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N.T.S. 32D05J

2022

**REPORT ON PROSPECTING TRAVERSES,
PETROLOGY AND MICROPROBE ANALYSES
SMITH LAKE PROPERTY
LARDER LAKE MINING DIVISION
BOSTON & PACAUD TOWNSHIPS, ONTARIO**



Written by:

**Robert J. Dillman
Arjadee Prospecting
8901 Reily Drive, Mount Brydges, Ontario**

and:

**Jim Renaud
Renaud Geological Consulting Ltd.
21272 Denfield Road, London, Ontario**

December 16, 2022

For:

**GOLDENFIRE MINERALS INC.
21272 Denfield Road, London, Ontario**

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Petrographic and Electron Microprobe Investigation of Smith Lake Specimen: Rock Sample SL-18
Assay Certificates

Summary

This report discusses the results of prospecting in the area west of Smith Lake on the Smith Lake Property in Boston and Pacaud Townships, Ontario. The dates and location of work follows:

August 2, 2022	Cell 32D04D321, Claim 568163, Boston-Pacaud Twp.
September 18, 2022	Cell 32D04D302, Claim 557288, Boston Twp.
September 19, 2022	Cell 32D04D303, Claim 557289, Boston Twp.
September 21, 2022	Cell 32D04D303, Claim 557289, Boston Twp. Cell 32D04D323, Claim 568154, Boston Twp.
September 22, 2022	Cell 32D04D324, Claim 568149, Pacaud Twp. Cell 32D04D344, Claim 568160, Pacaud Twp.

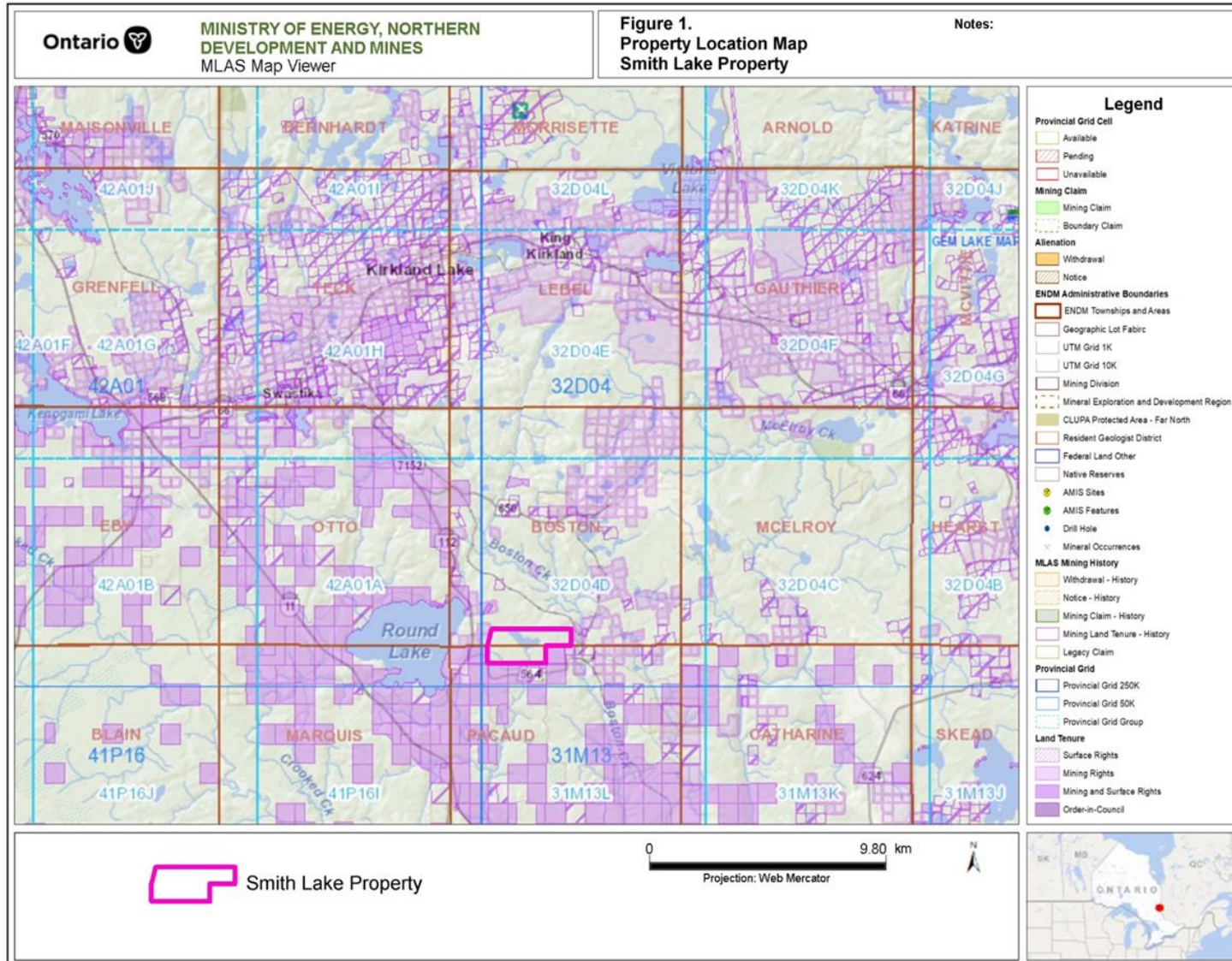
The work was conducted for Goldenfire Minerals Inc. by Jim Renaud and Robert Dillman (author). During the work, approximately 3.3 km were traversed, and 30 rock samples were collected on the property. All the samples were assayed for gold. Most of the assay results were low, ranging <0.001 to 0.009 ppm Au. A sample of brecciated quartz with semi-massive pyrite found beside a large, flooded pit assayed 0.014 ppm Au. Malachite was observed at the site. A petrographic and microprobe examination of a sample of the quartz, identified Fe-sphalerite and pyrrhotite in addition to pyrite. A sample from a boulder of quartz with chalcopyrite found near the southwest corner of Smith Lake assayed 0.017 ppm Au.

Location and Access

The Smith Lake Property is situated in Boston Creek area of the Larder Lake Mining Division, Ontario. The property is located approximately 15 kilometres south of the town of Kirkland Lake (Figure 1). The property straddles the township boundary between Boston and Pacaud townships.

The property is accessible by truck and ATV. From the town of Kirkland Lake, the property can be reached by travelling 14 km south on Highway 112 to the intersection with provincial road 564. Turn east on road 564 towards Boston Creek. The Smith Lake Property boundary is situated on the east side of the road at the "big bend" 0.9 km from the intersection with highway 112.

Several non-maintained logging roads provide good access to various regions of the property.



Claim Logistics and Location of Work

The Smith Lake Property consists of 22 mining claim cells. The property covers an approximate area of 406 hectares (Figure 2). All claims comprising the Smith Lake Property are held by Goldenfire Minerals of London, Ontario.

The work was conducted by Jim Renaud of London, Ontario and the author, Robert Dillman of Mount Brydges, Ontario. The work was completed for Goldenfire Minerals Inc.

Areas on the property where traverses were conducted are shown in Figure 3. The dates of work and areas prospected include:

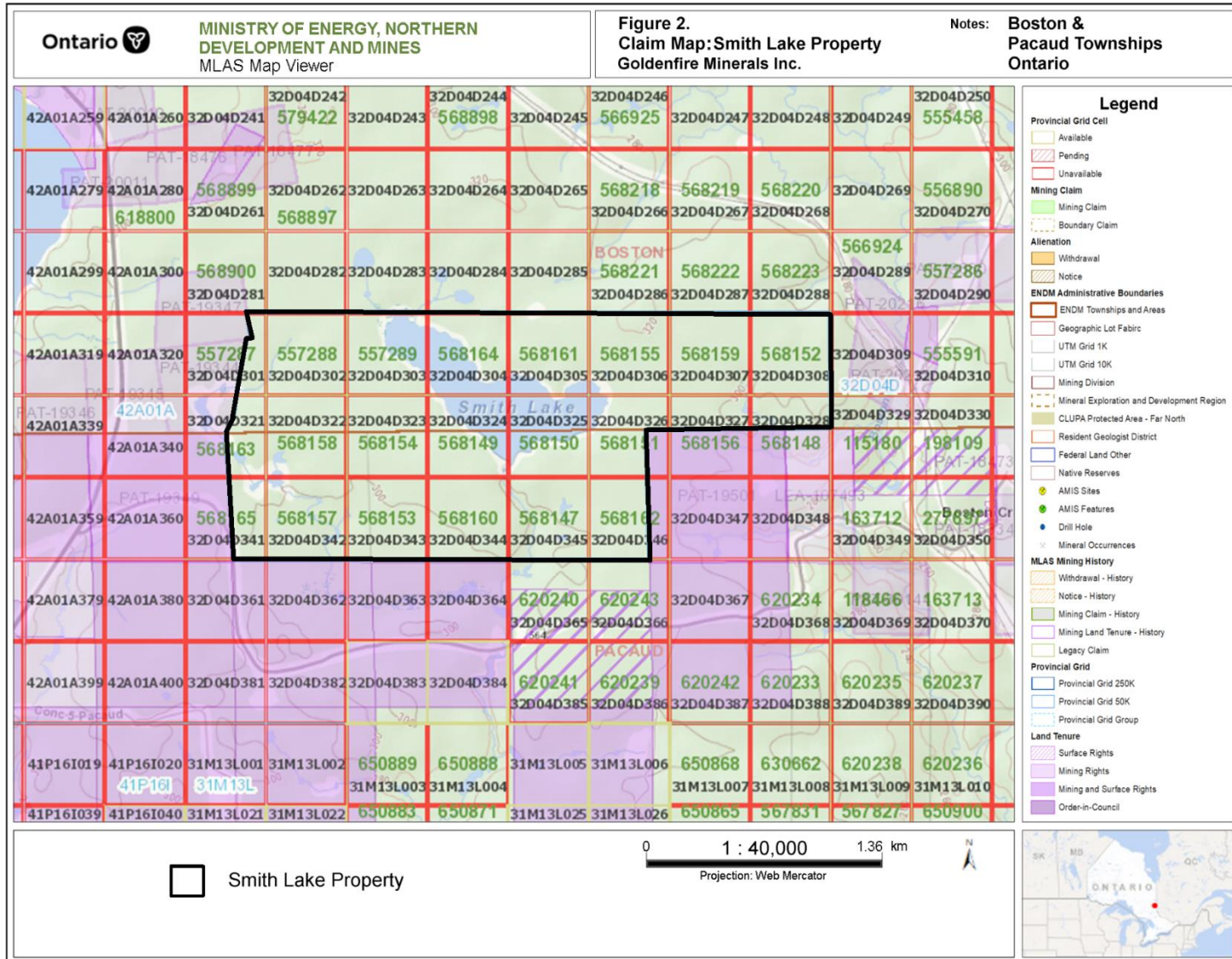
August 25, 2022	Cell 32D04D321, Claim 568163, Boston-Pacaud Twp.
September 18, 2022	Cell 32D04D302, Claim 557288, Boston Twp.
September 19, 2022	Cell 32D04D303, Claim 557289, Boston Twp.
September 21, 2022	Cell 32D04D303, Claim 557289, Boston Twp. Cell 32D04D323, Claim 568154, Boston Twp.
September 22, 2022	Cell 32D04D324, Claim 568149, Pacaud Twp. Cell 32D04D344, Claim 568160, Pacaud Twp.

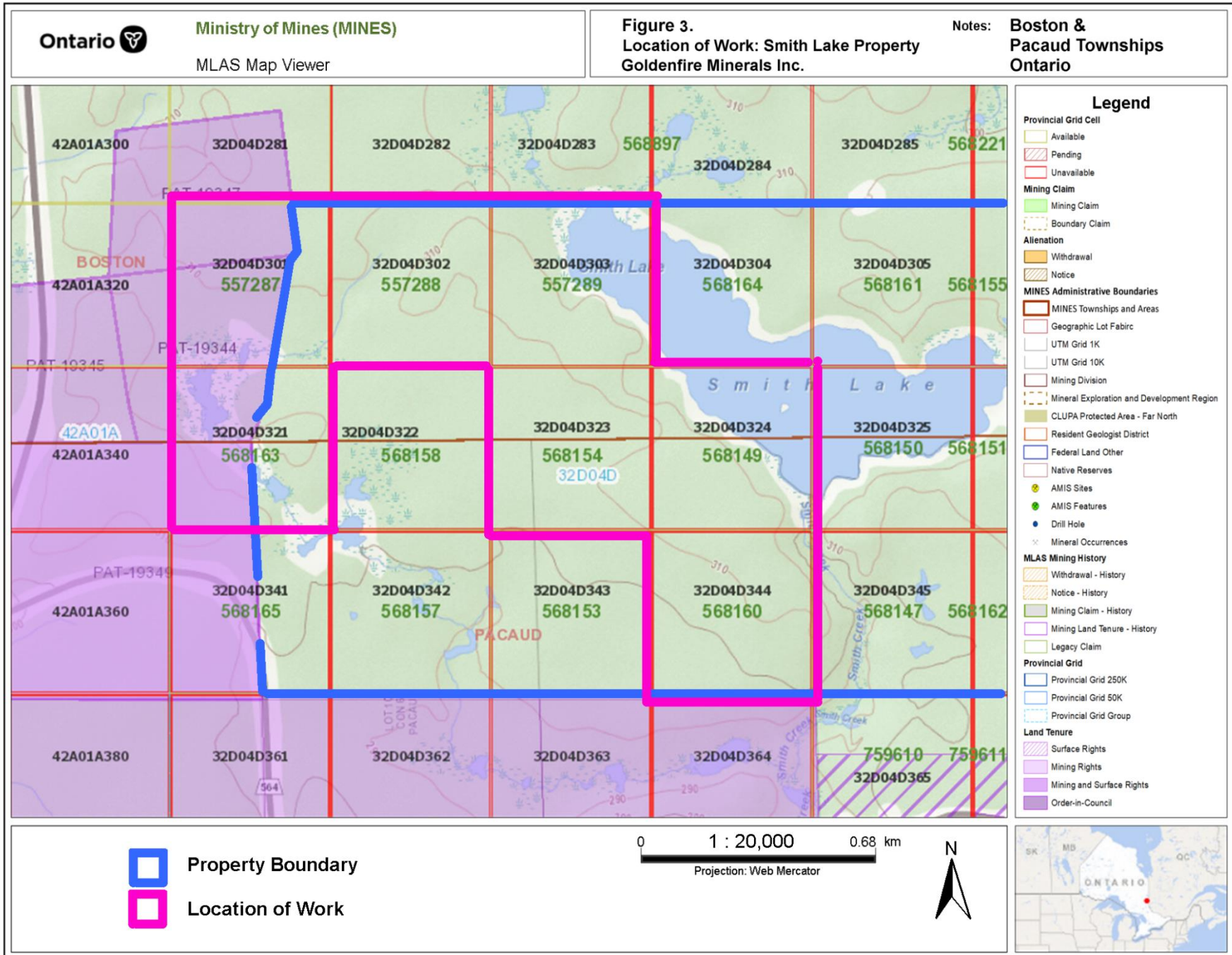
Land Status and Topography

The Smith Lake Property is situated entirely on Crown Land. The property is uninhabited. There are no buildings or habitats. Approximately 500 metres south of the property, there is an electrical powerline following provincial road 564. There is an active rail line located 150 metres northeast of the property.

Sections of the property have been logged within the last 2 decades and a significant amount of regrowth has occurred. Trees within areas prospected mostly consist of medium sized spruce, balsam, birch and poplar. Mature hemlock occurs in wet areas in the northwest section of the property. Large spruce, balsam and poplar trees border Smith Lake. Alders grow in wet and low areas.

The property is at a mean elevation ranging 305 to 310 metres above sea level. Most of the property has gentle relief with rounded hills ranging up to 10 metres in height. There are no large hills. The most significant topographic feature is Smith Lake situated roughly in the center of the property and at an elevation of 302 metres above sea level.





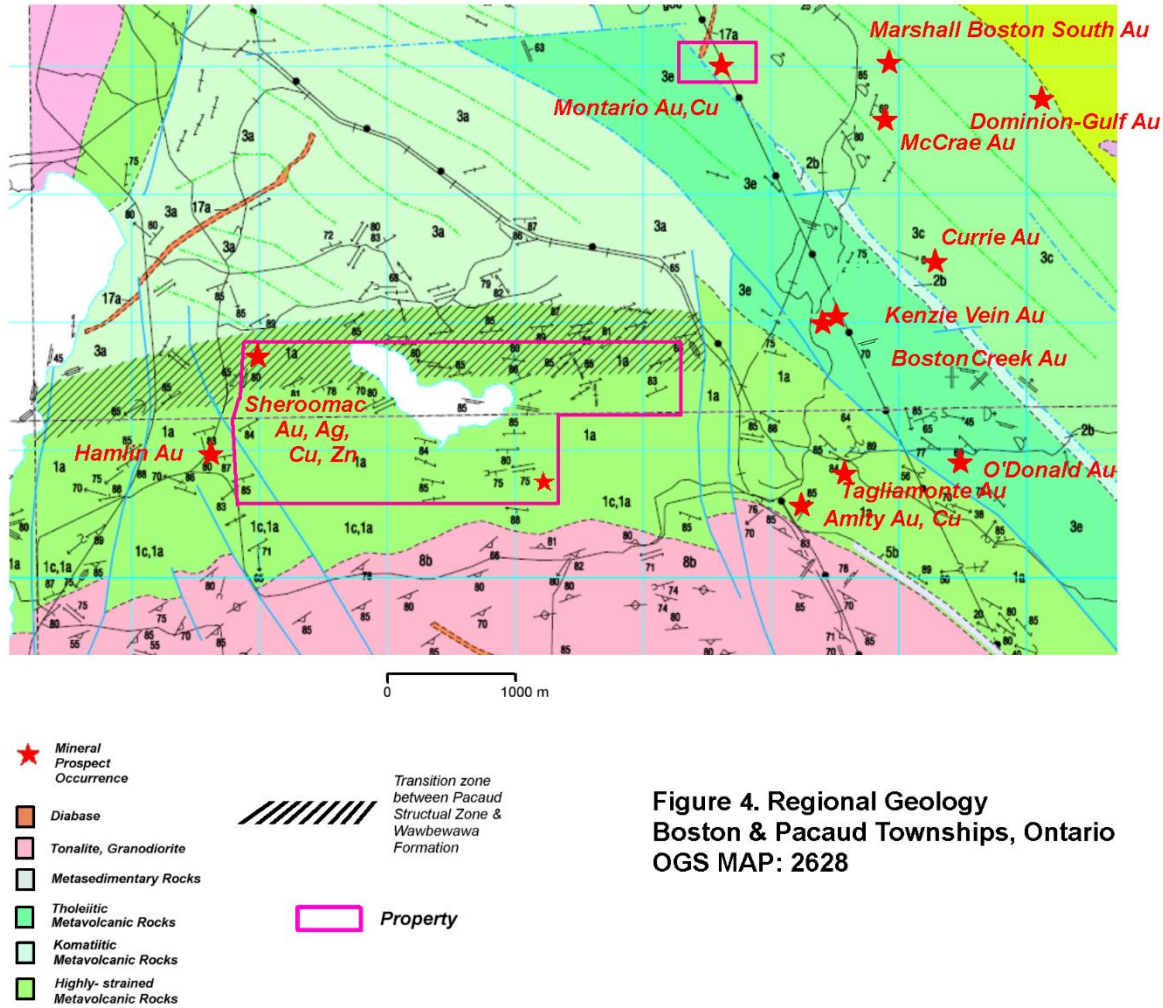
Outcrop exposure in many sections of the property is good. Outcrops are abundant in higher elevations and variable exposures in lower elevations. Overburden is generally shallow and consists of glacial till deposited by a glacier moving northwest to southeast. In the northwest section of the property, there are sand deposits from glacial outwash and possibly the extension of a sand and gravel deposit situated 600 metres to the north.

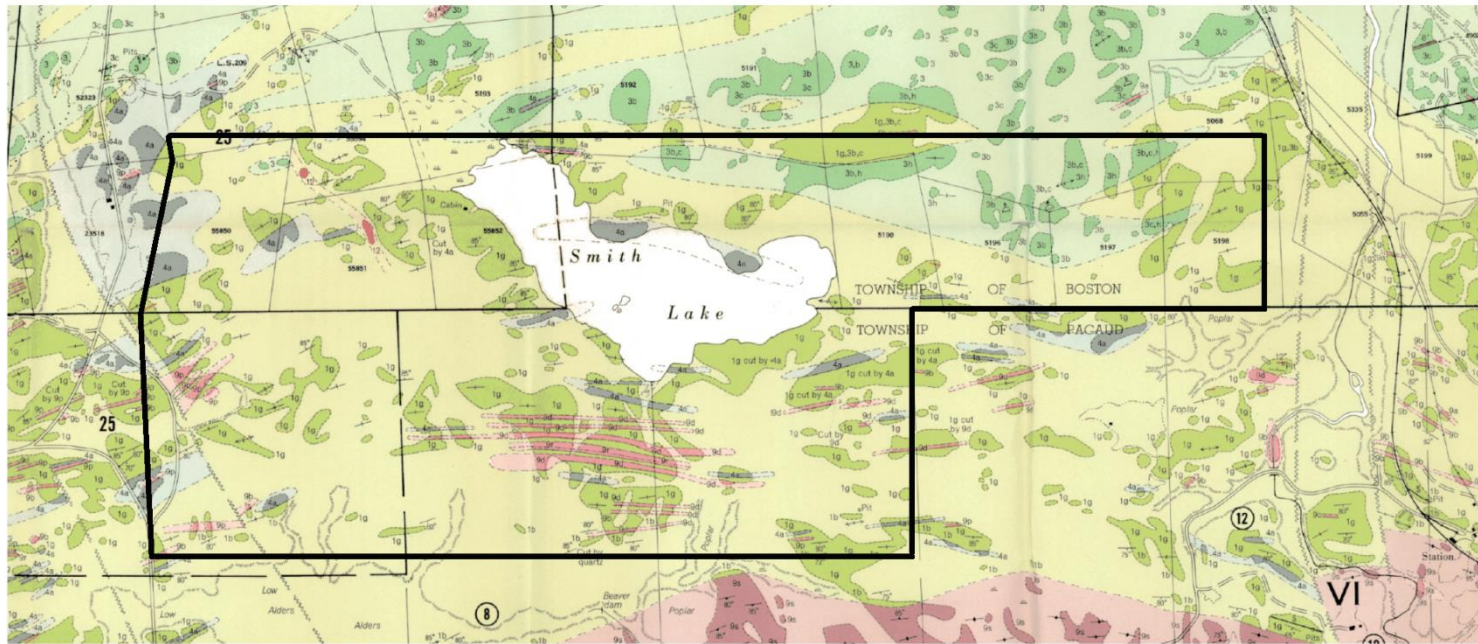
Regional and Local Geology

The Smith Lake Property is located in the Boston Creek area of Abitibi Greenstone Belt. The rocks are Archean in age and consist of metavolcanic, metasedimentary and ultramafic to felsic intrusive rocks.

The Smith Lake Property is mostly underlain by compositionally banded rocks consisting of cherty quartzites and pillowed to flowed mafic metavolcanic rocks of the Pacaud Structural Complex which lie in contact with the north section of the Round Lake Batholith. These units generally strike east – west and dip vertical to steeply north. In the Smith Lake area, units of the Pacaud Structural Complex transition to pillowed and mafic metavolcanic flows of the Wawbewawa Formation. Rock units in the vicinity of Smith Lake trend northeast to southwest and dip vertical to steeply north or south. Diorite and peridotite have intruded rock units in the vicinity of Smith Lake. Syenite dikes are abundant south of the lake. Porphyry dikes occur in outcrops in the north section of the property. North trending diabase dikes also occur on the property.

The property lies between north trending structures associated with the Long Lake Fault which is situated to the west of the property and close to northwest trending structures associated with the Pacaud Fault situated to the east. In the north central region of the property, there is extensive carbonate alteration and shearing with associated quartz veins and stringers. Shearing and alteration is especially prevalent in the vicinity of Smith Lake where the Pacaud Structural Complex transitions to the Wawbewawa Formation.





- | | |
|----|------------------------------|
| 12 | Diabase |
| 9 | Intrusive Units |
| | d granite |
| | p quartz - feldspar porphyry |
| | r felsite |
| | b syenite |
| 4 | Diorite |
| 3 | Mafic Metavolcanic Rocks |
| | b pillowed to andesite flows |
| | c gabbroic flows |
| | h tuff |
| 1 | Intermediate to Felsic Rocks |
| | a porphyritic andesite |
| | b dacite |
| | g tuffaceous metasediments |

0 500m

Figure 5.
Geology of Smith Lake Property
Boston & Pacaud Townships, Ontario
ODM MAP: m1957 - 4

History of Exploration

In 1914, the first gold discovery in Boston Twp. was made at the “Kenzie Vein” located approximately 2 km’s east of the Smith Lake Property. Over the years, there have been numerous discoveries of gold in Boston and Pacaud townships and production has occurred at several locations (Figure 3). Copper and iron have also been mined in the area.

In 1953, the Sheromac Mining Corporation Limited held patents and claims in the southwest section of Boston and Pacaud township. Some of this area is partially covered by the Smith Lake Property. Gold, copper, silver and zinc discoveries are reported in several localities on the Sheromac property including MDI MDI32D04SW00245 suggesting Au-Cu-Ag-Zn mineralization occurs in the northwest corner of the property. Also in this area, a rusty shear zone intruded by syenite and quartz and mineralized with pyrite is reported to strike S.80°E for 150 feet along the west side of Smith Lake. Additional occurrences of gold, silver and copper are reported southwest of the Smith Lake Property including the Hamelin occurrence .

In 1971, G.J. Geregthy completed a ground magnetometer survey over a claim on the west end of Smith Lake. The survey was preformed for L.A. Waddell who held the claim on behalf of Hudson Bay Mines Limited. The survey focused on an airborne magnetic anomaly shown under the lake on aeromagnetic map 47G, NTS 32 D/4, Larder Lake Sheet. Old pits and stripped areas from previous work were noted during the survey. A hole was drilled under Smith Lake intersecting peridotite and syenite dikes. A 0.2 ft section assayed 0.06% Cu and 0.10% Ni.

In 1982 and 1983, Shiningtree Gold Resources Incorporated completed ground magnetometer and VLF surveys over their claim blocks. Grid G partially covered the Smith Lake area.

In 1984, the Canadian Nickel Company Limited optioned 181 claims from Shiningtree Gold Resources Incorporated in Boston and Pacaud townships. Part of this claim block extended through the Smith Lake area. Work by Canadian Nickel included: geological mapping, rock sampling, I.P. surveys and diamond drilling. No significant results are reported in the Smith Lake area.

In 2008, 6398651 Canada Inc. sampled till in various areas north of Smith Lake and identified kimberlite indicator minerals and gold grains in some of the areas. A heavy mineral concentrated derived from a till sample taken on the north side of Smith Lake is reported to have assayed 696 ppb Au.

In 2020, Jim Renaud and Robert Dillman (author) prospected in the northwest and southwest regions on the property. A petrographic examination and microprobe analyses were also completed. No significant mineralization found.

Survey Dates and Personnel

Field work for this report was completed in 5 days: August 25, 2022, September 18 to September 19, 2022 and September 21 to September 22, 2022. Two (2) days were devoted toward mob/demob to the property: September 18, 2022 and September 23, 2022. The traverses were completed by: Jim Renaud of London, Ontario and author, Robert Dillman of Mount Brydges, Ontario.

Survey Logistics

Prospecting traverses were focused on exploring the area west of Smith Lake. Details of the traverses including location and geology are summarized in Table's 1 to 5 and plotted at a scale of 1 : 5,000 on accompanying maps, Figure's #6 to #15. Approximately, 3.3 km were traversed.

A compass and GPS were used to navigate. Garmin GPS models GPSMAP 66st and GPSMAP 66i were used to navigate during traversing. Both GPS units were set to NAD83, Zone 17. Waypoints were periodically recorded during each traverse and are listed in Table to 5.

Thirty-three (33) rock samples were collected during the survey. Thirty (30) of the samples were collected on the Smith Lake property. All the samples were assayed for gold by AGAT Laboratory located in Mississauga, Ontario. All samples were Fire Assayed using a 50 gram charge and finished by Inductively Coupled Plasma – Optical Emission Spectroscopy (ICP-OES) to measure the gold concentration. Assay certificates from the lab are appended to this report. Rock sample locations, descriptions and assay results are presented in Table 6 and locations of sample sites are plotted at a scale of 1: 5,000 on Figures 16 to 20.

A petrographic and microprobe examination of a rock sample from the property was undertaken by Jim Renaud of Renaud Geological Consulting Ltd. Work was completed at his facilities in London, Ontario. A report of his work is appended to this report.

Survey Results

The area prospected is underlain by northeast trending basaltic rocks, mafic and metasedimentary schists and gabbroic sills all of which have been intruded by dikes of diabase, granite and syenite. Disseminated pyrite, quartz stringers and boudinaged veins were frequently observed in outcrop. Sometimes the stringers and veins also contained minor chalcopyrite. Most of the quartz stringers trend in a northeast direction parallel with schistosity however some stringers trend perpendicular at 120°. Unfortunately, assays for quartz stringers, veins and surrounding wallrock were low ranging <0.001 ppm to 0.009 ppm Au. The best assay was obtained from sample SL-32 which returned a value of 0.017 ppm Au from a boulder of quartz with minor chalcopyrite found in cell 32D04D324, claim 568149.

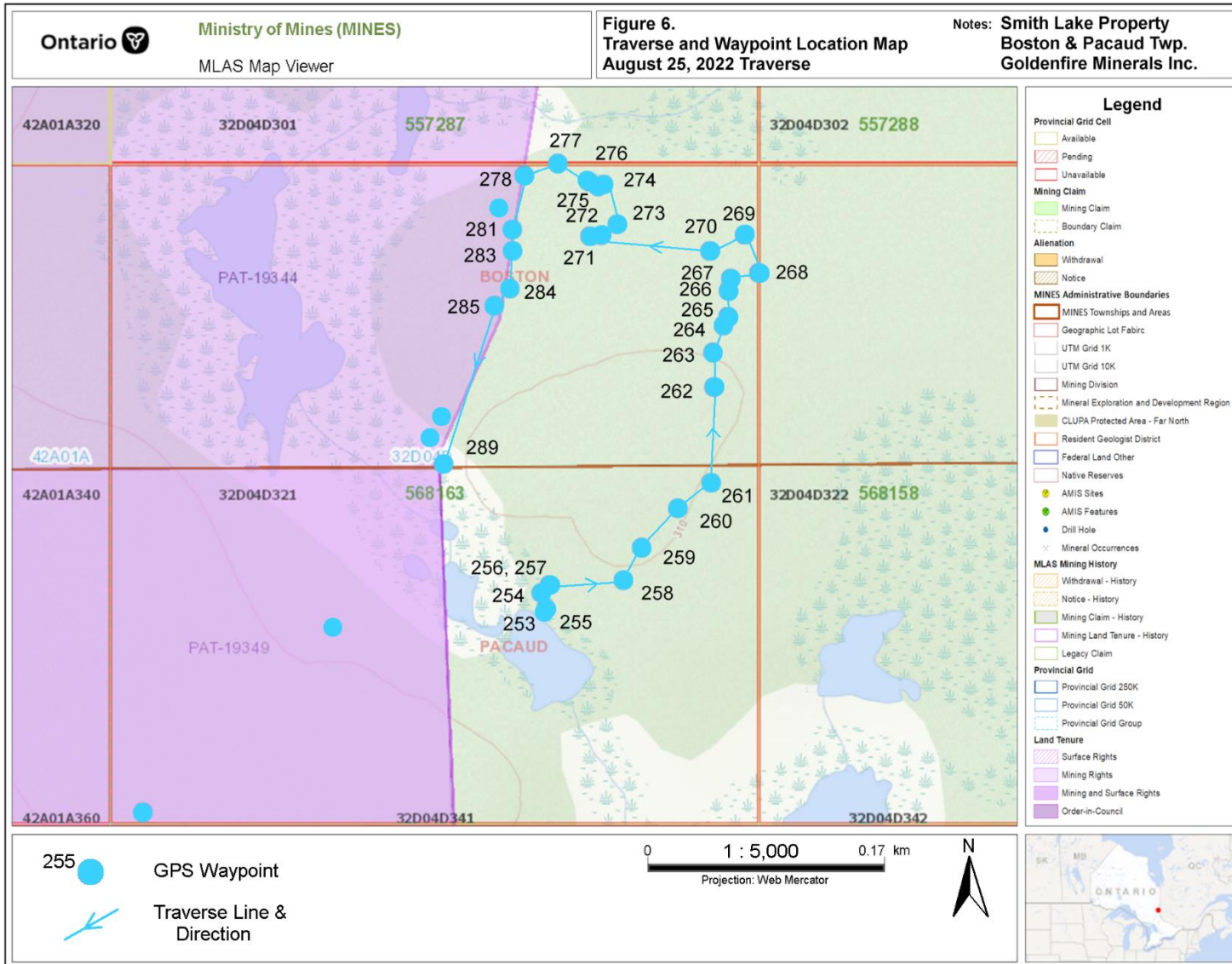
The best area of mineralization can be found in gabbroic rocks occurring approximately 100 m west of Smith Lake in cell 32D04D303, claim 557289. The area is marked by a series of flooded and debris filled pits and long trenches of unknown age. Debris around the workings consists mostly of gabbro and quartz mineralized with disseminated to semi-massive pyrite. Assays for gold for samples of well-mineralized debris collected around the workings were low. The best sample SL-18 returned 0.014 ppm Au from quartz and pyrite. A petrographic and microprobe examination of quartz and sulphides from sample SL-18 revealed the quartz is multi-generational, brecciated and the sulphides are a mixture of pyrite, pyrrhotite and Fe-sphalerite. Some malachite was noted in sample SL-19.

Table 1.: Field Notes, August 25, 2022, Smith Lake Property, Boston & Pacaud Twp.'s

Waypoint	UTM Coordinates	Time	Claim	Cell	Notes
253	574885mE 5318328mN	10:03 am	568163	32D04D321	Gabbro with pyrite
254	574884mE 5318339mN	10:11 am	568163	32D04D321	Gabbro, quartz with chalcopyrite, feldspar dike, small trench
255	574888mE 5318328mN	10:21 am	568163	32D04D321	Gabbro with pyrite
256	574890mE 5318345mN	10:30 am	568163	32D04D321	Float, Quartz several pieces various sizes, Trace pyrite
257	574890mE 5318345mN	10:40 am	568163	32D04D321	Gabbro with quartz and chalcopyrite
258	574943mE 5318349mN	10:48 am	568163	32D04D321	Metasediment + metavolcanic outcrop
259	574956mE 5318372mN	11:23 am	568163	32D04D321	Metasediment, strike 60 ⁰
260	574981mE 5318400mN	11:32 am	568163	32D04D321	Mafic schist strike 65 ⁰
261	575006mE 5318418mN	11:40 am	568163	32D04D321	Overburden, spruce, balsam, birch
262	575007mE 5318485mN	11:45 am	568163	32D04D321	Overburden, till, spruce, balsam, birch
263	575005mE 5318509mN	11:49 am	568163	32D04D321	Mafic schist strike 65 ⁰ , Z-folds
264	575013mE 5318428mN	11:55 am	568163	32D04D321	Overburden, wet
265	575016mE 5318535mN	11:57 am	568163	32D04D321	Mafic schist strike 70 ⁰
266	575016mE 5318553mN	12:12 pm	568163	32D04D321	Boudined quartz in chlorite-mafic schist strike 70 ⁰
267	575018mE 5318561mN	12:22 pm	568163	32D04D321	Mafic schist
268	575038mE 5318566mN	12:25 pm	568163 568158	32D04D321 32D04D322	Pillowed basalt
269	575027mE 5318592mN	12:29 pm	568163	32D04D321	Mafic schist strike 45 ⁰
270	575002mE 5318581mN	12:34 pm	568163	32D04D321	Mafic schist strike 44 ⁰
271	574916mE 5318590mN	12:58 pm	568163	32D04D321	Gabbro

Table 1 con't .: Field Notes, August 25, 2022, Smith Lake Property, Boston & Pacaud Twp.'s

272	574924mE 5318590mN	1:02 pm	568163	32D04D321	Gabbro, trace pyrite
273	574936mE 5318599mN	1:05 pm	568163	32D04D321	Gabbro, trace pyrite
274	574925mE 53186260mN	1:11 pm	568163	32D04D321	Gabbro
275	574924mE 5318590mN	1:15 pm	568163	32D04D321	Gabbro
276	574915mE 5318628mN	1:22 pm	568163	32D04D321	Gabbro, trace chalcopyrite
277	574892mE 5318641mN	1:34 pm	557287	32D04D301	Mafic metavolcanic with 3 cm quartz vein 22°
278	574868mE 5318632mN	1:44 pm	568163	32D04D321	Gabbro
283	574860mE 5318579mN	2:03 pm	568163	32D04D321	Mafic metavolcanic
284	574859mE 5318552mN	2:06 pm	568163	32D04D321	Mafic schist strike 55°, dip 76°SE
285	574848mE 5318540mN	2:03 pm	568163	32D04D321	Mafic metavolcanic, Patent
289	574813mE 5318429mN	2:30pm	568163	32D04D321	Quartz with pyrite float on mafic metavolcanic



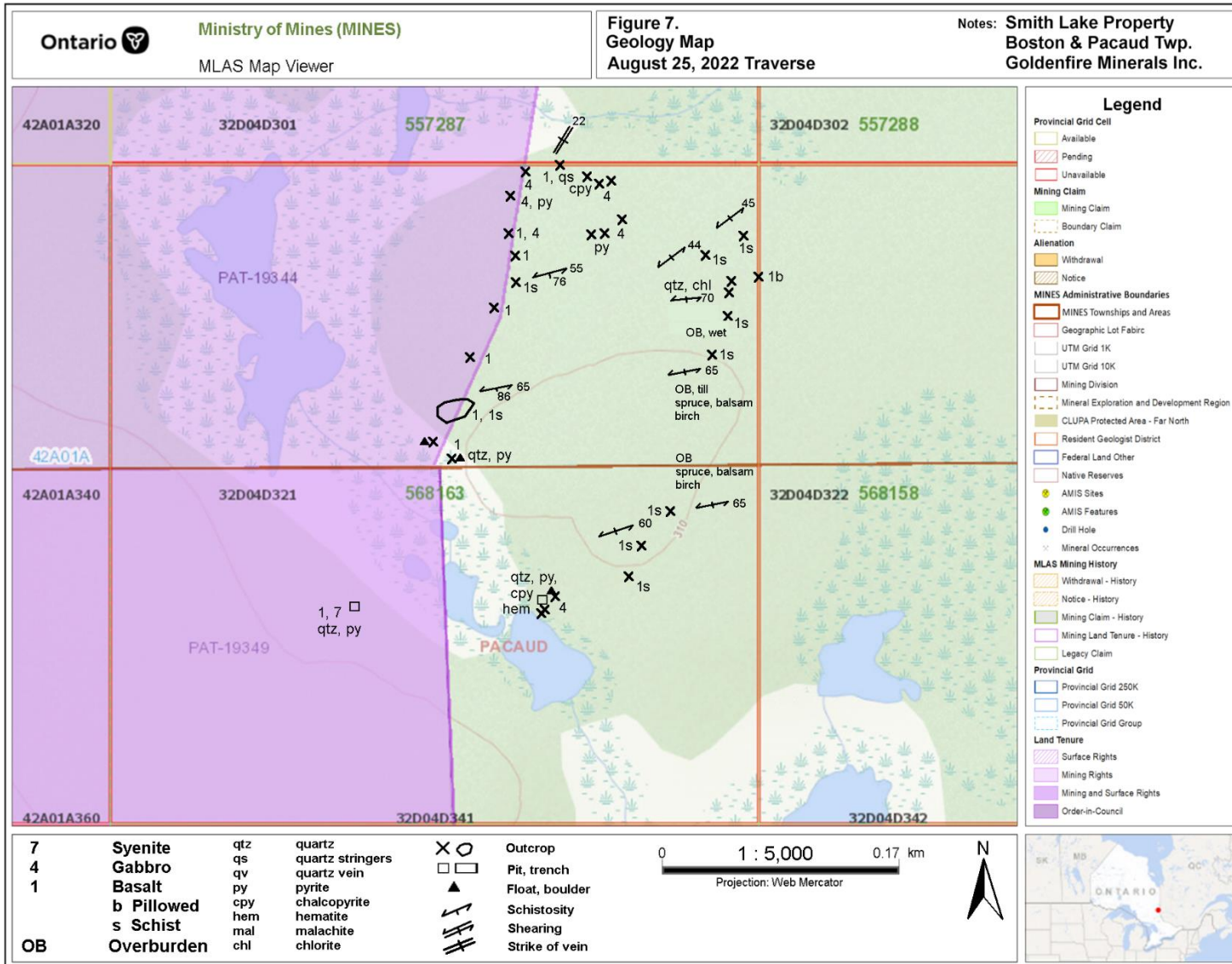
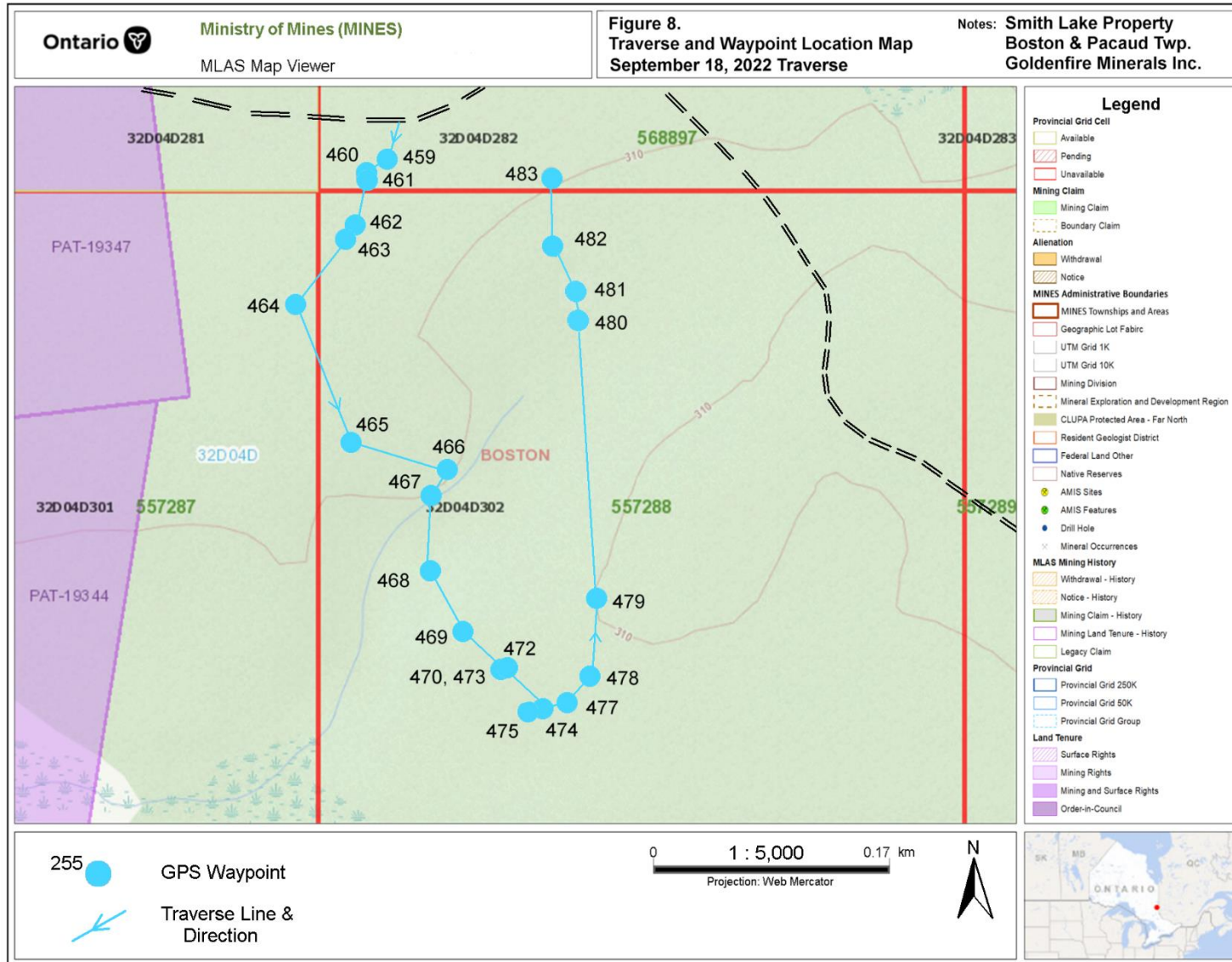


Table 2.: Field Notes, September 18, 2022, Smith Lake Property, Boston & Pacaud Twp.'s

Waypoint	UTM Coordinates	Time	Claim	Cell	Notes
459	575080mE 5319128mN	1:50 pm	568897	32D04D282	Mafic metavolcanic / metasediment?
460	575069mE 5319118mN	1:54 pm	568897	32D04D282	syenite
461	575065mE 5319113mN	1:56 pm	568897	32D04D282	Mafic metavolcanic / metasediment? Strike 62 ⁰
462	575057mE 5319081mN	2:01 pm	557288	32D04D302	Metasediment. Strike 62 ⁰
463	575051mE 5319071mN	2:03 pm	557288	32D04D302	Metasediment.
464	575015mE 5319025mN	2:09 pm	557287	32D04D301	Wet overburden, hemlock
465	575057mE 5319028mN	2:15 pm	557288	32D04D302	Overburden, hemlock
466	575127mE 5318910mN	2:20 pm	557288	32D04D302	Overburden, hemlock
467	5750115mE 5318892mN	2:25 pm	557288	32D04D302	Overburden, hemlock, creek
468	575115mE 5318838mN	2:29 pm	557288	32D04D302	Metasediment. Spruce, poplar
469	5750139mE 53188796mN	2:36 pm	557288	32D04D302	Overburden, hemlock, poplar
470	575170mE 5318771mN	2:42 pm	557288	32D04D302	Metasediment.
472	575171mE 5318771mN	2:52 pm	557288	32D04D302	Large float, metasediment, 2x2x2m on metasediment outcrop, epidote, quartz stringers, patchy pyrite
473	575168mE 5318771mN	2:59 pm	557288	32D04D302	Float, metasediment on metasediment outcrop.
474	575196mE 5318742mN	3:20 pm	557288	32D04D302	Mafic metavolcanic, quartz stringers striking 48 ⁰ . rusty
475	575187mE 5318740mN	3:26 pm	557288	32D04D302	Mafic metavolcanic, quartz stringers
477	575215mE 5318747mN	3:30 pm	557288	32D04D302	Mafic metavolcanic, trace pyrite

Table 2 con't.: Field Notes, September 18, 2022, Smith Lake Property, Boston & Pacaud Twp.'s

Waypoint	UTM Coordinates	Time	Claim	Cell	Notes
478	575231mE 5318766mN	3:36 pm	557288	32D04D302	Mafic metavolcanic
479	575236mE 5318821mN	3:40 pm	557288	32D04D302	Overburden, trail NE
480	575217mE 5318894mN	3:44 pm	557288	32D04D302	Wet overburden, hemlock
481	575218mE 5319016mN	3:50 pm	557288	32D04D302	Metasediment.
482	575200mE 5319068mN	3:44 pm	557288	32D04D302	Wet overburden, spruce, balsam
483	575199mE 5319216mN	4:01 pm	557288	32D04D302	Wet overburden, spruce, balsam Property line



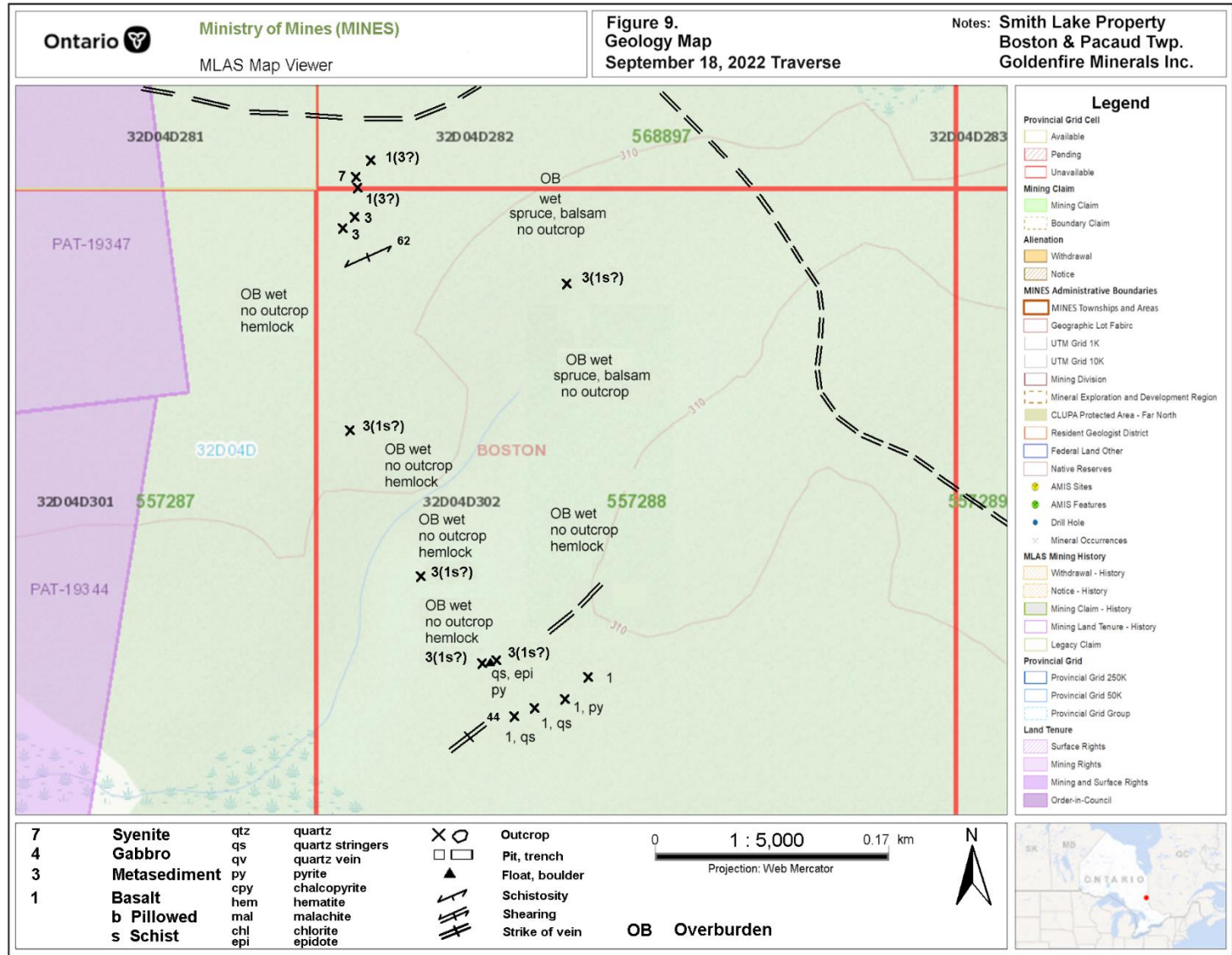
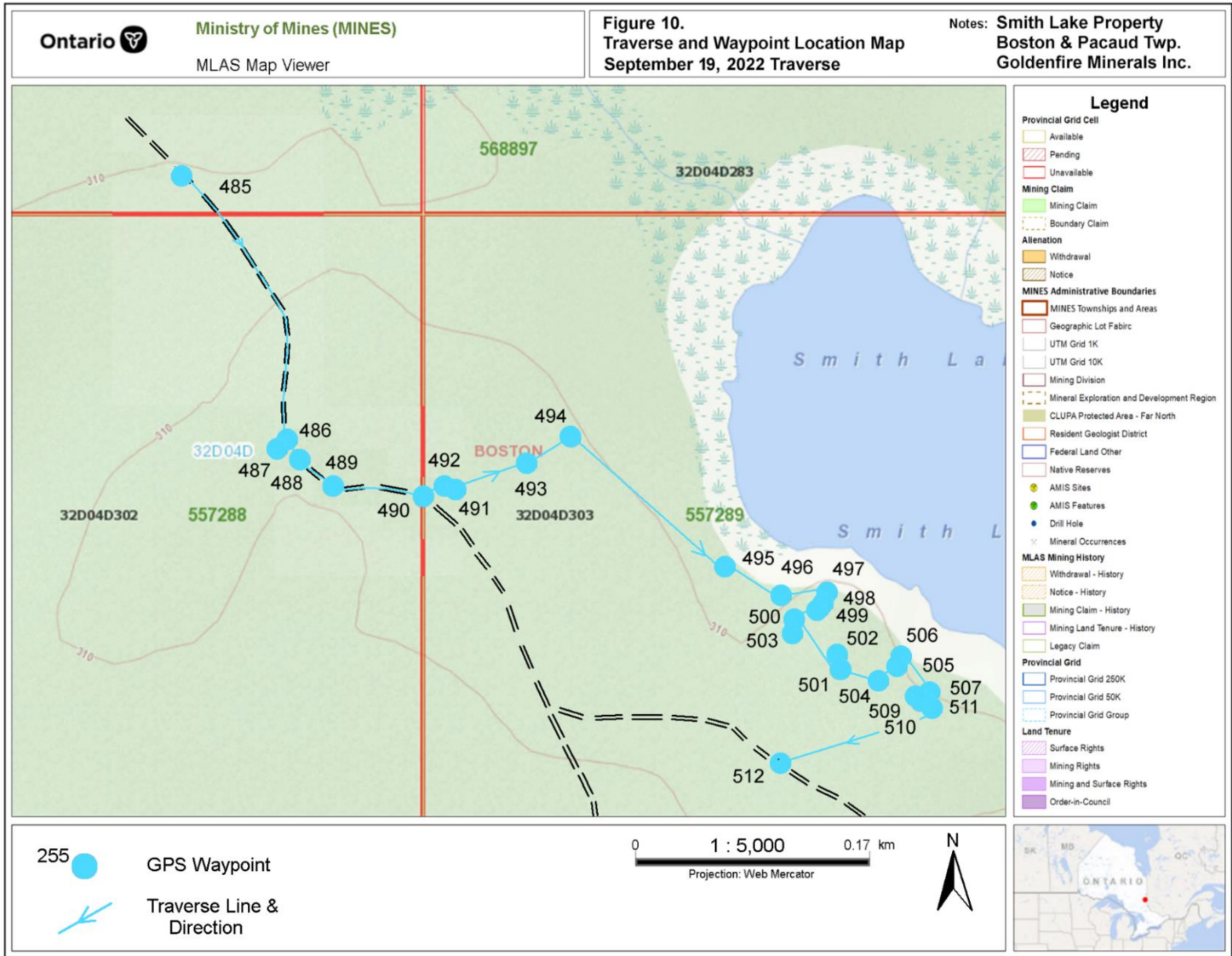


Table 3.: Field Notes, September 19, 2022, Smith Lake Property, Boston & Pacaud Twp.'s

Waypoint	UTM Coordinates	Time	Claim	Cell	Notes
485	575308mE 5319136mN	10:08 am	568897	32D04D282	Trail
486	575400mE 5318950mN	10:21 am	557288	32D04D302	Mafic metavolcanic, boudinaged quartz stringers striking 62 ^o .
487	575394mE 5318944mN	10:26 am	557288	32D04D302	Mafic metavolcanic.
488	575409mE 5318937mN	10:29 am	557288	32D04D302	Mafic metavolcanic.
489	575433mE 5318917mN	10:33 am	557288	32D04D302	Mafic metavolcanic.
490	575499mE 5318910mN	10:47 am	557288	32D04D302	Mafic metavolcanic, boudinaged quartz stringers, trace pyrite, chalcopyrite.
491	575522mE 5318916mN	11:04 am	557289	32D04D303	Metasediment, mafic metavolcanic, quartz stringers striking 64 ^o , epidote, trace pyrite.
492	575515mE 5318919mN	11:09 am	557289	32D04D303	Metasediment, mafic metavolcanic.
493	575574mE 5318936mN	11:18 am	557289	32D04D303	Metasediment, mafic metavolcanic.
494	575606mE 5318954mN	11:20 am	557289	32D04D303	Overburden, spruce, balsam, birch
495	575719mE 5318864mN	11:44 am	557289	32D04D303	Mafic metavolcanic. Base of hill.
496	575760mE 5318844mN	11:50 am	557289	32D04D303	Mafic metavolcanic. Variolitic.
497	575794mE 5318847mN	11:57 am	557289	32D04D303	Mafic metavolcanic. Variolitic.
498	575789mE 5318836mN	12:01 pm	557289	32D04D303	Mafic metavolcanic. North end of trench.
499	575787mE 5318834mN	12:04 pm	557289	32D04D303	Metasediment, mafic metavolcanic.
500	575770mE 5318820mN	12:09 pm	557289	32D04D303	Mafic metavolcanic. Fe-carbonated, trace pyrite, on Fe-carbonate outcrop
501	575803mE 5318792mN	12:37 pm	557289	32D04D303	Gabbro? Fe-carbonated. South end of trench.

Table 3 con't.: Field Notes, September 19, 2022, Smith Lake Property, Boston & Pacaud Twp.'s

Waypoint	UTM Coordinates	Time	Claim	Cell	Notes
501	575803mE 5318792mN	12:37 pm	557289	32D04D303	Gabbro? Fe-carbonated. South end of trench.
502	575802mE 5318801mN	12:47 pm	557289	32D04D303	Gabbro? Fe-carbonated. Shear zone, Strike 85°, 1-5% pyrite
503	575769mE 5318817mN	1:16 pm	557289	32D04D303	Quartz-carbonate vein 0.2 m striking 90° in Fe-carbonate mafic metavolcanic. Trace pyrite,
504	575803mE 5318792mN	1:37 pm	557289	32D04D303	Gabbro?
505	575846mE 5318795mN	1:40 pm	557289	32D04D303	Mafic metavolcanic. Trace pyrite.
506	575848mE 5318801mN	1:43 pm	557289	32D04D303	Mafic metavolcanic. North end of trench.
507	575869mE 5318772mN	2:07 pm	557289	32D04D303	Shear Zone, Big pit, water filled, well mineralized trench debris. Semi-massive pyrite proximal to fine-grained sucrosic quartz.
509	575860mE 5318773mN	2:12 pm	557289	32D04D303	East side big pit, well mineralized trench debris. Semi-massive pyrite proximal to fine-grained sucrosic quartz in metasediment wallrock.
510	575863mE 5318770mN	2:23 pm	557289	32D04D303	East side big pit, well mineralized trench debris. Massive pyrite.
511	575871mE 5318765mN	2:27 pm	557289	32D04D303	Gabbro, 50% pyrite.
512	575762mE 5318725mN	2:45 pm	557289	32D04D303	Trail.



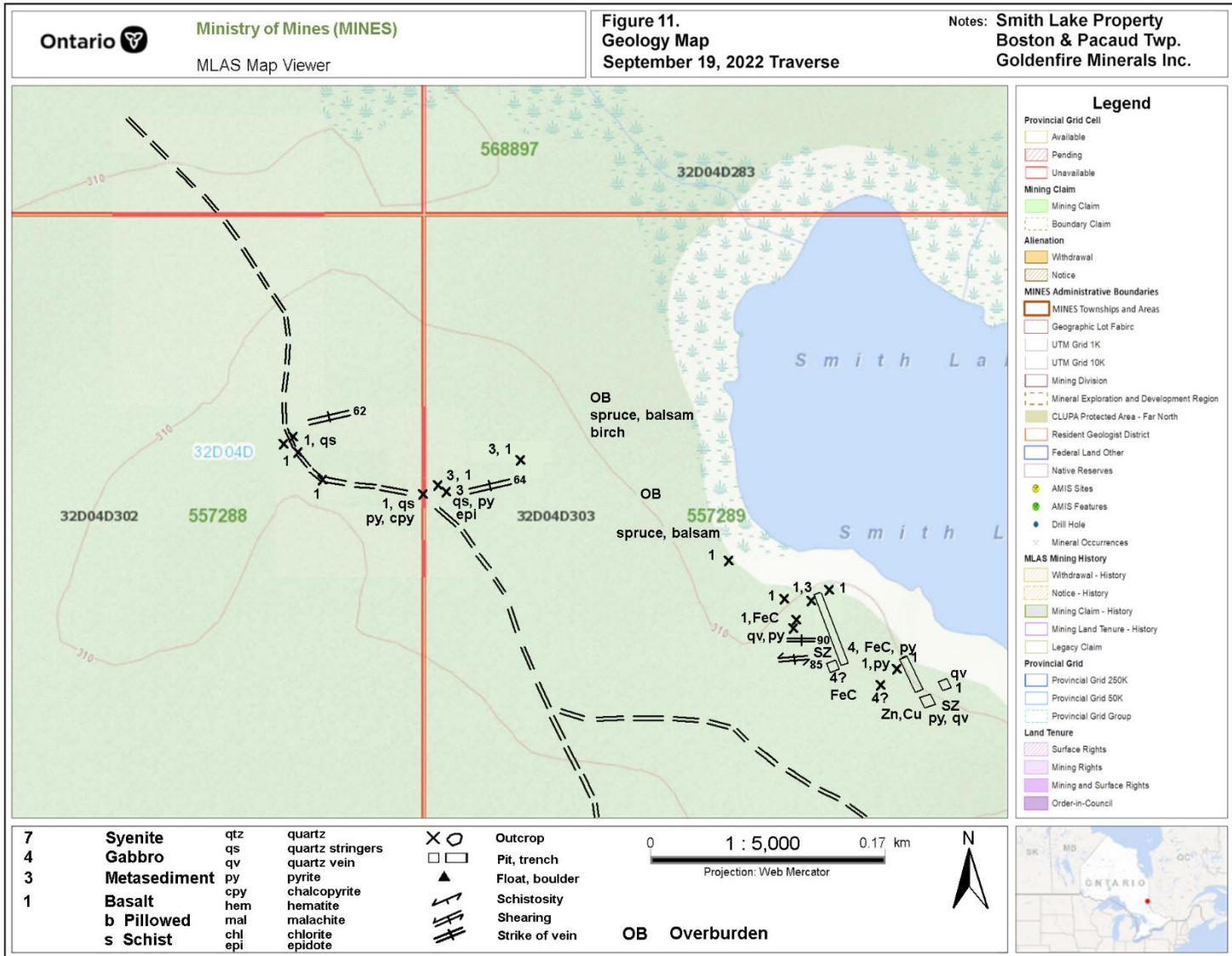
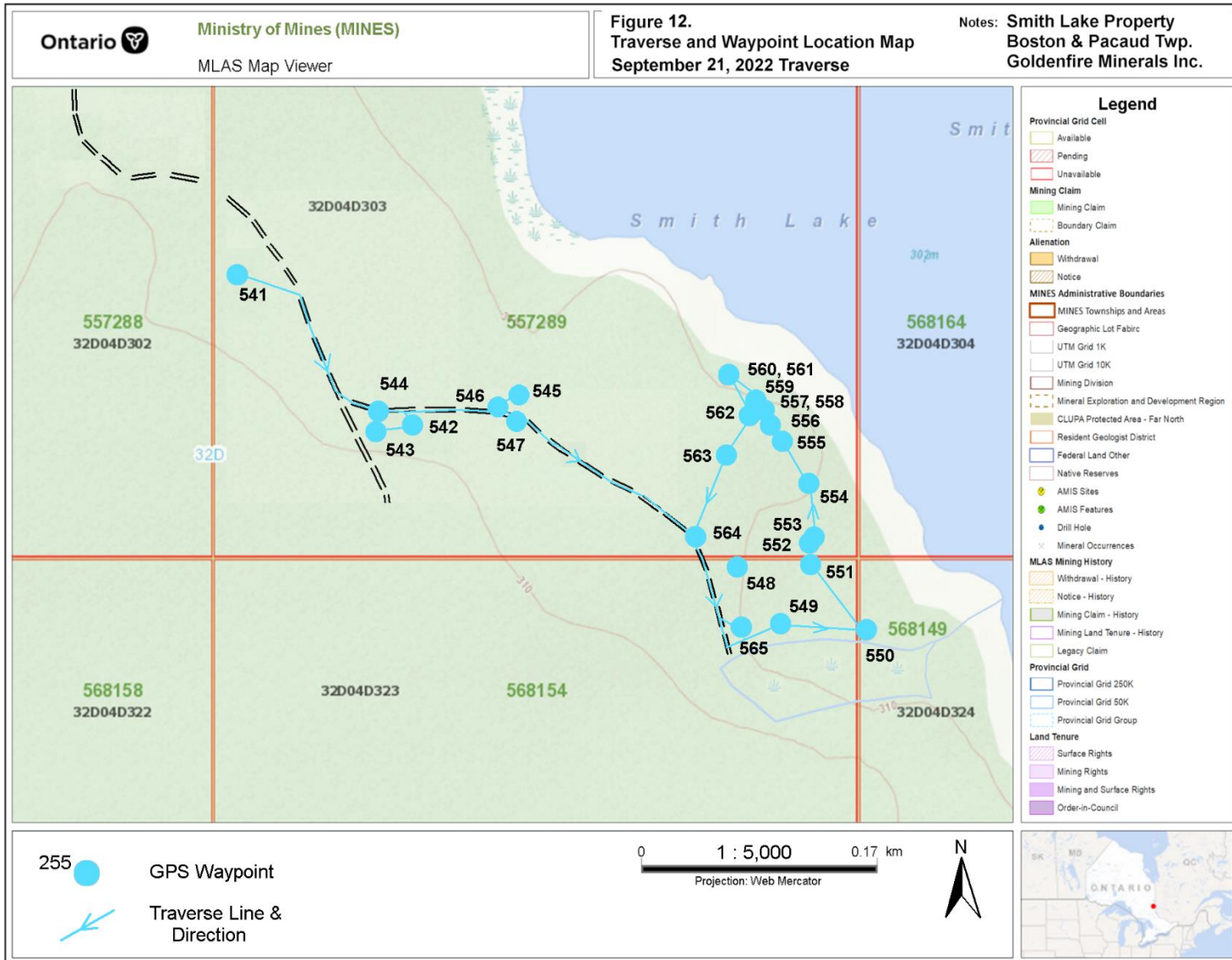


Table 4.: Field Notes, September 21, 2022, Smith Lake Property, Boston & Pacaud Twp.'s

Waypoint	UTM Coordinates	Time	Claim	Cell	Notes
541	575518mE 5318848mN	11:54 am	557289	32D04D303	Trail. Mafic metavolcanic. Patchy pyrite. Quartz stringers and joints 55 ⁰ , 2 nd quartz stringers 124 ⁰
542	575645mE 5318744mN	12:05 pm	557289	32D04D303	Trail. Mafic schist. 70 ⁰ , dip 84 ⁰
543	575619mE 5318739mN	12:09 pm	557289	32D04D303	Mafic schist. 88 ⁰
544	575621mE 5318759mN	12:19 pm	557289	32D04D303	Trail. Mafic metavolcanic. Patchy pyrite. Quartz stringers
545	575675mE 5318757mN	12:25 pm	557289	32D04D303	Mafic schist. 72 ⁰
546	575708mE 5318748mN	12:30 pm	557289	32D04D303	Trail. Mafic metavolcanic. Patchy pyrite. Quartz stringers
547	575724mE 5318737mN	12:33 pm	557289	32D04D303	Mafic metavolcanic.
548	575881mE 5318647mN	12:45 pm	568154	32D04D323	Mafic metavolcanic. Quartz lens.
549	575913mE 5318607mN	12:49 pm	568154	32D04D323	Overburden, open cut, east of pond
550	575975mE 5318603mN	12:59 pm	568149	32D04D324	North of pond. Pillowed basalt
551	575934mE 5318649mN	12:59 pm	568144	32D04D323	Mafic schist. 92 ⁰
552	575933mE 5318664mN	1:10 pm	557289	32D04D303	Mafic schist.
553	575936mE 5318668mN	1:12 pm	557289	32D04D303	Mafic metavolcanic. Hill top
554	575932mE 5318706mN	1:15 pm	557289	32D04D303	Overburden, cut, poplar, alders
555	575913mE 5318736mN	1:22 pm	557289	32D04D303	Gabbro, hill side facing east
556	575904mE 5318747mN	1:28 pm	557289	32D04D303	Gabbro.
557	575889mE 5318758mN	1:32 pm	557289	32D04D303	Pit, quartz vein 0.5 m in mafic schist 62 ⁰ , dip 80 ⁰ S, trace pyrite schist.
558	575891mE 5318758mN	1:38 pm	557289	32D04D303	Mafic metavolcanic. Trace pyrite.

Table 4 con't.: Field Notes, September 21, 2022, Smith Lake Property, Boston & Pacaud Twp.'s

Waypoint	UTM Coordinates	Time	Claim	Cell	Notes
559	575886mE 5318766mN	1:40 pm	557289	32D04D303	Gabbro? With feldspar phenocrysts
560	575873mE 5318783mN	2:10 pm	557289	32D04D303	Pit, quartz vein 0. 2 m in mafic or metasediment.
561	575873mE 5318782mN	2:17 pm	557289	32D04D303	Pit, loose quartz around pit.
562	575889mE 5318753mN	2:38 pm	557289	32D04D303	Gabbro with disseminated pyrite crossed by mafic dike 48 ^o , and quartz stringers 120 ^o .
563	575872mE 5318726mN	2:55 pm	557289	32D04D303	Mafic dike, boudinaged in metasediment?
564	575850mE 5318668mN	3:02 pm	557289	32D04D303	Metasediment? Schist, 80 ^o .
565	575885mE 5318605mN	3:06 pm	568154	32D04D323	Mafic metavolcanic.



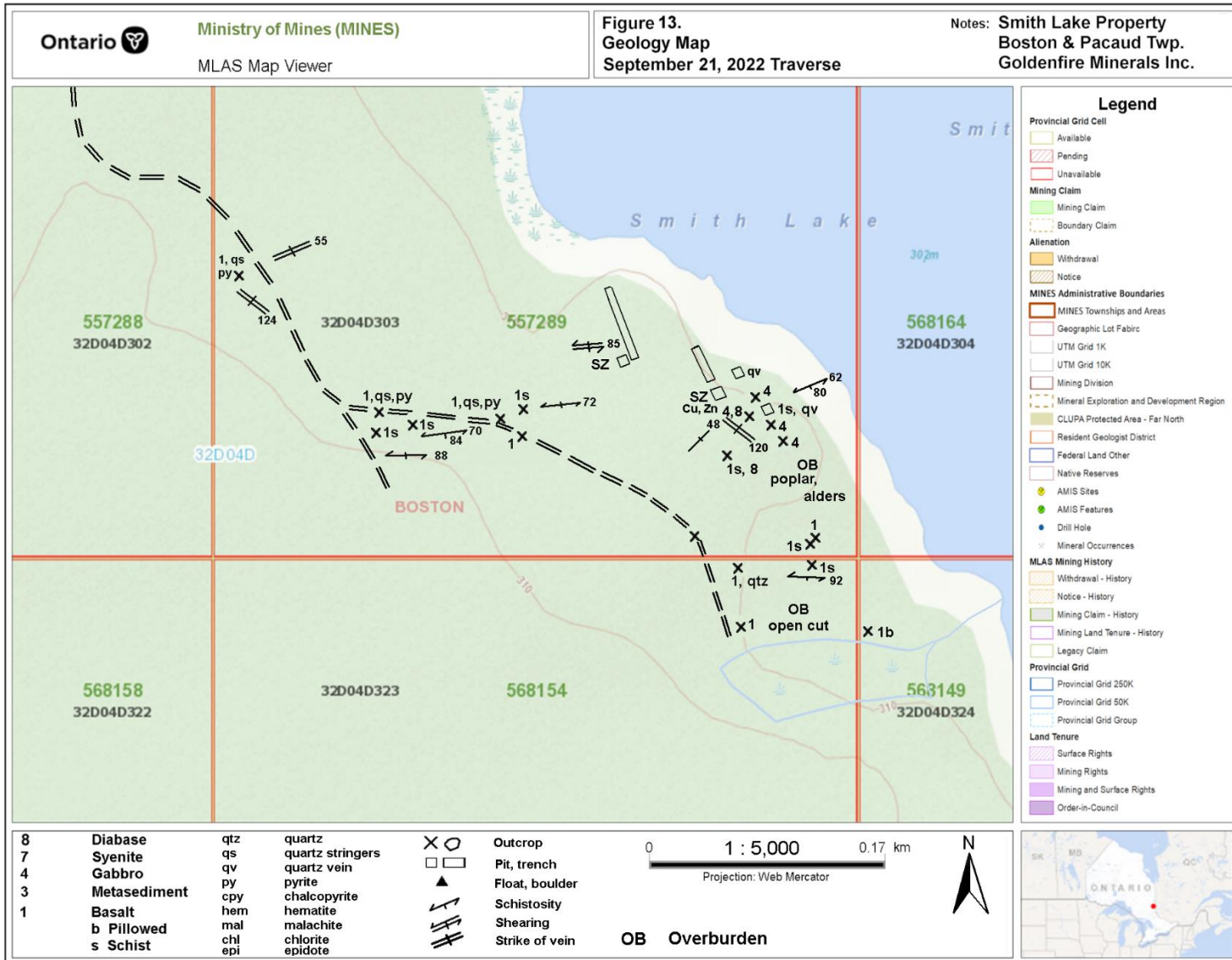


Table 5.: Field Notes, September 22, 2022, Smith Lake Property, Boston & Pacaud Twp.'s

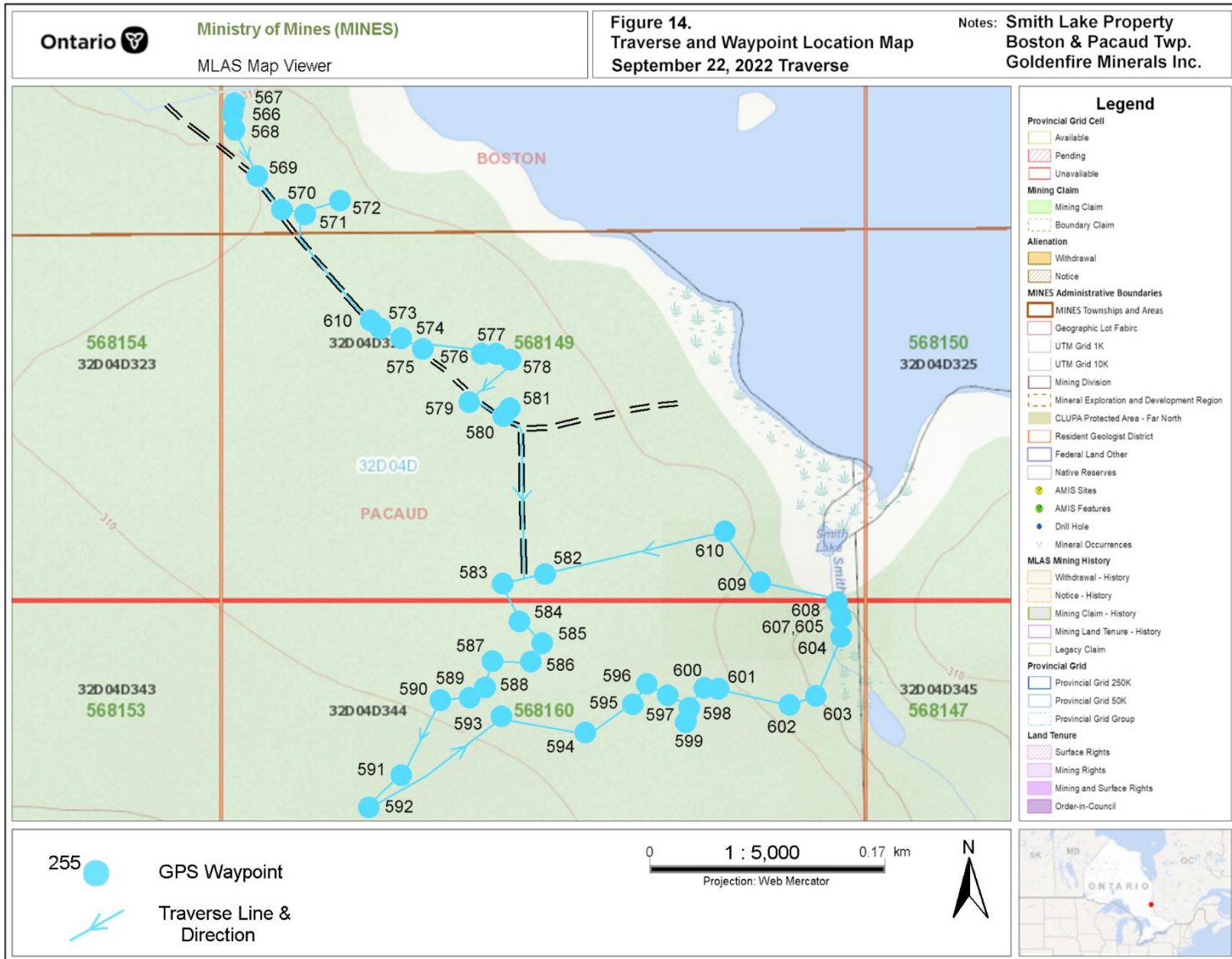
Waypoint	UTM Coordinates	Time	Claim	Cell	Notes
566	575979mE 5318535mN	10:11 am	568149	32D04D324	Basalt
567	575980mE 5318540mN	10:14 am	568149	32D04D324	Mafic schist, drag folds.
568	575980mE 5318523mN	10:19 am	568149	32D04D324	Mafic schist, drag folds.
569	575997mE 5318491mN	10:22 am	568149	32D04D324	Basalt
570	576015mE 5318468mN	10:24 am	568149	32D04D324	Basalt
571	576031mE 5318465mN	10:26 am	568149	32D04D324	Basalt
572	576057mE 5318474mN	10:30 am	568149	32D04D324	Basalt
573	576087mE 5318385mN	10:43 am	568149	32D04D324	Syenite float
574	576102mE 5318378mN	10:52 am	568149	32D04D324	Basalt
575	576118mE 5318371mN	10:58 am	568149	32D04D324	Gabbro
576	576161mE 5318368mN	11:13 am	568149	32D04D324	Float, Syenite with Fe-carbonate and 5% pyrite.
577	576172mE 5318368mN	11:20 am	568149	32D04D324	Basalt
578	576182mE 5318364mN	11:22 am	568149	32D04D324	Basalt
579	576152mE 5318334mN	11:25 am	568149	32D04D324	Gabbro, trail
580	576178mE 5318325mN	12:03 pm	568149	32D04D324	Trail, quartz, trace pyrite in mafic metavolcanic wallrock
581	576181mE 5318330mN	12:06 pm	568149	32D04D324	Syenite
582	576208mE 5318212mN	12:21 pm	568149	32D04D324	Basalt with quartz stringers, 92 ⁰
583	576178mE 5318207mN	12:28 pm	568149	32D04D324	Mafic schist, rusty, with boudinaged quartz stringers, 100 ⁰
584	576190mE 5318180mN	12:33 pm	568160	32D04D344	Mafic schist, 90 ⁰

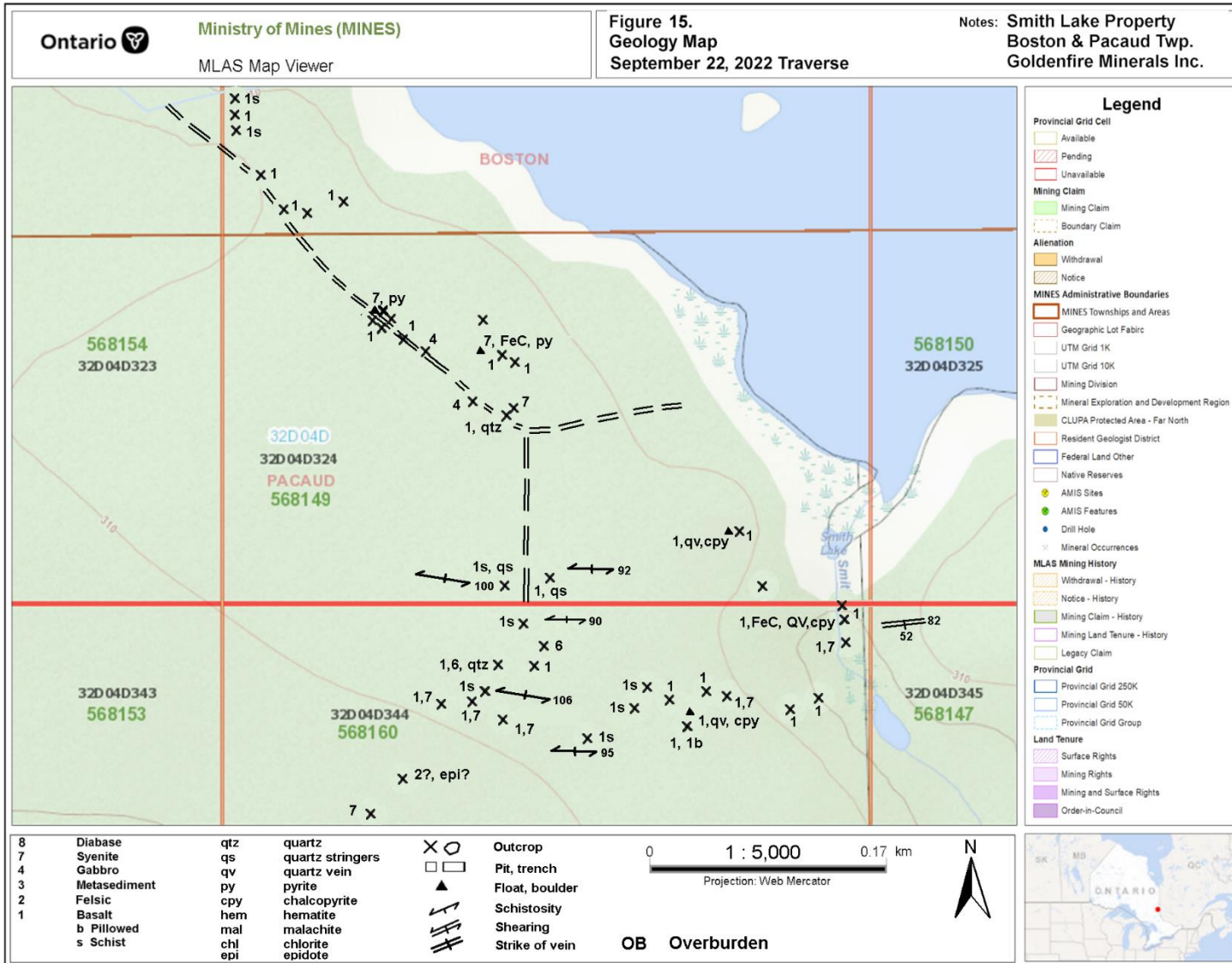
Table 5. con't: Field Notes, September 22, 2022, Smith Lake Property, Boston & Pacaud Twp.'s

Waypoint	UTM Coordinates	Time	Claim	Cell	Notes
585	576208mE 5318164mN	12:45 pm	568160	32D04D344	Granite
586	576199mE 5318151mN	12:48 pm	568160	32D04D344	Basalt
587	576172mE 5318151mN	12:52 pm	568160	32D04D344	Basalt, granite, quartz.
588	576166mE 5318132mN	12:58 pm	568160	32D04D344	Mafic schist, 106 ⁰
589	576156mE 5318126mN	1:01 pm	568160	32D04D344	Basalt, syenite.
590	576135mE 5318123mN	1:04 pm	568160	32D04D344	Basalt, syenite.
591	576107mE 5318069mN	1:43 pm	568160	32D04D344	Felsic intrusion? with <5 cm spherical green mafic phenocrysts
592	576083mE 5318047mN	1:53 pm	568160	32D04D344	Syenite outcrop in low
593	576178mE 5318112mN	2:03 pm	568160	32D04D344	Basalt, syenite.
594	576240mE 5318101mN	2:08 pm	568160	32D04D344	Mafic schist, 95 ⁰
595	576273mE 5318122mN	2:12 pm	568160	32D04D344	Mafic schist
596	576284mE 5318136mN	2:15 pm	568160	32D04D344	Mafic schist
597	576299mE 5318128mN	2:17 pm	568160	32D04D344	Basalt
598	576315mE 5318119mN	2:21 pm	568160	32D04D344	Float, basalt with 0.10m quartz vein with trace chalcopyrite
599	5762313mE 5318112mN	2:30 pm	568160	32D04D344	Basalt, pillows
600	576325mE 5318134mN	2:38 pm	568160	32D04D344	Basalt
601	576344mE 5318133mN	2:41 pm	568160	32D04D344	Basalt, syenite.
602	576388mE 5318123mN	2:46 pm	568160	32D04D344	Basalt
603	576406mE 5318130mN	2:47 pm	568160	32D04D344	Basalt

Table 5. con't: Field Notes, September 22, 2022, Smith Lake Property, Boston & Pacaud Twp.'s

Waypoint	UTM Coordinates	Time	Claim	Cell	Notes
604	576424mE 5318172mN	2:55 pm	568160	32D04D344	Basalt, syenite
606	576423mE 5318187mN	3:20 pm	568160	32D04D344	15 cm quartz vein with trace chalcopyrite 82 ^o , dip 55 ^o S in amphibolitized Fe-carbonated basalt with disseminated pyrite
607	576421mE 5318195mN	3:37 pm	568160	32D04D344	Parallel 15 cm quartz vein with trace chalcopyrite in amphibolitized Fe-carbonated basalt with disseminated pyrite
608	576365mE 5318210mN	3:55 pm	568149	32D04D324	Basalt
609	576338mE 5318245mN	3:57 pm	568149	32D04D324	Quartz boulder with trace chalcopyrite close to basalt outcrop.
610	576080mE 5318391mN	4:22 pm	568149	32D04D324	Syenite, trace pyrite





**Table 6.: Rock Sample Locations, Descriptions & Assays
Smith Lake Property, Boston & Pacaud Twp.'s**

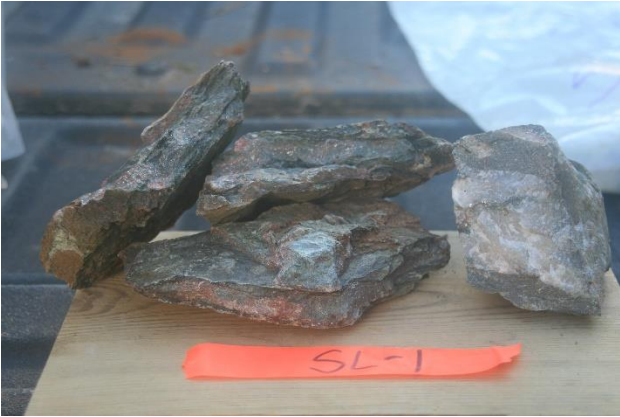
Sample Number	GPS Waypoint	UTM Coordinates	Claim Cell	Township	Au ppm	Notes
SL-1	254	574884mE 5318339mN	568163 32D04D321	Pacaud	0.005	1.5 cm wide hematized quartz stringer with 10% py, some euhedral cubes, trace cpy in gabbro, weakly sheared, small trench
SL-2	255	574888mE 5318328mN	568163 32D04D321	Pacaud	0.004	Weakly foliated gabbro , Tr,-1% fine disseminated py. No Ni reaction.
SL-3	256	574890mE 5318345mN	568163 32D04D321	Pacaud	0.004	Quartz vein 12 cm in fine grained mafic volcanic, <2% patchy py quartz, disseminate py in wallrock adjacent vein and stringers. Float, several pieces.
SL-4	261	574890mE 5318345mN	568163 32D04D321	Pacaud	0.005	Vuggy, sulphide rotted gabbro beside quartz vein, trace cpy.
SL-5	266	575016mE 5318553mN	568163 32D04D321	Boston	0.004	Schistose mafic metavolcanic with rusty chlorite slickened cleavages. <1 cm boudened quartz stringers
SL-6	273	574936mE 5318599mN	568163 32D04D321	Boston	0.004	Gabbro with hematized cleavages, trace disseminated py. No Ni reaction.
SL-7	276	574915mE 5318628mN	568163 32D04D321	Boston	0.004	Gabbro with hematized + quartz cleavages, trace py + cpy. No Ni reaction.
SL-8			32D04D321	Boston	0.003	Gabbro, trace py, weak foliation. No Ni reaction. Off property
SL-9	289	574813mE 5318429mN	568163 32D04D321	Boston	0.003	Float on metavolcanic outcrop. White to rusty quartz with patchy py & disseminated py in mafic metavolcanic wallrock. Tr.-10% py
SL-10			32D04D321	Boston	0.004	Float on mafic metavolcanic, rusty quartz with patchy py, disseminated pyrite in wallrock. Off property
SL-11			32D04D321	Boston	0.003	Quartz by trench, mafic metavolcanic & syenite wallrock. Hammel occurrence. Off property
SL-12	472	575171mE 5318771mN	557288 32D04D302	Boston	<0.001	Large boulder 2x2x2 m of metasediment? on outcrop of same. Quartz stringers with pyrite, epidote, amphibolitized wallrock with disseminated pyrite.
SL-13	473	575171mE 5318771mN	557288 32D04D301	Boston	<0.001	Same as SL-12

**Table 6 con't.: Rock Sample Locations, Descriptions & Assays
Smith Lake Property, Boston & Pacaud Twp.'s**

Sample Number	GPS Waypoint	UTM Coordinates	Claim Cell	Township	Au ppm	Notes
SL-14	490	575499mE 5318910mN	557288 32D04D302	Boston	0.002	Amphibolitized gabbro? Rusty, boudinaged quartz stringers with trace py + cpy.
SL-15	503	575769mE 5318817mN	557289 32D04D303	Boston	0.001	Quartz – carbonate vein 0.2 m strike 90 ^o . trace tourmaline
SL-16	501	575803mE 5318792mN	557289 32D04D303	Boston	0.004	Strong Fe–carbonate altered gabbro? 5% disseminated py. South end of trench.
SL-17	502	5757802mE 5318801mN	557289 32D04D303	Boston	0.004	Strong Fe–carbonate altered gabbro? , sheared, 5% disseminated py. Small pit.
SL-18	509	5757860mE 5318773mN	557289 32D04D303	Boston	0.014	Loose debris beside 6x6 m flooded pit, white fine-grained sucrosic quartz, brecciated with semi-massive fine-grained pyrite matrix
SL-19	510	5757863mE 5318770mN	557289 32D04D303	Boston	0.008	Loose debris beside 6x6 m flooded pit, white fine-grained sucrosic quartz, brecciated with semi-massive fine-grained pyrite matrix
SL-20	500	575770mE 5318820mN	557289 32D04D303	Boston	0.002	Fe-carbonated, amphibolitized felsic, 1-2% disseminated py
SL-21	511	5757871mE 5318765mN	557289 32D04D303	Boston	0.001	Silicified, aphanitic metavolcanic with 10-20% py.
SL-22	560	5757873mE 5318782mN	557289 32D04D303	Boston	0.005	Loose debris. Sulphide +felsic schist by pit 3x3 m pit. 10-20%
SL-23	561	5757873mE 5318782mN	557289 32D04D303	Boston	0.001	Loose debris. White fine-grained sucrosic quartz with chlorite, brecciated vein 0.2m, mafic metavolcanic wallrock
SL-24	562	5757889mE 5318753mN	557289 32D04D303	Boston	0.001	Gabbro with trace - 5% disseminated py, feldspar porphyry dike 48 ^o crosse qtz stringers 120 ^o
SL-25	576	576161mE 5318368mN	568149 32D04D324	Pacaud	<0.001	Float, 0.2x0.2x0.15 m syenite, Fe-carbonated, quartz stringers, 5% disseminated py.
SL-26	580	576178mE 5318325mN	568149 32D04D324	Pacaud	0.002	Rusty quartz lens with py in mafic metavolcanic wallrock
SL-27	580	576178mE 5318325mN	568149 32D04D324	Pacaud	0.002	Same, Rusty quartz lens with py in chlorite/amphibole schisty mafic metavolcanic wallrock

**Table 6 con't.: Rock Sample Locations, Descriptions & Assays
Smith Lake Property, Boston & Pacaud Twp.'s**

Sample Number	GPS Waypoint	UTM Coordinates	Claim Cell	Township	Au ppm	Notes
SL-28	591	576107mE 5318069mN	568160 32D04D344	Pacaud	<0.001	Odd rock unit. Felsic intrusive? With loony-zed green spherical and fragments of amphibole? In aphanitic matrix
SL-29	598	576315mE 5318119mN	568160 32D04D344	Pacaud	<0.001	Boulder 2x2x1.5 m, mafic metavolcanic with quartz stringers + cpy in quartz. Close to outcrop
SL-30	607	576421mE 5318195mN	568160 32D04D344	Pacaud	0.002	2 nd quartz vein 0.10-0.15 m in Fe-carbonated, amphibolitized mafic metavolcanic wallrock with 5% disseminated pyrite
SL-31	605	576424mE 5318190mN	568160 32D04D344	Pacaud	0.001	1st quartz vein 0.10-0.15 m in Fe-carbonated, amphibolitized mafic metavolcanic wallrock with 5% disseminated pyrite, trace tourmaline in quartz
SL-32	609	576338mE 5318245mN	568149 32D04D324	Pacaud	0.017	Boulder 0.2x0.2x0.15 m, mafic metavolcanic with quartz, cpy in quartz. Close to outcrop
SL-33	610	576080mE 5318391mN	568149 32D04D324	Pacaud	0.001	Syenite with 1-3% disseminated py, other hematite.



SL-1 0.005 ppm Au



SL-2 0.004 ppm Au



SL-3 0.004 ppm Au



SL-4 0.005 ppm Au



SL-5 0.004 ppm Au



SL-6 0.004 ppm Au



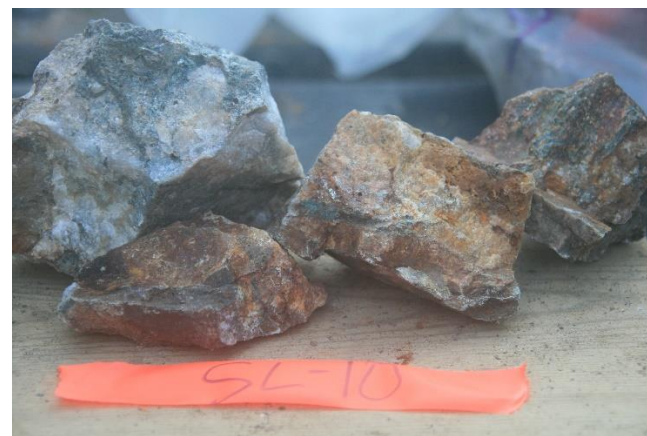
SL-7 0.004 ppm Au



SL-8 0.003 ppm Au



SL-9 0.003 ppm Au



SL-10 0.004 ppm Au



SL-11 0.003 ppm Au



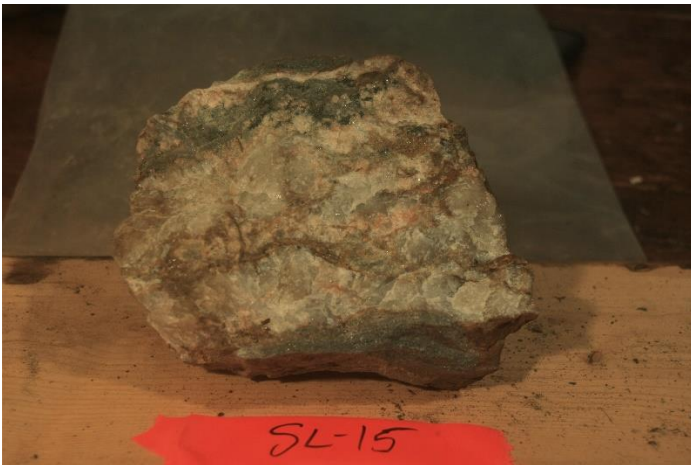
SL-12 <0.001 ppm Au



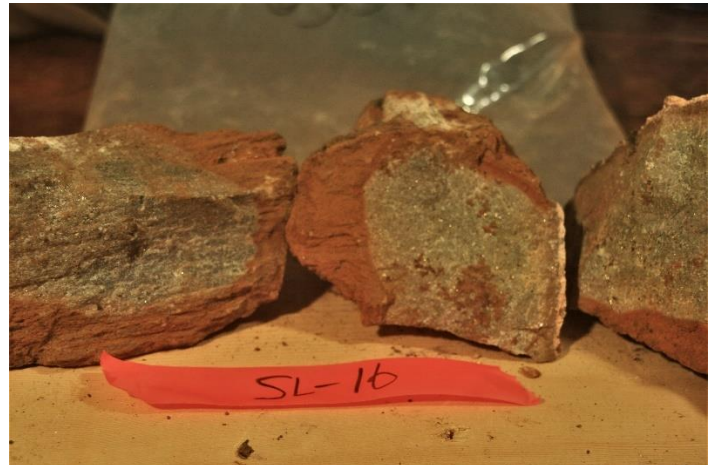
SL-13 <0.001 ppm Au



SL-14 0.002 ppm Au



SL-15 0.001 ppm Au



SL-16 0.004 ppm Au



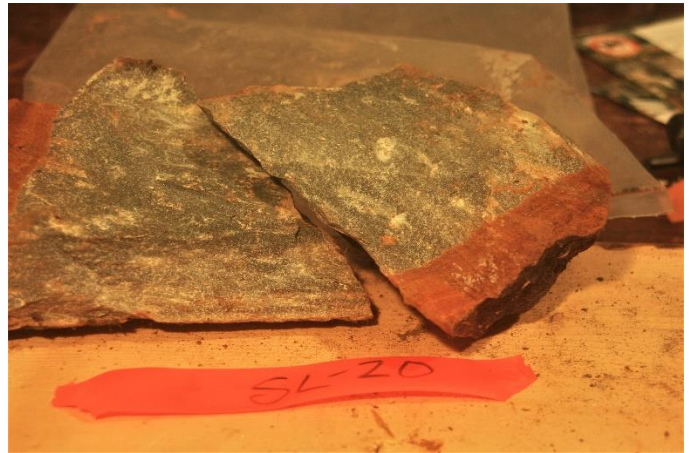
SL-17 0.004 ppm Au



SL-18 0.014 ppm Au



SL-19 0.008 ppm Au



SL-20 0.002 ppm Au



SL-21 0.001 ppm Au



SL-22 0.005 ppm Au



SL-23 0.001 ppm Au



SL-24 0.001 ppm Au



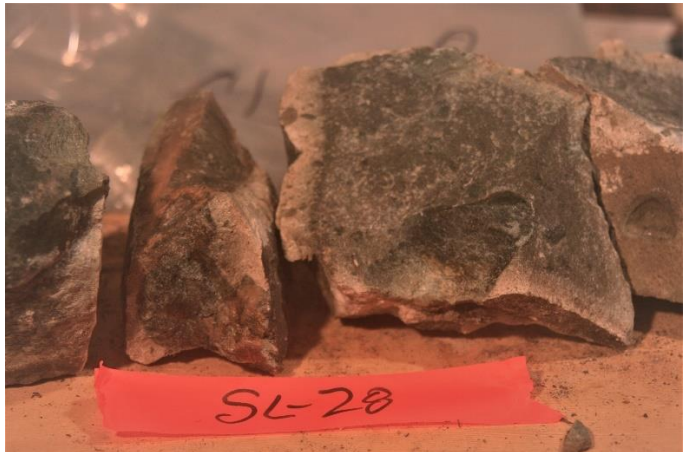
SL-25 <0.001 ppm Au



SL-26 0.002 ppm Au



SL-27 0.002 ppm Au



SL-28 <0.001 ppm Au



SL-29 <0.001 ppm Au



SL-30 0.002 ppm Au



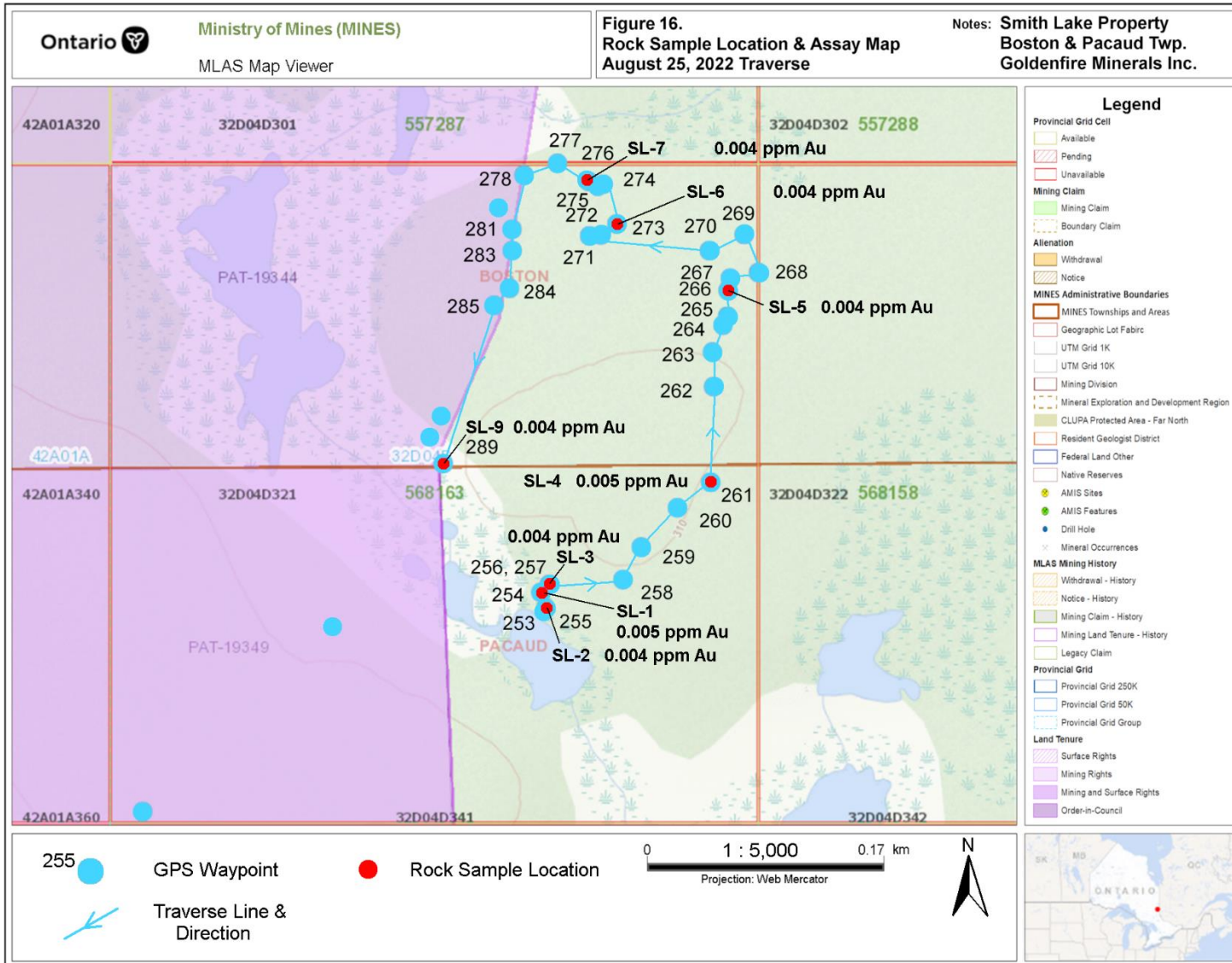
SL-31 0.001 ppm Au

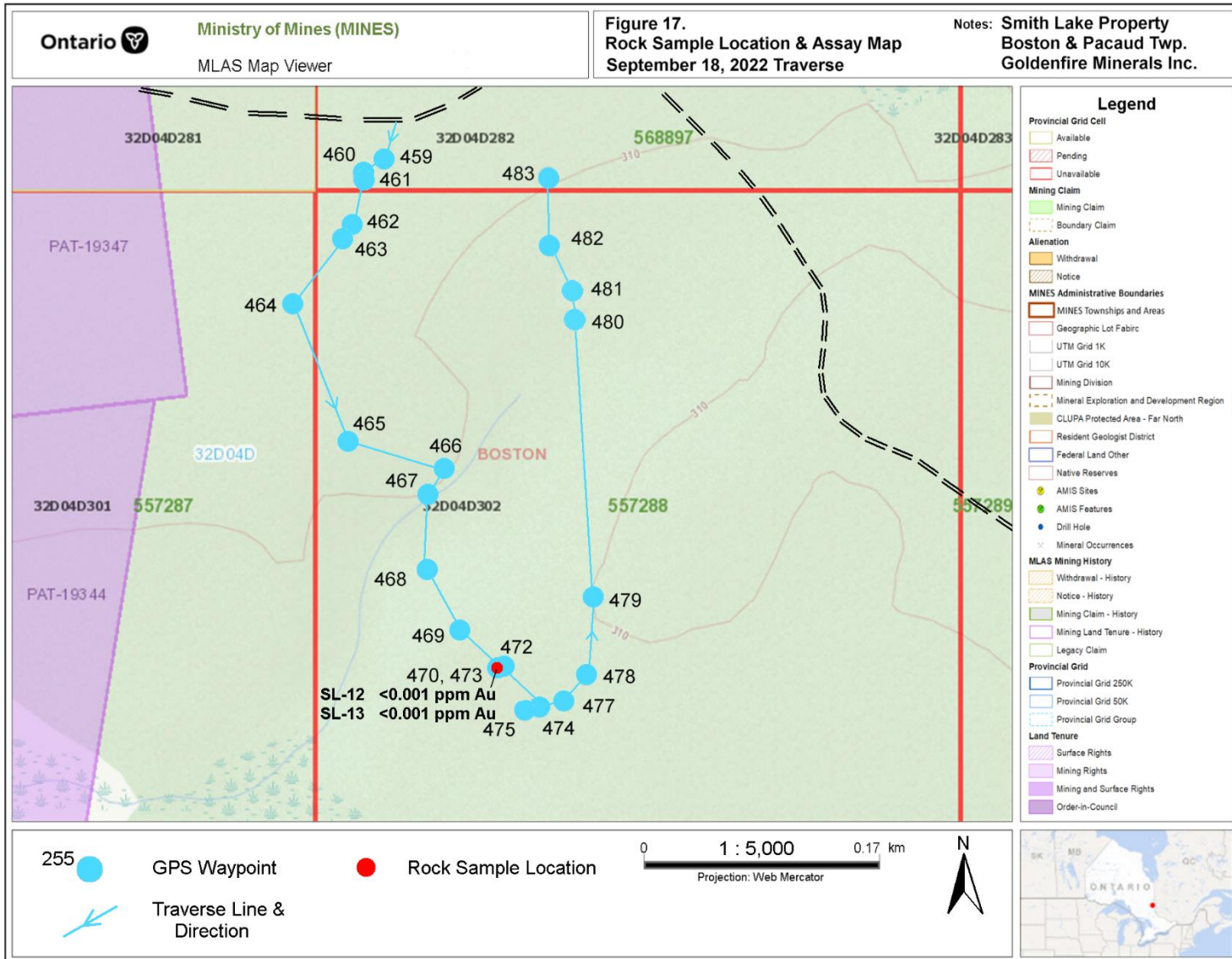


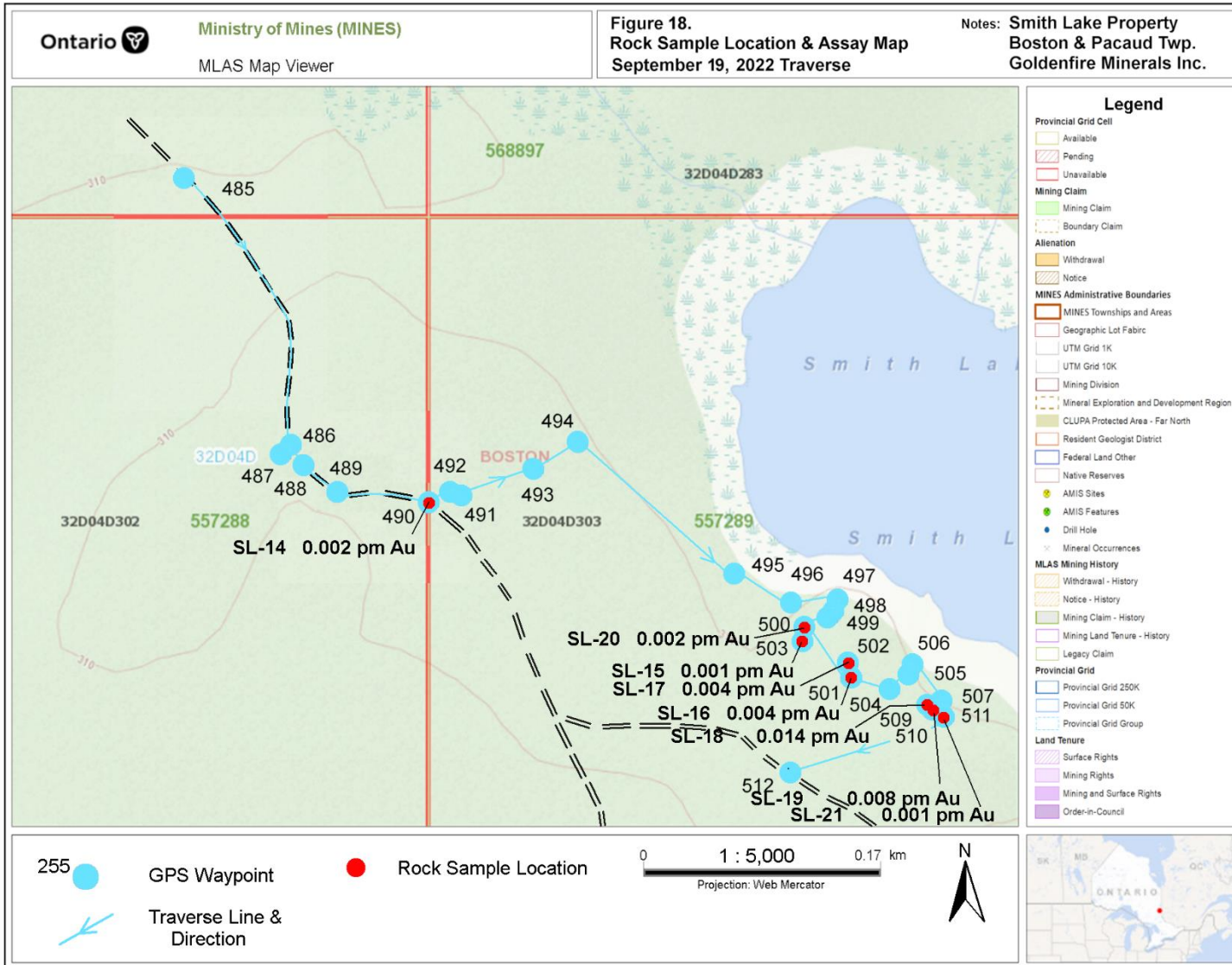
SL-32 0.017 ppm Au

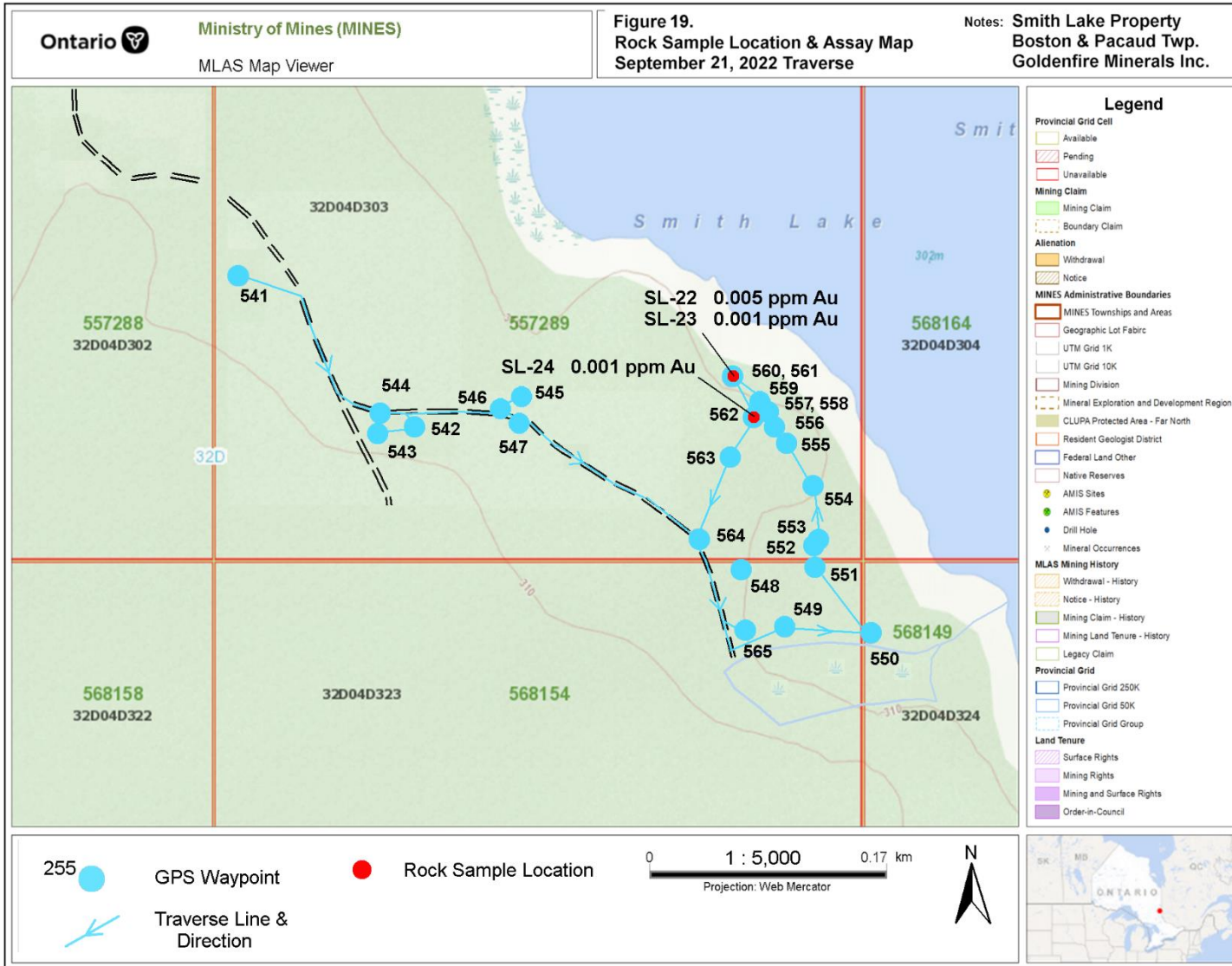


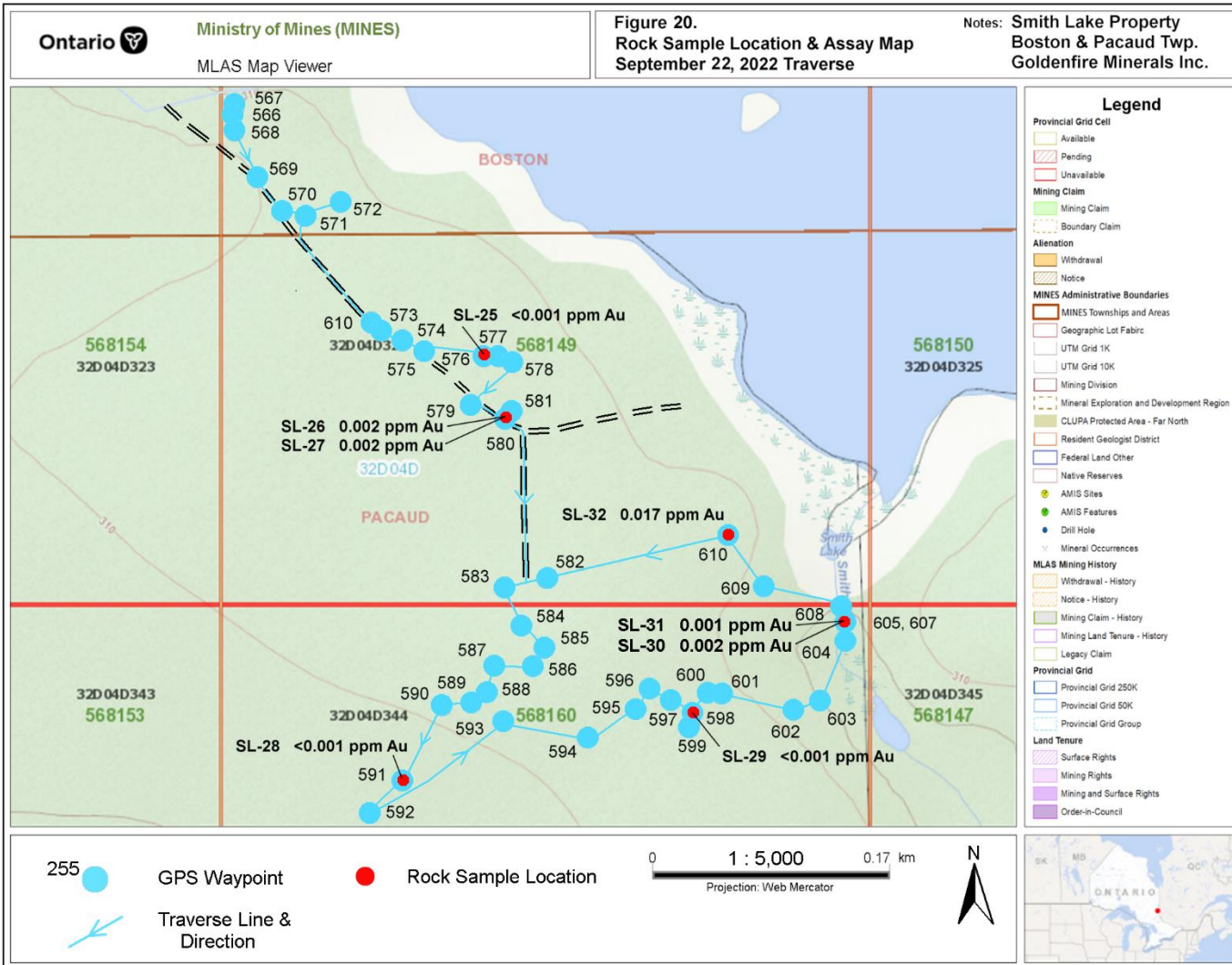
SL-31 0.001 ppm Au

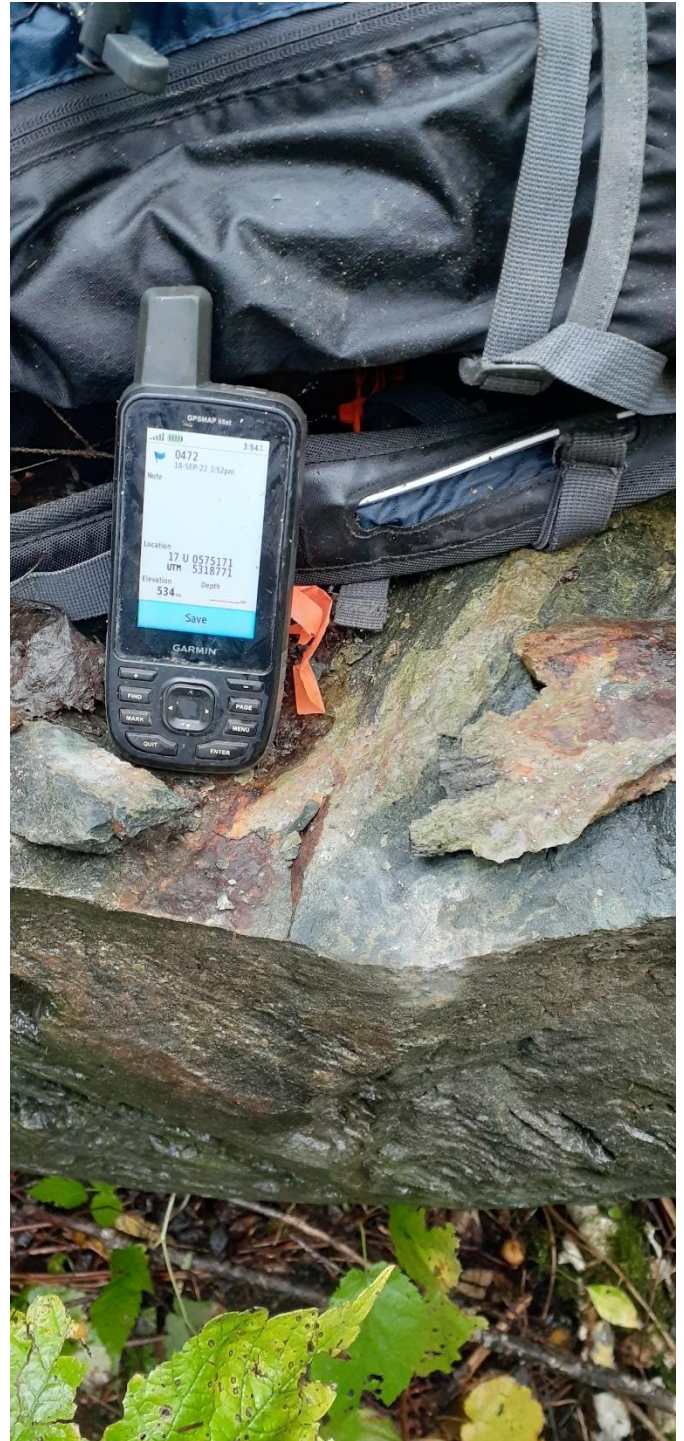












Waypoint 472 & 473, 575171mE, 5318771mN, claim 557288, 32D04D302
Samples SL-12 & SL-13

Figure 21.



**Flooded pit, 575860mE, 5318773mN,
claim 557289, cell 32D04D303**



**East Pit, 5757873mE 5318782mN
claim 557289, cell 32D04D303**

Figure 22.

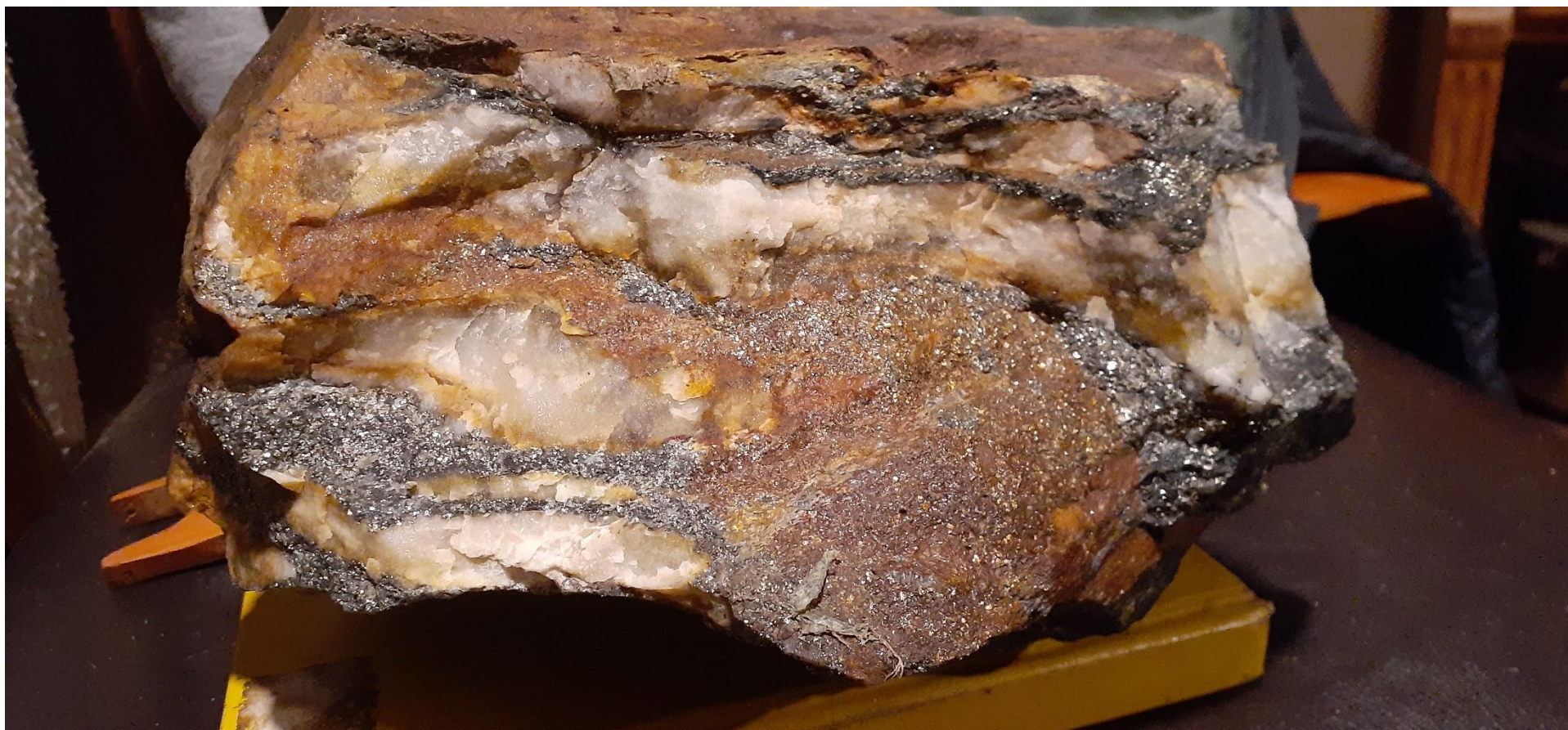


Figure 23. Smith Lake Specimen, 575860mE, 5318773mN, claim 557289, cell 32D04D303, loose debris beside flooded pit.

Fe-Mg carbonate alteration is not widespread in the areas prospect. Fe-carbonate occurs northwest of the pits and trenches in cell 32D04D303, claim 557289 and in outcrops along the east side of the creek in the southwest corner of Smith Lake in cell 32D04D344, claim 568160. Quartz and sulphides are present at both localities however samples of the mineralization showed only low gold values. Carbonate alteration also was noted in float of syenite.

Discussion of Results

The Smith Lake Property has abundant outcrop and good conditions for prospecting. The property sits within an area where numerous occurrences of gold have been discovered including production from some. The potential for new discovery is considered good.

An effort was made to prospect the northwest corner of the property to locate the mineralization described in MDI32D04SW00245. Unfortunately, there was no outcrop at the location given in the file.

Conclusions and Recommendations


West of Smith Lake, sphalerite and malachite mineralization were identified in semi-massive sulphides and quartz in some of the debris around pits and trenches following sheared gabbro. Additional prospecting around the area is warranted to determine the extent of the mineralization.

Additional prospecting accompanied by petrology and microprobe work is recommended in unexplored areas of the property.


An estimated cost to do the work is \$30,000 and outlined as:

Prospecting	\$7,000
Petrology/ Microprobe Work	5,000
Mob/Demob	2,000
Assays	3,000
Food & Lodging	3,000
Reports & Maps	5,000
Truck	<u>5,000</u>
	\$30,000

Respectfully submitted,



Robert James Dillman P.Ge.
Arjadee Prospecting



Robert Dillman B.Sc. P.Ge.

December 16, 2022

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Surveys. Smith Lake Area. 32D04SW0343

Robert J. Dillman P.Geo, B.Sc.
ARJADEE PROSPECTING
8901 Reily Drive, Mount Brydges, Ontario, Canada, N0L1W0
Phone/ fax (519) 264-9278

CERIFICATE of AUTHOR

I, Robert J. Dillman, Professional Geologist, do certify that:


1. I am the President and the holder of a Certificate of Authorization for:


ARJADEE PROSPECTING
8901 Reily Drive, Mount Brydges, Ontario, Canada N0L 1W0
2. I am President and CEO of Brandy Brook Mines Limited
3. I graduated in 1991 with a Bachelor of Science Degree in Geology from the University of Western Ontario.
4. I am an active member of:

Professional Geoscientists of Ontario, PGO
Prospectors and Developers Association of Canada, PDAC
5. I have been a licensed Prospector in Ontario since 1984.
6. I have worked continuously as a Professional Geologist for 31 years.
7. Unless stated otherwise, I am responsible for the preparation of all sections of the Assessment Report titled:

2022 REPORT ON PROSPECTING TRAVERSES, PETROLOGY AND MICROPROBE ANALYSES
SMITH LAKE PROPERTY LARDER LAKE MINING DIVISION
BOSTON & PACAUD TOWNSHIPS, ONTARIO
dated, December 16, 2022
8. I am not aware of any material fact or material change with respect to the subject matter of the Assessment Report that is not contained in the Assessment Report and its omission to disclose makes the Assessment Report misleading.

Dated this 16th day of December, 2022


Robert James Dillman P.Geo
Arjadee Prospecting



Petrographic and Electron Microprobe Investigation of a Multi-generational Quartz Vein hosting Pyrite, Fe-Sphalerite, and Pyrrhotite, Smith Lake, Ontario

Prepared For:
Goldenfire Minerals Inc.

Prepared By:
Dr. Jim Renaud, PGO
Renaud Geological Consulting Ltd.,
London, Ontario

December 15 2022

Specimen Notes for 'SMITH LAKE A and B'

The rock is described as a complicated quartz vein with multi-generational quartz development. There are alternating bands of first-order grey fine-grained cryptocrystalline quartz forming a mosaic texture alternating with coarser-grained polycrystalline quartz grains. There are two zones of retrogression hosting sulphides which transect the rock. These zones of retrogression are defined by feathery green tremolite-actinolite amphibole and green chlorite development on amphibole margins. These retrogressive zones host coarse-grained sulphide complexes. The coarse sulphides are dominantly pyrite hosting inclusions of pyrrhotite and Fe-sphalerite.



Figure 1 Images of thin section blanks illustrating the alternating quartz banding and retrogressive sulphide domains within samples A and B.

Methods

Samples were carbon coated and examined in transmitted and reflected light with a Zeiss Axioscope polarizing petrographic microscope equipped with reflected light optics. Regions of interest were digitally photographed using the petrographic microscope and circled with a diamond scribe to enable relocation of the selected areas when in the microprobe. Samples were examined in detail using the Oxford Instrument Energy Dispersive System (EDS). Backscattered electron detector images of relevant and interesting mineralogical and textural relationships were collected digitally. For each backscatter



JEOL JXA-733 Superprobe equipped with an Oxford Xact EDS system housed in the Laboratory of Renaud Geological Consulting Ltd.

image a scale bar in microns is located at the bottom of each image which is useful in evaluating the grain sizes of the various minerals. All minerals were analyzed using a JEOL JXA 733 electron microprobe equipped with a Tracor Northern EDS and five wavelength spectrometers. The chemical compositions were established using a 20 kV accelerating voltage and 20 nA probe current. The beam diameter was set to 5 microns. Count times for major elements were 20 s on peak and 10 s on each side of the peak for background measurements. For trace elements, both peak and background times were 40 s. For calibration a set of microbeam standards of pure metals (from SPI) and natural minerals from the Smithsonian Institution were utilized. Data reduction was performed using the ZAF correction.

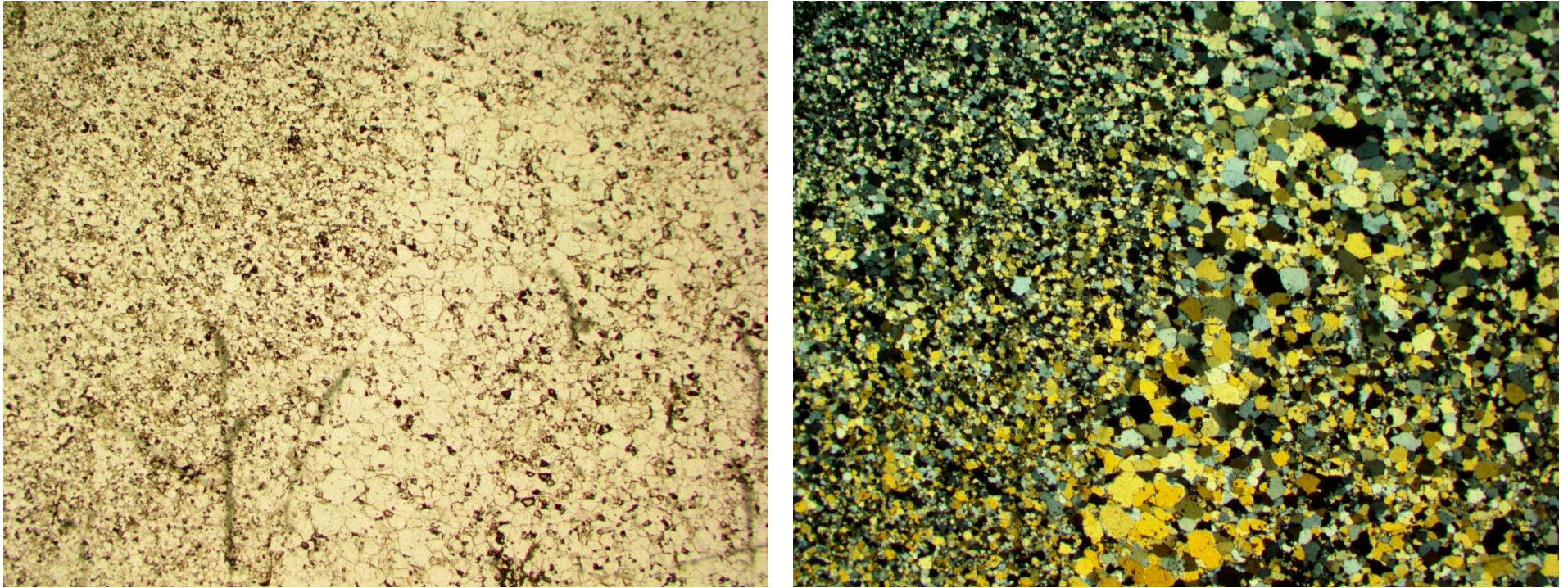


Figure 2 Plane light image (left) and cross polarized light image (right) illustrating the nature of the multi-generational quartz growth. Note the finer-grained cryptocrystalline quartz development (left side of images) and the coarser-grained polycrystalline quartz development (right side of images). Field of view = 17mm

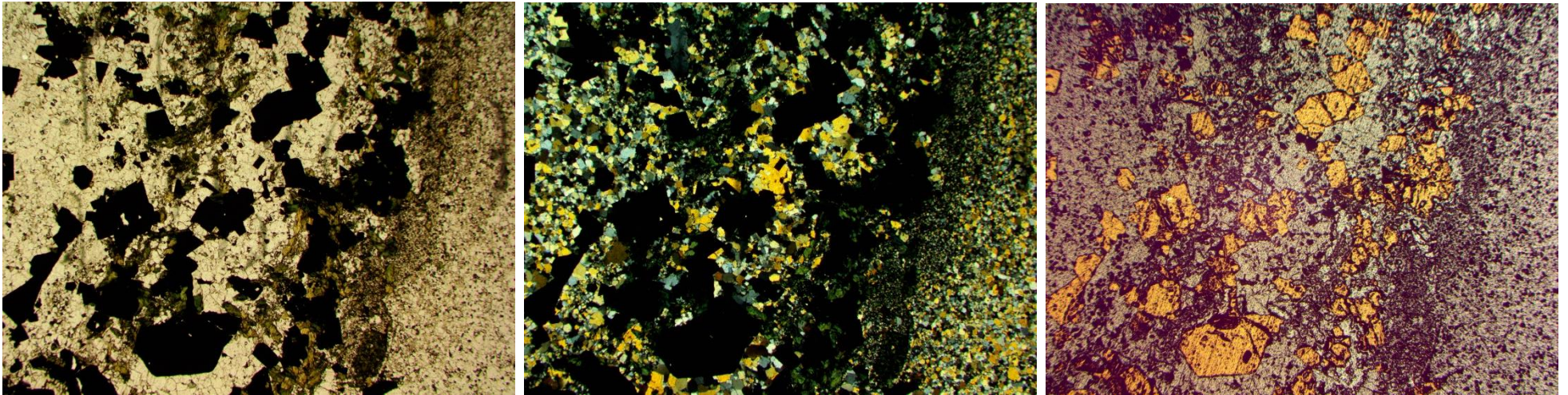


Figure 3 Plane light image (left), cross polarized light image (central), and reflected light image (right) illustrating a linear zone of retrogression. Note the pale-green amphibole and chlorite intergrown with the black opaque sulphide grains. A higher magnification of the sulphides are presented below. Field of view = 17mm

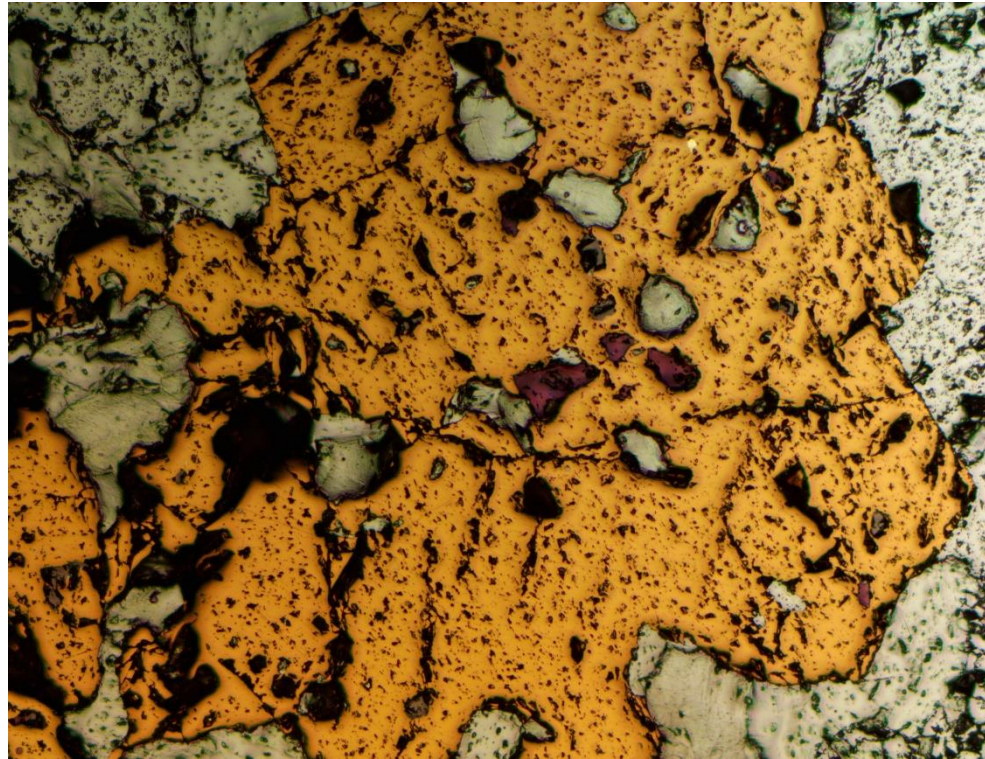


Figure 4 Reflected light image illustrating a coarse-grained yellow pyrite grain hosting minute inclusions of Fe-sphalerite. Field of view = 2.2mm

Electron Image 1

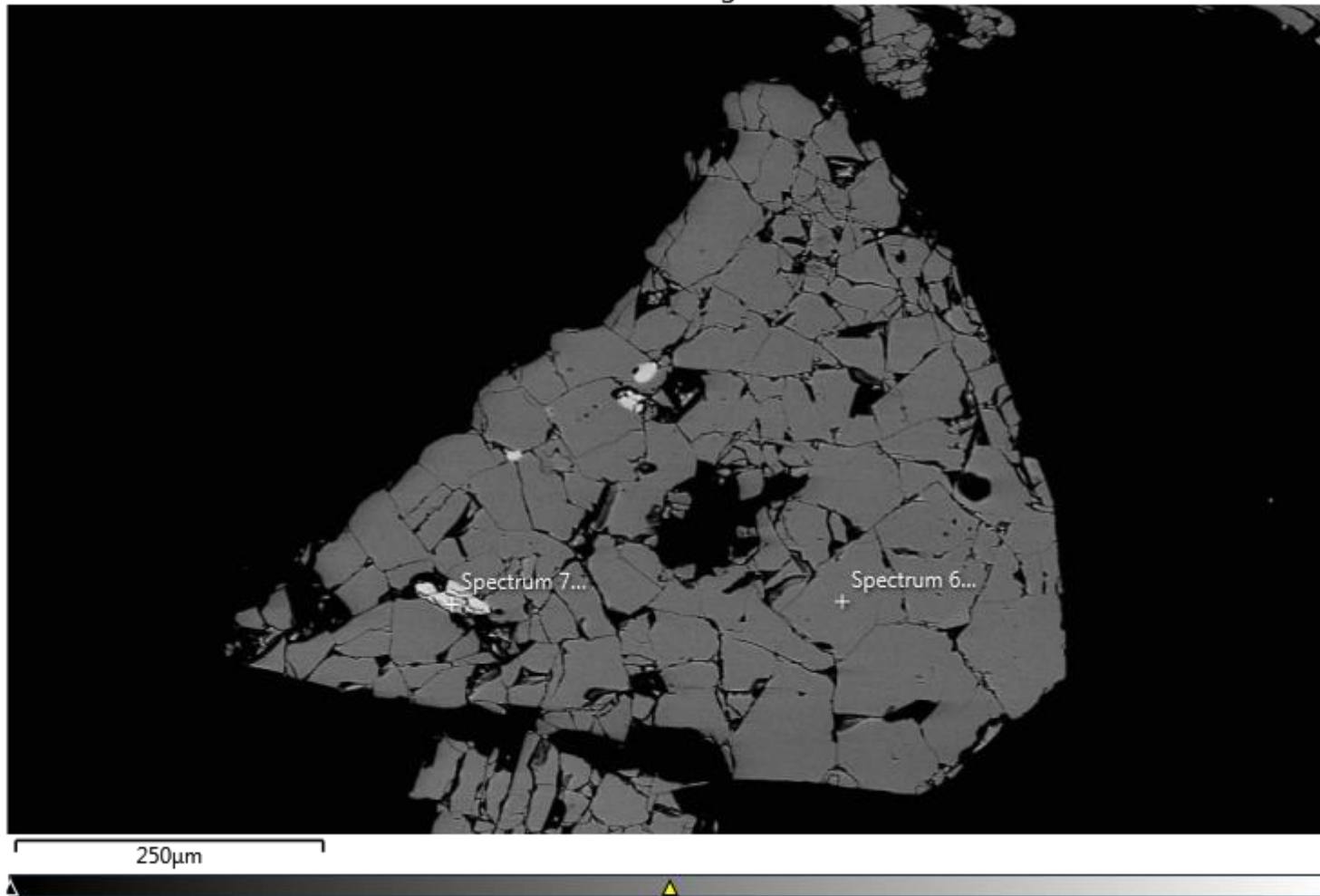
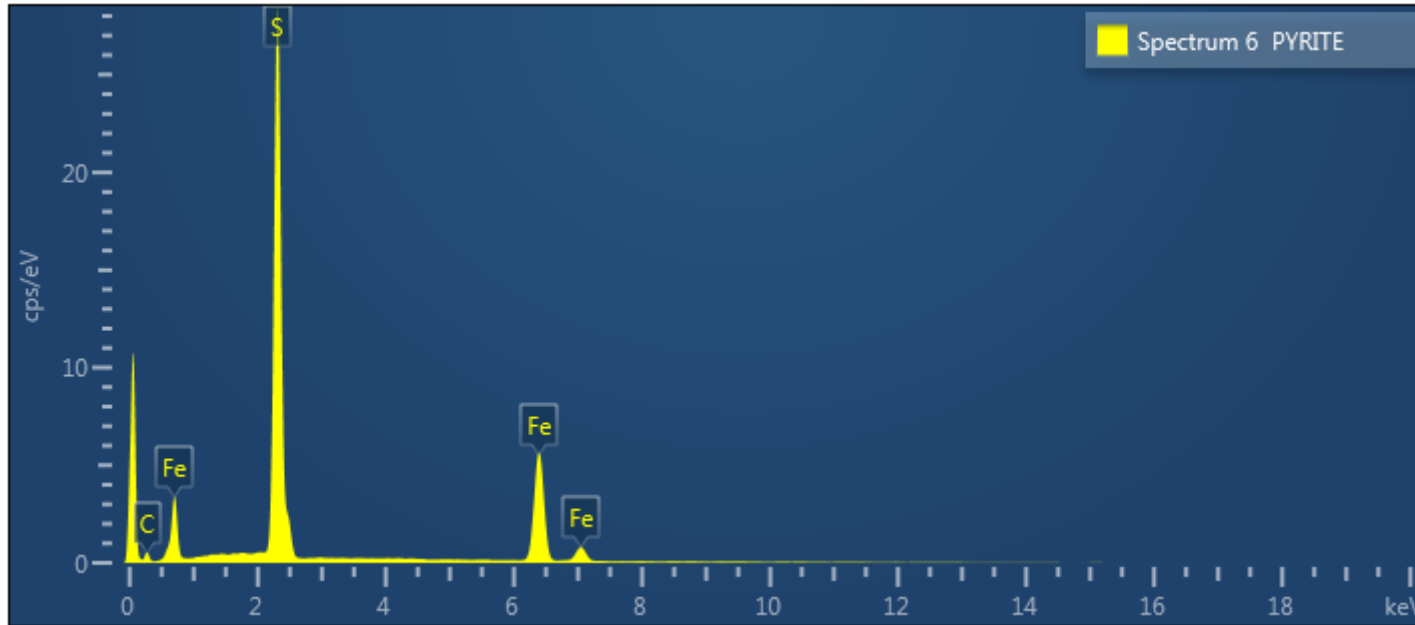
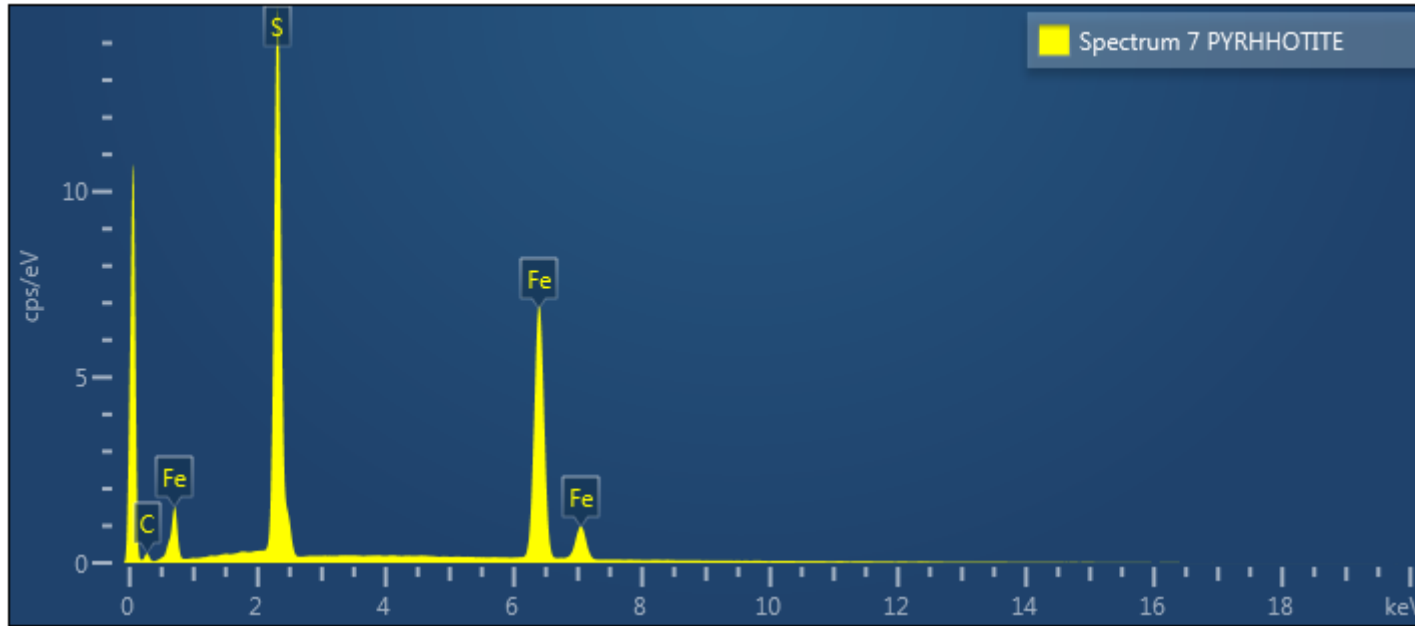


Figure 5 Backscatter image illustrating a coarse-grained pyrite (spectrum 6) hosting inclusions of Fe-sphalerite and pyrrhotite (spectrum 7).



Spectrum 6 PYRITE				
Element	Line Type	Weight %	Weight % Sigma	Atomic %
S	K series	54.64	0.40	67.72
Fe	K series	45.36	0.40	32.28
Total		100.00		100.00



Spectrum 7 PYRHHOTITE				
Element	Line Type	Weight %	Weight % Sigma	Atomic %
S	K series	35.59	0.20	49.04
Fe	K series	64.41	0.20	50.96
Total		100.00		100.00

Electron Image 2

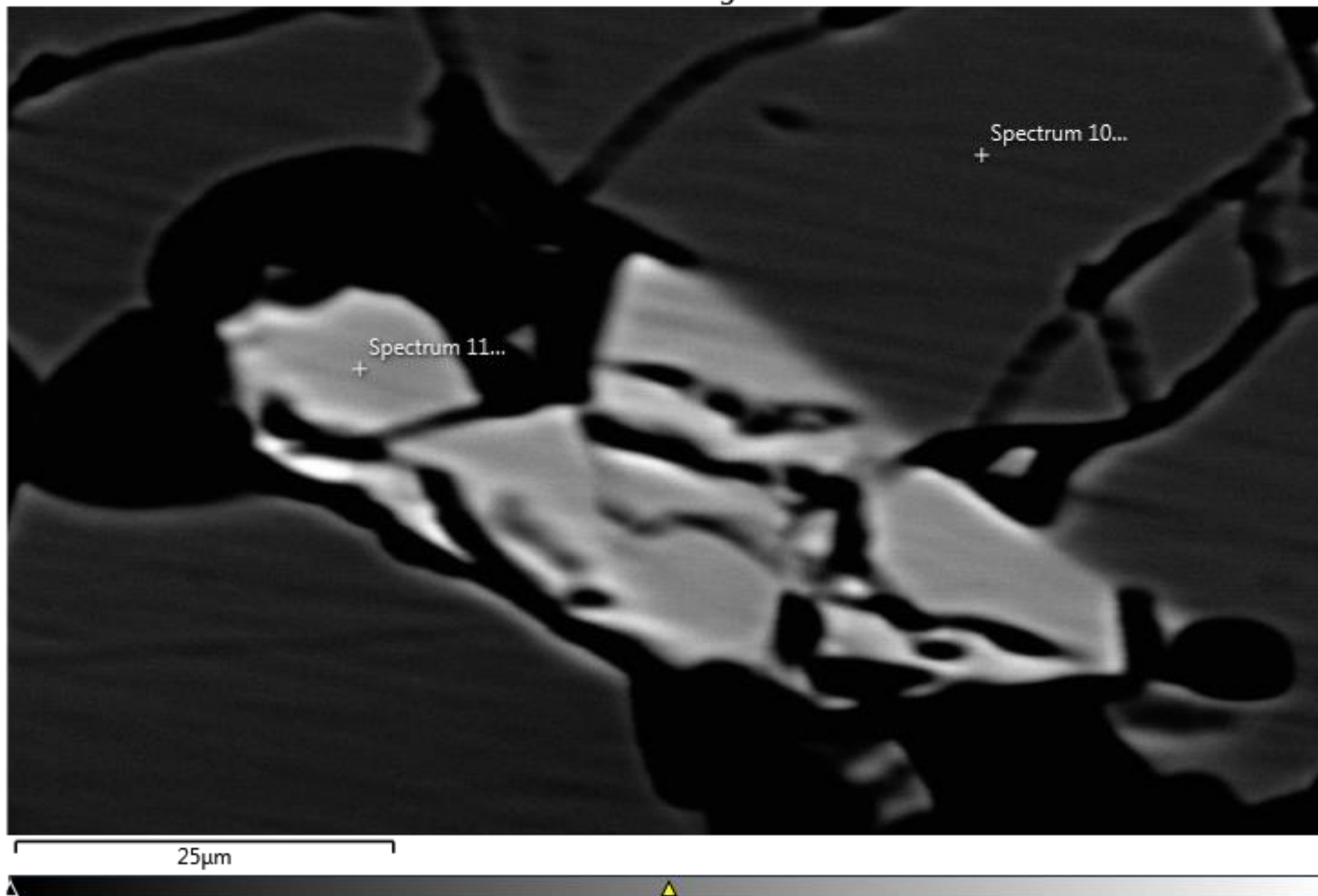
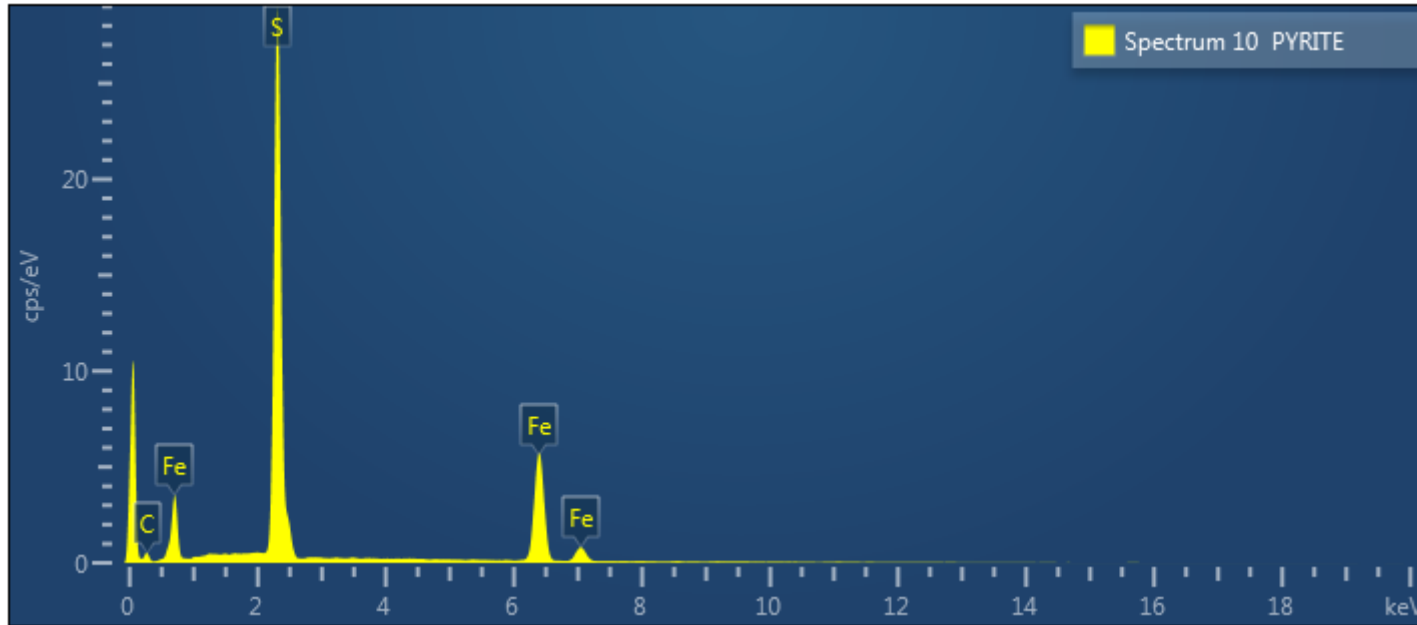
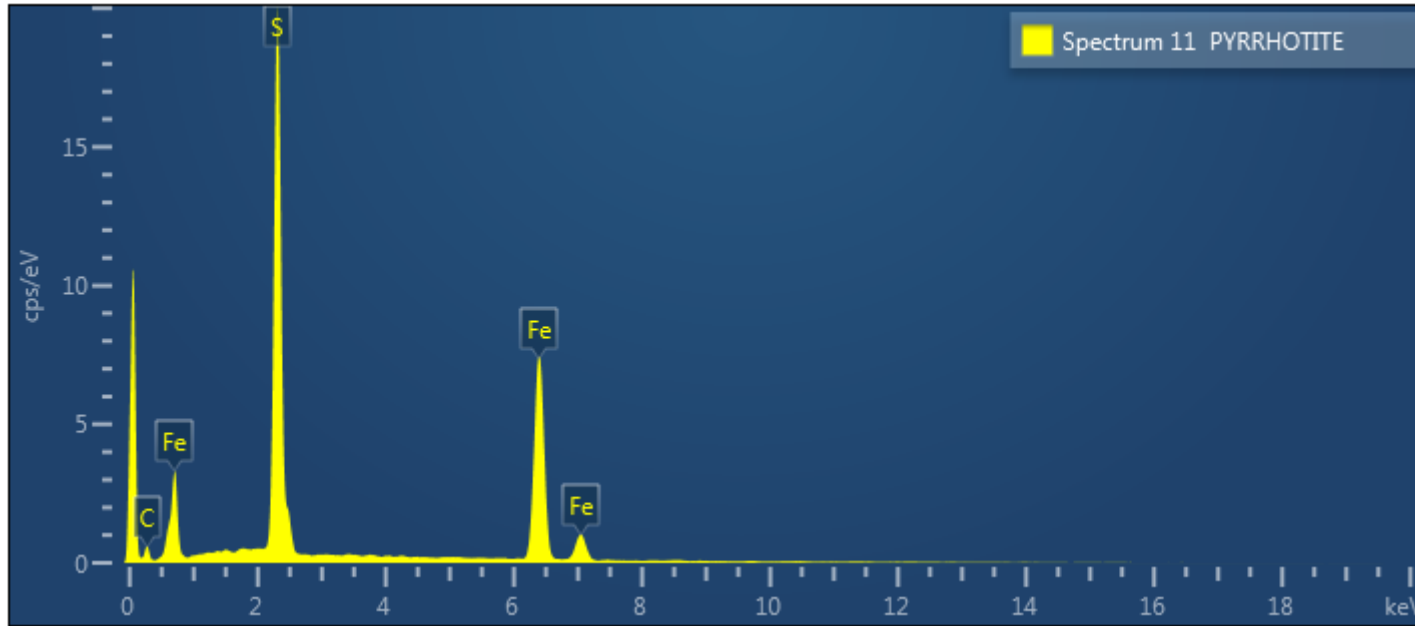


Figure 6 Higher magnification backscatter image illustrating pyrite (spectrum 10) hosting an inclusion of pyrrhotite (spectrum 11).



Spectrum 10 PYRITE				
Element	Line Type	Weight %	Weight % Sigma	Atomic %
S	K series	54.61	0.48	67.70
Fe	K series	45.39	0.48	32.30
Total		100.00		100.00



Spectrum 11 PYRRHOTITE				
Element	Line Type	Weight %	Weight % Sigma	Atomic %
S	K series	40.24	0.50	53.98
Fe	K series	59.76	0.50	46.02
Total		100.00		100.00

Electron Image 3

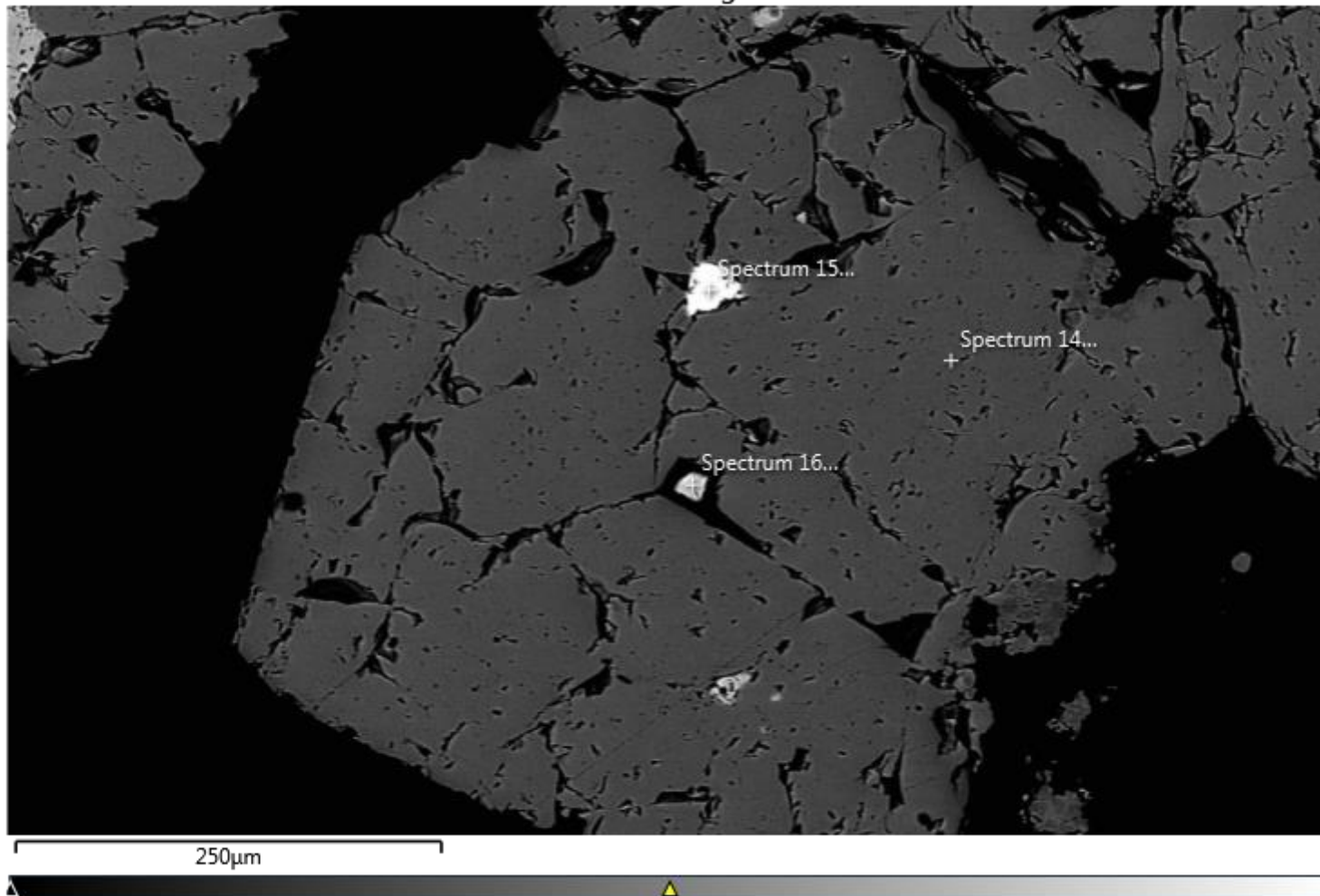
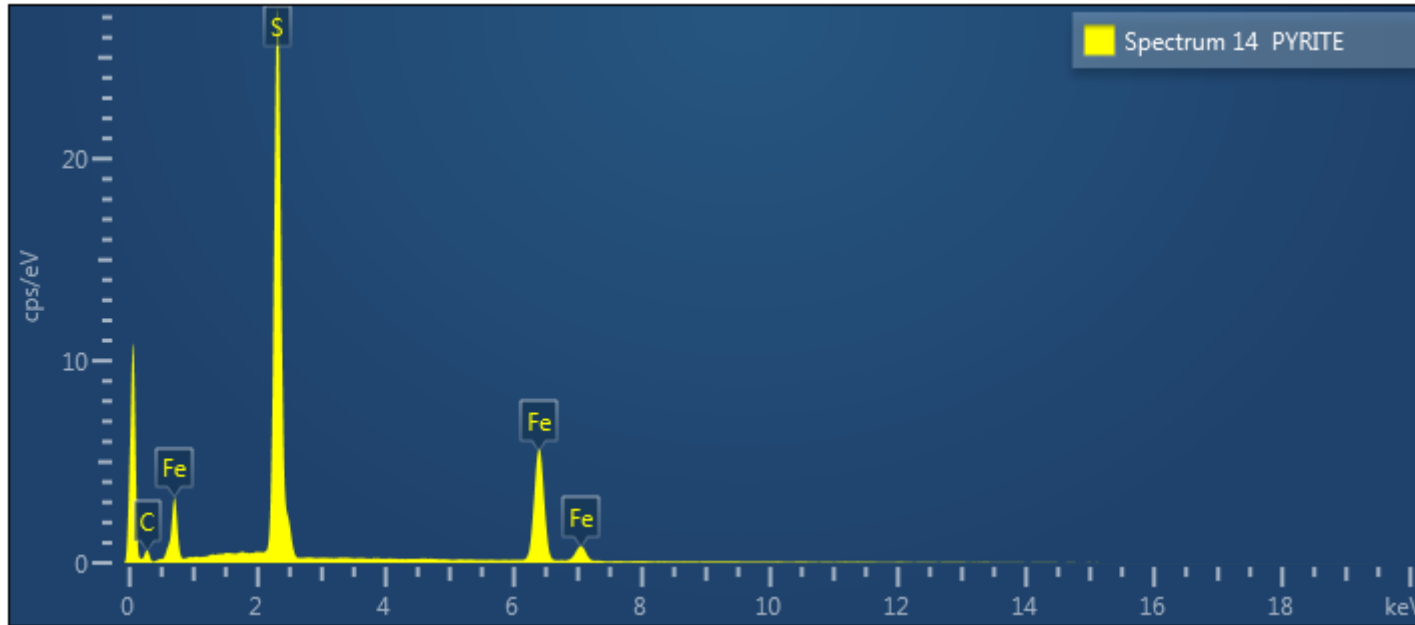
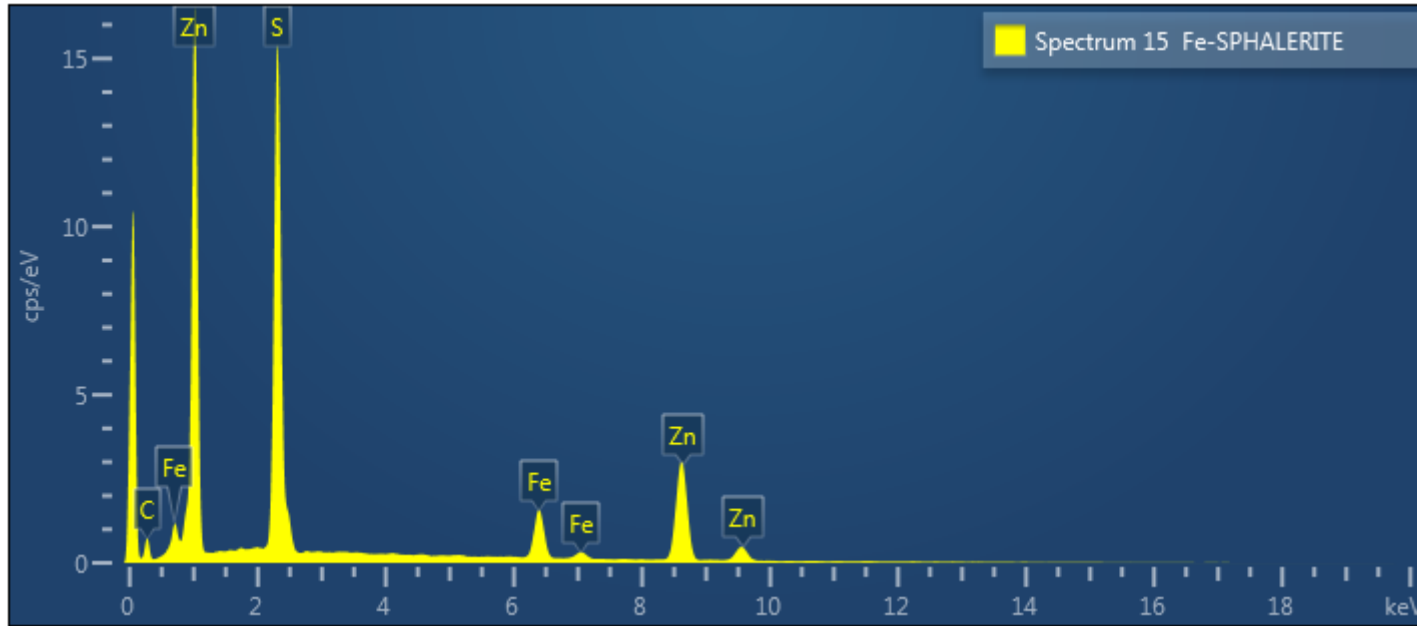


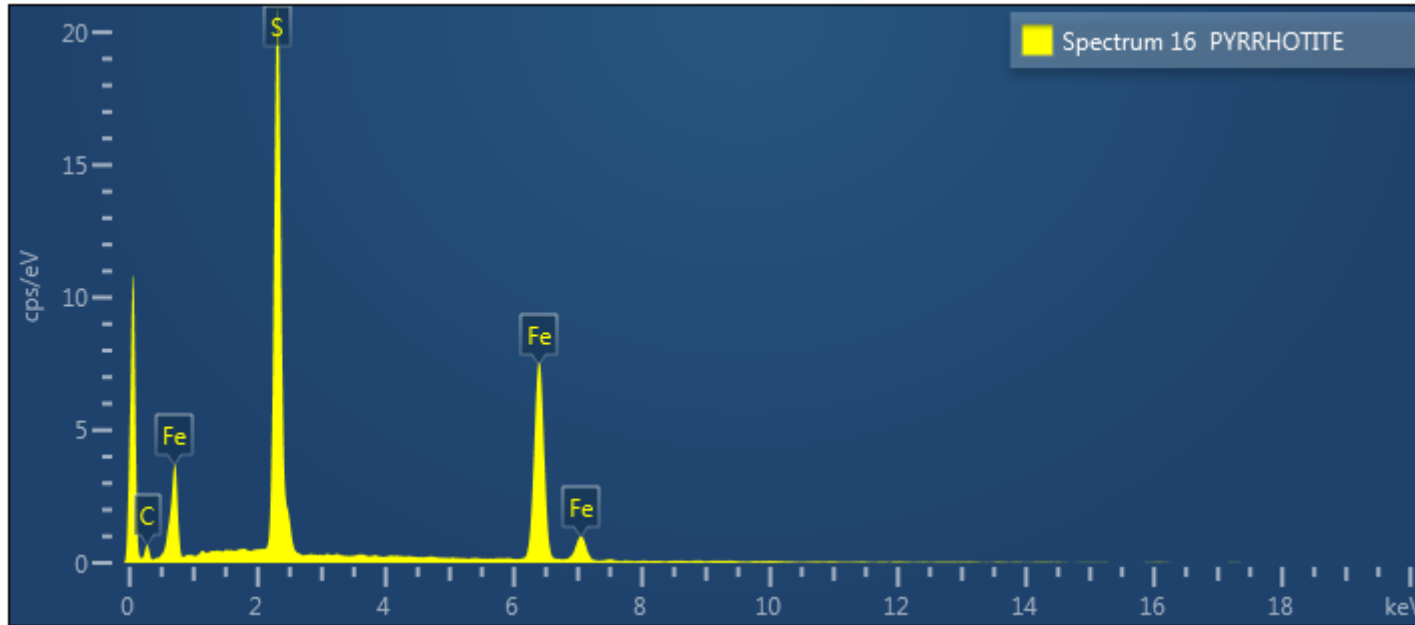
Figure 7 Backscatter image illustrating a coarse-grained pyrite (spectrum 14) hosting minute inclusions of Fe-sphalerite (spectrum 15) and pyrrhotite (spectrum 16).



Spectrum 14 PYRITE				
Element	Line Type	Weight %	Weight % Sigma	Atomic %
S	K series	53.85	0.49	67.03
Fe	K series	46.15	0.49	32.97
Total		100.00		100.00



Spectrum 15 Fe-SPHALERITE				
Element	Line Type	Weight %	Weight % Sigma	Atomic %
S	K series	34.58	0.39	51.18
Fe	K series	10.57	0.28	8.99
Zn	K series	54.85	0.47	39.83
Total		100.00		100.00



Spectrum 16 PYRRHOTITE				
Element	Line Type	Weight %	Weight % Sigma	Atomic %
S	K series	41.13	0.68	54.89
Fe	K series	58.87	0.68	45.11
Total		100.00		100.00



CLIENT NAME: ROBERT DILLMAN
8901 REILY DRIVE
MOUNT BRYDGES, ON N0L 1W0
519-264-9278

ATTENTION TO: ROBERT DILLMAN, JIM RENAUD
PROJECT:

AGAT WORK ORDER: 22T945549

SOLID ANALYSIS REVIEWED BY: Sherin Moussa, Senior Technician

DATE REPORTED: Oct 31, 2022

PAGES (INCLUDING COVER): 8

Should you require any information regarding this analysis please contact your client services representative at (905) 501-9998

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 90 days following analysis, unless expressly agreed otherwise in writing. Please contact your Client Project Manager if you require additional sample storage time.
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- The test results reported herewith relate only to the samples as received by the laboratory.
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- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 22T945549

PROJECT:

5623 McADAM ROAD
 MISSISSAUGA, ONTARIO
 CANADA L4Z 1N9
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 FAX (905)501-0589
<http://www.agatlabs.com>

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN, JIM RENAUD

(200-) Sample Login Weight

DATE SAMPLED: Sep 14, 2022 DATE RECEIVED: Sep 15, 2022 DATE REPORTED: Oct 31, 2022 SAMPLE TYPE: Rock

Sample ID (AGAT ID)	Analyte:	Sample Login Weight
	Unit:	kg
	RDL:	0.005
SL - 1 (4307466)		2.400
SL - 2 (4307467)		0.990
SL - 3 (4307468)		2.050
SL - 4 (4307469)		2.300
SL - 5 (4307470)		1.240
SL - 6 (4307471)		2.680
SL - 7 (4307472)		1.980
SL - 8 (4307473)		1.430
SL - 9 (4307474)		3.060
SL - 10 (4307475)		2.490
SL - 11 (4307476)		2.500

Comments: RDL - Reported Detection Limit
 Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)
 Insufficient Sample : IS
 Sample Not Received : SNR

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22T945549

PROJECT:

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FAX (905)501-0589
<http://www.agatlabs.com>

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN, JIM RENAUD

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

DATE SAMPLED: Sep 14, 2022

DATE RECEIVED: Sep 15, 2022

DATE REPORTED: Oct 31, 2022

SAMPLE TYPE: Rock

Sample ID (AGAT ID)	Analyte:	Unit:	RDL:
	Au	ppm	0.001
SL - 1 (4307466)			0.005
SL - 2 (4307467)			0.004
SL - 3 (4307468)			0.004
SL - 4 (4307469)			0.005
SL - 5 (4307470)			0.004
SL - 6 (4307471)			0.004
SL - 7 (4307472)			0.004
SL - 8 (4307473)			0.003
SL - 9 (4307474)			0.003
SL - 10 (4307475)			0.004
SL - 11 (4307476)			0.003

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)

Insufficient Sample : IS

Sample Not Received : SNR

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22T945549

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<http://www.agatlabs.com>

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN, JIM RENAUD

Sieving - % Passing (Crushing)

DATE SAMPLED: Sep 14, 2022

DATE RECEIVED: Sep 15, 2022

DATE REPORTED: Oct 31, 2022

SAMPLE TYPE: Rock

Analyte: Crush-Pass
%

Unit: %

Sample ID (AGAT ID) RDL: 0.01

SL - 1 (4307466) 78.01

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)

Insufficient Sample : IS

Sample Not Received : SNR

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22T945549

PROJECT:

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FAX (905)501-0589
<http://www.agatlabs.com>

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN, JIM RENAUD

Sieving - % Passing (Pulverizing)

DATE SAMPLED: Sep 14, 2022

DATE RECEIVED: Sep 15, 2022

DATE REPORTED: Oct 31, 2022

SAMPLE TYPE: Rock

Analyte: Pul-Pass %

Unit: %

Sample ID (AGAT ID) RDL: 0.01

SL - 1 (4307466) 87.38

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)

Insufficient Sample : IS

Sample Not Received : SNR

Certified By:



CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN, JIM RENAUD

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

Parameter	REPLICATE #1				REPLICATE #2											
	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD								
Au	4307466	0.005	0.005	0.0%	4307473	0.003	0.003	0.0%								



AGAT Laboratories

Quality Assurance - Certified Reference materials

AGAT WORK ORDER: 22T945549

PROJECT:

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<http://www.agatlabs.com>

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN, JIM RENAUD

(202-052) Fire Assay - Trace Au, ICP-OES finish (ppm)

Parameter	CRM #1 (ref.GS4N)													
	Expect	Actual	Recovery	Limits										
Au	3.88	4.185												



Method Summary

CLIENT NAME: ROBERT DILLMAN

AGAT WORK ORDER: 22T945549

PROJECT:

ATTENTION TO: ROBERT DILLMAN, JIM RENAUD

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Solid Analysis			
Sample Login Weight	MIN-12009		BALANCE
Au	MIN-12006, MIN-12004		ICP/OES
Crush-Pass %			BALANCE
Pul-Pass %			BALANCE



CLIENT NAME: ROBERT DILLMAN
8901 REILY DRIVE
MOUNT BRYDGES, ON N0L 1W0
519-264-9278

ATTENTION TO: ROBERT DILLMAN, Jim Renaud

PROJECT:

AGAT WORK ORDER: 22T955590

SOLID ANALYSIS REVIEWED BY: Sherin Moussa, Senior Technician

DATE REPORTED: Oct 31, 2022

PAGES (INCLUDING COVER): 8

Should you require any information regarding this analysis please contact your client services representative at (905) 501-9998

*Notes

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- The test results reported herewith relate only to the samples as received by the laboratory.
- Measurement Uncertainty is not taken into consideration when stating conformity with a specified requirement.
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- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 22T955590

PROJECT:

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CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN, Jim Renaud

(200-) Sample Login Weight

DATE SAMPLED: Oct 10, 2022

DATE RECEIVED: Oct 11, 2022

DATE REPORTED: Oct 31, 2022

SAMPLE TYPE: Rock

Sample ID (AGAT ID)	Analyte:	Sample Login Weight
	Unit:	kg
	RDL:	0.005
SL-12 (4397249)		2.110
SL-13 (4397250)		3.710
SL-14 (4397251)		2.190
SL-15 (4397252)		1.240
SL-16 (4397253)		3.220
SL-17 (4397254)		0.940
SL-18 (4397255)		2.380
SL-19 (4397256)		2.540
SL-20 (4397257)		2.330
SL-21 (4397258)		2.360
SL-22 (4397259)		2.990
SL-23 (4397260)		1.660
SL-24 (4397261)		1.590
SL-25 (4397262)		1.930
SL-26 (4397263)		2.990
SL-27 (4397264)		1.710
SL-28 (4397265)		2.460
SL-29 (4397266)		2.440
SL-30 (4397267)		1.460
SL-31 (4397268)		3.030
SL-32 (4397269)		1.950
SL-33 (4397270)		2.710

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)

Insufficient Sample : IS

Sample Not Received : SNR

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22T955590

PROJECT:

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CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN, Jim Renaud

(202-552) Fire Assay - Trace Au, ICP-OES finish (50g charge) (ppm)

DATE SAMPLED: Oct 10, 2022	DATE RECEIVED: Oct 11, 2022	DATE REPORTED: Oct 31, 2022	SAMPLE TYPE: Rock
Analyte: Au	Unit: ppm	RDL: 0.001	
Sample ID (AGAT ID)			
SL-12 (4397249)		<0.001	
SL-13 (4397250)		<0.001	
SL-14 (4397251)		0.002	
SL-15 (4397252)		0.001	
SL-16 (4397253)		0.004	
SL-17 (4397254)		0.004	
SL-18 (4397255)		0.014	
SL-19 (4397256)		0.008	
SL-20 (4397257)		0.002	
SL-21 (4397258)		0.001	
SL-22 (4397259)		0.005	
SL-23 (4397260)		0.001	
SL-24 (4397261)		0.001	
SL-25 (4397262)		<0.001	
SL-26 (4397263)		0.002	
SL-27 (4397264)		0.002	
SL-28 (4397265)		<0.001	
SL-29 (4397266)		<0.001	
SL-30 (4397267)		0.002	
SL-31 (4397268)		0.001	
SL-32 (4397269)		0.017	
SL-33 (4397270)		0.001	

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)

Insufficient Sample : IS

Sample Not Received : SNR

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22T955590

PROJECT:

5623 McADAM ROAD
MISSISSAUGA, ONTARIO
CANADA L4Z 1N9
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FAX (905)501-0589
<http://www.agatlabs.com>

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN, Jim Renaud

Sieving - % Passing (Crushing)

DATE SAMPLED: Oct 10, 2022

DATE RECEIVED: Oct 11, 2022

DATE REPORTED: Oct 31, 2022

SAMPLE TYPE: Rock

Analyte: Crush-Pass
%

Unit: %

Sample ID (AGAT ID) RDL: 0.01

SL-12 (4397249) 78.13

SL-32 (4397269) 79.57

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)

Insufficient Sample : IS

Sample Not Received : SNR

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 22T955590

PROJECT:

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<http://www.agatlabs.com>

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN, Jim Renaud

Sieving - % Passing (Pulverizing)

DATE SAMPLED: Oct 10, 2022

DATE RECEIVED: Oct 11, 2022

DATE REPORTED: Oct 31, 2022

SAMPLE TYPE: Rock

Sample ID (AGAT ID)	Analyte: Pul-Pass %	Unit: %	RDL: 0.01
SL-12 (4397249)			84.53
SL-32 (4397269)			89.77

Comments: RDL - Reported Detection Limit

Analysis performed at AGAT 5623 McAdam Rd., Mississauga, ON (unless marked by *)

Insufficient Sample : IS

Sample Not Received : SNR

Certified By:



CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN, Jim Renaud

(202-552) Fire Assay - Trace Au, ICP-OES finish (50g charge) (ppm)

Parameter	REPLICATE #1				REPLICATE #2											
	Sample ID	Original	Replicate	RPD	Sample ID	Original	Replicate	RPD								
Au	4397249	< 0.001	< 0.001	0.0%	4397264	0.002	0.001									



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PROJECT:

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 FAX (905)501-0589
<http://www.agatlabs.com>

CLIENT NAME: ROBERT DILLMAN

ATTENTION TO: ROBERT DILLMAN, Jim Renaud

(202-552) Fire Assay - Trace Au, ICP-OES finish (50g charge) (ppm)

Parameter	CRM #1 (ref.GS4N)				CRM #2 (ref.OREASL11)											
	Expect	Actual	Recovery	Limits	Expect	Actual	Recovery	Limits								
Au	3.88	4.06	105%		0.305	0.319	105%									



Method Summary

CLIENT NAME: ROBERT DILLMAN

AGAT WORK ORDER: 22T955590

PROJECT:

ATTENTION TO: ROBERT DILLMAN, Jim Renaud

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Solid Analysis			
Sample Login Weight	MIN-12009		BALANCE
Au	MIN-12006, MIN-12004		ICP/OES
Crush-Pass %			BALANCE
Pul-Pass %			BALANCE