic dimming
- Counts in CPS from 0 to 65,535 and Histogram chart
- Update Rate: 1x / sec


## Energy Response:

- 30 keV 3000 keV


## Internal Sampling:

- 30 / second


## Batteries:

- Internal battery pack module (4xAA) easily replaceable
- Rechargeable or Alkaline
- Life: $8+$ hours at $20^{\circ} \mathrm{C}$

Specifications subject to change without notice \# 06.12

## Appendix 6

## Statement of Costs

| Joshua Gold - Seymour Extension Property |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Remote Sensing Survey and Outcrop Sampling Program 2022 |  |  |  |  |  |  |
| Statement of Costs : Pre-HST costs catagorized as either Remote Sensing or Sampling |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  | Remote Sensing | Sampling | CHK Total |
|  |  | \$ | \$ |  |  |  |
| Mobilization | qty | rate | amt |  |  |  |
| Vehicle Km Timmins to Armstrong (Oct 10, 2022) | 993.00 | 0.60 | 595.80 | 369.40 | 226.40 | 595.80 |
| Vehicle Km Armstrong to Site (Oct 11, 2022) | 65.00 | 0.60 | 39.00 | 24.18 | 14.82 | 39.00 |
| Crew time Timmins to Site October 10 / 11, 2022) | 13.00 | 165.00 | 2145.00 | 1329.90 | 815.10 | 2145.00 |
| Food and Lodging (2 man crew October 10, 2022) | 1.00 | 250.00 | 250.00 | 155.00 | 95.00 | 250.00 |
|  |  |  |  |  |  |  |
| Field Work (October 11, 2022) |  |  |  |  |  |  |
| 3 flights - eBee fixed wing drone with 20 mp camera | 3.00 | 550.00 | 1650.00 | 1650.00 |  | 1650.00 |
| Sample 2 outcrops, Scintillometer 3 outcrops | 6.25 | 165.00 | 1031.25 |  | 1031.25 | 1031.25 |
|  |  |  |  |  |  |  |
| Demobilization (October 11, 2022) |  |  |  |  |  |  |
| Vehicle Km Site to Armstrong | 65.00 | 0.60 | 39.00 | 24.18 | 14.82 | 39.00 |
| Vehicle km Armstrong to Timmins | 993.00 | 0.60 | 595.80 | 369.40 | 226.40 | 595.80 |
| Crew time Site to Timmins | 13.00 | 165.00 | 2145.00 | 1329.90 | 815.10 | 2145.00 |
| Scintillometer Rental @ \$80/day (Oct 8-14) | 7.00 | 80.00 | 560.00 |  | 560.00 | 560.00 |
|  |  |  |  |  |  |  |
| Computer Processing (October 12-15, 2022) |  |  |  |  |  |  |
| Download and Process field data | 6.00 | 88.00 | 528.00 | 528.00 |  | 528.00 |
| Process air photo mosaic in Pix4D | 4.50 | 88.00 | 396.00 | 396.00 |  | 396.00 |
| Prepare field maps for Nov 2022 outcrop sampling | 5.50 | 88.00 | 484.00 | 484.00 |  | 484.00 |
|  |  |  |  |  |  |  |
| Outcrop Sampling Trip - November 4th to 6th, 2022 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Vehicle Km Timmins to Armstrong (Nov 4, 2022) | 993.00 | 0.60 | 595.80 |  | 595.80 | 595.80 |
| Vehicle Km Armstrong to Site (Nov 5, 2022) | 65.00 | 0.60 | 39.00 |  | 39.00 | 39.00 |
| Crew time Timmins to Site Nov 4 / 5, 2022) | 13.00 | 165.00 | 2145.00 |  | 2145.00 | 2145.00 |
| Food and Lodging (2 man crew Nov 4, 2022) | 1.00 | 250.00 | 250.00 |  | 250.00 | 250.00 |
|  |  |  |  |  |  |  |
| Field Work (November 5, 2022) |  |  |  |  |  |  |
| Sample 4 outcrops, Scintillometer 4 outcrops | 8.50 | 165.00 | 1402.50 |  | 1402.50 | 1402.50 |
|  |  |  |  |  |  |  |
| Demobilization (November 5, 2022) |  |  |  |  |  |  |
| Vehicle Km Site to Armstrong | 65.00 | 0.60 | 39.00 |  | 39.00 | 39.00 |
| Crew time Site to Armstrong | 1.00 | 165.00 | 165.00 |  | 165.00 | 165.00 |
| Food and Lodging (2 man crew Nov 5, 2022) | 1.00 | 250.00 | 250.00 |  | 250.00 | 250.00 |
|  |  |  |  |  |  |  |
| Demobilization (November 6, 2022) |  |  |  |  |  |  |
| Vehicle Km Armstrong to Timmins | 993.00 | 0.60 | 595.80 |  | 595.80 | 595.80 |
| Crew time Armstrong to Timmins | 12.00 | 165.00 | 1980.00 |  | 1980.00 | 1980.00 |
| Scintillometer Rental @ \$80/day (Nov 3-9) | 7.00 | 80.00 | 560.00 |  | 560.00 | 560.00 |
|  |  |  |  |  |  |  |
| Geologist - describe, package, ship samples to Ancaster (Actlabs) | 3.75 | 88.00 | 330.00 |  | 330.00 | 330.00 |
|  |  |  |  |  |  |  |
| Prepare assessment report to ENDM standards (Oct 10 to Dec 20) | 23.00 | 88.00 | 2024.00 | 667.92 | 1356.08 | 2024.00 |
|  |  |  |  |  |  |  |
| Assay - Invoice from Actlabs (6 samples including rush surcharge) | 6.00 | 182.15 | 1092.90 |  | 1092.90 | 1092.90 |
| (6 out of 7 samples on Actlabs invoice relate to this project) |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| SUB |  |  | 21927.85 | 7328.00 | 14600.00 | 21928.00 |
| HST |  |  | 2850.62 |  |  |  |
|  |  |  |  |  |  |  |
| Total Project |  |  | 24778.47 |  |  |  |

