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# TECHNICAL REPORT FOR THE LONGROSE PROPERTY, THUNDER BAY MINING DIVISION, ONTARIO

CLAIMS: 552939 AND 711317

PREAPRED FOR: RIVERSIDE RESOURCES INC.

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DATED: MARCH 15, 2022

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### **Summary**

The Longrose Project is an east-west rectangular block within the Eva Township located immediately west of the former Leitch Mine operations near Beardmore Ontario. Work so far has included prospecting, mapping and sampling between June-August of 2019. The Longrose Project is in the Beardmore-Geraldton Greenstone Belt (BGGB) which is located along the boundary between the Wabigoon and Quetico sub provinces in the Superior province of the Canadian Shield. The belt has been subjected to three structural events. The first and third events of regional folding and shearing is often found to control mineralization. On the Longrose property mineralization is found within large shear zones that parallel the east-west trend of the belt and within fold structures.

The BGGB belt has a long mining history and has produced 4.1M ounces of gold. One of the larger past-producer was the MacLeod-Cockshutt Mine which produced 1.5M ounces of gold. The Leitch Mine located immediately east of Longrose was a high-grade past producer: 920 thousand tons at 0.92 ounces/ton (approximately 28 grams per ton) producing roughly 850,000 ounces of gold and 200,000 ounces of silver. Here gold occurs in narrow quartz veins with significant vertical extend. The deposit type is considered mesothermal orogenic style gold and is hosted in metasedimentary rocks which extend westward onto the Longrose project. More recently the Hardrock Project held by Greenstone Gold, 60 km to the east, has outlined several million ounces of gold in several categories.

Past drilling on the Longrose project has delineated several shear zones with mineralization. A review of the two known drilling campaigns shows that 8 of the historic 20 drill holes were logged as having gold assays above 3 g/t (MNDM website). Drilling in 1947-48 by Longrose Gold Mines Ltd showed most of the holes that assay positive for gold were logged as narrow, high grade silicified zones with assays as high as 0.9 ounces per ton or 28 grams per ton respectively.

Three prospective styles of mineralization have been suggested to possibly exist at Longrose:

- (1) Bedrock at Longrose has been subjected to significant strike-slip faulting along regional volcanic-sedimentary contact and forms a prospective conduit for gold mineralization;
- (2) Westward plunging folds the site of shear zones that could host high-grade Au-quartz veining;
- (3) Drag folds and kinks in the iron formation as seen in the airborne magnetics survey may also be possible shear structures that host gold mineralization.

An initial program at Longrose could focus first on geophysics including Mag/VLF and IP. Mineralized structures are roughly east-west such that north-south oriented geophysical survey would capture the know mineralization best. An IP resistivity survey would identify structures for follow-up stripping, mapping and trench sampling.

### **1.0 INTRODUCTION**

The Longrose project was originally staked by Riverside Resources Inc in 2019. Riverside was granted a permit for early exploration activities on 2019/11/12 (R-19-000208). This report covers the results of a prospecting and sampling program, which took place in 2019 on three separate visits: 31-May-19 to 2-Jun-19; June 27th-June 29th; and 10-Sep-19 to 15-Sep-19. The fieldwork to date the work was conducted by Freeman Smith, Alex Pleason and Ramin Ghaderpah. GIS support was completed on an ongoing basis by Ben Connor and Elena Rein between June 2019 and June 2020.

### 2.0 PROPERTY DESCRIPTION AND LOCATION

The Longrose Project is in the Eva Township just north of Canadian National Highway 11 and the town of Beardmore, Ontario in the Thunder Bay Mining Division. The approximate UTM coordinates for the center of the property are 423250E an 5496000N (Datum NAD83, Zone 16U).

The property consists of 2 patented multi-cell claims. These claims require \$7,200 in work expenditure per year. The property overlaps a recreational property that hosts a small hunting cabin. The owner has been notified of Riverside's exploration work. The very northern boundary overlaps onto a mineral lease currently held by Premier Gold Mines.

Township	Claim		Good to Date	Status	cells	Cell Numbers
EVA						52H09H270, 52H09H271
	552020	Multi-cell Mining Claim Multi-Cell Mining Claim	1 101 22	Active	0	52H09H272, 52H09H273
	332939		I-JUI-22		0	52H09H250, 52H09H251
						52H09H252, 52H09H253
						52H09H249, 52H09H248
				Active		52H09H292, 52H09H293
EVA	711317		10-Jul-22		10	52H09H290, 52H09H289
						52H09H288, 52H09H291
						52H09H269, 52H09H268

#### Table 1: List of Claims.



Figure 1 Longrose Claim Map

### 3.0 ACCESSIBILITY AND PHYSIOGRAPHY

The Longrose Project is located 10km west of the town of Beardmore, Ontario. During the spring, summer and fall the project area can be accessed by 2-wheel drive from the Nipigon 12 Road (Undersill Lake Road) off highway 580. Highway 580 spurs left off Highway 11 north of Beardmore. Secondary access can be gained from old mining and logging roads throughout the property. The project is located on a long broad ridge that extends from the Leitch Mine southwestward toward Nipigon Lake. Relief is in the order of 100+m across the project area. The area was burnt over in the 1990s and vegetation consist of mixed deciduous and pine with cedar growing in the swampy areas at the northern boundary. Temperatures from highs of 40C in the summer to -30C in winter with snow cover between November and May. The best exploration season is between August and November (to avoid bugs). In swampy areas exploration is best conducted in the winter months when the ground is frozen.

The Longrose project is located approximately 5km east of Nipigon Lake. Nipigon Lake has a significant impact on the weather near Beardmore adding significant moisture to the air resulting in a lot of snowfall at Beardmore and area. Plowing of roads would be required for winter drilling

work. The location has excellent access and is close to infrastructure; TransCanada highway (#11), natural gas and hydro. This infrastructure allows for year around access for surveys and drilling programs.



Figure 2: Location Map, the project site is located 60 km east of Greenstone Gold's Hardrock Deposit approximately 2 hours' drive on highway from Thunder Bay (population 110,000).

### 4.0 PROPERTY HISTORY

Historical drilling (1947-1951) at Longrose included 2,000 m of AQ within 18 short holes testing structures associated with geophysics that appear to align with the Leitch Mine to the immediate east. Other drilling appears to be along the margins of banded iron formation (BIF). Mineralization within the historical drill hole logs was recorded as existing at BIF contacts where narrow, high-grade intercepts are recorded. Diamond Drill hole DDH47-17 was drilled to a depth of 157 ft (48m). The hole was collared on BIF and was logged as having alteration and silicification for about 27m down hole. Only the quartz veins were sampled and returned assays of 1.1 to 1.7 grams per ton. DDH47-12 along strike, west of DDH47-17 drilled the same BIF and retuned narrow high-grade intercepts. From near the top of the hole at 36 feet (11m) to the bottom of the hole at 711 feet (216.7m) drill logs show altered greywacke and quartz veining with lean

banded iron formation. Again, only the quartz veins were sampled. One 0.5-foot vein returned 0.9 ounces per ton (~25.5 g/t). The interval from 34.5 m to 54.6 m records 4 veins within greywacke and banded iron formation and having significant pyrite and pyrrhotite. The veins sampled in this interval returned values between 0.6 and 1.7 g/t outlining a 20m wide target at/or near surface. Similarly, another east-west trending structure extends westward from the Lake Nipigon South showing (east of the claims) to DDH-01 from the 1947 drilling campaign and further westward still to holes UND-01 and UND-03 from a separate, 1988 drill campaign (Figure 2).

Mingold Resources drilled 6 holes in 1988 (totalling 2,152 feet). UND-1 drilled the possible downdip extension of a 3,029 ppb Au/ton surface grab sample. It intersected a series of alternating gabbroic and diabase dykes and sills. Shearing, silicification, and quartz veining were minimal. The best intersection of 2,566 ppb Au over 0.7 ft. in a quartz injected mini-shear zone within diabase was not coincident with the highly anomalous surface grab sample. Hole UND-2 drilled a broad east-west trending VLP conductor which intersected interbedded argillite and greywacke, brecciated clastic sediment beds and massive quartz-gabbro were intersected a gabbroic sill-sediment contact zone. Hole UND-3 drilled a strong sharp VLF conductor intersected interbedded argillite and greywacke containing local quartz veining and minor pyrite. The strong VLF was said to have been caused by a shear brecciated fault zone (Watson Lake Fault). The best gold assay of 1,125 ppb Au over 2.5 ft came from a sheared argillite bed. UND-4 drilled two VLF conductors, one trending EW and one trending NS. An interbedded sequence of chert-magnetite iron formation and clastic sediments was intersected. The banded iron formation lacked sulphidation and quartz veining.

Hole UND-5 drilled two VLF conductors, one trending E-W and one trending NNE. An alternating sequence of clastic sediments and chert magnetite +/- hematite iron formation was intersected. As in hole UND-4 the banded iron formation lacked sulphidation and quartz veining. The EW trending VLF conductor was thought to have been caused by a vuggy argillitic (fault?) zone. The best gold assay in UND-4 was 1,644 ppb Au over 0.5 ft. from a quartz vein hosted by sheared clastic sediments. In 1990 the whole area and property was raised by a large wildfire.

Drill hole UND-5 comprises mostly clastic seds and black fine grained argillic shale between 289-485' banded iron formation is interbedded with clastic seds and grades into cherty iron formation Pyrite and sericite parallel to foliation at 60 degrees to core axis showing minor quartz veinlets. Further downhole between 485-538 feet the bedrock comprises medium grained greywacke with golden coloured sericite. Small quartz veins showing mica, chlorite clasts trace pyrite parallel to foliation but not in veins. They sampled sections showing strong chlorite and sericite alteration.



Figure 3: Mingold's 1988 drill core: UND-5 at 335m depth. Logs record black to grey to red, fine grained, hard and well banded 80% magnetite beds and 20% hematitic chert beds. Bedding generally on a 1 to 5 cm scale fine grained specularite associated with hematitic beds (gold 5ppb) with very minor interbedding of clastic sediments. The drill core from this campaign is stored at the Ministry of Mines core library in Thunder Bay.

In the 2000's the area was part of a larger belt play and was part of a large airborne survey conducted by Kodiak Explorations whose properties eventually ended up with Argonaut Gold. The geophysical work shows the regional and property scale geology and geophysical characteristics including faults and folds.

### 5.0 GEOLOGICAL SETTING AND MINERALIZATION

### 5.1 Regional Geology

The Longrose property is located in the western end of the Geraldton Gold camp within the Beardmore-Geraldton Greenstone Belt along the southern margin of the Archean Wabigoon subprovince, Superior Province, Ontario (see Figure 3).

The BGB comprises three panels of metasedimentary rocks, representing a southward transition from fluvial to deltaic to deep oceanic basin plain environments, overlying three panels of older, ca. 2725 Ma, metavolcanic rocks, representing back arc, island arc, and oceanic crust. Detrital zircon geochronology of the BGB and adjacent northern Quetico metasedimentary rocks suggests that these rocks formed from sediments derived by the erosion of ca. 2700 Ma to 2900 Ma source rocks and older >3200 Ma Mesoarchean craton of the eastern Wabigoon subprovince.

The emplacement of crosscutting 2694±1 Ma feldspar-quartz porphyry (FQP) dikes, marks the end of sedimentation in the belt. The panels were subsequently imbricated during an early thrusting event (D1) which ended with the emplacement and stitching of 2690±1 Ma Croll Lake stock. The composition of the FQP dikes and Croll Lake stock indicate a shift from tonalite-trondhjemite-granodiorite (TTG) suite to sanukitoid suite magmatism over a 4 Ma period. The formation of the sanukitoid melts, which involves the addition of a mantle melt component, is consistent with their generation during delamination or slab break-off as the BGB metavolcanic and metasedimentary panels that were thrust imbricated and accreted to the Wabigoon subprovince during closure of the Quetico basin.



Figure 5 Regional geology of the Beardmore Geraldton Greenstone Belt showing the metasedimentary and metavolcanics panels



*Figure 4: Photo showing the deformation in the meta-sedimentary units. The picture shown is about 1m by 0.6m. This exposure is from the Hardrock deposit in Geraldton, elsewhere at this exposure bedrock units show isoclinal folding, faulting and mineralization. Mineralization typically shows as rusty shears with quartz veining* 

These imbrication boundaries are often major fault breaks, which can host large gold resources as is found further to the east in the Abitibi Greenstone Belt (partial extraction from Toth, PhD thesis, 2019).

The sediments are comprised of Precambrian turbidite assemblages with interbeds of banded iron formation and lesser mafic volcaniclastic (Kresz & Zayachivsky, 1991). Semi-conformable sills of diorite/gabbro, including quartz and quartz-feldspar porphyry intrude these formations.

Local and belt scale faulting has produced intense ductile deformation of the rocks in the Geraldton area, which is manifested as isoclinal, generally upright, poly harmonic folding of major lithologic units, penetrative deformation, folding and boudinage of veins. The degree of deformation is highly variable over relatively short distances; strain partitioning with different degrees and styles of deformation is apparent in deformed rocks that is dependent on both primary lithology and proximity to the Bankfield-Tombill Fault.

The Bankfield-Tombill traverses the south edge of the belt and bifurcates around the Croll Lake Stock which is dated at 2690 Ma. Gold mineralisation within the belt generally occurs in association with subvertical structures associated with quartz veins or stringers, minor to semimassive sulphides (associated with replacement zones in BIF), weak to moderate carbonate and weak to strong sericite alteration. The Beardmore-Geraldton Greenstone Belt has produced about 4.1 million ounces of gold and retains gold resources of several million ounces. At Longrose we see similar anticlinal forms with BIF units extending through the project.

# 5.2 Project Geology

Geology within the Longrose project comprises metasedimentary bedrock (greenschist facies) primarily meta-sandstone or meta-siltstone, (greywacke) which is weakly to moderately foliated. Other units include meta-conglomerate (Figure 6a) which is strongly foliated, polymictic with boudin-like quartz relics, which are most likely the granite clasts from the conglomerate or possibly earlier stage quartz veins which were elongated. Conglomerates are typically a good host rock for Archean gold deposits. Argillite and banded iron formation (BIF) are also mapped on the property. The BIF units are described as lean as they are usually magnetic but contain hematite and chert beds. The beds are often strongly folded and show several episodes of folding as can be partly seen in Figure 7 located just east of the property boundary near the Leitch Mine. Drill logs from the project area show high grade gold associated with lean BIF units were veins intersect the BIF units. The project area is mapped on the project area. These folded units are largely upright with axial races at about 70 degrees. The limbs of the folds dip steeply (55-85 degrees) to the north and south as shown in Figure 6.



*Figure 6 East-west cross section through the center of the Longrose Project.* 



Figure 7: Banded Iron formation found near the Leitch Gold Mine, 1 km NNE of Longrose. This unit extends onto the Longrose project and can easily be delineated on the airborne magnetics survey

At the eastern boundary of the project the iron formation is offset some 300 feet by an NNE trending fault. Near this structure the banded iron formation beds are contorted, folded and kinked to ripped, boudinaged and broken. Generally, the iron formation is finely bedded and moderately deformed. It is magnetite rich composed of 75 percent finely laminated magnetite beds and 25 percent chert (see Figure 8). Frequently the chert is hematite red (jasperitic). On surface exposures sulphidation is totally lacking within the iron formation and quartz veining near the iron formation-clastic sediment contacts is weathered and not mineralized; however, core from older drilling campaigns indicate that these areas are mineralized.

### 5.3 Mineralization

In 2019 Zsuzsanna Tóth of Laurentian University published several papers as part of her PhD thesis proposing a hypothesis on mineralization within the BGB. Tóth states that multiple phases of hydrothermal alteration, vein emplacement and gold mineralization (and/or remobilization) took place during the complex deformation events recorded by the rocks in the Beardmore-Geraldton area. Iron-carbonate alteration and gold-mineralized quartz-carbonate veins surrounded by sericite carbonate- pyrite alteration halos were emplaced parallel to bedding and folded by F1 folds, suggesting a pre- or early-D1 deformation mineralizing event. Another set of bedding-parallel veins were boudinaged during D1 deformation and then folded during D2 deformation, supporting a pre- or early-D1 hydrothermal episode.

Auriferous quartz-carbonate veins folded by F2 folds may indicate that emplacement was prior to, or early during D2 deformation. Sulphide mineralization (or remobilization) occurred along northwest-striking tension gashes composed of quartz-pyrite. Even though these sulphidemineralized northwest-striking veins emplaced during D4 deformation (i.e., the tension gashes) are not yet proven to carry gold, previous studies described similar, auriferous northwest-striking veins in the western part of the belt (DeWolfe et al. 2007), which suggest the possibility of another gold mineralization (remobilization) event. Sulphides emplaced into D4 dextral shear bands are noted at the Tombill–Bankfield fault.

The Longrose project is located on a banded iron formation known as the *Southern Iron Formation* and is located adjacent to the Leitch Mine which produced 850k ounces gold within three narrow quartz veins occupying fractures in bedded greywacke. Gold mineralization is associated with chlorite-sericite, ankerite, pyrite, arsenopyrite and tetrahedrite in well fractured milky-white quartz. The vein follows the shear zone which strikes northeast and dips 70 degrees east. Like other veins in the area, it shows a strong tendency to pinch and swell, both along the strike and on the dip. The quartz is rather sparsely mineralized with pyrite, flakes of malachite and azurite, and tetrahedrite; specks of visible gold are common, especially in test pits near the west end of the exposure. Carbonate, greenish sericite, and chlorite are common constituents of the vein material and occur mainly in the longitudinal fractures and in tiny slip planes.

Mineralization at the Longrose gold project is associated primarily with shear zones that are often silicified and strongly foliated. Sulphides include pyrite and pyrrhotite and occasional arsenopyrite, chalcopyrite is rare. Bedrock in the western portion of the project was noted to comprise medium grained greywacke with lots of golden coloured sericite on fractures surfaces chlorite clasts with a trace of pyrite parallel to foliation. Metasedimentary rocks are cut by gabbroic dykes which are coarse grained, black with some white crystals. Past drilling in this area intersected these dikes which were sampled and not found not to contain gold. Drilling by Mingold Resources in 1988 at the western boundary showed gold mineralization to be associated with silicified coarse-grained clastic bedrock.

The Geraldton region has a long and rich mining history and has produced 4.1 million ounces of gold over the past 100 years including the combined MacLeod-Cockshutt Mine, which produced 1.5 million ounces of gold up to 1970. More recently, the Hardrock Project held by Greenstone Gold Mines (Greenstone Gold Mines is a 60/40 partnership between Equinox Gold and Orion Mine Finance) has elevated attention to the area by announcing their intention to mine their gold resource near Geraldton, Ontario.

Both Beardmore and Geraldton have past producing gold mines of notable high-grade. The MacLeod-Cockshutt Mine at Geraldton is described as non-stratiform deposits containing sulfiderich alteration zones immediately adjacent to late structures and are similar to mesothermal vein-type gold deposits. Here late quartz veins and/or shear zones are present in most known BIF-hosted gold deposits The distributions of gold-bearing veins and sulfide-rich zones are commonly controlled by fold structures. Major faults of regional scale have been recognized near many non-stratiform deposits. Irregular, massive lenses of sulfides and quartz occur in a folded series of greywacke and iron formation in the Hard Rock and MacLeod-Cockshutt mines (Horwood and Pye, 1951).

These massive replacement lenses (up to 65%, sulfides) cut the folded iron formation and are related to quartz-carbonate veins up to 0.6 m wide. Veins are usually barren of gold mineralization except where they contain sulfides; primarily pyrite, arsenopyrite and pyrrhotite.

The Hardrock Deposit held by Greenstone Gold Mines is the largest deposit in the belt; from their website they state a gold total measured and indicated resources at Hardrock are 147.5 million tonnes grading 1.50 g/t gold and containing 7.1 million oz. The inferred resource is 25.5 million tonnes grading 3.77 g/t gold and containing 3.1 million oz. Gold occurs in quartz-carbonate veins and their sericite, carbonate, chlorite and pyrite and arsenopyrite alteration haloes. Host rocks comprise mudstone, sandstone, banded iron formation and quartz-feldspar porphyry. Recent studies discovered that the gold mineralization was not emplaced during a single event, but at least two hydrothermally active intervals played a role in gold deposition. The first auriferous event occurred prior to and/or during the D1 deformation event, whereas the second gold mineralization) event occurred pre- or syn-D3.

Mine	Production	Ore Milled	Gold Produced	Average Grade	Silver Produced
	(yrs)	(tons)	(oz)	(oz/t)	(oz)
Bankfield	10	231,009	66,417	0.29	7,590
Brengold	2	46	134	2.91	
Crooked Green Cr.	5	1,455	471		
Hard Rock	14	1,458,375	269,081	0.18	9,009
Jellicoe	3	10,620	4,238	0.4	145
Leitch	33	920,745	847,690	0.92	31,802
Little Long Lac	22	1,780,516	605,499	0.34	52,750
MacLeod-Cockshutt	31	10,337,229	1,475,728	0.14	101,388
Magnet Consolid.	13	359,912	152,089	0.42	16,879
Maloney Sturgeon	1	1	73	73	16
Maylac	2	1,518	792	0.52	46
Mosher-Long Lac	5	2,710,657	330,265	0.12	34,604
Northern Empire	9	425,866	149,493	0.35	19,803
Orphan (Dik-Dik)	2	3,525	2,460	0.7	1,558
Sand River	6	157,870	50,065	0.32	3,628
Sturgeon River	7	141,123	73,438	0.51	5,922
Talmora-Long Lac	2	6,634	1,417	0.21	36
Tashota-Nipigon	12	51,200	12,356	0.24	14,527
Theresa	6	26,120	4,785	0.18	202
Tombill	6	190,622	69,120	0.36	8,595

Table 2: List of past producing mines in the Beardmore Geraldton Greenstone Belt.

The Leitch Mine and the Sand Mine to the immediate east of the Longrose project were in production up until 1970 and has since been rehabilitated. The Leitch Mine produced 850,000 ounces of gold and 200,000 ounces of silver. Both mines hosted very high-grade veins at just under one ounce per ton gold (the highest in Canada). Here gold occurs in narrow quartz veins with significant vertical extend. The deposit type is considered mesothermal orogenic style gold and is hosted in metasedimentary rocks which extend westward onto the Longrose project. Veins show crack and seal textures and are white with wispy foliated clasts of chloritic material (Photo 7b). The reader is referred to Zsuzsanna Tóth's 2019 thesis for a thorough discussion on the deposit styles in the BGGB.

### 6.0 RIVERSIDE EXPLORATION WORK

Riverside's first phase of work included prospecting outcrop mapping and investigated the past work done by others. This work resulted in 18 rock samples taken from both outcrop and from old core (found on site at DDH UND-5 collar). Riverside's initial fieldwork indicates gold mineralization at Longrose is hosted within shear zones associated with anticlinal features and in association with banded iron formation with veining. Reconnaissance mapping at Longrose indicates that folding may play a significant role in mineralization. Riverside also reviewed the core drilled by Mingold Resources (1988) which is stored at the core library in Thunder Bay.

Sample#	UTM_N	UTM_E	Brief Description	Au ppb
532403	5517281	423138	Grab samples, Greywacke schist outcrop	< 5
532432	5517259	423122	Grab samples, Greywacke schist outcrop	< 5
887001	5496365	422110	Grab samples, Greywacke schist outcrop	109
887002	5495940	424361	Grab samples, Greywacke schist outcrop, trace py, minor Q-Carbs, strike @248	< 5
887004	5495588	423722	Grab, sample, Metaseds, outcrop of Greywacke, rusty, weakly sheared	< 5
887003	5495575	423712	Grab sample	< 5
887051	5496363	422119	Greywacke, weakly foliated, very fine grained, grey, shiny groundmass, trace blebs of pyrite on margins of wavy/irreg. small quartz-carbonate stringers	28
887052	5496371	422121	Greywacke, weak foliation, very fine grained, grey shiny groundmass, trace blebs of pyrite on margins of wavy/irreg. small quartz-carbonate stringers	22
887053	5496082	423955	Conglomerate, elongated clasts parallel to foliation, side of hill from Camp to old drill holes	< 5
887054	5496082	423955	Conglomerate, with QV boudins and elongated clasts, minor diss. pyrite, a few blebs of coarser pyrite with quartz veins	< 5
887055	5496177	423864	BIF, fine grained, black grey, strongly magnetic, also pieces of a porphyry with sphalerite. Samples are taken from old gold pan beside core pile	< 5
887056	5496186	423865	Quartz vein pile near old cabin/core pile. Blebs of coarse pyrite showing strong foliation (biotite schist?) with fine grained diss. pyrite in wall rock	< 5
887101	5496406	422135	Greywacke, quartz veins with pyrite, brecciation	< 5
887102	5495940	424361	DDH-13, Quartz vein at 250/75SW 10-30 cm wide	< 5
887103	5495575	423712	Quartz vein at 250/75SW 10-30 cm wide	80
253980	5495654	423901	Grab sample of silicified metavolcanics on the old road near junction	100

#### Table 3: Sample sites and descriptions

Alteration zones associated with veins at Longrose are very narrow and don't extend more than a couple of meters on either side of quartz veins. Alteration associated with folding however shows significant sized zones of silicification. Historical geophysical work appears to show a pervasive trend of structures subparallel to the strike of geological units generally southwest northeast. Figure 10 shows a significant magnetic low parallel to the strong magnetic high which is mapped as the southern iron formation. Also, what can be seen is the north-northwest trending low that intersects the magnetic high of the iron formation and another linear magnetic-low feature that extends westward from the Leitch Mine. This area is covered by wet swampy ground and while it remains a good target area it will need to be explored with geophysics.



Figure 8: Longrose claim map showing sample location and sample numbers

The rock samples were dropped off at Activation Laboratories Ltd. of Thunder Bay Ontario, who is accredited certification ISO 17025:2005. Each sample is first weighed, and the weight recorded. It is then put into a steel pan for handling with an identification tag attached. The sample is crushed in a jaw crusher (and cone crusher, if required) set at 6 mesh (Taylor) or 3.3 mm. The crusher(s) is thoroughly cleaned before and after each sample. The crushed sample is quartered with a 0.75 in (1.91 cm) riffle and a subsample of 200 to 300 grams is placed into another clean steel pan with an identification tag.

The subsample is pulverised in a stainless-steel rotary shatter box to 95% minus 74 microns. The shatter box is cleaned with silica sand before and after each sample. The subsample is mixed and quartered again to about 50 gram in a stainless-steel riffler. Rejects are combined with the original sample. The main sample is bagged in a polyethylene bag and stored in a covered 5-gallon plastic container. Act Labs inserts internal standard and blanks into each sample batch for quality control.

Personnel	Date	Activity
F. Smith, Alex Pleson	31-May-19	Longrose Reconnaissance (roadside geology)
F. Smith, Alex Pleson	1-Jun-19	Prospecting and Sampling
F. Smith, Alex Pleson	2-Jun-19	Prospecting and Sampling
F. Smith, A. Pleson, R. Ghaderpah	27-Jun-19	Prospecting and Sampling
F. Smith, A. Pleson, R. Ghaderpah	28-Jun-19	Prospecting and Sampling
F. Smith, A. Pleson, R. Ghaderpah	29-Jun-19	Prospecting and Sampling
Freeman Smith	5-Sep-19	Dean Whellan, Red Sky Metis Independent Nation, Sandy Point First Nations in person meetings at their offices
Alex Pleson, Freeman Smith	10-Sep-19	Prospecting, Sampling and Mapping
Alex Pleson, Freeman Smith	11-Sep-19	Prospecting, Sampling and Mapping
F. Smith, A. Pleson, R. Ghaderpah	12-Sep-19	Prospecting, Sampling and Mapping
Alex Pleson, Ramin Ghaderpah	13-Sep-19	Prospecting, Sampling and Mapping
Alex Pleson, Ramin Ghaderpah	14-Sep-19	Prospecting, Sampling and Mapping
Alex Pleson, Ramin Ghaderpah	15-Sep-19	Prospecting, Sampling and Mapping
Freeman Smith	26-Sep-19	Erin Van Breda; Metis Nation of Ontario in person meeting Tbay
Freeman Smith	28-Sep-19	Beardmore Field Review of Pleason work
Freeman Smith	6-Oct-19	drive to Beardmore
Freeman Smith	7-Oct-19	Animbiigoo Zaagi'igan Anishinaabek: Theresa Nelson, Kyla Morrisseau, Consultation Coordinator in person meeting
Freeman Smith	23-Oct-19	Biinijitiwaabik Zaaging Anishinaabek; Melvin Hardy, Chief, Edward King, Councillor-Lands and Resources Manager in person
Freeman Smith	24-Oct-19	Bingwi Neyaashi Anishinaabek, Jordan Hatton, Director of Economic Development in person meeting
Freeman Smith	31-Oct-19	Core review Library in Tbay (Longrose and Pichette). No core was sampled
Freeman Smith	1-Nov-19	Core review Library in Tbay (Longrose and Pichette). No core was sampled
Elena Rein	29-Oct-19	map preparation
Elena Rein	26-Nov-19	map preparation
Ben Connor	16-May-19	GIS work, data compilation
Ben Connor	17-May-19	GIS work, data compilation
Ben Connor	18-May-19	GIS work, data compilation
Ben Connor	19-May-19	GIS work, data compilation
Ben Connor	20-May-19	GIS work, data compilation
Freeman Smith	4-Mar-20	Joran Hatton in person meeting at PDAC Toronto
Freeman Smith	16-Aug-21	report and map preparation
Freeman Smith	17-Aug-21	report and map preparation
Freeman Smith	18-Aug-21	report and map preparation
Freeman Smith	19-Aug-21	report and map preparation
Freeman Smith	20-Aug-21	report preparation
Freeman Smith	21-Aug-21	report preparation
Freeman Smith	22-Aug-21	report preparation
Freeman Smith	23-Aug-21	report preparation
Freeman Smith	24-Aug-21	report preparation
Freeman Smith	25-Aug-21	report preparation
Freeman Smith	26-Aug-21	report preparation
Freeman Smith	27-Aug-21	report preparation

Note: the time spend doing First Nation Consultation was not invoiced separately it was part of a larger invoice for that month and always timed concurrently with fieldwork

### 7.0 INTERPRETATIONS AND RECOMMENDATIONS

The Leitch Extension is an obvious target and has been a looked at in the past. Past drilling was restricted to a couple of short holes but did return positive results for gold. Past drilling on the Longrose project has delineated several shear zones with mineralization. A review of the two known drilling campaigns shows that 8 of the historic 20 drill holes were logged as having gold assays above 3 g/t (MNDM website). Most of the holes that assay positive for gold were logged as narrow (<1m wide), high grade silicified zones with assays as high as 0.9 ounces per ton (DDH47-12).

Longrose project is located within a productive and highly mineralized greenstone belt where average grades well above 15 g/t Au are common. The current targets at Longrose show both banded iron formations and pyrrhotite rich shear zones (magnetic high features and shear zones with sericite and magnetite destruction show clearly as breaks in the broader magnetic fabric of the airborne survey).



*Figure 9: Satellite image showing geographical features, known deposits, mines, historical drill holes and target zones for the Longrose project* 

At Longrose, mineralized shear zones that host gold comprise sulfides and silicification zones that would be readily identified by an IP survey used in conjunction with the regional and detailed magnetic survey. Four types of conceptual drilling targets have been proposed:

- 1. Strike-slip fault along which right-lateral displacement has disrupted thick iron formation unit; inferred fault follows regional volcanic-sedimentary contact, a prospective conduit for gold mineralization
- 2. Trace of axial plane of westward-closing fold; possible site of shear fault that could host high-grade Au-quartz veining;
- 3. Trace of inferred shear structure that has evidently caused asymmetric 'drag-fold' defined by iron formation;
- 4. Trace of possible shear structure denoted by 'kink' fold in iron formation.

The bedrock at Longrose has been subjected to significant strike-slip faulting along regional volcanic-sedimentary contact and forms a prospective conduit for gold mineralization. As at the Hardrock Deposit westward plunging folds are the site of possible shear zones that could host high-grade Au-quartz veining. Drag folds and kinks in the iron formation as seen in the airborne magnetics survey and at the Leitch Mine may also be possible shear structures that host gold mineralization.

A follow up program at Longrose exploration could focus first on geophysics including Mag/VLF and IP. Mineralized structures are roughly east-west such that north-south oriented geophysical survey would capture the know mineralization best. An IP resistivity survey would identify structures for follow-up stripping, mapping and trench sampling. Attention to the effects of folding on the controls of mineralization should be considered and evaluated.

### **8.0 FIRST NATIONS CORRESPONDENCES**

On behalf of Riverside Resources, the author undertook a series of initial contacts with local First Nations and Metris groups as part of the follow up to an application for early-stage exploration permit. As the prescribed work at the time of the meetings was primarily of a reconnaissance level and these talks were about what was being proposed (as Riverside did not preform any line cutting or drilling). The bulk of these meetings occurred in the fall of 2019 prior to COVID-19 restrictions after which having face to face meeting was not possible. The meetings that occurred in 2019 and early 2020 are tabulated below.

Erin Van Breda; Metis Nation of Ontario	Face to face meeting at their office on Thursday Oct 3, 2019.
Mineral Development Advisor-Land resources	This was an introductory meeting. He discussed further
	consultation when the company had determined the next steps
Dean Whellan, Comm-Consultant	Face to face meeting at their office on Sept 5 <sup>th</sup> , 2019.
Red Sky Metis Independent Nation	
Biinijitiwaabik Zaaging Anishinaabek (Rocky	Spoke on phone Sept 17 <sup>th</sup> . Face to face meeting at their office
Bay First Nation) Melvin Hardy, Chief, Edward	Oct 23 <sup>rd</sup> . We discussed early exploration and the low impact of
King, Councillor-Lands and Resources Manager	this work and agreed on follow up discussions if any other work
	was going to be conducted. Scheduled another face-to-face
	meeting at PDAC for March 4 <sup>th</sup> , this meeting was cancelled by
	BNA. No additional exploration work occurred in 2020/21.
Bingwi Neyaashi Anishinaabek (Sand Pt. First	Spoke Thursday Sept 5 <sup>th</sup> . Face to face meeting at their office on
Nation) Jordan Hatton, Director of Economic	Oct 23 <sup>rd</sup> to discuss early exploration fieldwork. Also met with
Development	Joran Hatton March 4th at PDAC. No exploration or follow
	meetings occurred in 2020 because of COVID restrictions.
Animbiigoo Zaagi'igan Anishinaabek (Lake	Face to face meeting with Brad on Sept in Thunder Bay. Face to
Nipigon Ojibway First Nation), Theresa Nelson,	face meeting at AZA office on Oct 7 <sup>th</sup> in Beardmore with chief.
Chief, and Kyla Morrisseau, Consultation	We discussed the scope and nature of the fieldwork and
Coordinator	concerns over impact on streams and water quality.
Brad Nayanookeesic, Mineral Development	Scheduled a follow up meeting for PDAC 2020. Brad did not
Advisor, Thunder Bay. Brad represents all	attend PDAC a follow up was scheduled for April at Thunder
three (AZA, BNA and BZA) smaller bands and	Bay conference, but the conference and meeting were
coordinates all meetings	cancelled b/c of COVID. Only email correspondence following
_	covid outbreak.

#### **Table 4:** Tabulation of early-stage correspondences with First Nations representatives

Correspondence in 2021 was minimal as the company has not been able to travel to Ontario and has not conducted any exploration beyond the original reconnaissance work in 2019.

### 8.0 REFERENCES

DeWolfe, J.C., Lafrance, B., and Stott, G. M., 2007. Geology of the shear-hosted Brookbank gold prospect in the Beardmore-Geraldton belt, Wabigoon subprovince, Ontario; Canadian Journal of Earth Sciences, v.44, p.925-946.

Horwood and Pye, (1951). Township of Errington, District of Thunder Bay, Ontario, Ministry of Northern Development, Mines, Natural Resources and Forestry

Kresz, D.U. and Zayachivsky, B. 1991. Precambrian geology, northern Long Lake area; Ontario Geological Survey, Report 273, 77p.

Lafrance, B., (2012) Targeted Geoscience Initiative 4. Lode Gold Deposits in Ancient Deformed and Metamorphosed Terranes: Geological Setting of Banded Iron Formation–Hosted Gold Mineralization in the Geraldton Area, Northern Ontario.

Mason J., G. White and C. McConnell (1985) Ontario Geological Survey, Open File 5538, Field Guide to the Beardmore-Geraldton Metasedimentary-Metavolcanic Belt.

Longrose Gold Mines Ltd. (1948) Diamond Drilling in Area Maryjane Lake Area, Report NO 10. Drill logs and assays.

Melville William Rennick (1988); REPORT ON THE CRYDERMAN GOLD INC., SAND RIVER PROPERTY EVA TOWNSHIP, THUNDER BAY MINING DIVISION, DISTRICT OF THUNDER BAY, ONTARIO, N.T.S. REFERENCE 52-H-9, Toronto, Ontario, Canada.

NELSON, BRIAN (1989) MINGOLD RESOURCES INC. UNDERSILL PROJECT, Report on Geology, Geochemistry/VLF-EM-Magnetic Surveys and Diamond Drilling MARYJANE LAKE AREA EVA TOWNSHIP THUNDER BAY MINING DIVISION, ONTARIO, NTS 52H/9

Tóth, Z., (2019), The Geology of the Beardmore-Geraldton belt, Ontario, Canada: geochronology, tectonic evolution and gold mineralization. A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy (PhD) in Mineral Deposits and Precambrian Geology, The Faculty of Graduate Studies, Laurentian University, Sudbury, Ontario, Canada.

# APPENDIX A LIST OF PERSONNEL WORKED ON EXPLORATION WORK

List of Personnel / Contractors Involved on the Project

- 1. Alexander Pleson, P.Geo., Geologist of Nipigon, ON (Contractor)
- 2. Ramin Ghaderpah Geologist of Thunder Bay, ON (Contractor)
- 3. Freeman Smith, P.Geo.- Geologist of Port Moody, BC (Contractor)
- 4. Ben Connor, GIS Specialist, Vancouver, BC (Contractor)
- 5. Elena Rein, GIS Support, Nanaimo, BC (Contractor)

### **APPENDIX B: CERTIFICATE OF AUTHOR**

I, Freeman Smith, P.Geo., as an author of this report regarding the exploration project in the Thunder Bay Mining District, Northwestern Ontario, Canada; do hereby certify that:

- 1. I am a consulting geologist at Omni Resource Consulting Ltd. of Port Moody, BC, Canada, V3H 0G6
- 2. I have B.Sc. degree in Geology from the University of British Columbia, 1991.
- 3. I am registered as a Professional Geologist in BC (License #: 100829).
- 4. I have been practicing as a professional since 1999 and have over 20 years of experience in mineral exploration.
- 5. The exploration work was carried out under my supervision, and I was on site through the duration of the project.

Dated March 15<sup>th</sup>, 2022

Signed,

'Freeman Smith'

Freeman R. Smith, P.Geo.

Date from	Date to	Total days	Personnel	Task
31-May-19	2-Jun-19	3	Freeman Smith	Prospecting, Recon Mapping & Sampling
31-May-19	2-Jun-19	3	Alex Pleson	Prospecting, Recon Mapping & Sampling
27-Jun-19	29-Jun-19	3	Alex Pleson	Prospecting, Recon Mapping & Sampling
27-Jun-19	29-Jun-19	3	Ramin Ghaderpah	Prospecting, Recon Mapping & Sampling
27-Jun-19	29-Jun-19	6	Freeman Smith	Prospecting, Recon Mapping & Sampling
10-Sep-19	15-Sep-19	6	Alex Pleson	Prospecting, Recon Mapping & Sampling
12-Sep-19	16-Sep-19	4.5	Ramin Ghaderpah	Prospecting, Recon Mapping & Sampling
5-Sept-19	23-Oct-19	4	Freeman Smith	First Nations Consultations and Meetings
16-May-19	20-May-19	5	Ben Connor	GIS work, data compilation
16-Aug-21	20-Aug-21	12	Freeman Smith	Interpretation and reporting
29-Oct-19	-	1	Elena Rein	map preparation
26-Nov-19	-	1	Elena Rein	map preparation

### **APPENDIX C: STATEMENT OF EXPENDITURES**

ITEM	COST
Food	\$ 883
Accommodations	\$ 1,416
Field Supplies	\$ 1,053
Transportation	\$ 3,767
Assays	\$ 1,408
Labor	\$ 25,187
First Nations Meetings	\$2,500
Total	\$ 36,215

Quality Analysis ...



### Innovative Technologies

 Date Submitted:
 05-Jul-19

 Invoice No.:
 A19-08773-1E3

 Invoice Date:
 06-Aug-19

 Your Reference:

Riverside Resources 550-800 West Pender St Vancouver BC v6v2v6 Canada

ATTN: Freeman Smith

### **CERTIFICATE OF ANALYSIS**

40 Rock samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2-50-Tbay Au - Fire Assay AA(QOP Fire Assay Tbay) Code 1E3-Tbay Aqua Regia ICP(AQUAGEO)

#### REPORT A19-08773-1E3

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

Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3

Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY:

Emmanuel Eseme , Ph.D. Quality Control

ACTIVATION LABORATORIES LTD.

1201 Walsh Street West, Thunder Bay, Ontario, Canada, P7E 4X6 TELEPHONE +807 622-6707 or +1.888.228.5227 FAX +1.905.648.9613 E-MAIL Tbay@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com Results

Activation Laboratories Ltd.

Analyte Symbol	Ag	Cd	Cu	Mn	Мо	Ni	Pb	Zn	Al	As	В	Ва	Be	Bi	Ca	Со	Cr	Fe	Ga	Hg	К	La	Mg
Unit Symbol	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%							
Lower Limit	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Method Code	AR-ICP																						
887001	< 0.2	< 0.5	82	271	2	60	4	26	3.97	145	< 10	173	0.9	< 2	1.02	17	94	4.78	10	1	1.15	29	1.56
887002	0.2	< 0.5	72	425	< 1	65	6	38	1.71	< 2	< 10	93	< 0.5	< 2	0.73	14	103	3.01	< 10	< 1	0.25	11	1.11
887003	< 0.2	< 0.5	6	45	5	5	< 2	2	0.02	< 2	< 10	< 10	< 0.5	< 2	0.01	< 1	65	0.39	< 10	< 1	< 0.01	< 10	< 0.01
887004	0.3	< 0.5	87	652	3	40	< 2	124	3.53	< 2	< 10	70	< 0.5	2	1.15	29	86	6.97	10	< 1	1.61	15	1.90
887005	0.2	< 0.5	79	1370	< 1	10	5	64	2.76	2	< 10	158	< 0.5	3	1.75	9	39	8.12	< 10	2	0.34	< 10	1.38
887006	< 0.2	< 0.5	35	98	4	4	< 2	4	0.09	< 2	< 10	17	< 0.5	< 2	0.07	3	58	1.24	< 10	< 1	0.02	< 10	0.05
887007	0.4	< 0.5	58	269	2	9	6	57	0.81	4	< 10	16	< 0.5	< 2	0.11	101	15	5.67	< 10	1	0.34	17	0.44
887008	< 0.2	< 0.5	49	637	< 1	21	< 2	64	2.51	< 2	< 10	163	< 0.5	< 2	1.41	19	41	4.75	< 10	< 1	0.81	13	1.53
887009	< 0.2	< 0.5	38	153	3	4	< 2	9	0.08	< 2	< 10	< 10	< 0.5	3	0.15	3	46	1.88	< 10	< 1	0.03	< 10	0.04
887010	< 0.2	< 0.5	12	86	5	6	< 2	4	0.14	3	< 10	< 10	< 0.5	< 2	0.16	2	70	0.57	< 10	< 1	< 0.01	< 10	0.08
887011	< 0.2	< 0.5	28	98	3	4	23	53	0.10	59	< 10	13	< 0.5	< 2	0.26	3	36	0.61	< 10	< 1	0.02	< 10	0.05
887012	1.7	1.6	194	449	2	17	47	174	1.40	125	< 10	45	< 0.5	< 2	2.47	15	49	3.27	< 10	< 1	0.34	< 10	1.21
887013	< 0.2	< 0.5	4	68	4	3	< 2	5	0.04	< 2	< 10	10	< 0.5	< 2	0.04	< 1	59	0.46	< 10	< 1	0.02	< 10	0.02
887014	0.8	< 0.5	694	786	2	462	< 2	36	1.57	3	< 10	< 10	< 0.5	5	2.53	182	64	9.79	< 10	< 1	0.88	< 10	0.99
887015	0.2	< 0.5	4	53	4	3	< 2	2	0.04	< 2	< 10	< 10	< 0.5	< 2	0.02	< 1	52	0.40	< 10	< 1	0.01	< 10	0.02
887016	0.2	< 0.5	146	928	< 1	102	< 2	107	5.02	< 2	< 10	163	< 0.5	3	2.57	43	307	8.39	10	3	0.53	< 10	4.26
887101	< 0.2	0.5	11	243	2	21	< 2	18	1.73	45	< 10	67	< 0.5	< 2	0.64	20	61	3.00	< 10	< 1	0.38	11	1.22
887102	< 0.2	< 0.5	2	99	4	4	< 2	3	0.06	< 2	< 10	12	< 0.5	< 2	0.03	2	55	0.47	< 10	< 1	< 0.01	< 10	0.05
887103	< 0.2	< 0.5	19	249	4	14	< 2	4	0.34	< 2	< 10	53	< 0.5	< 2	0.38	4	74	0.94	< 10	< 1	0.15	< 10	0.24
887104	0.3	< 0.5	113	1070	< 1	57	< 2	73	2.11	4	< 10	48	3.3	< 2	5.93	29	63	7.91	< 10	2	0.18	< 10	2.24
887105	0.2	< 0.5	128	888	< 1	86	29	96	3.61	2	< 10	45	< 0.5	< 2	2.01	31	134	5.78	< 10	1	1.92	11	2.25
887106	< 0.2	< 0.5	188	367	3	35	20	83	0.59	< 2	< 10	82	< 0.5	< 2	0.95	26	69	2.07	< 10	< 1	0.29	< 10	0.45
887107	0.4	< 0.5	109	2300	< 1	48	< 2	106	3.57	< 2	< 10	26	< 0.5	5	3.28	14	97	12.4	< 10	2	0.56	10	1.83
887108	0.4	< 0.5	49	573	< 1	30	4	27	1.86	< 2	< 10	139	< 0.5	12	1.38	14	95	2.68	< 10	< 1	0.48	< 10	0.95
887051	< 0.2	< 0.5	64	244	2	48	5	27	3.70	122	< 10	202	0.8	< 2	0.56	13	103	4.34	10	2	1.34	26	1.46
887052	< 0.2	< 0.5	102	224	3	51	12	188	2.76	38	< 10	79	0.5	< 2	0.77	19	99	4.28	< 10	2	0.49	38	1.27
887053	1.7	2.5	60	1200	< 1	60	979	733	2.86	45	< 10	35	< 0.5	< 2	1.92	26	117	6.41	< 10	1	0.10	< 10	1.66
887054	1.4	1.0	35	1060	< 1	36	958	505	2.37	35	< 10	42	< 0.5	2	1.80	16	100	5.24	< 10	1	0.11	< 10	1.37
887055	0.2	< 0.5	37	439	< 1	64	11	43	1.66	12	< 10	38	< 0.5	< 2	1.56	11	112	12.6	< 10	2	0.15	13	1.45
887056	< 0.2	< 0.5	14	511	3	12	5	29	0.91	79	< 10	32	< 0.5	5	1.07	5	46	2.36	< 10	< 1	0.14	< 10	0.54
887057	< 0.2	0.7	72	723	3	20	7	312	1.11	5	< 10	25	< 0.5	< 2	1.93	18	46	2.52	< 10	< 1	0.11	10	0.29
887058	0.4	< 0.5	78	911	< 1	20	< 2	59	1.88	7	< 10	20	< 0.5	< 2	2.00	14	43	4.49	< 10	2	0.07	< 10	0.96
887059	< 0.2	< 0.5	72	958	1	34	< 2	88	1.76	6	< 10	30	< 0.5	4	1.84	21	47	6.42	< 10	1	0.14	10	0.85
887060	< 0.2	< 0.5	60	744	< 1	16	< 2	58	1.91	< 2	< 10	29	< 0.5	< 2	1.90	11	39	4.40	< 10	< 1	0.11	< 10	0.75
887061	< 0.2	< 0.5	64	775	< 1	36	< 2	130	1.80	3	< 10	60	< 0.5	4	0.92	25	58	5.02	< 10	2	0.33	< 10	1.35
887062	0.3	< 0.5	177	113	4	21	11	25	0.19	< 2	< 10	26	< 0.5	18	0.16	20	52	2.02	< 10	< 1	0.07	< 10	0.11
887063	0.3	< 0.5	84	742	2	23	< 2	45	1.82	< 2	< 10	222	< 0.5	< 2	1.16	9	78	3.91	< 10	< 1	0.88	10	1.05
887064	< 0.2	< 0.5	79	1220	2	48	< 2	46	1.84	< 2	< 10	355	< 0.5	< 2	5.62	21	98	5.67	< 10	< 1	0.32	22	2.23
887065	< 0.2	< 0.5	34	681	< 1	42	6	85	2.69	< 2	< 10	66	< 0.5	3	2.06	19	86	5.06	< 10	< 1	0.26	15	1.88
887066	0.2	< 0.5	139	975	< 1	55	< 2	103	3.28	< 2	< 10	51	< 0.5	3	0.90	43	118	7.15	10	1	0.29	11	1.33

Results

Activation Laboratories Ltd.

Analyte Symbol	Na	Р	S	Sb	Sc	Sr	Ti	Th	Te	TI	U	V	W	Y	Zr
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm							
Lower Limit	0.001	0.001	0.01	2	1	1	0.01	20	1	2	10	1	10	1	1
Method Code	AR-ICP														
887001	0.162	0.055	0.03	3	8	49	0.19	< 20	< 1	< 2	< 10	66	< 10	10	4
887002	0.056	0.073	0.27	2	6	142	0.33	< 20	3	< 2	< 10	50	< 10	9	16
887003	0.024	0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 20	< 1	< 2	< 10	1	< 10	< 1	< 1
887004	0.306	0.040	0.69	< 2	12	15	0.33	< 20	< 1	< 2	< 10	130	< 10	10	11
887005	0.271	0.062	0.23	3	13	16	0.14	< 20	< 1	< 2	< 10	92	< 10	12	12
887006	0.025	0.005	0.14	< 2	< 1	2	< 0.01	< 20	< 1	< 2	< 10	5	< 10	< 1	1
887007	0.095	0.029	2.98	< 2	6	7	0.10	< 20	< 1	< 2	< 10	35	< 10	7	55
887008	0.271	0.084	0.06	< 2	14	14	0.27	< 20	< 1	< 2	< 10	116	< 10	14	10
887009	0.019	0.001	0.86	< 2	< 1	1	< 0.01	< 20	< 1	< 2	< 10	2	< 10	< 1	1
887010	0.031	0.005	< 0.01	< 2	< 1	1	0.01	< 20	< 1	< 2	< 10	7	< 10	2	< 1
887011	0.031	0.002	0.02	< 2	< 1	3	< 0.01	< 20	< 1	< 2	< 10	8	< 10	1	1
887012	0.083	0.034	0.59	< 2	5	13	0.12	< 20	2	< 2	< 10	59	< 10	7	13
887013	0.024	0.002	< 0.01	< 2	< 1	< 1	< 0.01	< 20	< 1	< 2	< 10	5	< 10	< 1	< 1
887014	0.139	0.048	5.37	4	8	20	0.15	< 20	6	< 2	< 10	66	20	8	15
887015	0.025	0.001	< 0.01	< 2	< 1	2	< 0.01	< 20	< 1	< 2	< 10	2	< 10	< 1	1
887016	0.074	0.027	0.29	3	23	16	0.29	< 20	< 1	< 2	< 10	221	< 10	9	3
887101	0.085	0.027	< 0.01	< 2	3	14	0.08	< 20	< 1	< 2	< 10	31	< 10	8	18
887102	0.022	0.001	< 0.01	< 2	< 1	4	< 0.01	< 20	< 1	< 2	< 10	3	< 10	< 1	< 1
887103	0.054	0.014	0.02	< 2	2	6	0.05	< 20	< 1	< 2	< 10	19	< 10	2	7
887104	0.190	0.043	0.03	3	29	109	0.04	< 20	< 1	< 2	< 10	158	< 10	29	25
887105	0.280	0.047	0.40	3	12	30	0.34	< 20	< 1	3	< 10	132	< 10	11	8
887106	0.057	0.011	0.35	< 2	4	7	0.07	< 20	3	< 2	< 10	32	< 10	3	4
887107	0.317	0.041	1.21	3	10	27	0.14	< 20	< 1	< 2	< 10	78	< 10	9	7
887108	0.251	0.031	0.17	2	7	34	0.20	< 20	3	< 2	< 10	57	< 10	6	6
887051	0.131	0.054	0.02	3	7	36	0.17	< 20	< 1	< 2	< 10	66	< 10	9	4
887052	0.105	0.041	0.35	4	7	25	0.19	< 20	< 1	< 2	< 10	62	< 10	11	17
887053	0.034	0.035	0.21	7	12	42	0.20	< 20	3	< 2	< 10	105	< 10	15	8
887054	0.029	0.030	0.13	3	9	43	0.14	< 20	1	< 2	< 10	83	< 10	11	8
887055	0.049	0.089	0.07	4	5	128	0.08	< 20	< 1	< 2	< 10	46	< 10	6	10
887056	0.026	0.033	0.10	< 2	1	62	< 0.01	< 20	< 1	< 2	< 10	14	< 10	3	3
887057	0.102	0.061	0.38	< 2	6	20	0.24	< 20	2	< 2	< 10	47	< 10	15	6
887058	0.225	0.064	1.42	< 2	11	22	0.27	< 20	< 1	< 2	< 10	90	< 10	11	5
887059	0.237	0.096	2.32	< 2	9	18	0.23	< 20	< 1	< 2	< 10	81	< 10	15	6
887060	0.193	0.084	0.26	< 2	13	28	0.34	< 20	1	3	< 10	130	< 10	14	3
887061	0.123	0.067	0.49	2	13	4	0.26	< 20	2	< 2	< 10	140	< 10	12	6
887062	0.032	0.009	0.85	< 2	< 1	4	0.02	< 20	10	< 2	< 10	8	< 10	< 1	2
887063	0.141	0.068	0.34	< 2	7	21	0.24	< 20	< 1	< 2	< 10	68	< 10	8	6
887064	0.086	0.087	0.03	< 2	11	64	0.04	< 20	< 1	< 2	< 10	71	< 10	12	4
887065	0.212	0.123	0.01	< 2	11	38	0.27	< 20	3	< 2	< 10	84	< 10	14	3
887066	0.178	0.041	0.93	3	25	30	0.25	< 20	< 1	< 2	< 10	223	< 10	11	18

Analyte Symbol	Aa	Cd	Cu	Mn	Мо	Ni	Pb	Zn	AI	As	В	Ba	Be	Bi	Са	Co	Cr	Fe	Ga	На	К	La	Ma
I Init Symbol	nnm	nnm	nnm	nnm	nnm	nnm	nnm	nnm	%	nnm	- nnm	nnm	nnm	nnm	%	nnm	nnm	%	nnm	nnm	%	nnm	%
Lower Limit	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	/0 0.01	10	0.01
Method Code																							
GVR 6 Maga	AI 1-101	AI 1-101		1040	11110	00	101	120	7.46	001	AI 10	640			0.12	10		5 40	20		1 00	ATT-101	0.20
GXR-0 Meas	1.00	< 0.5	60	1040	0.40	23	101	110	17.40	221	< 10 0.00	1200	1.40	4	0.13	10.0	04	5.42	20	4	1.23	12.0	0.50
GXR-6 Cert	1.30	1.00	06.0	1010	2.40	27.0	101	110	7.40	330	9.80	1300	1.40	0.290	0.180	13.0	96.0	5.58	35.0	0.0680	1.07	13.9	0.609
GXR-6 Meas	0.4	< 0.5	68	1070	1	23	101	134	7.40	225	< 10	668	0.9	4	0.13	11	86	5.71	20	1	1.23	< 10	0.40
GXR-6 Cert	1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0680	1.87	13.9	0.609
GXR-6 Meas	0.4	< 0.5	74	1080	1	25	103	133	7.76	234	< 10	682	0.9	5	0.13	12	87	5.97	20	< 1	1.30	< 10	0.42
GXR-6 Cert	1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0680	1.87	13.9	0.609
GXR-6 Meas	0.4	< 0.5	71	1060	1	24	99	131	7.54	247	< 10	662	0.9	4	0.12	12	85	5.75	20	2	1.28	< 10	0.41
GXR-6 Cert	1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0680	1.87	13.9	0.609
OREAS 922 (AQUA REGIA) Meas	0.8	< 0.5	2140	737	< 1	32	63	264	3.00	5		71	0.8	11	0.43	19	49	4.84	< 10		0.51	38	1.30
OREAS 922 (AQUA REGIA) Cert	0.851	0.28	2176	730	0.69	34.3	60	256	2.72	6.12		70	0.65	10.3	0.324	19.4	40.7	5.05	7.62		0.376	32.5	1.33
OREAS 922 (AQUA REGIA) Meas	1.0	< 0.5	2170	750	< 1	31	62	266	3.06	6		74	0.8	10	0.44	18	48	4.87	< 10		0.53	39	1.32
OREAS 922 (AQUA REGIA) Cert	0.851	0.28	2176	730	0.69	34.3	60	256	2.72	6.12		70	0.65	10.3	0.324	19.4	40.7	5.05	7.62		0.376	32.5	1.33
OREAS 922 (AQUA REGIA) Meas	0.9	< 0.5	2180	780	< 1	33	62	282	3.07	5		76	0.8	12	0.43	17	48	5.35	< 10		0.54	39	1.40
OREAS 922 (AQUA REGIA) Cert	0.851	0.28	2176	730	0.69	34.3	60	256	2.72	6.12		70	0.65	10.3	0.324	19.4	40.7	5.05	7.62		0.376	32.5	1.33
OREAS 922 (AQUA REGIA) Meas	1.4	< 0.5	2220	763	< 1	33	58	271	3.09	6		82	0.8	10	0.43	18	49	5.16	< 10		0.56	39	1.35
OREAS 922 (AQUA REGIA) Cert	0.851	0.28	2176	730	0.69	34.3	60	256	2.72	6.12		70	0.65	10.3	0.324	19.4	40.7	5.05	7.62		0.376	32.5	1.33
OREAS 923 (AQUA REGIA) Meas	1.9	< 0.5	4330	845	< 1	28	84	350	3.02	6		58	0.7	20	0.43	20	44	5.62	< 10		0.43	35	1.35
OREAS 923 (AQUA REGIA) Cert	1.62	0.40	4248	850	0.84	32.7	81	335	2.80	7.07		54	0.61	21.8	0.326	22.2	39.4	5.91	8.01		0.322	30.0	1.43
OREAS 923 (AQUA REGIA) Meas	1.6	< 0.5	4440	866	< 1	30	84	350	3.16	8		60	0.7	27	0.44	20	46	5.81	< 10		0.46	36	1.41
OREAS 923 (AQUA REGIA) Cert	1.62	0.40	4248	850	0.84	32.7	81	335	2.80	7.07		54	0.61	21.8	0.326	22.2	39.4	5.91	8.01		0.322	30.0	1.43
OREAS 923 (AQUA REGIA) Meas	1.7	< 0.5	4640	885	< 1	30	84	355	3.20	7		41	0.7	23	0.44	21	46	6.22	< 10		0.46	36	1.47
OREAS 923	1.62	0.40	4248	850	0.84	32.7	81	335	2.80	7.07		54	0.61	21.8	0.326	22.2	39.4	5.91	8.01		0.322	30.0	1.43

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Analyte Symbol	Αα	Cd	Cu	Mn	Мо	Ni	Pb	Zn	AI	As	В	Ba	Be	Bi	Са	Со	Cr	Fe	Ga	На	к	La	Ma
Unit Symbol	nom	nom	ppm	nom	nom	nom	nom	nom	%	nom	- ppm	nom	nom	ppm	%	nom	nom	%	nom	nom	%	nom	%
Lower Limit	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Method Code	AB-ICP	AB-ICP	AB-ICP	AB-ICP	AB-ICP	AB-ICP	- AB-ICP	AB-ICP	AB-ICP	- AB-ICP	AB-ICP	AB-ICP	AB-ICP	AB-ICP	AB-ICP	AB-ICP	AB-ICP	AB-ICP	AB-ICP	AB-ICP	AB-ICP	AB-ICP	AB-ICP
(AQUA REGIA) Cert																							
OREAS 923 (AQUA REGIA) Meas	1.8	< 0.5	4430	862	< 1	30	80	352	3.02	6		57	0.7	28	0.43	20	45	5.86	< 10		0.46	36	1.41
OREAS 923 (AQUA REGIA) Cert	1.62	0.40	4248	850	0.84	32.7	81	335	2.80	7.07		54	0.61	21.8	0.326	22.2	39.4	5.91	8.01		0.322	30.0	1.43
Oreas 96 (Aqua Regia) Meas	11.0		> 10000				89	425						69		46							
Oreas 96 (Aqua Regia) Cert	11.50		39100. 00				100	448						27.9		49.2							
Oreas 96 (Aqua Regia) Meas	10.9		> 10000				89	426						47		44							
Oreas 96 (Aqua Regia) Cert	11.50		39100. 00				100	448						27.9		49.2							
Oreas 96 (Aqua Regia) Meas	11.6		> 10000				86	434						57		44							
Oreas 96 (Aqua Regia) Cert	11.50		39100. 00				100	448						27.9		49.2							
Oreas 96 (Aqua Regia) Meas	10.9		> 10000				85	431						61		45							
Oreas 96 (Aqua Regia) Cert	11.50		39100. 00				100	448						27.9		49.2							
Oreas 621 (Aqua Regia) Meas	66.3	279	3430	531	13	22	> 5000	> 10000	1.88	79			0.6	11	1.79	31	32	3.08	< 10	4	0.41	19	0.42
Oreas 621 (Aqua Regia) Cert	68.0	278	3660	520	13.3	25.8	13600	51700	1.60	75.0			0.530	3.85	1.65	27.9	31.3	3.43	9.29	3.93	0.333	19.4	0.436
Oreas 621 (Aqua Regia) Meas	67.3	283	3370	535	13	24	> 5000	> 10000	1.83	77			0.6	6	1.67	31	34	3.31	10	3	0.40	19	0.45
Oreas 621 (Aqua Regia) Cert	68.0	278	3660	520	13.3	25.8	13600	51700	1.60	75.0			0.530	3.85	1.65	27.9	31.3	3.43	9.29	3.93	0.333	19.4	0.436
Oreas 621 (Aqua Regia) Meas	69.2	286	3580	541	14	23	> 5000	> 10000	1.91	79			0.6	5	1.76	31	32	3.34	10	4	0.42	20	0.45
Oreas 621 (Aqua Regia) Cert	68.0	278	3660	520	13.3	25.8	13600	51700	1.60	75.0			0.530	3.85	1.65	27.9	31.3	3.43	9.29	3.93	0.333	19.4	0.436
OREAS 45f (Aqua Regia) Meas			332	162	< 1	216	6	27	7.41			123	1.0	6	0.07	31	353	13.4	20	< 1	0.11	< 10	0.18
OREAS 45f (Aqua Regia) Cert			336	150	1.19	192	12.4	22.2	4.81			158	0.980	0.170	0.0750	39.2	341	13.7	20.3	0.0310	0.0820	10.7	0.152
OREAS 45f (Aqua Regia) Meas			341	164	< 1	226	13	28	7.60			126	1.1	8	0.07	34	359	13.9	20	< 1	0.12	< 10	0.18
OREAS 45f (Aqua Regia) Cert			336	150	1.19	192	12.4	22.2	4.81			158	0.980	0.170	0.0750	39.2	341	13.7	20.3	0.0310	0.0820	10.7	0.152
OREAS 45f (Aqua Regia) Meas			367	171	< 1	235	7	31	7.68			137	1.0	5	0.07	34	356	15.3	20	< 1	0.12	< 10	0.19
OREAS 45f (Aqua Regia) Cert			336	150	1.19	192	12.4	22.2	4.81			158	0.980	0.170	0.0750	39.2	341	13.7	20.3	0.0310	0.0820	10.7	0.152

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#### Activation Laboratories Ltd.

#### Report: A19-08773

Analyte Symbol	Ag	Cd	Cu	Mn	Мо	Ni	Pb	Zn	AI	As	В	Ва	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	К	La	Mg
Unit Symbol	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%							
Lower Limit	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Method Code	AR-ICP																						
OREAS 45f (Aqua Regia) Meas			353	171	< 1	234	6	27	7.72			132	1.1	6	0.07	31	358	14.6	20	< 1	0.12	< 10	0.19
OREAS 45f (Aqua Regia) Cert			336	150	1.19	192	12.4	22.2	4.81			158	0.980	0.170	0.0750	39.2	341	13.7	20.3	0.0310	0.0820	10.7	0.152
887008 Orig	< 0.2	< 0.5	49	634	< 1	22	2	64	2.50	< 2	< 10	165	< 0.5	< 2	1.40	19	41	4.82	< 10	2	0.82	12	1.54
887008 Dup	< 0.2	< 0.5	49	640	< 1	20	< 2	64	2.52	< 2	< 10	162	< 0.5	2	1.42	20	42	4.68	< 10	< 1	0.81	13	1.51
887107 Orig	0.3	< 0.5	108	2350	< 1	48	2	108	3.62	< 2	< 10	24	< 0.5	4	3.34	15	95	12.4	< 10	1	0.56	10	1.85
887107 Dup	0.4	< 0.5	111	2260	< 1	49	< 2	104	3.53	5	< 10	28	< 0.5	6	3.22	13	98	12.3	< 10	3	0.56	10	1.81
887058 Orig	0.4	< 0.5	77	908	1	18	2	58	1.86	8	< 10	21	< 0.5	< 2	1.98	14	42	4.47	< 10	2	0.07	< 10	0.96
887058 Dup	0.3	< 0.5	80	914	< 1	21	< 2	59	1.91	6	< 10	19	< 0.5	2	2.02	14	43	4.52	< 10	2	0.07	< 10	0.97
Method Blank	< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank	< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank	< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank	< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	11	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank	< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank	< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	11	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank	< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01

Analyte Symbol	Na	Р	S	Sb	Sc	Sr	Ti	Th	Te	TI	U	V	W	Y	Zr
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm							
Lower Limit	0.001	0.001	0.01	2	1	1	0.01	20	1	2	10	1	10	1	1
Method Code	AR-ICP														
GXR-6 Meas	0.115	0.035	0.01	3	19	28		< 20	1	< 2	< 10	172	< 10	5	4
GXR-6 Cert	0.104	0.0350	0.0160	3.60	27.6	35.0		5.30	0.0180	2.20	1.54	186	1.90	14.0	110
GXR-6 Meas	0.115	0.035	0.01	2	19	28		< 20	< 1	< 2	< 10	177	< 10	5	5
GXR-6 Cert	0.104	0.0350	0.0160	3.60	27.6	35.0		5.30	0.0180	2.20	1.54	186	1.90	14.0	110
GXR-6 Meas	0.124	0.036	0.01	< 2	19	28		< 20	< 1	< 2	< 10	181	< 10	5	5
GXR-6 Cert	0.104	0.0350	0.0160	3.60	27.6	35.0		5.30	0.0180	2.20	1.54	186	1.90	14.0	110
GXR-6 Meas	0.118	0.036	0.01	5	19	28		< 20	< 1	< 2	< 10	181	< 10	5	7
GXR-6 Cert	0.104	0.0350	0.0160	3.60	27.6	35.0		5.30	0.0180	2.20	1.54	186	1.90	14.0	110
OREAS 922 (AQUA REGIA) Meas	0.037	0.064	0.36	< 2	4	17		< 20		< 2	< 10	36	< 10	24	13
OREAS 922 (AQUA REGIA) Cert	0.021	0.063	0.386	0.57	3.15	15.0		14.5		0.14	1.98	29.4	1.12	16.0	22.3
OREAS 922 (AQUA REGIA) Meas	0.038	0.064	0.37	2	4	17		< 20		< 2	< 10	37	< 10	24	12
OREAS 922 (AQUA REGIA) Cert	0.021	0.063	0.386	0.57	3.15	15.0		14.5		0.14	1.98	29.4	1.12	16.0	22.3
OREAS 922 (AQUA REGIA) Meas	0.041	0.063	0.37	3	4	17		< 20		< 2	< 10	38	< 10	24	13
OREAS 922 (AQUA REGIA) Cert	0.021	0.063	0.386	0.57	3.15	15.0		14.5		0.14	1.98	29.4	1.12	16.0	22.3
OREAS 922 (AQUA REGIA) Meas	0.041	0.065	0.36	3	4	17		< 20		< 2	< 10	38	< 10	25	10
OREAS 922 (AQUA REGIA) Cert	0.021	0.063	0.386	0.57	3.15	15.0		14.5		0.14	1.98	29.4	1.12	16.0	22.3
OREAS 923 (AQUA REGIA) Meas		0.061	0.67	< 2	4	15		< 20		< 2	< 10	36	< 10	22	25
OREAS 923 (AQUA REGIA) Cert		0.061	0.684	0.58	3.09	13.6		14.3		0.12	1.80	30.6	1.96	14.3	22.5
OREAS 923 (AQUA REGIA) Meas		0.063	0.69	3	4	15		< 20		< 2	< 10	37	< 10	23	24
OREAS 923 (AQUA REGIA) Cert		0.061	0.684	0.58	3.09	13.6		14.3		0.12	1.80	30.6	1.96	14.3	22.5
OREAS 923 (AQUA REGIA) Meas		0.062	0.69	< 2	4	15		< 20		< 2	< 10	37	< 10	22	20
OREAS 923		0.061	0.684	0.58	3.09	13.6		14.3		0.12	1.80	30.6	1.96	14.3	22.5

Activation Laboratories Ltd.

Analyte Symbol	Na	Р	S	Sb	Sc	Sr	Ti	Th	Те	TI	U	V	W	Y	Zr
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm							
Lower Limit	0.001	0.001	0.01	2	1	1	0.01	20	1	2	10	1	10	1	1
Method Code	AR-ICP														
(AQUA REGIA) Cert															
OREAS 923 (AQUA REGIA) Meas		0.060	0.67	< 2	4	15		< 20		3	< 10	37	< 10	22	8
OREAS 923 (AQUA REGIA) Cert		0.061	0.684	0.58	3.09	13.6		14.3		0.12	1.80	30.6	1.96	14.3	22.5
Oreas 96 (Aqua Regia) Meas			3.92	6											
Oreas 96 (Aqua Regia) Cert			4.38	4.53											
Oreas 96 (Aqua Regia) Meas			3.96	5											
Oreas 96 (Aqua Regia) Cert			4.38	4.53											
Oreas 96 (Aqua Regia) Meas			3.67	6											
Oreas 96 (Aqua Regia) Cert			4.38	4.53											
Oreas 96 (Aqua Regia) Meas			3.53	8											
Oreas 96 (Aqua Regia) Cert			4.38	4.53											
Oreas 621 (Aqua Regia) Meas	0.204	0.035	4.41	95	3	18		< 20		< 2	< 10	13	< 10	9	59
Oreas 621 (Aqua Regia) Cert	0.160	0.0335	4.50	107	2.20	18.9		5.91		0.770	1.63	10.9	1.00	6.87	55.0
Oreas 621 (Aqua Regia) Meas	0.200	0.032	4.41	96	3	18		< 20		< 2	< 10	14	< 10	9	33
Oreas 621 (Aqua Regia) Cert	0.160	0.0335	4.50	107	2.20	18.9		5.91		0.770	1.63	10.9	1.00	6.87	55.0
Oreas 621 (Aqua Regia) Meas	0.209	0.034	4.75	95	3	20		< 20		< 2	< 10	14	< 10	9	52
Oreas 621 (Aqua Regia) Cert	0.160	0.0335	4.50	107	2.20	18.9		5.91		0.770	1.63	10.9	1.00	6.87	55.0
OREAS 45f (Aqua Regia) Meas	0.052	0.020	0.02		26	14	0.10	< 20		< 2	< 10	202		5	9
OREAS 45f (Aqua Regia) Cert	0.0320	0.0220	0.0270		31.4	13.2	0.0970	7.67		0.120	1.09	217		6.74	30.0
OREAS 45f (Aqua Regia) Meas	0.053	0.021	0.02		26	14	0.10	< 20		< 2	< 10	202		5	9
OREAS 45f (Aqua Regia) Cert	0.0320	0.0220	0.0270		31.4	13.2	0.0970	7.67		0.120	1.09	217		6.74	30.0
OREAS 45f (Aqua Regia) Meas	0.057	0.021	0.02		26	14	0.11	< 20		< 2	< 10	211		5	10
OREAS 45f (Aqua Regia) Cert	0.0320	0.0220	0.0270		31.4	13.2	0.0970	7.67		0.120	1.09	217		6.74	30.0

QC

Activation Laboratories Ltd.

Analyte Symbol	Na	Р	S	Sb	Sc	Sr	Ti	Th	Те	TI	U	V	W	Y	Zr
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm							
Lower Limit	0.001	0.001	0.01	2	1	1	0.01	20	1	2	10	1	10	1	1
Method Code	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
OREAS 45f (Aqua Regia) Meas	0.056	0.022	0.02		26	14	0.13	< 20		< 2	< 10	213		5	14
OREAS 45f (Aqua Regia) Cert	0.0320	0.0220	0.0270		31.4	13.2	0.0970	7.67		0.120	1.09	217		6.74	30.0
887008 Orig	0.273	0.083	0.06	< 2	14	14	0.27	< 20	2	< 2	< 10	116	< 10	14	10
887008 Dup	0.270	0.084	0.06	3	14	15	0.27	< 20	< 1	< 2	< 10	116	< 10	14	10
887107 Orig	0.320	0.042	1.21	4	10	27	0.14	< 20	< 1	< 2	< 10	79	< 10	9	7
887107 Dup	0.315	0.041	1.21	2	10	26	0.14	< 20	< 1	< 2	< 10	76	< 10	8	8
887058 Orig	0.222	0.064	1.40	2	11	22	0.27	< 20	1	< 2	< 10	90	< 10	11	5
887058 Dup	0.227	0.064	1.44	< 2	11	22	0.26	< 20	< 1	< 2	< 10	91	< 10	11	5
Method Blank	0.015	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 20	< 1	2	< 10	< 1	< 10	< 1	< 1
Method Blank	0.017	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 20	< 1	2	< 10	< 1	< 10	< 1	< 1
Method Blank	0.016	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 20	< 1	< 2	< 10	< 1	< 10	< 1	< 1
Method Blank	0.018	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 20	< 1	< 2	< 10	< 1	< 10	< 1	< 1
Method Blank	0.018	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 20	< 1	2	< 10	< 1	< 10	< 1	< 1
Method Blank	0.018	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 20	< 1	< 2	< 10	< 1	< 10	< 1	< 1
Method Blank	0.017	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 20	< 1	< 2	< 10	< 1	< 10	< 1	< 1



