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# **Report on the Fall 2016 Overburden Stripping Program**

# North Abitibi Property, Cochrane District, Ontario

Larder Lake Mining Division Hoblitzell Township, Ontario

UTM NAD 83 (Zone 17) 577,300 mE, 5,482,000 mN

NTS 32E05 & 32E12

FOR



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> > January 20<sup>th</sup>, 2017

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#### 1.0 INTRODUCTION AND PROPERTY DESCRIPTION

Tri Origin's North Abitibi property is located in Hoblitzell Township, Larder Lake Mining Division, approximately 20 km west of the Ontario/Québec border and 120 km northeast of Cochrane, Ontario (Figure 1). Vehicle access to the property is via the all-weather gravel Tomlinson Road, which departs north from Trans-Limit Road at kilometre 89 as measured from Cochrane. The property consists of 16 unpatented, contiguous claims totaling 179 units and covering an area of 2,864 ha. The claims are held as 100% interest by Tri Origin Exploration Ltd. through an agreement with Vista Gold Corporation, and all claims are in good standing until at least January 27, 2017. Table 1 lists the claims and current ownership, and Figure 2 shows the geographic boundaries of each claim.

Overburden stripping of an area around several trenches that were stripped in 2011 (Trench 576370E and Trench 576325BE) was completed between October 19 and October 26, 2016 (8 days). The area of the overburden stripping is entirely enclosed within the southern extent of claim 4203559. The excavating was contracted to Digalot o/b 1582793 Ontario Inc. of Cochrane, ON, which provided an excavator and a bull dozer. The overburden stripping program was conducted in an attempt to expand the surficial extent of the "Road Gold Zone" which was identified during drilling programs conducted by previous operators, and to understand the geological controls on gold mineralization in the zone. The program was successful in exposing more outcrop to the west, east, and north of these 2011 trenches. Twenty rock samples were collected from the new stripped area and sent for assay (Au and Ag) and trace metals analysis (Cu, Zn, Pb, As, Ba, and Mo). Eight overburden samples were collected from the bedrock/overburden interface along the newly stripped walls and analysed for gold plus base metals. A preliminary geological map ("mud map") of the stripped area was produced by contract geologist Gregg Morris.

The washing off of bedrock could not be completed due to cold weather conditions. It is recommended that the washing off of bedrock, along with some selected channel sampling, be done on the trenched area at a later date to better assess the economic potential of the Road Gold Zone.

The overburden stripping program was conducted in conjunction with a line cutting program and a 2D induced polarization (IP) survey. Line cutting was performed by A Star Prospecting of Thunder Bay, ON, and IP surveying was performed by Dias Geophysical Ltd. of Saskatoon, SK. The logistical details and results of the line cutting and IP survey are discussed in a separate report.

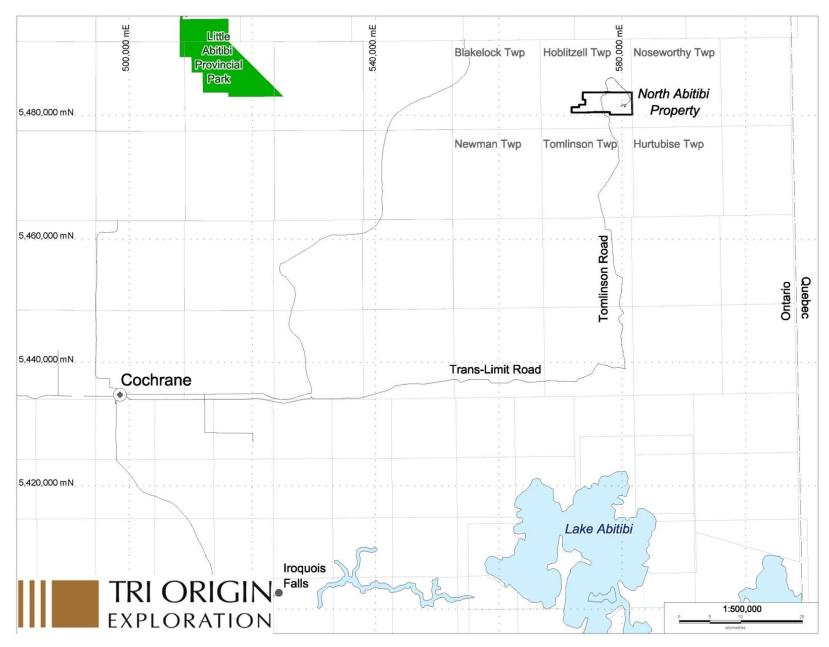


Figure 1. Location of the North Abitibi gold property, Larder Lake Mining Division.

### Table 1. List of Claims

Claim Number	Recorded Holder	Due Date
4202440	Tri Origin Exploration (100%)	April 27, 2017
4202444	Tri Origin Exploration (100%)	April 27, 2017
4202445	Tri Origin Exploration (100%)	April 27, 2017
4202446	Tri Origin Exploration (100%)	April 27, 2017
4202448	Tri Origin Exploration (100%)	April 27, 2017
4202449	Tri Origin Exploration (100%)	April 27, 2017
4203555	Tri Origin Exploration (100%)	January 27, 2017
4203556	Tri Origin Exploration (100%)	January 27, 2017
4203557	Tri Origin Exploration (100%)	January 27, 2017
4203558	Tri Origin Exploration (100%)	January 27, 2017
4203559	Tri Origin Exploration (100%)	January 27, 2017
4203560	Tri Origin Exploration (100%)	January 27, 2017
4203561	Tri Origin Exploration (100%)	January 27, 2017
4209464	Tri Origin Exploration (100%)	April 27, 2017
4209468	Tri Origin Exploration (100%)	April 27, 2017
4209469	Tri Origin Exploration (100%)	April 27, 2017

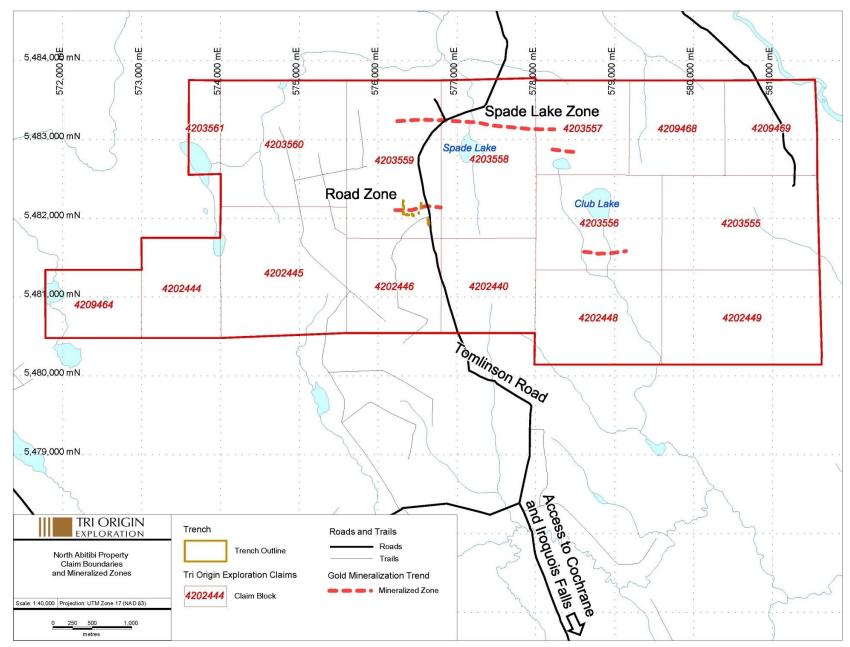


Figure 2. Tri Origin Exploration claim boundaries, known mineralized gold zones, and Road Zone trench area.

### 2.0 REGIONAL GEOLOGY

The property is located in the Burntbush Greenstone Belt ("BGB") which is situated in the northwest corner of the Archean age Abitibi Subprovince. The BGB continues eastward in adjacent Québec as the Harricana-Turgeon Greenstone Belt ("HTGB"). This greenstone belt hosts the Mattagami, Selbaie, Joutel and Casa-Berardi mining camps in Quebec and the Detour Lake Mine in Ontario (Figure 3). The HTGB/BGB trends east-west and is 60-90 km wide and extends over a distance of approximately 150 km. The northern and western boundaries correspond to the Opatica granite gneiss terrain, and the Mistawak, Boivin, Mistaouac and Marest batholiths mark the southern boundary. Lacroix et al (1990) provide a detailed description of the geology and mineral deposits contained in the HTGB portion of the greenstone belt. In the Ontario portion of the greenstone belt, four assemblages are recognized (Jackson and Fyon, 1991). From north to south, the generally east-west trending assemblages are the Noseworthy, Blakelock, Bradette and St. Laurent.

The Noseworthy is comprised of sedimentary rocks dominated by upper greenschist facies argillaceous greywackes, mudstones, and conglomerates. The eastward extension of this assemblage probably corresponds with similar rocks located north of the Casa-Berardi deformation zone in Quebec. On the Casa-Berardi property small volumes of gold mineralization of economic interest have been located in these rocks.

The Blakelock assemblage is characterized by a uniformly elevated magnetic signature and associated AEM conductors. It is interpreted to be mainly upper greenschist facies mafic volcanic rocks (tholeiites) with intercalated graphitic and sulphidic sedimentary rocks. Felsic volcanic rocks may underlie the eastern portion of the Blakelock assemblage (Johns, 1982). From a regional perspective, this assemblage appears to be equivalent to the mafic volcanics found in the Cartwright domain south of the Casa-Berardi mine. The Cartwright domain is composed of basaltic to komatiitic volcanic rocks. These are interpreted to have been formed during ocean floor volcanism and capped by pelagic sedimentary rocks and oxide facies iron formations of the Tiabi Domain.

The Bradette assemblage consists of calc-alkalic dacitic and rhyolitic quartz phyric tuffs, lapilli tuff, pyroclastic breccia, tuff breccia and flows intercalated with graphitic sedimentary units (Johns, 1982). It is characterized by a subdued magnetic signature and numerous AEM conductors. In the eastern portion of the Bradette, a southwest-tending sinistral shear zone located near the interface between the Blakelock and Bradette assemblages is inferred on the basis deflected AEM conductors. The inferred shear zone may represent the western continuation of the Casa-Berardi deformation zone. This is plausible, as the Bradette is the probable westward continuation of the Dieppe domain in the Casa-Berardi area. The Dieppe Domain rests unconformably upon the Tiabi and Cartwright domains. Volcanic rocks of this domain are mainly tholeiites with abundant chert horizons intercalated with the pillowed basalt rocks.

The St. Laurent assemblage consists of iron and magnesium-rich tholeiitic basalts and andesites, which are massive, pillowed, feldspar megacrystic or fragmental. Minor ultramafic units are also present. The assemblage is characterized by a uniformly high magnetic signature and numerous west to northwest-trending AEM conductors. This assemblage is considered to be the western extension of the sedimentary rocks found south of the "Golden Pond Sequence", a local component of the Tiabi sedimentary domain in Casa- Berardi Township. All of the lithotectonic domains are intruded by north-trending Proterozoic diabase dykes.

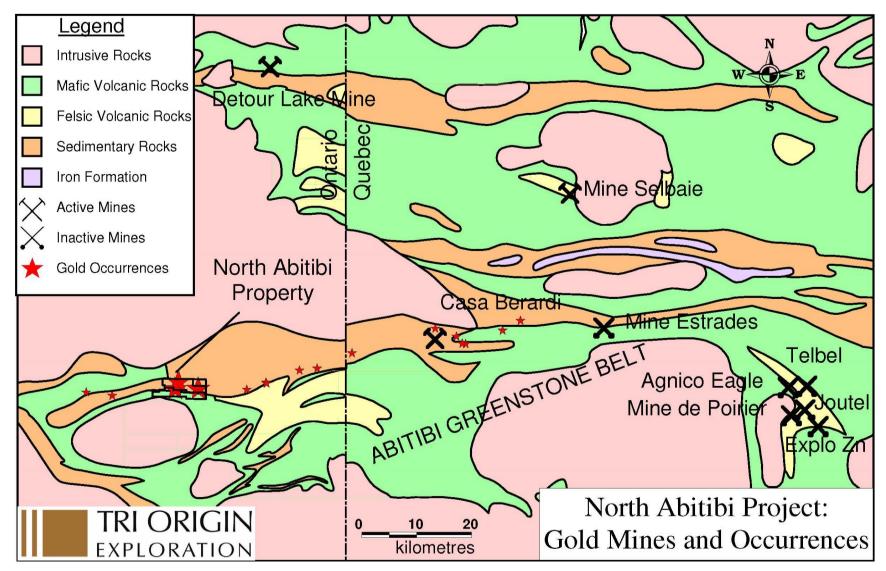


Figure 3. Proximity of North Abitibi property to major mines and deposits of the northern Abitibi Subprovince.

#### 3.0 PROPERTY GEOLOGY AND MINERALIZATION

The geology of the property (Figure 4) is largely known from a synthesis of drill core logging, geophysical interpretation, and overburden stripping near Tomlinson Road, since outcrop exposure is rare on the property (exposure is <1%). The northern part of the property is underlain by a mixed assemblage of felsic, intermediate and mafic volcanic rocks, which probably correspond to the Blakelock assemblage. Felsic tuffs predominate in the western part of this belt and mafic volcanic flows and volcaniclastics are more common in the eastern part of this belt. Iron-rich sediments as banded magnetite–silica–amphibole+/-garnet beds occur along the northern contact of this assemblage, and the sediments are intruded by gabbro. Structural information from drill core suggests a steep northerly dip for most lithologies.

The area to the south is composed predominantly of mixed volcanic and volcaniclastic units of mafic to felsic composition intruded by the Spade Lake Porphyry. This assemblage probably correlates with the Bradette assemblage. The Spade Lake Porphyry is a coarse grained felsic intrusion with a granodiorite to granite composition.

Lying to the south of this belt is another mixed volcanic assemblage composed of intermediate to mafic volcanic flows, which dip steeply north. A broad area of sedimentary rocks lies south of this volcanic assemblage along the southern margin of the property.

An east-trending assemblage of porphyritic felsic intrusions post-date assemblages of mafic and intermediate volcanic rocks present in the area.

Gold mineralization on this property appears to be related to pyritic quartz veins and pyritic schists, hosted in felsic and mafic volcanic rocks and to a lesser degree sediments. Alteration accompanying the gold mineralization includes sericite, hematite, magnetite, chlorite and minor tourmaline. At least two gold mineralized zones (possibly three zones) have been identified at the North Abitibi property. The main Spade Lake zone is an east-west striking zone near the north margin of the property. The Road zone is an east-west-striking zone found 1.3 km south of the Spade Lake zone on Tomlinson Road. A potential third gold mineralized zone occurs south of Club Lake, and may be associated with oxide-facies iron formation.

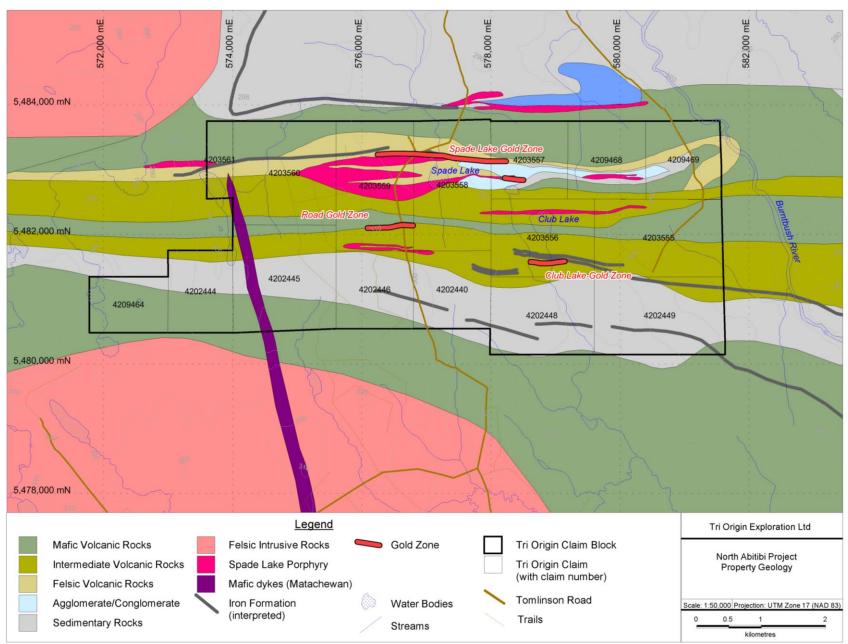


Figure 4. Geological interpretation of the North Abitibi Property.

#### 4.0 HISTORIC EXPLORATION ACTIVITIES

Due to the extensive overburden cover and lack of outcrop exposure, a variety of airborne and ground geophysical survey programs (largely carried out by Cogema Canada Ltd., Newmont Exploration of Canada Ltd., and Esso Resources Canada Ltd.) have been the predominant methods of exploration on the property followed by reverse circulation (RC) and diamond drilling. A total of 116 RC overburden holes and 96 diamond drill holes are spread over the entire length of the property and the historical gold intercepts in diamond drilling represent targets for future diamond drilling programs. The majority of the historic diamond drill holes on the property were drilled by Cogema Canada Limited, Newmont Exploration of Canada Ltd., Esso Resources Canada Ltd., and Tri Origin Exploration Ltd. The historic drill holes are further detailed by Learn, Mandziuk, Perkins, and Harron (see references). Twenty-one of these holes reported at least one sample > 2 grams Au per tonne over a 1 metre intersection.

The Road Zone was discovered during line cutting and bedrock mapping by Newmont Exploration of Canada in the summer of 1985 (Archer, 1986). This discovery was followed by a program of exploration between 1986 and 1987 which included an IP survey, diamond drilling, RC overburden drilling, and overburden stripping.

#### 5.0 EXPLORATION WORK CONDUCTED BY TRI ORIGIN

Tri Origin Exploration conducted diamond drilling in 2007 and 2008 (at both the Spade Lake and Road zones), as well as overburden stripping in 2011 which expanded the surface and subsurface extents of mineralization across 7 trenches at the Road Gold Zone. The 2011 stripping program was cut short by the onset of winter. Geologic mapping of the trenches was postponed and conducted in October 2014. Tri Origin geologists collected grab samples from all of the trenches and sent for assay. Gold mineralization at the Road Zone was exposed at the surface in trenches between 5,482,020 and 5,482,080 m N, and delineated as a moderate to steeply north-dipping, eastwest trending zone. Assay results from drill core have returned values up to 17.8 g/t Au, while grab samples from trenches have returned up to 43 g/t Au and 140 g/t Ag (Kendle 2012). Ten specimens collected from the trenches in October 2011 were not sent for assay right away, but were sent for assay in November 2016. Assay results from these samples are presented with the results of samples collected in the Fall 2016 stripping program.

#### 6.0 FALL 2016 OVERBURDEN STRIPPING AND ROCK SAMPLING PROGRAM

In the fall of 2016 Tri Origin Exploration completed an overburden stripping and rock sampling program on the North Abitibi property. Due to the time of the year (October 19 to October 27), the onset of cold weather and freezing conditions did not permit washing or channel sampling of the trenches. A preliminary geologic plan map ("mud map") was produced over the stripped area by contract geologist Gregg Morris (Appendix A). Results of the preliminary mapping are described below. A washing program will need to be done to complete a better geological map of the stripped area. A total of 20 rock samples were collected and described in detail, and structural measurements were taken whenever possible. In addition, eight mineral soil samples were collected from the

overburden (clay, silt, and pebbly sand) directly above the bedrock interface where exposed by stripping.

The purpose of the overburden stripping program was three-fold:

1) to expose the Road Zone west, east, and north from trenches exposed in 2011 (Trenches 576370E and 576325B) and by Newmont in 1986 to better understand the nature of gold mineralization from previous exploration programs,

2) to determine if gold mineralisation intersected in drill holes projects to surface, to gain a better understanding of the nature of the mineralization; and lastly,

3) to determine the depth and nature of the overburden cover, and if gold is mobilized into the overburden from the bedrock.

The 2016 trenching program was successful in exposing 6,190 m<sup>2</sup> of bedrock in an area 185 m east to west by 160 m north to south along strike of the Road Zone and in the vicinity of the 2011 stripping program. Figure 5 shows the area exposed by stripping in October 2016 in comparison to the areas exposed by stripping in 2011. Overburden thickness varied from less than one metre to three metres. All stripped area outlines and sample locations were obtained using a Garmin handheld global positioning system (GPS) and grab sample locations were labelled in the field. Rock samples were sent to SGS Labs in Lakefield, ON, and analysed for Au by fire assay atomic absorption and for Ag, As, Ba, Mo, Cu, Pb, and Zn by sodium peroxide fusion digest with ICP-MS finish. A summary of gold and silver assay results is presented in Table 2. See Appendix B for complete analytical results (assay certificates) and Appendix C for analytical procedures.

In addition to the rock samples that were collected in October 2016 and analysed for Au and multi-element analysis, ten samples that were on hand in the Tri Origin office were also sent for Au and multi-element analysis. These samples were collected during a trench mapping program in October 2014 by the author of this report from trenches 576635E and 576370E.

Mineral soil samples were sent to Activation Laboratories Ltd (Actlabs) in Ancaster, ON, and analysed by fire assay for Au and ICP-MS with an aqua regia digest for multi-element analysis. See Appendix D for complete analytical results (assay certificates).

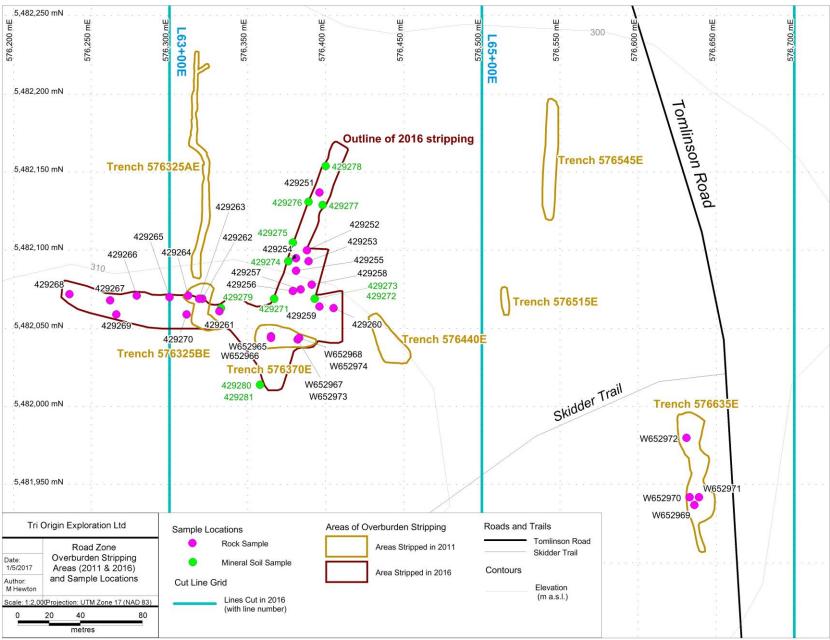


Figure 5. Areas of overburden stripping (2011 and 2016) and sample locations, located entirely within claim 4203559.

Trench	Sample ID	Easting	Northing	Description	Au (ppb)	Au (g/t)	Ag (ppm)	Assay Certificate
576370E	W652965	576365	5482045	pyritic felsic volcanics; 0.5 m channel sample	51		<1	LK1600987
(2011 trench)	W652966	576365	5482044	Quartz-feldspar-pyrite vein	534		2	LK1600987
	W652967	576382	5482043	channel sample; rusty quartz-feldspar-pyrite vein (hosted in sample W652973)	3,942		13	LK1600987
	W652968	576383	5482044	channel sample; rusty quartz-feldspar-pyrite vein (hosted in sample W652974)	>10,000	20.34	47	LK1600987
	W652973	576382	5482043	channel sample; pyritic host intermediate-felsic volcanics; hosts vein from sample W652967	172		<1	LK1600987
	W652974	576383	5482044	channel sample; pyritic host intermediate-felsic volcanics; hosts vein from sample W652968	2,672		10	LK1600987
576370E- Northeast Extension	429251	576396	5482137	Fe Carbonate Quartz Carbonate Vein Zone; Light grey fine grained weakly magnetic strongly foliated carbonate rich intermediate volcanic (tuff?); Trace sulphides	<5		<1	LK1600944
	429252	576388	5482100	Fe Carbonate Quartz Carbonate Vein Zone; Light grey fine grained weakly magnetic strongly foliated carbonate rich intermediate volcanic (tuff?); 1-2% pyrite; Minor thin 1-3mm quartz carbonate veinlets parallel foliation	<5		<1	LK1600944
	429253	576389	5482093	Fe Carbonate Quartz Carbonate Vein Zone; Light grey fine grained weakly magnetic strongly foliated carbonate rich intermediate volcanic (tuff?); 1-2% pyrite; Minor thin 1-3mm quartz carbonate veinlets parallel foliation	<5		<1	LK1600944
	429254	576381	5482095	Quartz+Carbonate Vein within Fe Carbonate; Shear Zone; minor sheared intermediate volcanic wall rock within sample; trace sulphides	604		1	LK1600944
	429255	576381	5482087	Light grey fine grained weakly magnetic foliated lapilli tuff; Trace sulphides	8		<1	LK1600944

## Table 2. Rock sample Au and Ag assay results.

Trench	Sample ID	Easting	Northing	Description	Au (ppb)	Au (g/t)	Ag (ppm)	Assay Certificate
	429256	576379	5482074	Fe Carbonate Quartz Vein Zone; Light grey fine grained weakly magnetic strongly foliated carbonate rich intermediate volcanic (tuff?); trace sulphides	<5		<1	LK1600944
	429257	576384	5482075	Fe Carbonate Quartz Carbonate Vein Zone; Light grey fine grained weakly magnetic strongly foliated carbonate rich intermediate volcanic (tuff?); 3-5% foliated pyrite	3,765		8	LK1600944
	429258	576391	5482078	Fe Carbonate Quartz Carbonate Vein Zone; Light grey fine grained nonmagnetic strongly foliated carbonate rich intermediate volcanic (tuff?); 3-5% foliated pyrite	1,581		3	LK1600944
	429259	576396	5482064	Light grey carbonate altered foliated lapilli tuff; trace Sulphides sample near contact of Fe Carbonate Quartz Carbonate Vein Zone	23		1	LK1600944
	429260	576405	5482063	Fe Carbonate Quartz Carbonate Vein Zone; Light grey fine grained weakly magnetic strongly foliated carbonate rich intermediate volcanic (tuff?); trace sulphides	6		<1	LK1600944
576325BE -West Extension	429261	576332	5482061	Light grey fine grained weakly magnetic foliated lapilli tuff; Trace sulphides; sample taken south side Fe Carbonate Shear Zone;	<5		<1	LK1600944
	429262	576321	5482069	Fe Carbonate Quartz Carbonate Vein Zone; Light grey fine grained weakly magnetic strongly foliated carbonate rich intermediate volcanic (tuff?); trace sulphides; minor thin quartz carbonate veinlets	10		<1	LK1600944
	429263	576319	5482069	Quartz+ Carbonate Vein within Fe Carbonate; Shear Zone; Trace sulphides	19		<1	LK1600944
	429264	576312	5482071	Fe Carbonate Quartz Carbonate Vein Zone; Light grey fine grained weakly magnetic strongly foliated lapilli tuff; Trace sulphides	10		<1	LK1600944

Trench	Sample ID	Easting	Northing	Description	Au (ppb)	Au (g/t)	Ag (ppm)	Assay Certificate
	429265	576300	5482070	Fe Carbonate Quartz Carbonate Vein Zone; Light grey fine grained weakly magnetic strongly foliated carbonate rich intermediate volcanic (tuff?); trace sulphides; minor thin quartz carbonate veinlets	<5		<1	LK1600944
	429266	576279	5482071	Fe Carbonate Quartz Carbonate Vein Zone; Shear Zone; Trace sulphides; minor wall rock within vein (intermediate volcanic)	<5		<1	LK1600944
	429267	576262	5482068	Fe Carbonate Quartz Carbonate Vein Zone; Light grey fine grained weakly magnetic strongly foliated carbonate rich intermediate volcanic (tuff?); trace sulphides;	<5		<1	LK1600944
	429268	576236	5482072	Fe Carbonate Quartz Carbonate Vein Zone Shear Zone; Trace sulphides; Minor wall rock intermediate volcanic within vein;	<5		<1	LK1600944
	429269	576266	5482059	Light grey fine grained weakly magnetic strongly foliated carbonate rich intermediate volcanic (tuff?); trace sulphides; minor quartz+carbonate veinlets	<5		<1	LK1600944
	429270	576311	5482059	Light grey fine grained weakly magnetic strongly foliated carbonate rich intermediate volcanic (tuff?); trace sulphides; minor quartz+carbonate veinlets	<5		<1	LK1600944
576635E	W652969	576636	5481937	intermediate volcanic	21		2	LK1600987
(2011 trench)	W652970	576633	5481942	quartz-carbonate vein in intermediate-felsic volcanic	42		1	LK1600987
	W652971	576639	5481942	0.7 m channel sample; metamorphic amphibole needles and garnets in dacitic ash tuff	16		<1	LK1600987
	W652972	576631	5481980	trench grab sample: aphanitic, strongly foliated, layered, Fe carb-quartz-tourmaline alteration of rhyodacitic ash tuff	<5		<1	LK1600987

\*- Coordinate system is UTM NAD83, Zone 17

#### 6.1 Expansion of Trench 576370E

Trench 576370E was expanded to the northeast for approximately 120 m to target the up-dip extension of the gold mineralization intersected in Newmont Exploration diamond drill hole 261-87-7 and to uncover the source of IP anomalies from various historic surveys. The stripping to the northeast from trench 576370E exposed three strongly schistose Fe-carbonate alteration zones with quartz-carbonate veins that strike east-west (090 degrees) and dip 70 degrees to the north. These Fe-carbonate alteration zones (schistose zones) vary in thickness from 5-10 m wide and appear to parallel a strong regional foliation that also strikes east-west (090 degrees) and dips north at 72 degrees. The quartz-carbonate veins within the Fe-carbonate zone vary in thickness from 2 to 30 cm and are occasionally boudinaged. There was a Fe-carbonate alteration and quartz-carbonate vein zone exposed in 2011 trench 576325BE which was also exposed in the current stripping program northwest of trench 576370E (see map, Appendix A). This Fe-carbonate alteration and quartz-carbonate vein zone exposed in the current stripping program and 2011 program is exposed for approximately 120 m along strike, and may extend further to the east and west along strike.

Host rocks associated with the Fe-carbonate alteration and quartz-carbonate vein zones are light to dark grey, fine grained, very hard, magnetic intermediate to mafic volcanics (crystal tuffs, lapilli, and massive flows) with minor hematite alteration. A moderate to strong foliation (S1) has overprinted these volcanic rocks with a strike of 090° and dips 65° to 75° to the north. The intermediate volcanic rocks and Fe-carbonate quartz-carbonate vein zones seem to be parallel to the same S1 foliation.

A total of sixteen grab and channel rock samples were collected from trench 576370E in 2014 as well as the newly stripped area to the northeast (576370E-Northeast Extension) in 2016. Five samples returned gold values above 1,000 ppb (1,581 ppb to >10,000 ppb; Table 2), with sample W652968 returning values of 20.34 g/t Au and 47 ppm Ag. An additional two samples returned gold values of 534 ppb and 604 ppb. Each of these samples (with the exception of sample W652974) is of pyritic quartz-carbonate+/-feldspar vein material. Sample W652974 (2,672 ppb) is of pyrite-bearing intermediate to felsic volcanics which host the vein material of sample W652968.

## 6.2 Expansion of Trench 576325BE

Trench 576325BE was expanded westward from 576300E/5482050N for approximately 90 m in length and 15-20 m in width. The stripping targeted the up-dip extension of the gold mineralization intersected in Newmont Exploration diamond drill hole 261-87-4 as well as to uncover IP anomalies from various historic surveys.

The trenching exposed the western extension of the Fe-carbonate quartz-carbonate zone uncovered in trench 576325BE in 2011 for 30-40 m approximately, but with only a trace amount of pyrite within the volcanic rocks. Several quartz-carbonate veins similar to those encountered in trench 576370E were uncovered. The veins have a similar attitude (strike and dip) to those in trench 576370E, but generally contain only trace amounts of pyrite. Ten grab samples were collected from the recently trenched area. The majority of samples collected from this extension of the trench returned gold results less than detection limit (<5 ppb). Only three samples returned gold values above detection; samples 429262, 429263, and 429264 returned 10, 19, and 10 ppb, respectively.

#### 6.3 Sample Results from Trench 576635E

Four specimens from trench 576635E that were collected in 2014 and on hand at the Tri Origin Exploration office were sent for assay and multi-element analysis. These four samples were of weakly altered intermediate to felsic volcanic rocks with trace to absent fine-grained disseminated sulphide. Only sample W652970 included quartz-carbonate vein material. All four samples returned low gold values (<5 ppb to 42 ppb) and low silver values (<1 ppm to 2 ppm).

#### 6.4 Mineral Soil Sampling

Eight overburden samples (mineral soil samples) were collected by hand at the bedrock/overburden interface where the excavator had dug down and exposed a cross section of the overburden and soil profile. Sample locations are identified in figure 5 as green dots. The bedrock/overburden interface samples were composed of 90% clay and 10% small pebbles. The mineral soil samples were collected in order to test the geochemical availability and mobility of gold, silver, and other metals at the Road Zone in the soil profile, since previous surficial soil sampling surveys by Tri Origin (in 2014 and 2008) had been largely unsuccessful in delineating anomalous metal values in soil. The lack of success of the previous surveys may be explained by the presence of a clay-rich horizon in the overburden that covers much of the North Abitibi property and acts as an aquitard, preventing the circulation of metal-endowed fluids upward through the soil profile.

Samples were air dried at room temperature and submitted to Activation Laboratories Ltd in Ancaster, ON. Samples were prepared by Activation Laboratories according to preparation code S1-DIS, so that samples were dried at 60°C and sieved to -80 mesh. Samples were then analysed by fire assay atomic absorption, FA-AA, for gold values (according to Activation Laboratories' analytical package code 1A2-Au – fire assay AA; Activation Laboratories, 2017a) and ICP-MS (analytical package code UT-1 aqua regia ICP-MS; Activation Laboratories, 2017b). Standards, lab duplicates, and blanks were inserted by Activation Laboratories.

All samples were analysed by FA-AA and returned gold values below the detection limit (<5 ppb), with the exception of sample 429280 which returned 8 ppb Au. Aqua regia digest ICP mass spectrometry (AR-ICP-MS) was also used to analyse samples for gold concentration. AR-ICP-MS is a semi-quantitative analysis for gold, and caution must be taken when interpreting results. The aqua regia leach will dissolve free gold, gold-bearing tellurides, and gold-bearing sulphide (provided the sample is low in sulphide), but only partially dissolves silicates and oxides (de Caritat et al. 2010), and so the technique does not provide a total gold concentration. Regardless, all mineral soil samples analysed by AR-ICP-MS returned gold concentration below detection limit (<0.5 ppb).

All other elements were analysed by AR-ICP-MS only. All samples were analysed for sulphur and returned values below detection limit (<1%). Analytical results for copper and zinc did not exceed 37.7 ppm and 41.9 ppm, respectively. Results for iron were low and did not exceed 1.94%. Minor values for arsenic were returned (1.1 to 4.9 ppm). Table 3 presents summary statistics of geochemical analyses from soil samples for gold and silver. A certificate of analysis and analytical results from Activation Laboratories can be found in Appendix D.

Sample ID		Northing	Description	Au (ppb), by FA-AA	Ag (ppm)	Au (ppb), by AR- ICP-MS
429271	576367	5482069	Light brown silty clay ; sample taken at the bedrock overbuden interface above Fe Carbonate Quartz Vein Zone on west edge of the trench	< 5	0.11	< 0.5
429272	576393	5482069	Light grey silty clay ; sample taken at the bedrock overbuden interface above Fe-carbonate Quartz Vein Zone on north edge of the trench;	< 5	0.062	< 0.5
429274	576376	5482093	Light brown silty clay ; sample taken at the bedrock overburden interface above Fe-Carbonate Quartz Vein Zone on west edge of the trench; 1-2cm rounded clasts;	< 5	0.041	< 0.5
429275	576379	5482105	Light brown silty clay ; sample taken at the bedrock overburden interface west edge of trench; 1-2cm rounded clasts;	< 5	0.025	< 0.5
429277	576398	5482129	Light brown silty clay ; sample taken at the bedrock overburden interface east edge of trench; 1-2cm rounded clasts;	< 5	0.022	< 0.5
429278	576400	5482154	Light brown silty clay ; sample taken at the bedrock overburden interface west edge of trench; 1-2cm rounded clasts;	< 5	0.02	< 0.5
429279	576333	5482063	Light brown silty clay ; sample taken at the bedrock overburden interface west edge of trench; 1-2cm rounded clasts;	< 5	0.016	< 0.5
429280	576358	5482014	Light brown silty clay ; sample taken at the bedrock overburden interface west edge of trench; 1-2cm rounded clasts;	8	0.127	< 0.5

## Table 3. Geochemical results of mineral soil sampling, Au and Ag.

\*- Coordinate system is UTM NAD83, Zone 17

### 7.0 INTERPRETATION OF TRENCHING RESULTS

Results from the 2016 trenching program were very encouraging in that large exposures of bedrock were uncovered by mechanical stripping. It was previously felt that overburden and water conditions would make the exposure of bedrock very difficult to achieve, if not impossible.

Sampling of bedrock was completed in a systematic manner as to try to sample as much of the trenches as possible under the early winter conditions. Results of the sampling are positive in that seven of the thirty samples collected returned values greater than 500 ppb gold (Table 2). Most of these samples are of quartz-carbonate-pyrite vein material hosted in either intermediate lapilli crystal tuff (former trench 576370E) or schistose Fe-carbonate alteration zone.

Structurally, all units appear to be roughly east-west striking and dipping to the north at about 70°. The host volcanic rocks generally are only anomalous in gold content, but occasionally host good gold values where pyritic (up to 2,672 ppb Au). Quartz-carbonate veins however, particularly the gold-bearing veins, appear to be striking obliquely to the main units (about 290 to 300, dipping near vertical). Despite the apparent east-west strike of the lithologic units, the intermediate lapilli tuff in the south end of the stripped area (which hosts much of the gold) does not appear to continue to the east in trench 576440E. In the 2014 mapping and sampling program, the lapilli tuff was not noted in trench 576440E and samples from this trench have generally returned gold values less than 100 ppb. A north-south structural offset may explain the apparent discontinuity of the lapilli tuff to the east.

## 8.0 INTERPRETATION OF MINERAL SOIL SAMPLING RESULTS

Since all but one of the mineral soil samples returned gold and silver values below detection limit, no reliable interpretations can be made about the association of gold or silver with other, possibly more mobilized indicator metals. It is not recommended that soil sampling programs be continued for gold and silver exploration on the North Abitibi property due to the apparent lack of geochemical availability or mobility of gold and silver into the overburden profile.

## 9.0 CONCLUSIONS AND RECOMMENDATIONS

Due to the success of this overburden stripping program, it is strongly recommended that the trenches be revisited. Exposures should be washed with a high pressure pump, mapped in detail, and selected areas channel sampled with a rock saw. All trenches that display favourable geology and mineralization should be expanded to further understand the nature and extent of the mineralization. It is strongly suspected that fault structures have a strong control on the continuity of lithologies and therefore, the location of gold mineralization. Any future trench mapping programs should integrate structural mapping as a major component.

In the past, IP chargeability highs and magnetic highs were used for targeting drill holes. The preliminary trench results seem to indicate that gold mineralization and associated quartz-carbonate veins appear to occur on the southern flank of the magnetic high. Some IP chargeability responses are associated with the gold mineralization, however many of the IP responses appear to occur just north of the gold mineralization and may be associated with magnetite-bearing rock units.

## 10.0 FIELD PERSONNEL

Gregg Morris	Contract Geologist	Halifax, Nova Scotia
	Tower Resources	
Meghan Hewton	Geologist	Goodwood, Ontario
	Tri Origin Exploration Ltd	
Frank Kendle	Senior Geologist	Queensville, Ontario
	Tri Origin Exploration Ltd	

## 11.0 STATEMENT OF QUALIFICATIONS

I, Meghan Hewton, of 17 Tindall Lane, Goodwood, Ontario, L0C 1A0, do hereby certify that:

- 1. I am employed as a geologist by Tri Origin Exploration Ltd.
- 2. I graduated with a Master's of Science (Geology) from Simon Fraser University in 2012, and a Bachelor of Science (Honours Environmental Geosciences) from the University of Western Ontario in 2010.
- 3. Hold a GIT (Geoscientist-in-Training) membership with the Association of Professional Geoscientists of Ontario (membership number 10384).
- 4. I have worked as a geologist for a total of four years.
- 5. I am responsible for the technical report titled "Report on the Fall 2016 Overburden Stripping Program, North Abitibi Property, Cochrane District, Ontario".
- 6. My knowledge of the property as described herein was obtained by field work and literature review.
- 7. I have no direct interest, nor do I expect to receive any interest in the mining claims that comprise the North Abitibi Property within Hoblitzell Township, Larder Lake Mining Division.
- 8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
- 9. I consent to the filing of the Technical Report with any stock exchange and other regulatory authority and any publication by them for regulatory purposes, including electronic publication in the public company files on their websites accessible by the public, of the Technical Report.

Dated this 20<sup>th</sup> day of January, 2017.

Meghan Hew

Meghan Hewton, MSc, GIT

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Appendix A

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PRELIMINARY GEOLOGIC MAP

Appendix B

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ROCK ASSAY CERTIFICATES

Appendix C

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## ROCK ASSAY PROCEDURES

APPENDIX D

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MINERAL SOIL ASSAY CERTIFICATE

Prelimin	ary 2016 Stripping Geological Map	24 62 6
•	Overburden Sample Location	N K
•	Grab SAmple	5482156N
0	Tri Origin Exploration Stripping (2011)	
(1)	Tri Origin Exploration Stripping (2016)	
- 1	Foliation	
1	Quartz Carbonate Vein	
	Approximate Geological Pontoct	
11	Trail	
inin	Fe Parbonate Quartz Vein Zone	- 5482100N
	Intermediate lapilli crystal Tuff	
::::::::::::::::::::::::::::::::::::::	Intermediate Volcanics (crystal tutt, Igpilli tuft & massive Flow	
	0 10m 20m 30m 40m Scale 1:500 October, 2016	429268 429267
		5482050N

5482000N



	Minerals Services	Revision	0.0
272	Geochemistry	Doc Type	Method Summary
303	Lakefield Laboratory	Method No: Code	GE_FAA313
		Service	Testing
	Determination Gold by Lead Fusion	Issued Date	02/Sep/2014
Minerals Services	Fire Assay and Atomic Absorption		
	Spectrometry in Exploration samples	Approved by	L. Ng
	[30g ; Au; AAS]		

- 1. Parameter(s) measured, unit(s): Gold (Au); in ppb
- **2. Typical sample size:** 30 g
- **3. Type of sample applicable (media):** Crushed and Pulverized rocks

#### 4. Sample preparation technique used:

Weighed representative samples are mixed with flux and fused using lead oxide at 1100°C, followed by cupellation of the resulting lead button. The bead is dissolved using HCl and HNO<sub>3</sub> and the resulting solution is submitted for analysis

#### 5. Method of analysis used:

The digested sample solution is analyzed by Flame Atomic Absorption Spectrometer (AAS).

#### 6. Data reduction by:

Computer, on line, data fed to SGS Laboratory Information Management System with secure audit trail.

#### 7. Figures of Merit:

This method has been fully validated for the range of samples typically analyzed. Method validation includes the use of reference materials, replicates, duplicates and blanks to calculate accuracy, precision, linearity, range, limit of detection, reporting limit, specificity and measurement uncertainty.

The Reporting Limit has been determined according to the following:

Element	Reporting Limit (ppb)	Upper Limit (ppb)
Au	5.0	10,000

#### 8. Quality control:

Quality control materials include method blanks, duplicates and reference materials and are randomly inserted with the frequency set according to method protocols at ~14%. Quality

control materials will also include BRM (Barren reference materials, or preparations blanks) and replicates if samples have been taken through the sample reduction process. Instrument calibration is performed for each batch or work order and calibration checks are analyzed within each analytical run.

#### 9. Accreditation:

The Standards Council of Canada has accredited this test in conformance with the requirements of ISO/IEC 17025. See <u>www.scc.ca</u> for scope of accreditation.

Note: Scopes of accreditation are site specific, please check with the local representative.

	Minerals Services	Revision	0.6
<b>DJD</b>	Geochemistry	Doc Type	Method Summary
545	Lakefield Laboratory	Method No: Code	GE_ICM90A
		Service	Testing
	Determination of Fifty-five (55) Elements in	Issued Date	13/Jul/2015
	Exploration Samples using Sodium Peroxide		
	Fusion and a Combination of Inductively		
	Coupled Plasma Optical Emission		
	Spectrometry (ICP-OES) and Inductively		
Minerals Services	Coupled Plasma Mass Spectrometry (ICP-		
Willer als Services	MS)	Approved by	S. Meyers
	[Na <sub>2</sub> O <sub>2</sub> ; HNO <sub>3</sub> ; C <sub>4</sub> H <sub>6</sub> O <sub>3</sub> ; Ág, Al; As; Ba; Be; Bi;	Apploved by	o. meyers
	Ca; Cd; Ce; Co; Cr; Cs; Cu; Dy; Er; Eu; Fe; Ga;		
	Gd; Ge; Hf; Ho; In; K; La; Li; Lu; Mg; Mn; Mo;		
	Nb; Nd; Ni; P; Pb; Pr; Rb; Sb; Sc; Sm; Sn; Sr;		
	Ta; Tb; Th; Tl; Ti; Tm; U; V; W; Y; Yb, Zn; Zr]		

## 1. Parameter(s) measured, unit(s):

Silver (Ag); Arsenic (As); Barium (Ba); Beryllium (Be); Bismuth (Bi); Cadmium (Cd); Cerium (Ce); Cobalt (Co); Chromium (Cr); Cesium (Cs); Copper (Cu); Dysprosium (Dy); Erbium (Er); Europium (Eu); Gallium (Ga); Gadolinium (Gd); Germanium (Ge); Hafnium (Hf); Holmium (Ho); Indium (In); Lanthanum (La); Lithium (Li); Lutetium (Lu); Manganese (Mn); Molybdenum (Mo); Niobium (Nb); Neodymium (Nd); Nickel (Ni); Lead (Pb); Praseodymium (Pr); Rubidium (Rb); Antimony (Sb); Scandium (Sc); Samarium (Sm); Tin (Sn); Strontium (Sr); Tantalum (Ta); Terbium (Tb); Thorium (Th); Thallium (TI); Thulium (Tm); Uranium (U); Vanadium (V); Tungsten (W); Yttrium (Y); Ytterbium (Yb); Zinc (Zn); Zirconium (Zr), in ppm Aluminum (Al); Calcium (Ca); Iron (Fe); Potassium (K); Magnesium (Mg); Phosphorus (P); Titanium (Ti) in % Boron (B), Selenium (Se), Tellurium (Te) in ppm and Sulfur (S) and Silica (Si) in % can be added as additional

## 2. Typical sample size:

0.1 g

**3.** Type of sample applicable (media): Crushed and Pulverized rocks, soils and sediments

## 4. Sample preparation technique used:

Weighed representative samples are digested fused in glassy carbon crucibles using sodium peroxide ( $Na_2O_2$ ). The resultant cake is dissolved in HNO<sub>3</sub>.

## 5. Method of analysis used:

The digested sample solution is analyzed by inductively coupled plasma Mass Spectrometer (ICP-MS) and inductively coupled plasma Optical Emission Spectrometer (ICP-OES).

## 6. Data reduction by:

Computer, on line, data fed to SGS Laboratory Information Management System with secure audit trail.

## 7. Figures of Merit:

This method has been fully validated for the range of samples typically analyzed. Method validation includes the use of reference materials, replicates, duplicates and blanks to calculate accuracy, precision, linearity, range, limit of detection, reporting limit, specificity and measurement uncertainty.

Element	Reporting Limit (ppm)	Upper Limit									
Ag	1.00	0.1%	Er	0.05	0.10%	Mn	10	10%	Та	0.5	1.0%
AI	0.01(%)	25%	Eu	0.05	0.10%	Мо	2.00	1.0%	Tb	0.05	0.10%
As	5.00	10%	Fe	0.01(%)	25%	Nb	1.00	1.0%	Th	0.10	0.10%
Ba	10	1.0%	Ga	1.00	0.10%	Nd	0.10	1.0%	Ti	0.01(%)	25%
Be	5.00	0.25%	Gd	0.05	0.10%	Ni	5.00	1.0%	TI	0.50	0.10%
Bi	0.10	0.10%	Ge	1.00	0.10%	Р	0.01(%)	25%	Tm	0.05	0.10%
Ca	0.1(%)	25%	Hf	1.00	1.0%	Pb	5.00	1.0%	U	0.05	0.1%
Cd	0.20	1.0%	Но	0.05	0.10%	Pr	0.05	0.1%	V	5.00	1.0%
Ce	0.10	1.0%	In	0.20	0.10%	Rb	0.20	1.0%	W	1.00	1.0%
Со	0.50	1.0%	K	0.1(%)	25%	Sb	0.10	1.0%	Y	0.50	0.1%
Cr	10	5%	La	0.10	1.0%	Sc	5.00	5.0%	Yb	0.10	0.1%
Cs	0.10	1.0%	Li	10	5.0%	Sm	0.10	0.1%	Zn	5.00	1.0%
Cu	10	1.0%	Lu	0.05	0.10%	Sn	1.00	1.0%	Zr	0.50	1.0%
Dy	0.05	0.1%	Mg	0.01(%)	25%	Sr	10	0.5%			
В	10	10%	S	0.01	35%	Se	0.2	0.1%	Si	0.1(%)	35%
Те	0.1	0.1%									

The Reporting Limit has been determined according to the following:

#### 8. Quality control:

Quality control materials include method blanks, duplicates and reference materials and are randomly inserted with the frequency set according to method protocols at ~14%. Quality control materials will also include BRM (Barren reference materials, or preparations blanks) and replicates if samples have been taken through the sample reduction process. Instrument calibration is performed for each batch or work order and calibration checks are analyzed within each analytical run.

## 9. Accreditation:

The Standards Council of Canada has accredited this test in conformance with the requirements of ISO/IEC 17025. See <u>www.scc.ca</u> for scope of accreditation.

Note: Scopes of accreditation are site specific, please check with the local representative.

Quality Analysis ...



## Innovative Technologies

Date Submitted:14-Nov-16Invoice No.:A16-12096Invoice Date:09-Dec-16Your Reference:NORTH ABITIBI SOILS

TRI Origin Exploration 125 Don Hillock Drive Unit 18 Aurora Ont L4G 0H8 Canada

ATTN: Robert Valliant

# **CERTIFICATE OF ANALYSIS**

8 Soil samples were submitted for analysis.

The following analytical package(s) were requested:

Code 1A2 Au - Fire Assay AA Code UT-1-0.5g Aqua Regia ICP/MS

REPORT **A16-12096** 

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:

Assays are recommended for values above the upper limit. The Au from AR-MS is only semi-quantitative. For accurate Au data, fire assay is recommended.

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

CERTIFIED BY:

Emmanuel Eseme , Ph.D. Quality Control

ACTIVATION LABORATORIES LTD.

41 Bittern Street, Ancaster, Ontario, Canada, L9G 4V5 TELEPHONE +905 648-9611 or +1.888.228.5227 FAX +1.905.648.9613 E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com Results

Activation Laboratories Ltd.

Analyte Symbol	Au	Ti	S	Р	Li	Be	В	Na	Mg	AI	К	Bi	Ca	Sc	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga
Unit Symbol	ppb	%	%	%	ppm	ppm	ppm	%	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.001	1	0.001	0.1	0.1	1	0.001	0.01	0.01	0.01	0.02	0.01	0.1	1	1	1	0.01	0.1	0.1	0.01	0.1	0.02
Method Code	FA-AA	AR-MS																					
429271	< 5	0.114	< 1	0.049	24.2	0.4	< 1	0.050	1.72	1.49	0.27	0.12	6.34	3.8	38	42	307	1.66	8.5	19.1	37.7	36.4	4.61
429272	< 5	0.090	< 1	0.055	4.4	0.1	9	0.033	0.48	0.45	0.05	0.66	1.21	1.8	21	19	99	0.70	3.8	6.6	10.2	10.8	1.69
429274	< 5	0.127	< 1	0.054	26.6	0.5	10	0.053	1.58	1.55	0.29	0.10	4.86	4.3	41	46	331	1.81	10.7	25.5	19.7	36.9	5.11
429275	< 5	0.136	< 1	0.066	30.6	0.5	9	0.054	1.95	1.66	0.30	0.12	5.61	4.3	43	48	324	1.94	8.8	20.6	18.2	41.9	5.49
429277	< 5	0.113	< 1	0.051	24.2	0.4	9	0.048	1.85	1.43	0.26	0.08	6.48	3.8	36	42	278	1.65	9.0	19.8	26.4	32.9	4.55
429278	< 5	0.105	< 1	0.051	24.3	0.4	9	0.049	2.01	1.39	0.26	0.08	6.73	3.8	36	42	290	1.64	7.3	17.6	18.6	31.5	4.56
429279	< 5	0.123	< 1	0.053	30.8	0.6	12	0.055	2.32	1.70	0.32	0.10	7.68	4.7	43	50	311	1.93	8.6	23.5	19.9	37.6	5.47
429280	8	0.122	< 1	0.056	17.4	0.3	2	0.057	0.78	1.24	0.18	0.12	1.89	3.8	41	41	226	1.48	6.8	15.3	15.3	29.6	3.99

Results

Activation Laboratories Ltd.

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Мо	Ag	In	Sn	Sb	Те	Cs	Ва	La	Ce	Cd	Pr	Nd	Sm	Se	Eu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm									
Lower Limit	0.1	0.1	0.1	0.5	0.01	0.1	0.1	0.01	0.002	0.02	0.05	0.02	0.02	0.02	0.5	0.5	0.01	0.01	0.1	0.02	0.1	0.1	0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS									
429271	< 0.1	4.9	15.5	45.4	8.61	6.6	0.6	0.91	0.110	< 0.02	0.48	0.04	0.23	1.26	76.0	15.2	34.7	0.03	3.5	18.0	2.3	< 0.1	0.4
429272	< 0.1	2.3	2.2	20.4	5.98	6.5	0.8	0.51	0.062	< 0.02	0.23	0.02	0.13	0.34	22.8	9.8	22.4	< 0.01	2.5	13.4	1.7	< 0.1	0.3
429274	< 0.1	2.6	17.1	39.1	9.57	8.5	0.5	0.48	0.041	< 0.02	0.51	0.06	0.10	1.47	74.2	17.1	37.0	0.04	4.0	20.3	2.7	< 0.1	0.5
429275	< 0.1	2.3	17.8	43.4	10.2	5.9	0.4	0.41	0.025	< 0.02	0.56	0.04	0.11	1.40	80.2	17.8	38.8	0.02	4.2	22.0	2.7	< 0.1	0.5
429277	< 0.1	1.9	15.6	44.7	9.24	5.0	0.3	0.30	0.022	< 0.02	0.47	0.04	0.08	1.20	79.7	16.5	35.7	< 0.01	3.8	19.6	2.5	< 0.1	0.4
429278	< 0.1	2.0	15.5	46.1	8.49	3.4	0.4	0.26	0.020	< 0.02	0.53	0.03	0.06	1.11	66.9	15.6	33.7	< 0.01	3.6	18.2	2.3	< 0.1	0.4
429279	< 0.1	2.3	18.6	51.5	9.19	3.6	0.4	0.32	0.016	< 0.02	0.56	0.05	0.03	1.29	85.4	17.5	36.2	0.01	4.0	20.3	2.6	< 0.1	0.5
429280	< 0.1	1.1	10.6	26.2	7.69	11.6	0.4	0.76	0.127	< 0.02	0.49	0.03	0.47	0.88	65.4	14.0	32.5	< 0.01	3.4	17.3	2.2	< 0.1	0.4

Results

Activation Laboratories Ltd.

Analyte Symbol	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	Hf	Та	W	Re	Au	TI	Pb	Th	U	Hg
Unit Symbol	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppb									
Lower Limit	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.001	0.5	0.02	0.01	0.1	0.1	10
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS									
429271	1.8	0.2	1.3	0.2	0.6	0.1	0.7	0.1	0.1	< 0.05	0.1	< 0.001	< 0.5	0.15	6.00	5.0	0.5	20
429272	1.3	0.2	0.9	0.2	0.4	0.1	0.4	< 0.1	0.2	< 0.05	0.1	< 0.001	< 0.5	0.03	2.23	2.9	0.4	< 10
429274	2.1	0.3	1.4	0.3	0.7	0.1	0.7	0.1	0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.17	6.62	5.9	0.6	10
429275	2.1	0.3	1.5	0.3	0.7	0.1	0.7	0.1	0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.17	7.57	6.1	0.6	< 10
429277	2.1	0.2	1.3	0.2	0.7	0.1	0.7	0.1	0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.13	5.82	5.8	0.6	< 10
429278	1.8	0.2	1.2	0.2	0.6	0.1	0.6	0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.14	5.83	5.2	0.6	< 10
429279	2.0	0.2	1.4	0.3	0.7	0.1	0.7	0.1	< 0.1	< 0.05	< 0.1	< 0.001	< 0.5	0.17	6.55	6.0	0.6	< 10
429280	1.7	0.2	1.1	0.2	0.6	0.1	0.6	0.1	0.3	< 0.05	< 0.1	< 0.001	< 0.5	0.15	4.18	4.3	0.4	< 10

QC

#### Activation Laboratories Ltd.

Analyte Symbol	Au	Ті	s	Р	Li	Be	в	Na	Mg	AI	к	Bi	Ca	Sc	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga
Unit Symbol	ppb	%	%	%	ppm	ppm	ppm	%	%	%	%	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
Lower Limit	5	0.001	1	0.001	0.1	0.1	1	0.001	0.01	0.01	0.01	0.02		0.1	1	1	1	0.01	0.1	0.1	0.01	0.1	0.02
Method Code	FA-AA	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
GXR-1 Meas		0.007	< 1	0.058	6.8	0.9	12	0.054	0.12	0.46	0.03	1560	0.95	1.2	85	10	841	24.7	8.6	40.4	1200	780	5.93
GXR-1 Cert		0.036	0.257	0.0650	8.20	1.22	15.0	0.0520	0.217	3.52	0.050	1380	0.960	1.58	80.0	12.0	852	23.6	8.20	41.0	1110	760	13.8
GXR-1 Meas		0.007	< 1	0.056	6.5	0.7	9	0.054	0.11	0.44	0.03	1490	0.92	1.2	81	9	815	24.0	8.3	37.6	1160	764	5.43
GXR-1 Cert		0.036	0.257	0.0650	8.20	1.22	15.0	0.0520	0.217	3.52	0.050	1380	0.960	1.58	80.0	12.0	852	23.6	8.20	41.0	1110	760	13.8
DH-1a Meas																							
DH-1a Cert																							
DH-1a Meas																							
DH-1a Cert																							
GXR-4 Meas		0.143	2	0.142	11.7	1.5	< 1	0.143	1.57	3.17	1.80	19.5	0.93	6.5	83	64	120	2.83	14.3	37.0	6980	69.5	10.2
GXR-4 Cert		0.29	1.77	0.120	11.1	1.90	4.50	0.564	1.66	7.20	4.01	19.0	1.01	7.70	87.0	64.0	155	3.09	14.6	42.0	6520	73.0	20.0
GXR-4 Meas		0.148	2	0.142	12.0	1.5	< 1	0.150	1.61	3.33	1.90	20.1	0.97	6.3	85	66	126	2.93	14.8	38.7	7310	72.4	10.7
GXR-4 Cert		0.29	1.77	0.120	11.1	1.90	4.50	0.564	1.66	7.20	4.01	19.0	1.01	7.70	87.0	64.0	155	3.09	14.6	42.0	6520	73.0	20.0
GXR-6 Meas			< 1	0.037	35.2	0.9	< 1	0.091	0.31	> 8.00	1.25	0.18	0.19	21.8	159	85	916	5.02	13.3	21.6	71.4	125	18.4
GXR-6 Cert			0.0160	0.0350	32.0	1.40	9.80	0.104	0.609	17.7	1.87	0.290	0.180	27.6	186	96.0	1010	5.58	13.8	27.0	66.0	118	35.0
GXR-6 Meas			< 1	0.036	33.7	0.8	< 1	0.088	0.31	> 8.00	1.20	0.18	0.19	20.2	155	83	891	4.94	13.1	21.3	70.2	118	18.3
GXR-6 Cert			0.0160	0.0350	32.0	1.40	9.80	0.104	0.609	17.7	1.87	0.290	0.180	27.6	186	96.0	1010	5.58	13.8	27.0	66.0	118	35.0
OREAS 45d			< 1	0.037	22.1			0.046	0.14	6.62	0.13	0.36	0.10	39.9	182	542	370	12.7	27.7	192	353	34.5	16.5
(Aqua Regia)																							
Meas OREAS 45d			0.045	0.035	11.9			0.031	0.144	4.860	0.097	0.30		41.50	201.0	467		13.650	26.2	176.0	345.0	30.6	17.9
(Aqua Regia) Cert			0.045	0.035	11.9			0.031	0.144	4.000	0.097	0.30		41.50	201.0	407	400.000	13.650	20.2	176.0	345.0	30.0	17.9
OREAS 45d			< 1	0.036	21.1			0.047	0.15	7.00	0.13	0.33	0.10	40.7	178	537	366	12.8	27.8	191	353	34.3	16.5
(Aqua Regia)																							
Meas																					ļ		
OREAS 45d (Aqua Regia) Cert			0.045	0.035	11.9			0.031	0.144	4.860	0.097	0.30		41.50	201.0	467	400.000	13.650	26.2	176.0	345.0	30.6	17.9
SdAR-M2					17.4	4.8						1.11		2.2	19	12			13.2	45.8	256	753	3.66
(U.S.G.S.) Meas																							
SdAR-M2 (U.S.G.S.) Cert					17.9	6.6						1.05		4.1	25.2	49.6			12.4	48.8	236.00 00	760	17.6
SdAR-M2 (U.S.G.S.) Meas					16.7	4.6						1.08		1.9	19	11			12.9	44.0	250	753	3.66
SdAR-M2 (U.S.G.S.) Cert					17.9	6.6						1.05		4.1	25.2	49.6			12.4	48.8	236.00 00	760	17.6
OREAS 16A (FA-Ancaster)	1810																						
Meas																							
OREAS 16A	1810																						
(FA-Ancaster)																							
Cert	7	0.104		0.050	17.4	0.0		0.050	0.00	1.05	0.10	0.10	1.04	0.7	44	4-1	227	1.51	7.0	15.4	15.4	20.5	2.00
429280 Orig	8		<1	0.058	17.4 17.4	0.3	2	0.059	0.80	1.25 1.23	0.18	0.13	1.94 1.84	3.7 3.8	41 40	41 40	227		7.0	15.4 15.2	15.4 15.1	30.5 28.7	3.98 4.00
429280 Dup	-		< 1	0.055	17.4	0.3	2	0.054	0.77	1.23	0.18	0.11	1.84	3.8	40	40	224	1.45	6.6	15.2	15.1	28.7	4.00
Method Blank	< 5	-																				<u> </u>	
Method Blank	< 5																						

QC

Activation Laboratories Ltd.

Analyte Symbol	Ge	As	Rb	Sr	Y	Zr	Nb	Мо	Ag	In	Sn	Sb	Те	Cs	Ва	La	Ce	Cd	Pr	Nd	Sm	Se	Eu
Unit Symbol	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		ppm	ppm	ppm	ppm	ppm									
Lower Limit	0.1	0.1	0.1	0.5		0.1	0.1	0.01	0.002	0.02	0.05	0.02	· ·	0.02	0.5	0.5	0.01		0.1				0.1
Method Code	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS									
GXR-1 Meas		420	1.6	182	31.5	10.2	0.2	20.6	30.8	0.58	27.6	86.6	9.67	2.14	390	4.7	9.63	2.07		7.54	2.0	18.0	0.4
GXR-1 Cert		427	14.0	275	32.0	38.0	0.800	18.0	31.0	0.770	54.0	122	13.0	3.00	750	7.50	17.0	3.30		18.0	2.70	16.6	0.690
GXR-1 Meas		402	1.6	178	30.9	10.1	0.2	19.6	29.1	0.60	26.5	84.9	7.85	2.26	367	4.6	9.36	2.20		7.22	1.9	14.7	0.4
GXR-1 Cert		427	14.0	275	32.0	38.0	0.800	18.0	31.0	0.770	54.0	122	13.0	3.00	750	7.50	17.0	3.30		18.0	2.70	16.6	0.690
DH-1a Meas																							
DH-1a Cert																							
DH-1a Meas																							
DH-1a Cert																							
GXR-4 Meas		102	64.6	59.8	13.1	9.7	0.4	310	2.92	0.15	6.04	3.28	1.04	2.02	27.4	40.2	76.2	0.14		41.4	4.9	5.4	1.0
GXR-4 Cert		98.0	160	221	14.0	186	10.0	310	4.00	0.270	5.60	4.80	0.970	2.80	1640	64.5	102	0.860		45.0	6.60	5.60	1.63
GXR-4 Meas		104	67.5	64.7	13.6	8.8	0.5	323	3.07	0.19	6.16	3.48	0.95	2.19	25.0	41.6	78.8	0.22		43.5	5.0	4.9	1.0
GXR-4 Cert		98.0	160	221	14.0	186	10.0	310	4.00	0.270	5.60	4.80	0.970	2.80	1640	64.5	102	0.860		45.0	6.60	5.60	1.63
GXR-6 Meas		205	46.2	28.6	7.49	8.3	0.2	1.87	0.250	0.05	0.93	1.59	0.09	3.16	1140	9.1	26.3	0.03		12.4	2.0	< 0.1	0.4
GXR-6 Cert		330	90.0	35.0	14.0	110	7.50	2.40	1.30	0.260	1.70	3.60	0.0180	4.20	1300	13.9	36.0	1.00		13.0	2.67	0.940	0.760
GXR-6 Meas		203	44.7	29.0	7.36	8.9	0.1	2.04	0.224	0.04	0.86	1.67	0.11	3.07	1100	8.7	25.4	0.03		11.9	1.8	< 0.1	0.4
GXR-6 Cert		330	90.0	35.0	14.0	110	7.50	2.40	1.30	0.260	1.70	3.60	0.0180	4.20	1300	13.9	36.0	1.00		13.0	2.67	0.940	0.760
OREAS 45d		5.1	18.2	11.4	5.23					0.06	1.72				94.5	9.4	22.2						
(Aqua Regia)																							
Meas OREAS 45d		6.50	20.9	11.0	5.08					0.085	1.950				80	9.960	24.8						
(Aqua Regia) Cert		0.50	20.9	11.0	5.08					0.065	1.950				00	9.960	24.0						
OREAS 45d		5.1	18.1	10.8	5.25					0.05	1.82				92.7	9.2	21.2						
(Aqua Regia) Meas																							
OREAS 45d		6.50	20.9	11.0	5.08					0.085	1.950				80	9.960	24.8						
(Aqua Regia) Cert																							
SdAR-M2			14.6	17.4	19.3	8.1	3.0	12.9						0.80	128	33.6	72.1	4.48	7.8	39.9	5.3		0.5
(U.S.G.S.) Meas SdAR-M2			149	144	32.7	259	26.2	13.3						1.82	990	46.6	98.8	5.1	11.0	39.4	7.18		1.44
(U.S.G.S.) Cert																							
SdAR-M2 (U.S.G.S.) Meas			14.6	17.0	19.0	8.0	3.1	14.3						0.79	128	33.4	71.7	4.21	7.7	39.4	5.1		0.5
SdAR-M2 (U.S.G.S.) Cert			149	144	32.7	259	26.2	13.3						1.82	990	46.6	98.8	5.1	11.0	39.4	7.18		1.44
OREAS 16A																							
(FA-Ancaster) Meas																							
OREAS 16A				1																			
(FA-Ancaster)																							
Cert																							
429280 Orig	< 0.1	1.0	10.6	25.9	7.70	13.8	0.5	0.96	0.176	< 0.02	0.57	0.04	0.59	0.88	65.8	14.3	33.4	0.03	3.5	17.8	2.3	< 0.1	0.4
429280 Dup	< 0.1	1.3	10.6	26.5	7.68	9.4	0.4	0.57	0.078	< 0.02	0.41	0.02	0.35	0.89	64.9	13.6	31.6	< 0.01	3.3	16.9	2.1	< 0.1	0.4
Method Blank																							$\mid$
Method Blank																							

Analyte Symbol	Gd	Tb	Dy	Но	Er	Tm	Yb	Lu	Hf	Та	W	Re	Au	TI	Pb	Th	U	Hg
Unit Symbol		ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppb	ppm	ppm	ppm	ppm	ppb
Lower Limit	· ·	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.05	0.1	0.001	0.5	0.02	0.01	0.1	0.1	10
Method Code		AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS	AR-MS
GXR-1 Meas	2.9	0.6	3.8			0.3	2.2	0.3	0.2	< 0.05	149		2840	0.39	711	1.9	30.9	810
GXR-1 Cert	4.20	0.830	4.30			0.430	1.90	0.280	0.960	0.175	164		3300	0.390	730	2.44	34.9	3900
GXR-1 Meas	2.8	0.5	3.6			0.3	2.1	0.3	0.2	< 0.05	132		2830	0.37	673	2.2	29.7	830
GXR-1 Cert	4.20	0.830	4.30			0.430	1.90	0.280	0.960	0.175	164		3300	0.390	730	2.44	34.9	3900
DH-1a Meas																> 200	2250	
DH-1a Cert																910	2629	
DH-1a Meas																> 200	2140	
DH-1a Cert																910	2629	
GXR-4 Meas	3.7	0.4	2.1			0.1	0.9	0.1	0.3	< 0.05	13.6		347	2.89	45.2	14.3	4.6	< 10
GXR-4 Cert	5.25	0.360	2.60			0.210	1.60	0.170	6.30	0.790	30.8		470	3.20	52.0	22.5	6.20	110
GXR-4 Meas	3.6	0.4	2.1			0.1	0.9	0.1	0.3	< 0.05	13.4		463	2.92	46.7	13.8	4.7	< 10
GXR-4 Cert	5.25	0.360	2.60			0.210	1.60	0.170	6.30	0.790	30.8		470	3.20	52.0	22.5	6.20	110
GXR-6 Meas	1.5	0.2	1.2				0.8	0.1	0.2	< 0.05	< 0.1		< 0.5	1.89	96.0	8.5	0.8	70
GXR-6 Cert	2.97	0.415	2.80				2.40	0.330	4.30	0.485	1.90		95.0	2.20	101	5.30	1.54	68.0
GXR-6 Meas	1.5	0.2	1.2				0.8	0.1	0.2	< 0.05	< 0.1		13.4	1.84	92.4	8.5	0.8	40
GXR-6 Cert	2.97	0.415	2.80				2.40	0.330	4.30	0.485	1.90		95.0	2.20	101	5.30	1.54	68.0
OREAS 45d													< 0.5		17.2	9.5	1.5	
(Aqua Regia)																		
Meas															17.00	44.0	1.04	
OREAS 45d (Aqua Regia) Cert													21		17.00	11.3	1.64	
OREAS 45d													< 0.5		17.0	8.9	1.5	
(Aqua Regia)																		
Meas																		
OREAS 45d													21		17.00	11.3	1.64	
(Aqua Regia) Cert	10									0.05					714			1010
SdAR-M2 (U.S.G.S.) Meas	4.0	0.5	3.1	0.6	1.6	0.2	1.7	0.2	0.2	< 0.05	0.8				714	11.4	1.6	1210
SdAR-M2	6.28	0.97	5.88	1.21	3.58	0.54	3.63	0.54	7.29	1.8	2.8				808	14.2	2.53	┝──┤
(U.S.G.S.) Cert	0.20	0.07	0.00		0.00	0.01	0.00	0.01	7.20	1.0	2.0				000		2.00	1440.00
SdAR-M2 (U.S.G.S.) Meas	3.8	0.5	3.0	0.6	1.6	0.2	1.7	0.3	0.2	< 0.05	0.7				709	9.5	1.5	1290
SdAR-M2 (U.S.G.S.) Cert	6.28	0.97	5.88	1.21	3.58	0.54	3.63	0.54	7.29	1.8	2.8				808	14.2	2.53	1440.00
OREAS 16A																		
(FA-Ancaster)																		
Meas																		
OREAS 16A																		
(FA-Ancaster) Cert																		
429280 Orig	1.7	0.2	1.1	0.2	0.6	0.1	0.6	0.1	0.3	< 0.05	0.2	< 0.001	< 0.5	0.16	4.24	4.5	0.5	30
429280 Dup	1.6	0.2	1.1	0.2	0.0	0.1	0.0	0.1	0.3	< 0.05	< 0.2	< 0.001	< 0.5	0.10	4.24	4.3	0.3	< 10
Method Blank	1.0	0.2		0.2	0.0	0.1	0.0	0.1	0.2	2 0.00	< 0.1	0.001	~ 0.0	5.14	7.11	7.2	0.4	
Method Blank				<u> </u>			<u> </u>			<u> </u>			<u> </u>			<u> </u>	<u> </u>	$\vdash$
Dialik			L	I	I	L	I	I	L	I		L	I	I	L	I	L	