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FORAN MINING CORPORATION

TECHNICAL REPORT
FOR THE
2019 MINERAL RESOURCE ESTIMATE
ON THE
MCILVENNA BAY PROJECT
SASKATCHEWAN, CANADA

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1.0 SUMMARY

1.1 GENERAL

Foran Mining Corporation (Foran) has retained Micon International Limited (Micon) to audit the mineral resource estimate for the McIlvenna Bay Project (McIlvenna Bay Project) in Saskatchewan, Canada and compile this Canadian National Instrument (NI) 43-101 Technical Report disclosing the results of that estimate. This is Micon's first Technical Report on the McIlvenna Bay Project.

This report discloses technical information, the presentation of which requires Micon's Qualified Persons (QPs) to derive sub-totals, totals and weighted averages that inherently involve a degree of rounding and, consequently, introduce a margin of error. Where these occur, the authors and Micon do not consider them to be material.

The conclusions and recommendations in this report reflect the QPs best independent judgment in light of the information available to them at the time of writing. Micon and the QPs reserve the right, but will not be obliged, to revise this report and conclusions if additional information becomes known to them subsequent to the date of this report. Use of this report acknowledges acceptance of the foregoing conditions.

This report is intended to be used by Foran subject to the terms and conditions of its agreements with Micon. That agreement permits Foran to file this report as a Technical Report on SEDAR (www.sedar.com) pursuant to provincial securities legislation or with the SEC in the United States. Except for the purposes legislated under provincial securities laws, any other use of this report, by any third party, is at that party's sole risk.

Neither Micon nor the QPs have, nor have they previously had, any material interest in Foran or related entities. The relationship with Foran is solely a professional association between the client and the independent consultants. This report is prepared in return for fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.

Micon and the QPs are pleased to acknowledge the helpful cooperation of Foran management and consulting field staff, all of whom made any and all data requested available and responded openly and helpfully to all questions, queries and requests for material.

1.2 PROPERTY LOCATION, DESCRIPTION AND OWNERSHIP

McIlvenna Bay Project (deposit) occurs within Foran's McIlvenna Bay property located approximately 1 km south of Hanson Lake, Saskatchewan. McIlvenna Bay is located within NTS sheet 63L10 and the plan projection of the deposit is centred on UTM coordinates 640,600 E and 6,056,200 N (NAD 83, Zone 13). The corresponding geographic coordinates are 102°50’ W and 54°38” N. The McIlvenna Bay deposit is located well within the property boundaries.

Foran owns 100% of the McIlvenna Bay property.

The entire McIlvenna Bay property comprises 38 claims totalling 20,954 ha.

1.3 ACCESSIBILITY, CLIMATE, PHYSIOGRAPHY, LOCAL RESOURCES AND INFRASTRUCTURE

1.3.1 Accessibility

McIlvenna Bay is located 1 km south of Hanson Lake, Saskatchewan, and approximately 95 km by road west of Flin Flon, Manitoba. The McIlvenna site is accessible via an 18 km long all-weather gravel road which connects to Saskatchewan Provincial Highway #106.

The regional mining towns of Flin Flon, Manitoba and Creighton, Saskatchewan (combined population 7,100), represent the largest commercial/residential centre in the area. Flin Flon provides a railhead that connects the area to the North American railway system. Electrical power is available from SaskPower at Creighton and/or Island Falls, Saskatchewan.

In addition to the various highways that connect Flin Flon and Creighton to various other parts of Manitoba and Saskatchewan, respectively, Flin Flon also has daily commercial flights to and from Winnipeg, Manitoba.

1.3.2 Physiography

The property is located within the Boreal Shield Ecozone and is covered with shield-type boreal forest. Topography is flat lying with occasional sharp dolomite cliffs and ridges up to 20 m high. Soil thickness on the limestone ridges is minimal, with occasional rock exposure, and the vegetation is dominated by larger conifer and poplar trees. Below the cliffs are poorly drained muskeg swamps with scattered tamarack and black spruce. Throughout the surrounding area, there are numerous lakes and ponds of various sizes.

1.3.3 Climate

The climate in the Hanson Lake area is continental, with cold winters and moderate to warm summers. The area is classified as having a sub-humid high boreal eco-climate. The mean temperatures for January and July are -21°C and 18°C, respectively. Temperatures range from -40°C in the winter to 30°C in the summer. Annual precipitation averages about 350 mm of rain and 1,450 mm of snow. There are on average 119 frost-free days per year. Lake ice thaws in April and returns in November.

1.4 HISTORY

In 1957, the Parrex Mining Syndicate tested an electromagnetic (EM) conductor delineated under a small bay on the western side of Hanson Lake and intersected impressive zinc-lead massive sulphide mineralization which led to the development of the Hanson Lake (Western Nuclear) Mine. The mine operated between 1967 and 1969 and produced 162,200 tons of material averaging 9.99% Zn, 5.83% Pb, 0.51% Cu, and 4.0 oz/t Ag prior to being shut down.

In 1976, the Saskatchewan Mineral Development Corporation (SMDC), acquired a large exploration lease centered on Hanson Lake. The permit area covered much of the exposed portion of the Hanson Lake Block and extended several kilometres south of the present McIlvenna Bay Property.

From 1978 to 1988, Cameco tested selected Aerodat EM anomalies with ground follow-up exploration programs

In 1985, when the Granges-Troymin joint venture discovered the Balsam Zone, approximately 8 km southeast of Hanson Lake, Cameco re-evaluated their existing airborne EM data. In January, 1988, a ground magnetometer and HLEM survey defined an anomaly and six holes were subsequently drilled into what is now the McIlvenna Bay deposit. From 1989 to 1991, an additional 61 drill holes were completed. Fifty-six of the holes were drilled to test the deposit, of which only five failed to intersect economically significant mineralization.

Cameco suspended exploration activities at the McIlvenna Bay property after a corporate decision was made not to explore for base metals. The property remained idle until optioned in 1998 by Foran.

1.5 GEOLOGICAL SETTING AND MINERALIZATION

1.5.1 Regional Geology

The McIlvenna Bay Project is located on the western edge of the Paleoproterozoic Flin Flon Greenstone Belt (FFGB) which extends from north central Manitoba into northeastern Saskatchewan. The FFGB forms part of the Reindeer Zone, a subdivision of the Trans-Hudson Orogen, a continental-scale tectonic event which occurred approximately between 1.84 Ga and 1.80 Ga (Syme et al., 1999) as a result of the collision between the Superior and Hearne Archean Cratons.

As currently viewed, the FFGB contains eight geographically separate juvenile island arc volcanic assemblages (blocks), each being 20 km to 50 km across. From east to west, they are known as the Snow Lake, Four Mile Island, Sheridon, Flin Flon, Birch Lake, West Amisk, Hanson Lake, and Northern Lights assemblages (Zwanzig et al., 1997 and Maxeiner et al., 1999). These assemblages are separated by major structural features and/or areas of differing tectonostratigraphic origin. It is unclear whether the eight juvenile arc sequences represent different island arcs, or segments of a larger continuous arc (Syme et al., 1999). Within the belt, each tectonostratigraphic block has been broken into several sub-blocks, usually bounded by local to regional fault systems. Correlation of stratigraphy between sub-blocks is uncertain.

The exposed portion of the FFGB is approximately 250 km east-west by 75 km north-south. This apparent easterly trend is an artefact of the belt's tectonic contact with gneissic metasedimentary, metavolcanic, and plutonic rocks to the north (Kisseynew Domain) and the east-trending trace of Phanerozoic platformal cover rocks to the south. In reality, the FFGB extends hundreds of kilometres to the south-southwest beneath a thin cover of essentially flat-lying, Phanerozoic sedimentary rocks.

1.5.2 Local and Property Geology

The Hanson Lake Block, the host terrain of McIlvenna Bay, is bound to the east by the Sturgeon-Weir Shear Zone and to the west by the Tabbernor Fault Zone. The block extends an unknown distance to the south beneath a nearly flat lying cover of Ordovician sandstones of the Winnipeg Formation, and dolomites of the Red River Formation. To the north, the block is bound by the Kisseynew Domain, a gneissic metasedimentary belt and the Attitti Complex. The east end of the block hosts the Hanson Lake Pluton, a large compositionally variable granodiorite to pyroxenite intrusion.

At least two distinct folding events, both having northerly trending fold axes, have influenced the stratigraphy in the Hanson Lake Area. The Hanson Block structural fabric is dominated by a north to northwest-southeast trending, upright regional transposition foliation. A protracted D2 structural event resulted in tight to isoclinal, southwest plunging F2 folds and local southwest verging mylonite zones. D3 deformation resulted in tight north trending folds followed by a brittle D4 event characterized by north-south trending faults.

Peak regional metamorphism in the areas west and north of Hanson Lake reached upper amphibolite facies as observed by the partial melting of the granodiorite-tonalite assemblage in the Jackpine and Tulabi Lake areas. At McIlvenna Bay, the Proterozoic sequence exhibits a greenschist metamorphic facies as the deposit alteration assemblages are dominated by sericite and chlorite. The greenschist facies is probably a retrograde event after a previous amphibolite grade since relict cordierite, anthophyllite, garnet and andalusite are commonly observed in the VMS alteration package.

Lacking any outcrop in the area of the deposit, the property geology has been interpreted from the drill core record with help from geophysical surveys.

The stratigraphy of the deposit area, divided into six formations, has been defined over a 2 km strike length by a total of 239 drill holes. The lowest formation intersected by drilling both structurally and stratigraphically is the McIlvenna Bay Formation, the host of McIlvenna Bay. The McIlvenna Bay Formation is overlain to the north by the Cap Tuffite

Formation. The McIlvenna Bay Formation and the Cap Tuffite Formation may be genetically related but have been separated as they are temporally distinct, as demonstrated by the positioning of the McIlvenna Bay deposit between these two units, an obvious exhalative horizon (and hence a period of clastic and volcanosedimentary quiescence). Overlying the Cap Tuffite Formation is the Koziol Iron Formation, a long and distinctive marker formation traceable for several kilometres along strike by mapping and geophysics. Topping the Koziol Iron Formation is the Rusk Formation, a thick package of mafic volcanics. The Rusk Formation in turn is overlain by the thin HW-A Formation, an exhalative massive sulphide horizon which grades laterally into iron formation. Capping the HW-A Formation is a thick unsorted bimodal package of mafic and felsic volcanics and mafic intrusions and minor iron formations tentatively called the Upper Sequence which may be thickened due to folding and faulting. The stratigraphic package has been cut by several different intrusions, the largest of which is the Davies Gabbro, represented by one or more sill-like plugs found within the Cap Tuffite Formation. The Proterozoic basement geology is unconformably overlain by the relatively flat lying to gently south-dipping Ordovician dolomites and sandstones of the Red River and Winnipeg Formations which have an average total thickness between 20 m and 30 m.

The McIlvenna Bay Formation, the host formation of the sulphide deposit, is known only to the extent it has been drilled below the footwall of the deposit. The formation is at least 200 m thick (true thickness) and comprises the massive and semi-massive sulphides and copper-rich stringer zones that make up the McIlvenna Bay deposit, and a succession of variably altered felsic volcanics, volcaniclastics, and/or volcanic-derived sediments of rhyolitic composition.

1.5.3 Mineralization

McIlvenna Bay is a Volcanogenic Massive Sulphide (VMS) Deposit which consists of structurally modified, stratiform, volcanogenic, polymetallic massive sulphide mineralization and associated stringer style mineralization. The massive to semi-massive sulphides contain copper and/or zinc, with lower concentrations of silver, gold and lead while the stringer style mineralization generally contains elevated copper and gold. The deposit has undergone moderate to strong deformation and upper greenschist to possibly lower amphibolite facies metamorphism. The sulphide lenses are now attenuated down the plunge to the northwest.

The McIlvenna Bay deposit includes five separate zones and two styles of mineralization that are mineralogically and texturally distinct and typical of VMS deposits, including:

- Massive to semi-massive sulphide mineralization in the Main Lens and Lens 3.
- Stockwork-style sulphide mineralization in the Copper Stockwork Zone (CSZ) that directly underlies the Main Lens.
- Two other small lenses of stockwork-style mineralization:
    - the Stringer Zone which is located between the Main Lens and Lens 3.

- the Copper Stockwork Footwall Zone ("CSFWZ") which occurs as a separate lens underneath the CSZ for approximately 140 m of strike length, which could represent a fault offset and repetition of the Main Lens and CSZ.

1.6 Exploration Programs

On acquisition of the property in 1998, Foran embarked on a diamond drilling program to test new targets as well as in-fill the existing drill pattern on the McIlvenna Bay Deposit.

Drilling continued during the winter of 1999-2000 but, after 2000, exploration work on the property ceased, and the option agreement with the Hanson Lake Joint Venture was allowed to lapse. Foran acquired a new option agreement in 2005 and resumed work.

In early 2007, Foran started exploration again with a surface program followed by a drilling program during the winter of 2007-2008, A number of drill holes failed to intersect the deposit at depth. Subsequently, Foran determined that the holes which missed their targets were drilled at orientations that made it impossible to intersect the deposit at the targeted depths.

Exploration work underwent a hiatus until 2011 when during the winter, Foran conducted a diamond drilling program which was successful in proving the continuity of the CSZ.

In 2012, Foran completed a drilling program which was directed at near-surface projections of the deposit in order to upgrade the classification and extend the known mineralization. Drilling was dominantly completed utilizing HQ-sized core to provide additional material for future metallurgical testwork. Geotechnical and hydrogeological studies were also conducted during the program.

No further exploration/drilling was conducted on the McIlvenna Bay deposit until the winter and summer of 2018. In December, 2017, Foran signed a Technical Services Agreement with Glencore Canada Corporation, under which Glencore will contribute its professional and technical services, assistance, guidance and advice in connection with the objective of completing a Feasibility Study on McIlvenna Bay Project, in exchange for an exclusive off-take contact to purchase or toll process all of the concentrates and/or other mineral products produced from the Project at prevailing market rates. With this agreement in place, Foran embarked on a large infill and expansion drill program designed to convert as much of the deposit resource as possible into indicated categories which could potentially be converted into reserves for the upcoming Feasibility Study.

1.7 McIlvenna Bay Project Mineral Resource Estimate

1.7.1 General Notes

Foran has conducted a number of previous mineral resource estimates on the McIlvenna Bay Project which have combined both the historical drilling and that conducted by Foran since it first acquired the Project in 1998. All of the previous mineral resource estimates are superseded by the current estimate contained in this Technical Report.

1.7.2 Database

The basis for the mineral resource estimate was a drill hole database provided by Foran on December 9th, 2018. The database and underlying Quality Assurance/Quality Control (QA/QC) were validated by Foran prior to being used in the modelling and estimation. After a further visual validation of the database, it was decided to exclude two drillholes from the resource estimate due to conflicting geological information. Table 14.1 summarizes the types and amount of data in the database and the portion of the data used for the mineral resource estimate.

Table 1.1
McIlvenna Bay Project Database

Data Type	In Database	Used For 2019 Resource Estimate*
Collar	246	244
Survey	15,648	15,454
Assay	8,920	8,765

*Excludes two drillholes from the resource estimate due to conflicting geological information.

1.7.3 Wireframes and Other Modelling Parameters

1.7.3.1 Wireframes

Jointly with Foran geologists, five mineralized domains were defined representing different areas and styles of VMS mineralization.

- Massive Sulphide – Main mineralized lens with internal gradational boundaries. The lens was previously modelled as two separate zones (MS and Upper West), but contact plots show no justification for a hard boundary.
- CSZ – Copper stockwork zone sitting stratigraphically below the massive sulphide.
- Stringer Zone – Copper and zinc stringer zone in the hangingwall above the massive sulphides.
- Lens 3 – Massive sulphide lens sitting in the hangingwall to the Stringer zone.
- FW – Small massive to semi-massive zone ore zone below the CSZ.

Wireframes were generated based on a set of mineralized intercepts defined by Foran and validated. The wireframes for each of the five domains were validated against drill hole data and found to reasonably represent the mineralization and the host rock. All of the mineralization is hosted within the same lithological unit, the McIlvenna Bay Formation with minor local exceptions where the Lens 3 and Stringer mineralization can cross the hanging wall contact into the Cap Tuffite unit.

A detailed geological and statistical analysis was performed to examine the grade variability and continuity within the MS and Upper West Zone (UWZ) areas. The principle justification for the merging of two domains is the grade transition across the two areas of mineralization (MS and UWZ).

All diamond drill holes are properly snapped to the 3D wireframes to ensure that the volume to be estimated matches both the drilling and logging data collected on the deposit. A visual wireframe validation indicated the wire frames respect the interval selection and are properly snapped to the drill hole data.

1.7.3.2 Compositing

Compositing was performed in Leapfrog Edge, with 1 m composites being used for all domains to honor the initial assay sample resolution and to fit the narrow width of the mineralized zones.

1.7.3.3 Variography and Kriging Neighbourhood Analysis

Variograms were calculated in Leapfrog Edge individually by metal and domain. The variograms produced with the 2018 drilling data demonstrated that the ranges of continuity for all domains decreased slightly relative to Foran's January, 2018 internal model but increased the understanding of the grade variability at shorter ranges.

Based on the modelled variograms, Kriging Neighbourhood Analysis (KNA) was performed on the McIlvenna Bay domains to determine the optimal Kriging parameters for the resource estimation (block size, minimum and maximum number of data points, discretization, and search ellipse size).

KNA uses the modeled variogram, and other criteria such as the maximum number of composites per hole, to conduct a local estimate and to assess the quality of the estimate based on the chosen parameters. In subsequent iterations, the block size, number of composites, size of the search ellipse and block discretization are varied. The Kriging Efficiency[1] and Slope of Regression[2] (or conditional bias), are reviewed for each set of parameters to measure the quality of the estimate. In the McIlvenna Bay study, KNA was used to determine the optimal estimation parameters for the first pass estimation.

The search ellipsoids were configured with the major and semi-major axes parallel to the overall plane of mineralization for each domain. For each domain 3 passes were used and in the second and third passes, the interpolation would overwrite blocks estimated by the previous pass. The maximum search distances for each domain were based on the dominant metal per domain.

[1] A measure of the effectiveness of the kriged estimate to reproduce the local block grade accurately.

[2] Summarises the degree of over-smoothing of high and low grades.

For the first and second passes, blocks required a minimum of 5 composites to generate an estimate, and the maximum number of composites per block was limited to 20. For the third pass a minimum of 2 composites and maximum of 20 composites was used. No more than 4 composites could be used from any one drill hole for all three passes. The same search parameters were used for all elements (i.e., copper, zinc, lead, gold, and silver) within each domain.

Block model grade estimation was completed in Leapfrog Edge. A single estimation method, ordinary kriging, was used for all metals, however validation estimates using ID^2 and NN were also performed.

1.7.3.4 Capping

The influence of high-grade outliers on the overall grade estimates and contained metal is restricted by the use of top cuts applied to the composited data. Capping values were determined for each metal by domain using the Cumulative Distribution Function (CDF) and by examining the composite grade histograms.

1.7.3.5 Density

Foran has continued to take density measurements as it continued its exploration programs which resulted in a larger database of measurements that permitted the determination of density by means of interpolation.

Measurements of bulk density are considered the more robust, these data points (1,072, in total) were given precedence in the population of density in the block model. Where this data did not populate blocks, the specific density measurements were used (which do not consider bulk density). Comparison by means of a multilinear regression or stoichiometry was not possible since not all elements were available for analysis. The final block value was assigned using a rolling average (ID0) for each domain, thus generating a smoother continuity of density.

1.7.3.6 Block Model

A rotated, sub-blocked model was set-up in Leapfrog Geo to capture the lithological and domain coding, grade estimates, density and resource classification.

The geological model was evaluated on the sub-blocked model and block volumes were validated against wireframes.

Visual and numeric validation was performed to compare the results of the estimation methods and correlation to original input grades.

For increased confidence in the model estimate, and as a separate means of validation, a block model estimate was also generated in Datamine Studio RM. The validation estimate used the same domain wireframes and outlier top-cuts, but different variograms and search parameters. The Datamine block model was prepared as a validation tool, and both the visual and global means comparisons of the two models returned nearly identical results. This further validates both the accuracy and precision of the McIlvenna Bay Mineral Resource Estimate

A visual validation was conducted which indicated there was a good correlation between the estimated grade and composite and assay values. The visual validation also indicated that the assays are properly snapped to domain.

1.7.4 Economic Parameters and Classification

1.7.4.1 Cut-off Grade Criteria

Due to the multi-element nature of the of the McIlvenna Bay deposit an NSR value was used for the application of a cut-off to the block model. The NSR was estimated for each block using provisions for metallurgical recoveries, smelter payables, refining costs, freight, and applicable royalties (Table 14.11). Metallurgical recoveries were based on the results of laboratory testwork conducted during the 2013 Preliminary Economic Assessment study. The smelter terms and freight costs were estimated by Foran. Metal prices used for the mineral resources were based on consensus, long term forecasts from banks, financial institutions, and other sources. The calculation was based on the assumption that two products, a copper and a zinc concentrate, would be produced by a processing facility at site. The massive sulfide is split into Cu/Pb ratio greater than 1.2 and less than 1.2 as it is expected that Cu recovery will be significantly reduced where the ratio of Cu:Pb is less than 1.2.

Table 1.2
Mineral Resource Estimate NSR Parameter for the Cut-off Grade Assumption

	Descriptions	Metal	Domains		
			CSZ	MS Cu/Pb>1.2	MS Cu/Pb<1.2
Metallurgical Recoveries	Copper Conc	Copper	94%	83%	56%
		Zinc	34%	10%	2%
		Silver	77%	50%	34%
		Gold	85%	60%	39%
		Lead			59%
	Zinc Conc	Zinc		85%	85%
		Silver		27%	27%
		Gold		15%	15%
Metal Prices	Copper	US$/lb		$3.30	
	Zinc	US$/lb		$1.25	
	Silver	US$/oz		$16.20	
	Gold	US$/oz		$1,310	
	Lead	US$/lb		$1.00	
Smelting and Refining:	Copper	US$/dmt		$90.00	
	Zinc	US$/dmt		$215.00	
Transport	Copper	US$/dmt		$188.00	
	Zinc	US$/dmt		$97.00	

The cut-off was established using preliminary mining parameters and operating costs. For the preliminary NSR calculations metal recoveries were applied to establish distinct metal multipliers for the CSZ and MS domains. Those same formulas were applied to the other domains based on Zn and Cu content.

Foran has chosen to report the Mineral Resources at a cut-off value of US$60/t in order to be closer to the criterion used by other current and planned mining operations in the region.

1.7.4.2 Mineral Resource Classification

A preliminary assessment of the resource classification was generated by observing the integer field generated from the 3-pass search estimate process. Blocks estimated during each successively less stringent criterion were assigned either 1 (more stringent, highest confidence), 2 (moderate confidence) or 3 (least stringent, lowest confidence). The pattern generated by this automated process was visually reviewed against other information such as drill hole spacing and slope of regression.

Passes 1st and 2nd passes represent Indicated and 3rd pass Inferred resources. As the search ellipse passes produce a patchy distribution of blocks in various resource categories, the final classification is produced using hand-digitized shapes. A 3D polyline is drawn for each domain to encompass areas of contiguous material having the approximately the same measure of confidence based on statistical and geological criteria. The process was repeated for the Indicated and Inferred material to ensure that the classification is smooth and that extrapolation distances are reasonable.

1.7.5 Mineral Resource Estimate and Sensitivity Table

1.7.5.1 Mineral Resource Estimate

The mineral resource estimate reviewed and audited by Micon and its QPs is summarized in Table 14.12. The effective date of this mineral resource is as of May 07, 2019 and is reported at using an NSR cut-off grade of US $60/t.

Table 1.3
Mineral Resources for the McIlvenna Bay Deposit, Reported at an NSR of US$60/t

NSR Cut-Off	Classification Category	Mineralized Domain (Zone)	Tonnage (Mt)	Cu (%)	Zn (%)	Pb (%)	Au (g/t)	Ag (g/t)
US $60/t (Base Case)	Indicated	Main Lens – Massive Sulphide	9.25	0.90	6.43	0.40	0.52	25.97
		Lens 3	1.99	0.85	3.29	0.14	0.27	14.71
		Stringer Zone	0.70	1.38	0.62	0.04	0.35	13.34
		Copper Stockwork Zone	10.30	1.43	0.28	0.02	0.40	9.30
		Copper Stockwork Footwall Zone	0.71	1.60	1.04	0.04	0.54	11.47
		Total	**22.95**	**1.17**	**3.05**	**0.19**	**0.44**	**16.68**

NSR Cut-Off	Classification Category	Mineralized Domain (Zone)	Tonnage (Mt)	Cu (%)	Zn (%)	Pb (%)	Au (g/t)	Ag (g/t)
	Inferred	Main Lens – Massive Sulphide	2.97	1.29	4.79	0.29	0.47	23.58
		Copper Stockwork Zone	8.18	1.42	0.76	0.03	0.47	11.63
		Total	**11.15**	**1.38**	**1.83**	**0.10**	**0.47**	**14.81**

The mineral resources presented here were reviewed and audited by Micon's QPs using the CIM Definitions and Standards on Mineral Resources and Reserves as of May 10, 2014. Mineral resources unlike mineral reserves do not have demonstrated economic viability. At the present time, neither Micon nor the authors of this report believe that the mineral resource estimate is materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

1.7.5.2 Sensitivity Table

As part of its review and audit of Foran's 2019 mineral resource estimate, Micon conducted a sensitivity to illustrate the sensitivity of the mineral resource to a higher and lower NSR. Table 14.13 summarizes the NSR sensitivity at US$75/t and US$45/t with the base case at US$60/t.

Table 1.4
Summary of the NSR Sensitivities at US$75/t, US$45/t with Base Case at US$60/t

NSR Cut-Off	Classification Category	Mineralized Domain (Zone)	Tonnage (Mt)	Cu (%)	Zn (%)	Pb (%)	Au (g/t)	Ag (g/t)
US $75/t	Indicated	Main Lens – Massive Sulphide	9.13	0.91	6.46	0.40	0.52	26.05
		Lens 3	1.62	0.87	3.60	0.15	0.28	15.26
		Stringer Zone	0.42	1.50	0.71	0.04	0.38	13.59
		Copper Stockwork Zone	7.33	1.59	0.30	0.02	0.47	10.29
		Copper Stockwork Footwall Zone	0.52	1.76	1.30	0.05	0.62	13.25
		Total	**19.02**	**1.21**	**3.58**	**0.22**	**0.48**	**18.44**
	Inferred	Main Lens – Massive Sulphide	2.92	1.30	4.81	0.29	0.47	23.60
		Copper Stockwork Zone	6.22	1.55	0.77	0.03	0.54	12.43
		Total	**9.14**	**1.47**	**2.06**	**0.11**	**0.52**	**16.01**
US $60/t (Base Case)	Indicated	Main Lens – Massive Sulphide	**9.25**	**0.90**	**6.43**	**0.40**	**0.52**	**25.97**
		Lens 3	1.99	0.85	3.29	0.14	0.27	14.71
		Stringer Zone	0.70	1.38	0.62	0.04	0.35	13.34
		Copper Stockwork Zone	**10.30**	**1.43**	**0.28**	**0.02**	**0.40**	**9.30**
		Copper Stockwork Footwall Zone	0.71	1.60	1.04	0.04	0.54	11.47
		Total	**22.95**	**1.17**	**3.05**	**0.19**	**0.44**	**16.68**

NSR Cut-Off	Classification Category	Mineralized Domain (Zone)	Tonnage (Mt)	Cu (%)	Zn (%)	Pb (%)	Au (g/t)	Ag (g/t)
	Inferred	Main Lens – Massive Sulphide	2.97	1.29	4.79	0.29	0.47	23.58
		Copper Stockwork Zone	8.18	1.42	0.76	0.03	0.47	11.63
		Total	**11.15**	**1.38**	**1.83**	**0.10**	**0.47**	**14.81**
US $45/t	Indicated	Main Lens – Massive Sulphide	9.31	0.90	6.41	0.40	0.51	25.93
		Lens 3	2.23	0.84	3.07	0.13	0.27	14.31
		Stringer Zone	0.97	1.25	0.61	0.04	0.31	12.84
		Copper Stockwork Zone	12.12	1.34	0.27	0.02	0.36	8.74
		Copper Stockwork Footwall Zone	0.86	1.50	0.90	0.04	0.48	10.39
		Total	**25.49**	**1.14**	**2.79**	**0.17**	**0.41**	**15.72**
	Inferred	Main Lens – Massive Sulphide	3.05	1.26	4.74	0.30	0.46	23.48
		Copper Stockwork Zone	9.61	1.33	0.74	0.03	0.43	11.03
		Total	**12.66**	**1.31**	**1.70**	**0.09**	**0.44**	**14.03**

1.7.6 Changes to the Resource Estimate Since the 2013 RPA Estimate

This section has been added to allow the reader to see the comparison between the May, 2019, mineral resource estimate and the previous 2013 estimation. The comparison indicates an increase of Indicated tonnes from 13.9 Mt in 2013 to 23.0 Mt in 2019 (65% increase), and a slight decrease in Inferred resources from 11.3 Mt to 11.2 Mt in 2019 (<1% decrease). These changes are based on based on the addition of infill drilling which increased the confidence of the geological interpretation and the resource estimate. Remodeling of all domains, and the addition of 2 new domains, the FW and Stringer domains, also played an important role in the resource number increase.

A notable change from the previous model is the addition of additional specific gravity measurements, which were used to better estimate the density of the mineralization. Densities contained in the 2013 mineral resource estimate were based on an oversimplified, linear regression equation (using only Zn). In 2019, a more robust density database was used to estimate values throughout the model. This resulted in an increase of the estimated mean density for the two main domains, CSZ and MS, which better reflects the style and type of mineralization. In the CSZ domain, the mean density increases from 2.84 g/cm^3 in 2013 to 2.93 g/cm^3. The mean density for the MS domain shows a more significant increase from 3.18 g/cm^3 in 2013 to 3.71 g/cm^3 in 2019.

Table 14.14 compares the 2019 and 2013 resource estimates.

Table 1.5
Comparison of the 2019 and 2013 Resource Estimates

Date of Estimate	Classification Category	Tonnes (Mt)	Zn (%)	Cu (%)	Ag (g/t)	Au (g/t)	Zn (Mlb)	Cu (Mlb)	Ag (Koz)	Au (Koz)
May, 2019	Indicated	22.95	3.05	1.17	16.68	0.44	1,545	593	12,307	324
	Inferred	11.15	1.83	1.38	14.81	0.47	450	340	5,312	169
January, 2013	Indicated	13.9	2.67	1.28	17.1	0.49	818	392	7,642	219
	Inferred	11.3	2.97	1.32	17.5	0.43	740	329	6,358	156
Difference between Estimates	Indicated	65%	14%	-8%	-2%	-10%	89%	51%	61%	48%
	Inferred	-1%	-38%	5%	-15%	10%	-39%	3%	-16%	8%

The 2013 estimation had two separate domains for what now comprises the MS domain. Historically UWZ and Lens 2 were always considered as a continuous geological unit with a Cu enrichment on the upper portion called UWZ. The analysis summarized in this report demonstrated that a hard-internal boundary was not justified given the nature of VMS deposits to exhibit gradational metal zonation within the massive sulphide lenses. The use of a hard boundary within the massive area of the deposit, would have masked the transitional character of the grade variability, and falsely indicated a more clear-cut distinction between "Cu-rich" and "Zn-rich" mineralization.

1.8 CONCLUSIONS

Foran's exploration activities conducted since the last mineral resource estimate by RPA in 2013 have been successful in increasing the confidence in the geological interpretation of the deposit as well as increasing the mineral resources. Micon and its QPs believe that the current mineral resource estimate is robust and the data upon which the estimate is based is suitable for use as the basis of the Feasibility Study which Foran is undertaking at the current time.

1.9 EXPLORATION BUDGET AND OTHER EXPENDITURES

Since acquiring the mining permits comprising the McIlvenna Bay Property, Foran has completed a number of economic studies as well as exploration and drilling programs on both the McIlvenna Bay deposit and a number of secondary targets or zones. Foran has managed to outline potentially economic mineralization in the upper portion the McIlvenna Bay deposit but it remains open down plunge and at depth.

The upper portion of the mineralization has seen sufficient drilling to confidently classify a portion of the mineralization as indicated according to the current (2014) CIM guidelines. The mineralization encountered in the deeper portions of the deposit continues to be classified as inferred at this time. It is believed that future drilling programs will be able to upgrade the inferred material to indicated as well as defining further mineralization at depth and down plunge of the current mineral resource estimate. At this time, no further drilling of the deposit from surface has been outlined by Foran as it believes that it would be more cost effective to drill the deeper parts of the deposit from underground in the future. Micon and its QP concur with this approach for future drilling.

During the remaining portion of 2019, Foran is planning to conduct the studies and engineering necessary to complete a Feasibility Study of its McIlvenna Bay Project. Foran's proposed budget expenditures to complete the Feasibility Study and acquire permits are summarized in Table 26.1.

Table 1.6
Foran Budget Expenditures 2019

Remaining Direct Engineering Studies	Estimated Cost (CAD)
Geomechanical	$35,335
Hydrogeology	$44,979
Metallurgical	$109,702
Infrastructure	$265,902
Underground Mining	$484,527
Tailings/Other Ancillary Services	$90,059
Subtotal:	**1,030,504**
Other Feasibility Costs	
QP Services / Review / NI 43-101 Reporting	$206,472
Feasibility Study Management	$126,600
Environmental and Permitting	
Permitting	$100,000
Baseline & Other	$21,920
Community Engagement	$51,117
Subtotal:	**506,109**
Total	**1,536,613**

Micon and its QPs agree with the direction of Foran's further studies and regards the expenditures and studies as appropriate. Micon and its QPs realizes that the nature of the programs and expenditures may change as the Feasibility Study advances due to various causes and that the final expenditures and results may not be the same as originally proposed.

1.10 FURTHER RECOMMENDATIONS

Micon's QPs understand that Foran will look at conducting further exploration programs on the McIlvenna Bay deposit from underground in order to gain further knowledge regarding the true extent of the base metal mineralization and conduct a Feasibility Study on the McIlvenna Bay deposit which occupies a portion of Foran's land position. In that context, Micon's QPs make the following additional recommendations:

1. Micon recommends that Foran completes its ongoing Feasibility Study.
2. Micon recommends that the any future exploration drilling on the McIlvenna Bay deposit should be conducted from underground.
3. Micon recommends that Foran continue to conduct exploration on the secondary deposits on the McIlvenna Bay property so that it may be able to outline secondary deposits which may contribute to mining production in the future.

2.0 INTRODUCTION

2.1 TERMS AND REFERENCE

At the request of Mr. Patrick Soares, President and CEO of Foran Mining Corporation (Foran), Micon International Limited (Micon) has been retained to audit and take responsibility for the mineral resource estimate conducted on the McIlvenna Bay Project (McIlvenna Bay Project) in Saskatchewan, Canada and compile a Canadian National Instrument (NI) 43-101 Technical Report disclosing the results of that estimate. This is Micon's first Technical Report on the McIlvenna Bay Project.

This report discloses technical information, the presentation of which requires Micon's Qualified Persons (QPs) to derive sub-totals, totals and weighted averages that inherently involve a degree of rounding and, consequently, introduce a margin of error. Where these occur, the authors and Micon do not consider them to be material.

The conclusions and recommendations in this report reflect the QPs best independent judgment in light of the information available to them at the time of writing. Micon and the QPs reserve the right, but will not be obliged, to revise this report and conclusions if additional information becomes known to them subsequent to the date of this report. Use of this report acknowledges acceptance of the foregoing conditions.

This report is intended to be used by Foran subject to the terms and conditions of its agreements with Micon. That agreement permits Foran to file this report as a Technical Report on SEDAR (www.sedar.com) pursuant to provincial securities legislation or with the SEC in the United States. Except for the purposes legislated under provincial securities laws, any other use of this report, by any third party, is at that party's sole risk.

Neither Micon nor the QPs have, nor have they previously had, any material interest in Foran or related entities. The relationship with Foran is solely a professional association between the client and the independent consultants. This report is prepared in return for fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.

Micon and the QPs are pleased to acknowledge the helpful cooperation of Foran management and consulting field staff, all of whom made any and all data requested available and responded openly and helpfully to all questions, queries and requests for material.

2.2 DISCUSSIONS, MEETINGS, SITE VISITS AND QUALIFIED PERSONS

A site visit was conducted between August 16 and August 18, 2018, during which the McIlvenna Bay property was inspected, and various aspects of the Project were discussed. The exploration programs for the Project were also discussed in detail and the onsite exploration Quality Assurance and Quality Control (QA/QC) procedures were reviewed.

The QPs responsible for the preparation of this report and their areas of responsibility and site visits are noted in **Error! Reference source not found.**.

Table 2.1
Qualified Persons, Areas of Responsibility and Site Visits

Qualified Person	Title and Company	Area of Responsibility	Site Visit
William J. Lewis, B.Sc. P.Geo.	Senior Geologist	1 through 12 (except 12.3), 14 (except 14.10.2), 23 through 26	2018/08/16 to 2018/08/18
Ing. Alan San Martin, MAusIMM(CP)	Mineral Resource Specialist	12.3	None
Richard Gowans, P.Eng.	President and Principal Metallurgist	13	None
NI 43-101 Sections not applicable to this report		15,16,17,18,19,20,21 and 22	

Messrs. Lewis, San Martin and Gowans are all employees of Micon.

2.3 Sources of Information

Micon's review of the McIlvenna Bay Project was based on published material researched by the QPs, as well as data, professional opinions and unpublished material submitted by the professional staff of Foran or its consultants. Much of these data came from reports prepared and provided by Foran. The information sources for this report are noted in Section 28.0.

The descriptions of geology, mineralization and exploration used in this report are taken from reports prepared by various organizations and companies or their contracted consultants, as well as from various government and academic publications. The conclusions of this report use, in part, data available in published and unpublished reports supplied by the companies which have conducted exploration on the property, and information supplied by Foran. The information provided to Foran was supplied by reputable companies and the QPs have no reason to doubt its validity and has used the information where it has been verified through its own review and discussions.

Some of the figures and tables for this report were reproduced or derived from reports on the property written by various individuals and/or supplied to the QPs by Foran. Most of the photographs were taken by Mr. Lewis during his August, 2018 site visit. In cases where photographs, figures or tables were supplied by other individuals or Foran, the source is referenced below that item.

2.4 Units of Measurement and Abbreviations

All currency amounts, costs are stated in Canadian dollars (CAD) unless otherwise stated. US dollars (US$ or $) are generally used for commodity prices. Quantities are generally stated in metric units, the standard Canadian and international practice, including metric tonnes (t) and kilograms (kg) for mass, kilometres (km) or metres (m) for distance, hectares (ha) for area, grams (g) and grams per metric tonne (g/t) for gold and silver grades (g/t Au, g/t Ag). Wherever applicable, Imperial units have been converted to Système International d'Unités (SI) units for reporting consistency. Precious and Base metal grades may be expressed in parts per million (ppm) or parts per billion (ppb) and their quantities may also be reported in troy ounces (ounces, oz) for precious metals and in pounds (lbs) for base metals, a common practice in the mining industry. A list of abbreviations is provided in Table 2.2. Appendix 1 contains a glossary of mining and other related terms.

Table 2.2
List of Abbreviations

Name	Abbreviation
Adsorption/desorption/reactivation	ADR
Annum	a
Aquatic study area	ASA
ASKI Resource Management and Environmental Services	ASKI
Atomic Absorption	AA
Base Metallurgical Laboratories Ltd.,	Base Metallurgical
Billiton Metals Canada Inc.	BHP Billiton
Bondar-Clegg & Company Ltd.	Bondar-Clegg
Borehole electromagnetic surveys	BHEM
Cameco Corporation	Cameco
Canadian Association for Laboratory Accreditation	CALA
Canadian dollars	CAD
Canadian Institute of Mining, Metallurgy and Petroleum	CIM
Canadian National Instrument 43-101	NI 43-101
Canadian National Topographic System	NTS
Canadian Securities Administrators	CSA
Centimetre(s)	cm
Copper Reef Mining Corporation	Copper Reef
Copper Stringer Zone or Copper Stockwork Zone	CSZ
Crown Reserve	CR
Degree(s), Degrees Celsius	°, °C
Digital elevation model	DEM
Eco-Tech Laboratories	Eco-Tech
Electromagnetic	EM
Environmental Assessment	EA
Esso Minerals Canada	Esso
Fire Assay	FA
Fire Assay-Atomic Absorption	FA-AA
Flin Flon Greenstone Belt	FFGB
Foran Mining Corporation	Foran
Geosight Consulting Canada	Geosight
Geospark Consulting Inc.	Geospark
Grams per metric tonne	g/t
Graphite	C
Graphic Carbon	GC
Hectare(s)	ha
Horizontal Loop Electromagnetic	HLEM
Hour	h
Hudbay Minerals Inc.	Hudbay
Inductively Coupled Plasma – Emission Spectrometry	ICP-ES

Name	Abbreviation
Internal diameter	ID
JDS Energy & Mining Inc.	JDS
Kilogram(s)	kg
Kilometre(s)	km
KWM Consulting Inc.	KWM
Life of mine	LOM
Litre(s)	L
Local study area	LSA
Massive Sulphide Zone	L2MS or MS
Metre(s)	m
Micon International Limited	Micon
Mid-Ocean Ridge Belts	MORBs
Million (e.g. million tonnes, million ounces, million years)	M (Mt, Moz, Ma)
Milligram(s)	mg
Millimetre(s)	mm
Mineral Administration Registry Saskatchewan	MARS
Miscellaneous Use Permit	MUP
M’Ore Exploration Services Ltd	M’Ore
Net Smelter Return	NSR
Not available/applicable	n.a.
Ounces (troy)/ounces per year	oz, oz/y
Parrex Mining Syndicate	Parrex
Parts per billion, part per million	ppb, ppm
Percent(age)	%
Peter Ballantyne Cree Nation	PBCN
Preferred Sands of Canada	Preferred Sands
Quality Assurance/Quality Control	QA/QC
Regional study area	RSA
Rock Quality Designation	RQD
Saskatchewan Mining Development Corporation	SMDC
Saskatchewan Ministry of Environment	MOE
Saskatchewan Research Council’s Geoanalytical Services Laboratory	SRC
Specific gravity	SG
Square kilometre(s)	km^2
Standards Council of Canada	SCC
System for Electronic Document Analysis and Retrieval	SEDAR (www.sedar.com)
Terra Mineralogical Services Inc.	Terra
TerraMin Research Labs Ltd.	TerraMin
Three-dimensional	3D
Time-Domain Electromagnetic	TEM
Tonne (metric)/tonnes per day, tonnes per hour	t, t/d, t/h
Tonne-kilometre	t-km
Tonnes per cubic metre	t/m^3
TSL Laboratories Inc.	TSL
United States of America	US
United States Bureau of Mines	USBM
United States Dollar(s)	US$, $
United States Geological Survey	USGS
United States Securities and Exchange Commission	SEC
Universal Transverse Mercator	UTM
Upper West Massive Sulphide Zone	UW-MS or UW

Name	Abbreviation
Value Added Tax (or IVA)	VAT or IVA
Volcanogenic massive sulphide	VMS
Western Nuclear Mines Ltd	Western Nuclear
XRAL Laboratories Ltd.	XRAL
Year	y

3.0 RELIANCE ON OTHER EXPERTS

In this Technical Report, discussions regarding royalties, permitting, taxation, and environmental matters are based on material provided by Foran. The QPs and Micon are not qualified to comment on such matters and have relied on the representations and documentation provided by Foran for such discussions.

All data used in this report was originally provided by Foran. The QPs have reviewed and analyzed this data and have drawn their own conclusions therefrom. The QPs' comments are augmented where applicable by their direct field examinations during their site visit.

The QPs and Micon offer no legal opinion as to the validity of the title to the mineral concessions claimed by Foran and in that regard have relied on information provided by it.

4.0 PROPERTY DESCRIPTION AND LOCATION

The following section has been extracted from the 2015 Preliminary Economic Assessment Technical Report for the McIlvenna Bay Project (the 2015 Technical Report) prepared by JDS Energy & Mining Inc. (JDS), and updated or edited where necessary.

4.1 GENERAL DESCRIPTION AND LOCATION

McIlvenna Bay Project (deposit) occurs within Foran's McIlvenna Bay property located approximately 1 km south of Hanson Lake, Saskatchewan. The property is also approximately 375 km northeast of Saskatoon and 65 km west-southwest of Flin Flon, Manitoba (Figure 4.1). McIlvenna Bay is located within Canadian National Topographic System (NTS) sheet 63L10 and the plan projection of the deposit is centred on UTM coordinates 640,600 E and 6,056,200 N (NAD 83, Zone 13). The corresponding geographic coordinates are 102°50' W and 54°38" N. The McIlvenna Bay deposit is located well within the property boundaries.

4.2 OWNERSHIP, LAND TENURE AND PROPERTY AGREEMENTS

4.2.1 Ownership and Land Tenure

Foran owns 100% of the McIlvenna Bay property.

The entire McIlvenna Bay property comprises 38 claims totalling 20,954 ha (Figure 4.2). The tabulation of the relevant claim information is summarized in Table 4.1. The claims are listed in the name of Foran and are kept in good standing at the discretion of Foran. Foran has engaged an independent firm to track and maintain the claims in good standing. The information contained within this report was provided by Foran and/or it's designates.

4.2.2 Property Agreements

On January 25, 2005, Foran announced that it had entered into a definitive agreement with Cameco Corporation (Cameco) and Billiton Metals Canada Inc. (BHP Billiton), collectively the Hanson Lake Joint Venture, which allowed Foran to acquire a 100% interest in the McIlvenna Bay property (including the McIlvenna Bay copper-zinc deposit). Foran would acquire 100% of the McIlvenna Bay property by:

- Paying $1,500,000 to the Hanson Lake Joint Venture.
- Paying a further $2,000,000 to the Hanson Lake Joint Venture before May 31, 2006.
- Providing the Hanson Lake Joint Venture with a 1% Net Smelter Return (NSR), with a buy-out provision in favour of Foran for the purchase of the whole NSR for $1,000,000 at any time.

Figure 4.1
McIlvenna Bay Project Location Map

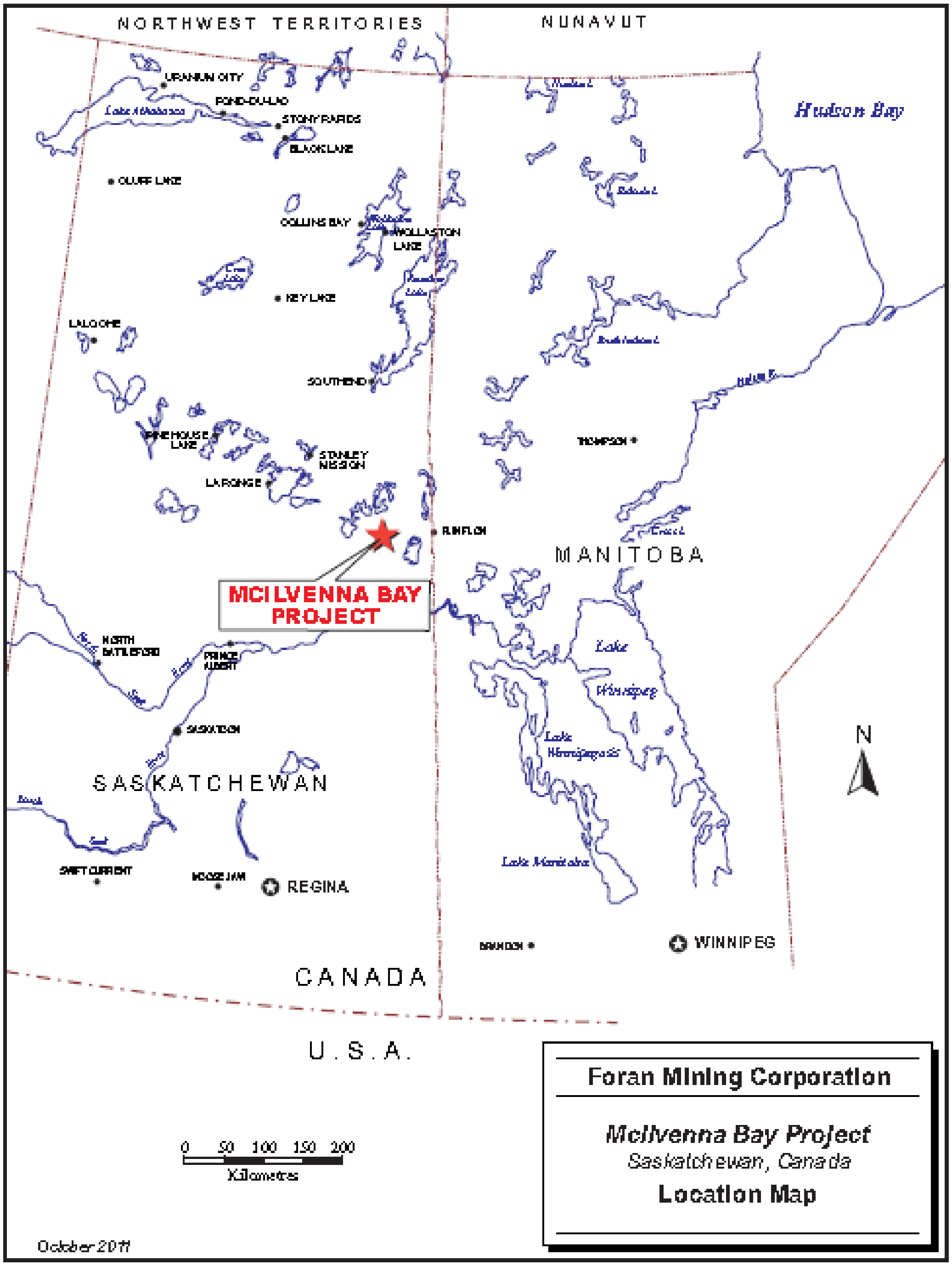


Figure extracted from the 2015 Technical Report, figure originally Foran, 2011.

Figure 4.2
McIlvenna Bay Project Property Map

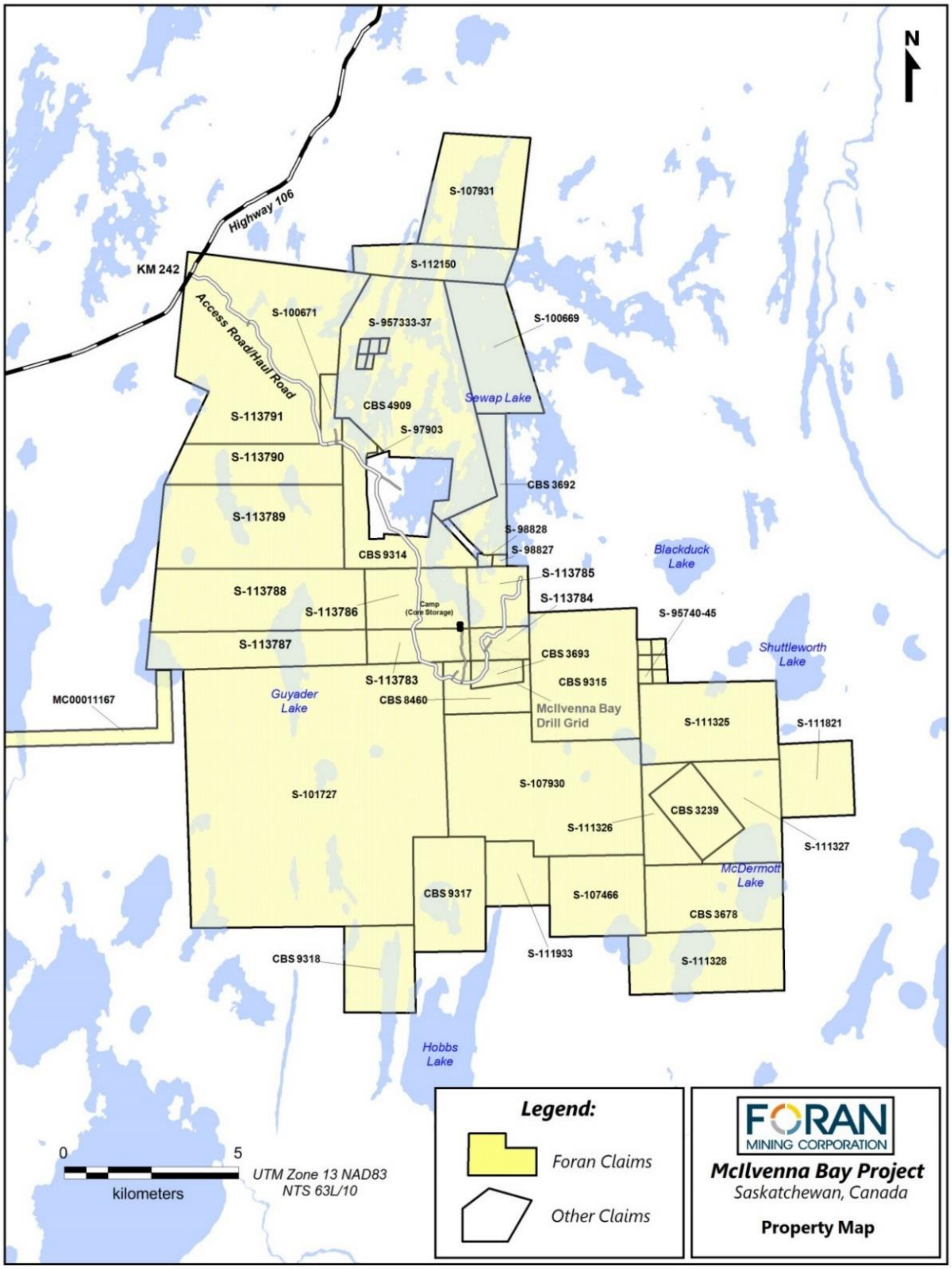


Figure supplied by Foran, June, 2019.

Table 4.1
Claim Status for the McIlvenna Bay Property

Property	Disposition No	Owners[1]	Claim Staking Date	Claim Expiry Date	Hectares
McIlvenna Bay	S-113791	Foran Mining Corporation	2011/03/21	2028/06/18	2,255.55
McIlvenna Bay	S-113790	Foran Mining Corporation	2011/03/21	2028/06/18	571.124
McIlvenna Bay	S-113789	Foran Mining Corporation	2011/03/21	2028/06/18	1,261.65
McIlvenna Bay	S-113788	Foran Mining Corporation	2011/03/21	2028/06/18	1,107.29
McIlvenna Bay	S-113787	Foran Mining Corporation	2011/03/21	2028/06/18	624.66
McIlvenna Bay	S-113786	Foran Mining Corporation	1976/12/01	2030/02/28	518.836
McIlvenna Bay	S-113785	Foran Mining Corporation	1976/12/01	2030/02/28	305.373
McIlvenna Bay	S-113784	Foran Mining Corporation	1976/12/01	2030/02/28	157.614
McIlvenna Bay	S-113783	Foran Mining Corporation	1976/12/01	2030/02/28	278.443
McIlvenna Bay	S-101727	Foran Mining Corporation	1991/01/08	2028/04/06	5,283.66
McIlvenna Bay	CBS 8460	Foran Mining Corporation	1988/03/14	2028/06/11	270.35
McIlvenna Bay	S-95733	Foran Mining Corporation	1978/05/01	2028/07/29	12.63
McIlvenna Bay	S-95734	Foran Mining Corporation	1978/05/01	2028/07/29	12.57
McIlvenna Bay	S-95735	Foran Mining Corporation	1978/05/01	2028/07/29	10.58
McIlvenna Bay	S-95736	Foran Mining Corporation	1978/05/01	2028/07/29	8.71
McIlvenna Bay	S-95737	Foran Mining Corporation	1978/05/01	2028/07/29	11.42
McIlvenna Bay	S-97903	Foran Mining Corporation	1990/06/12	2027/09/09	5.51
McIlvenna Bay	CBS 3693	Foran Mining Corporation	1988/02/22	2031/05/22	107.65
McIlvenna Bay	S-111933	Foran Mining Corporation	2011/03/21	2028/06/18	318.68
McIlvenna Bay	S-100671	Foran Mining Corporation	1989/10/19	2029/01/16	102.71
McIlvenna Bay	S-112150	Foran Mining Corporation	2011/03/21	2028/06/18	434.06
McIlvenna Bay	S-107931	Foran Mining Corporation	2006/06/12	2026/09/09	859.02
McIlvenna Bay	S-95741	Foran Mining Corporation	1978/05/01	2028/07/29	17.15
McIlvenna Bay	S-95742	Foran Mining Corporation	1978/05/01	2028/07/29	17.88
McIlvenna Bay	S-95745	Foran Mining Corporation	1978/05/01	2028/07/29	18.79
McIlvenna Bay	CBS 3692	Foran Mining Corporation	1989/06/20	2025/09/17	315.53
McIlvenna Bay	S-100669	Foran Mining Corporation	1989/04/24	2028/07/22	683.88
McIlvenna Bay	CBS 4909	Foran Mining Corporation	1977/04/14	2027/07/12	1,845.78
McIlvenna Bay	CBS 9314	Foran Mining Corporation	1976/12/01	2027/02/28	587.28
McIlvenna Bay	CBS 9315	Foran Mining Corporation	1976/12/01	2027/02/28	1,147.90
McIlvenna Bay	CBS 9317	Foran Mining Corporation	1976/12/01	2027/02/28	675.21
McIlvenna Bay	CBS 9318	Foran Mining Corporation	1976/12/01	2027/02/28	504.09
McIlvenna Bay	S-95740	Foran Mining Corporation	1978/05/01	2028/07/29	16.29
McIlvenna Bay	S-95743	Foran Mining Corporation	1978/05/01	2028/07/29	16.54
McIlvenna Bay	S-95744	Foran Mining Corporation	1978/05/01	2028/07/29	17.84
McIlvenna Bay	S-98827	Foran Mining Corporation	1986/04/07	2029/07/05	13.63
McIlvenna Bay	S-98828	Foran Mining Corporation	1986/04/07	2029/07/05	15.21
McIlvenna Bay	MC00011167	Foran Mining Corporation	2018/05/28	2020/08/20	543.25
Total					**20,954.34**

Claim data supplied by Foran, 2019.
Notes: [1]Foran owns 100% of the claims.

Foran agreed to assign its interest in the Property Option Agreement between Foran, Cameco, and BHP Billiton to Copper Reef Mines Ltd., newly named Copper Reef Mining Corporation (Copper Reef), a private company organized under the laws of Manitoba. Copper Reef had funded the initial $1.5 million payment and agreed to issue to Foran 5,500,000 common shares of Copper Reef. Subject to regulatory approval, Foran also agreed to subscribe for 2,500,000 units of Copper Reef at a price of $0.20 per unit, which gave Foran a 48.41% equity interest in Copper Reef. Copper Reef is a public company organized under the laws of the Province of Manitoba that trades on the Canadian Stock Exchange.

In a subsequent event, Foran and Copper Reef were in dispute regarding the assignment agreement concerning the Property Option Agreement for McIlvenna Bay. This matter was resolved on May 24, 2006, and under that settlement, Foran made a payment of $2,000,000 for McIlvenna Bay. Foran's $1,500,000 payment to the Hanson Lake Joint Venture on behalf of Copper Reef (Foran contributed $500,000 to Copper Reef for that payment on January 25, 2005) stayed in the Project. Foran gave Copper Reef a 25% interest in the claims, retained 75% for itself, and entered into a joint venture agreement with Copper Reef in which Foran was the operator. Foran retained approximately 25% of shares of Copper Reef and could maintain that percentage through participation in future Copper Reef fund raising. The original 1% NSR in favour of the original Hanson Lake Joint Venture remained the responsibility of the current Foran-Copper Reef joint venture.

On November 3, 2010, Foran announced the closure of an agreement for acquisition of Copper Reef's 25% interest in the McIlvenna Bay property. The deal included transfer to Foran of 3,000,000 Copper Reef shares, and the nearby North Hanson property. In exchange, Copper Reef received 4,000,000 Foran shares (to hold 8% on a non-diluted basis), $1,000,000 cash, a Net Tonnage Royalty of CAD 0.75/t on future ore produced from the property, and five Manitoba properties selected by Copper Reef from Foran's portfolio.

4.3 MINING RIGHTS IN SASKATCHEWAN

Overall regulation of tenure over Mineral Resources in Saskatchewan is conducted under the Crown Minerals Act. The disposition of mineral tenures in Saskatchewan is administered by the Mineral, Lands, and Policy Division of the Ministry of the Economy. Claims on open Crown land, not otherwise reserved from staking, can be applied for via an online facility called the Mineral Administration Registry Saskatchewan (MARS). Mineral tenures comprise claims, permits, and leases. Dispositions acquired before the implementation of MARS are termed "legacy" dispositions, and these are allowed to be held as is until they have been cancelled, surrendered, or otherwise terminated.

Mineral Permits are conveyed for a two-year non-renewable term and may range from 10,000 ha to 50,000 ha in size. The boundary of the area claimed must be configured such that the length is no more than six times the width. They require the posting of a $30,000 performance bond and require expenditures of at least $5.25 per ha over the two-year term of the permit. The bond is refunded when the holder of the permit has complied with the expenditure requirements. All or part of a permit may be converted to a Mineral Claim.

Mineral Claims are smaller but may be maintained for a longer time period than a Mineral Permit. Claims may range from 16 ha to 6,000 ha in size, again, with dimensions such that the length must not exceed six times the width. The term of the tenure is one year, which is renewable upon exploration expenditures according to the following schedule:

- Year two to year ten: $15/ha.
- Thereafter: $25/ha.

Both Permits and Claims grant the exclusive right to explore Crown lands, but not the right to remove minerals from the tenure, except for the following activities:

- Assaying and testing.
- Metallurgical, mineralogical, or other scientific studies.

Bulk sampling may be conducted, although any minerals recovered in the program remain the property of the Crown.

4.4 PERMITTING, ENVIRONMENTAL AND SURFACE RIGHTS

4.4.1 Permitting and Surface Rights

Foran has acquired one Industrial Lease for the current exploration camp (#303228), established in 2011, and a second lease for the old campsite located near the deposit (#303458), along with one Miscellaneous Use Permit (MUP #603298) for the camp wastewater lagoon from the Ministry of Environment. These leases/permits are in addition to the pre-existing MUP #602369 for maintenance of the last 8.6 km of private road from the gate at the old Hanson Lake Mine site (public road) to McIlvenna Bay.

There is an old silica sand quarrying operation near McIlvenna Bay which ceased operations in 2014. The site has subsequently been re-claimed and Foran has purchased five quarry dispositions that overlap the McIlvenna Bay deposit. Some additional quarry staking took place west and northwest of McIlvenna Bay in January and February, 2012. On December 8, 2012, the Saskatchewan Ministry of Energy and Resources placed a Crown Reserve (CR #965) over McIlvenna Bay that restricts additional quarry staking in the deposit area and subsequently the quarry disposition regulations were amended by the Saskatchewan Government to remove areas of existing mineral tenure from availability for the granting of new dispositions.

The company reports that with the purchase of the over-lapping quarry dispositions, the establishment of the Crown Reserve and changes to the quarry disposition staking regulations by the Saskatchewan Government, the potential land-use conflict between the development of the McIlvenna Bay deposit and quarrying operations has been effectively addressed. The overlapping quarry dispositions were purchased from Preferred Sands on December 22, 2014. Micon's QP is not aware of any other constraints on access rights to the property.

Surface rights for the McIlvenna Bay property are retained by the Saskatchewan government and are subject to potential further Industrial Licences and permits should Foran need to expand it footprint on the property.

4.4.2 Social, Community and Land Claims

McIlvenna Bay is located near Hanson Lake in east-central Saskatchewan, approximately 375 km northeast of Saskatoon, Saskatchewan. The closest large communities include Creighton, Saskatchewan and Flin Flon, Manitoba, which are located approximately 65 km west-southwest of the Project. Creighton and Flin Flon have a combined population of approximately 7,100 residents, with 5,600 living in Flin Flon and the remainder in Creighton (Statistics Canada 2012a, 2012b). The economy of the area is primarily based on copper and zinc mining, while tourism and forestry are also of some importance.

HudBay Minerals Inc. (HudBay) operates several mines in the Flin Flon/Snow Lake areas as well as a mill and zinc processing plant in Flin Flon. The 777 Mine located in Flin Flon is nearing the end of its operating life. HudBay recently announced that the mine will reach the end of its reserve life in Q2 2022 (HudBay news release May 6, 2019). At this time, it is unclear what the future plans are for the company or the operations in the area. This is potentially an unfortunate occurrence for the community but should Foran proceed with developing the Project, once its current Feasibility Study is completed, it will mean that potentially there will be a trained workforce available for the Project.

McIlvenna Bay lies within the area traditionally occupied by the Peter Ballantyne Cree Nation (PBCN), which is made up of approximately 9,000 members living on more than 36 reserves and/or settlements. The PBCN’s traditional territory encompasses roughly 52,000 km^2, from the Saskatchewan/Manitoba border west to the west end of Trade Lake, north to Reindeer Lake, and south to Sturgeon Landing. The Project is located approximately 55 kilometres (km) southeast of the settlement of Deschambault Lake and approximately 100 km west of the community of Denare Beach. Approximately 1,500 PBCN members reside in these communities.

The isolated nature of these communities creates special circumstances for PBCN members working to strengthen their local economies and personal economic well-being. Although rich in natural resources, this sparsely populated region is challenged by infrastructure, education levels, and average income when compared to the rest of the province.

Foran has conducted consultation sessions for the Project in the communities of Deschambault Lake and Denare Beach. Foran also initiated a Traditional Land Use/Knowledge Inventory Study which was completed by ASKI Resource Management and Environmental Services in 2012 (ASKI, 2012). During the study, members of the PBCN communities surveyed clearly articulated their continuing reliance on large game, fish, and waterfowl as well as innumerable plant species, to provide for the physical, social, and spiritual needs of the boreal forest inhabitants.

While most acknowledged that the mining sector does provide the potential for employment and to create spin-off opportunities such as service business in catering, janitorial, trucking, security, grocery and retail supplies, such development must be tempered against the continued reliance of PBCN members on the waters, lands and forests relied on for sustenance, livelihood and spiritual support. As the Project proceeds, Foran will continue to engage the traditional users of the Project area in order to receive input on potential ways and means to minimize, to the extent possible, negative impacts on the traditional use of the lands in the vicinity of McIlvenna Bay site.

4.4.3 Environmental

The Project area lies in the Boreal Plain Ecozone on the boundary of two Ecoregions: the Namew Lake Upland landscape area of the Mid-Boreal Lowland Ecoregion, and the Flin Flon Plain landscape area of the Churchill River Upland Ecoregion. The boundary between these two ecoregions passes through McIlvenna Bay on Hanson Lake, such that the northern part of the study area lies in the Churchill River upland, and the southern part lies in the Mid-Boreal Lowland.

The Namew Lake Upland landscape area of the Mid-Boreal Lowland Ecoregion is characterized by a gently undulating to nearly level landscape, featuring deciduous and coniferous forests with numerous wetlands. Vegetation is generally influenced by landscape and soil types. Peatlands, which comprise approximately one third of the ecoregion, typically consist of tamarack and black spruce interspersed with wet meadows. The Flin Flon Plain landscape area of the Churchill River Upland Ecoregion lies in eastern Saskatchewan's southernmost stretch of Precambrian Shield. Bedrock predominates in this area, with thin deposits of sandy glacial till or glaciolacustrine silt and clay. Vegetation of the Flin Flon Plain landscape is characterised by mixed wood forests. Black spruce is the most common tree species and is largely found in poorly drained peaty areas along with tamarack; however, black spruce is not as abundant as it is in other landscape areas of the boreal shield.

Extensive mining and exploration activities associated with other metal and silica sand mining projects have occurred in the Project area; therefore, the area does not represent undisturbed baseline conditions. Exploration of McIlvenna Bay began in 1988, when it was discovered by Cameco and Esso Minerals Canada (Esso). Cameco suspended exploration in 1991. The Project was optioned by Foran in 1998. Several drill programs were completed between 1998 and 2000, and again between 2011 and 2013. Drilling programs have also been conducted by Foran from 2014 to present during both the winter and summer months.

The site of the past-producing Hanson Lake Mine, operated by Western Nuclear Mines Ltd., (Western Nuclear) lies approximately 5 km north of McIlvenna Bay on the western shore of Bertrum Bay. The mine operated between 1966 and 1969 and mined a high-grade copper/zinc/lead VMS deposit. A natural basin north of the mine site was dammed for tailings containment, and runoff from the tailings area originally reported to Bertrum Bay; however, surface flows from the former site currently enter both Bertum Bay and Mine Bay.

A number of remediation efforts have been completed for the Saskatchewan Ministry of Environment (MOE) regarding this abandoned mine.

A silica sand mine operated by Preferred Sands was located in the immediate vicinity of the Project, approximately 3.6 km from McIlvenna Bay. Production from the site ceased in 2014 and the development area has been re-claimed. This mine was formerly operated by Winn Bay Sand Limited Partnership. Another silica sands project in the area operated by Strong Pine Energy Services (formerly Hanson Lake Sands Company Ltd.) is in the exploration phase.

4.4.3.1 Aquatic Resources

The aquatic study area (ASA) includes a number of lakes and streams, all of which ultimately flow into Hanson Lake, which drains into the Sturgeon-Weir River. The Sturgeon-Weir River then flows through several large lakes (Amisk Lake, Namew Lake, and Cumberland Lake) to join the Saskatchewan River near Cumberland House. The Saskatchewan River forms part of the Nelson River system, which ultimately discharges into Hudson Bay.

At least 15 species of fish are known to be present in McIlvenna Bay ASA, including lake whitefish, northern pike, walleye, white sucker, and yellow perch; however, none of these species are considered to be of conservation concern. Unnamed Pond is the only waterbody in the Project ASA which does not contain fish. Aquatic habitat mapping indicated a variety of habitat types are present in McIlvenna Bay ASA, with suitable habitat for fish spawning, rearing, feeding, and overwintering provided by most waterbodies. Evidence of spawning (i.e., eggs) by northern pike and yellow perch was abundant throughout most of the ASA, and the Bad Carrot River was found to be an important spawning migration route/area for white sucker, walleye, northern pike, and yellow perch.

4.4.3.2 Terrestrial Resources

A number of vegetation species considered rare in the province of Saskatchewan were identified in the Project local study area (LSA) and regional study area (RSA), with conservation rankings ranging from S1 to S3S4 (rare to uncommon). It is noted that the provincial Activity Restriction Guidelines for Sensitive Species apply to vegetation species with conservation rankings between S1 and S3, thus, mitigation for these species may be required (MOE 2014).

Additionally, 63 of the plant species observed within the Project LSA and RSA have documented traditional uses by the Cree and/or Dene people of northern Saskatchewan (Marles 1984; Marles et al 2008, Moerman 2010), although it should be noted that many of these plants are common and widely distributed in the Mid-boreal Lowland and/or Churchill River Upland ecoregions.

A total of 15 species of provincial and federal conservation priority were observed during wildlife field surveys and incidentally in the Project LSA and RSA. Seven of these species are listed federally as species at risk, including common nighthawk (threatened), olive-sided flycatcher (threatened), rusty blackbird (special concern), barn swallow (special concern), horned grebe (special concern), northern leopard frog (special concern), and boreal woodland caribou (threatened). Other observed species that are not federally listed but are considered sensitive in Saskatchewan include bald eagle, Franklin's gull, osprey, American white pelican, double-crested cormorant, common tern, and Canadian toad. McIlvenna Bay LSA and RSA are considered to provide a moderate to high amount of suitable habitat for the species listed above based on field data and supervised satellite image habitat classification.

4.4.3.3 Heritage Resources

One previously unrecorded heritage resource, GdMq-1, was discovered during the HRIA conducted in the Project LSA during the baseline program. GdMq-1 was found to be of significance due to the discovery of a quartz biface, which is a stone cutting tool or knife that has been flaked on both sides and may have been hafted to a handle (Kooyman, 2000). Additionally, upon further investigation of GdMq-1, three deeply incised dolomite rock crevices were observed in a shelter bay that were large enough to conceal a person, suggesting that this area may have been used as a hunting blind or temporary shelter during the winter.

4.4.3.4 Environmental Permitting

McIlvenna Bay will most likely require a number of approvals, permits, and authorizations during all stages of the Project following release from the potential provincial and federal EA processes in accordance with various standards outlined in legislation, regulations, and guidelines. Foran will also be required to comply with any other terms and conditions issued by regulatory agencies associated with release from the EA process. Permits and authorizations may also be required from other jurisdictions, such as municipalities, if any are affected.

5.0 ACCESSIBILITY, CLIMATE. LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The following section has been extracted from the 2015 Technical Report for the McIlvenna Bay Project and updated or edited where necessary.

5.1 ACCESSIBILITY

McIlvenna Bay is located 1 km south of Hanson Lake, Saskatchewan, and approximately 95 km by road west of Flin Flon, Manitoba. The deposit is located 5 km southeast of the Western Nuclear (or Hanson Lake) Mine, a former producer located on the western shore of Hanson Lake. The McIlvenna site is accessible via an 18 km long all-weather gravel road which connects to Saskatchewan Provincial Highway #106.

The regional mining towns of Flin Flon, Manitoba/Creighton, Saskatchewan (population 7,100), represents the largest commercial/residential centre in the area. Flin Flon provides a railhead that connects the area to the North American railway system. Electrical power would be available from SaskPower at Creighton and/or Island Falls, Saskatchewan.

In addition to the various highways that connect the towns Flin Flon, Manitoba/Creighton, Saskatchewan to various other parts of Manitoba and Saskatchewan, Flin Flon has daily commercial flights to and from Winnipeg, Manitoba.

5.2 CLIMATE

The climate in the Hanson Lake area is continental, with cold winters and moderate to warm summers. The area is classified as having a sub-humid high boreal eco-climate. The mean temperatures for January and July are -21°C and 18°C, respectively. Temperature ranges from -40°C in the winter to 30°C in the summer can be expected. Annual precipitation averages about 350 mm of rain and 1,450 mm of snow. There are on average 119 frost-free days per year. Lake ice thaws in April and returns in November.

In general, exploration can be conducted on a year-round basis except for the fall freeze up and spring break-up periods. Due to the nature of the swampy and muskeg ground conditions the majority of the drilling on the property is confined to winter conditions when the ground is frozen, and access is available.

5.3 PHYSIOGRAPHY

The property is located within the Boreal Shield Ecozone and is covered with shield-type boreal forest. Topography is flat lying with occasional sharp dolomite cliffs and ridges up to 20 m high. Soil thickness on the limestone ridges is minimal, with occasional rock exposure, and the vegetation is dominated by larger conifer and poplar trees. Below the cliffs are poorly drained muskeg swamps with scattered tamarack and black spruce. Throughout the surrounding area, there are numerous lakes and ponds of various sizes.

McIlvenna Bay of Hanson Lake is at an elevation of approximately 318 m. The base station on the survey grid over the deposit is at an elevation of 325.13 m.

5.4 Local Resources

The Flin Flon-Creighton area has a mining history dating back to the 1920s. Road and rail access is good. General labour, experienced mining professionals and a variety of contractors are available in the area. Local communities are generally supportive of mining.

5.5 Infrastructure

In 2011, Foran permitted and built a new exploration and development camp on the property. This new camp includes a 35-bed trailer camp with office, core shack, shop, and core storage facility.

A gravel road has been built through the property to support Foran's exploration programs as well as an adjacent quarrying operation (subsequently re-claimed).

Foran's mineral concessions contain enough area for the construction of all necessary tailings facilities, processing plant, waste disposal, etc. The local region, primarily the community of Flin Flon, has enough capacity to house mining personnel. Power would be provided from SaskPower via a new or existing transmission line from Island Falls, SK. Water for a mining/milling operation could be drawn from one of the local lakes.

6.0 HISTORY

The following section has been extracted from the 2015 Technical Report for the McIlvenna Bay Project and updated or edited where necessary.

6.1 GENERAL EXPLORATION HISTORY PRIOR TO 1998

In 1957, the Parrex Mining Syndicate (Parrex) tested an electromagnetic (EM) conductor delineated under a small bay on the western side of Hanson Lake and intersected impressive zinc-lead massive sulphide mineralization which led to the development of the Hanson Lake (Western Nuclear) mine. The mine operated between 1967 and 1969 and produced 162,200 tons of material averaging 9.99% Zn, 5.83% Pb, 0.51% Cu, and 4.0 oz/t Ag prior to being shut down. An undisclosed tonnage of unmined resource exists below the workings of the mine. Figure 6.1 is a historical view of the Hanson Lake mine.

Figure 6.1
Historical View of the Hanson Lake Mine

Photograph from Copper Reef Mining Corporation Website, 2019.

In 1976, the Saskatchewan Mineral Development Corporation (SMDC), the provincial government exploration vehicle that eventually became Cameco, acquired a large exploration lease centered on Hanson Lake. The permit area covered much of the exposed portion of the Hanson Lake Block and extended several kilometres south of the present McIlvenna Bay Property. In 1977, SMDC flew an Aerodat helicopter-borne EM survey across much of the permit area with lines-oriented east-west.

From 1978 to 1988, Cameco tested selected Aerodat EM anomalies with ground follow-up exploration programs consisting of grid establishment, geological mapping (in the exposed portions of the belt), and ground geophysical surveys which included Horizontal Loop EM (HLEM), Time-Domain EM (TEM), and Surface Pulse EM surveys. Diamond drilling led to the discovery of three new showings, the Miskat Zone (Cu), the Grid B occurrence (Zn), and the Zinc Zone (Zn).

In 1985, the Granges-Troymin joint venture discovered the Balsam Zone, a volcanogenic massive sulphide (VMS) deposit located under the Paleozoic cover, approximately 8 km southeast of Hanson Lake. This prompted Cameco to re-evaluate their existing airborne EM data between the new discovery and Hanson Lake and resulted in a decision to conduct a Mark VI helicopter INPUT survey over the area south of Hanson Lake, with flight lines oriented northeast southwest. The survey delineated a 1,200 m long INPUT anomaly, striking east-southeast, 1 km south of McIlvenna Bay.

In January, 1988, a ground magnetometer and HLEM survey defined the anomaly and six holes were subsequently drilled into what is now McIlvenna Bay. From 1989 to 1991, an additional 61 drill holes were completed. Fifty-six of the holes were drilled to test the deposit, of which only five failed to intersect economically significant mineralization.

Cameco suspended exploration activities at the McIlvenna Bay property after a corporate decision was made not to explore for base metals. Cameco stopped work on the property in 1991 and the property remained idle until optioned in 1998 by Foran.

6.2 HISTORICAL RESOURCE AND RESERVE ESTIMATIONS

Prior to the McIlvenna Bay Project being originally optioned by Foran in 1998 there were no mineral resource or reserve estimations conducted on the property.

Prior to this Technical Report, Foran has issued NI 43-101 Technical Reports containing mineral resource estimates for the McIlvenna Bay Project.

Neither Micon nor the QPs for this report have reviewed any of the previous mineral resource estimates or assessed them for compliance with current CIM mineral resource standards and definitions as published on May 10, 2014. Foran is not relying on the previous estimates which are superseded by the current estimate contained in Section 14 of this Technical Report. Therefore, the previous estimates will not be discussed further in this Technical Report.

6.3 PRODUCTION FROM THE MCILVENNA BAY PROJECT

There has been no mineral production on the McIlvenna Bay Project as it relates to the base and precious metal mineralization which Foran has been exploring and drilling.

There was a silica (fracking) sand quarrying operation near McIlvenna Bay and there are quarry dispositions that overlap Foran mineral claims. The quarry dispositions that were overlapping part of the McIlvenna Bay deposit were acquired by Foran from the owner when the sand quarry ceased operation in 2104. At the current time, the quarrying operations have been shutdown and the site re-claimed.

7.0 GEOLOGICAL SETTING AND MINERALIZATION

The following section has been extracted from the 2015 Technical Report for the McIlvenna Bay Project and updated or edited where necessary.

7.1 REGIONAL GEOLOGY

The McIlvenna Bay Project is located on the western edge of the Paleoproterozoic Flin Flon Greenstone Belt (FFGB) which extends from north central Manitoba into northeastern Saskatchewan. The FFGB forms part of the Reindeer Zone, a subdivision of the Trans-Hudson Orogen, a continental-scale tectonic event which occurred approximately between 1.84 Ga and 1.80 Ga (Syme et al., 1999) as a result of the collision between the Superior and Hearne Archean Cratons.

The FFGB is composed of structurally juxtaposed volcanic and sedimentary assemblages that were emplaced in a variety of tectonic environments. The major 1.92-1.88 Ga components include locally significant juvenile arc and juvenile ocean-floor rocks, and minor ocean plateau/ocean island basalt. The juvenile arc assemblage comprises tholeiitic, calc-alkaline, and lesser shoshonitic and boninitic rocks similar in major and trace element geochemistry to modern intra-oceanic arcs. Ocean-floor basalt sequences are exclusively tholeiitic and are geochemically similar to modern N- and E-type Mid-Ocean Ridge Belts (MORBs) erupted in back-arc basins. Evolved arc assemblages and Archean crustal slices are present within the FFGB as minor components.

Collectively, these tectonostratigraphic assemblages were juxtaposed in an accretionary complex ca. 1.88-1.87 Ga, presumably as a result of arc-arc collisions. The collage was basement to 1.87-1.83 Ga, post-accretion arc magmatism, expressed as voluminous calc-alkaline plutons and rarely preserved calc-alkaline to alkaline volcanic rocks. Unroofing of the accretionary collage and deposition of continental alluvial-fluvial sedimentary rocks (Missi Group) and marine turbidites (Burntwood Group) occurred ca. 1.85-1.84 Ga, coeval with the waning stages of post-accretion arc magmatism. The sedimentary suites were imbricated with volcanic assemblages in the eastern FFGB during 1.85-1.82 Ga juxtaposition of the supracrustal rocks along pre-peak metamorphic structures.

As currently viewed, the FFGB contains eight geographically separate juvenile island arc volcanic assemblages (blocks), each being 20 km to 50 km across (Figure 7.1). From east to west, they are known as the Snow Lake, Four Mile Island, Sheridon, Flin Flon, Birch Lake, West Amisk, Hanson Lake, and Northern Lights assemblages (Zwanzig et al., 1997 and Maxeiner et al., 1999). These assemblages are separated by major structural features and/or areas of differing tectonostratigraphic origin. It is unclear whether the eight juvenile arc sequences represent different island arcs, or segments of a larger continuous arc (Syme et al., 1999). Within the belt, each tectonostratigraphic block has been broken into several sub-blocks, usually bounded by local to regional fault systems. Correlation of stratigraphy between sub-blocks is difficult to impossible to determine.

Figure 7.1
Regional Geology Map

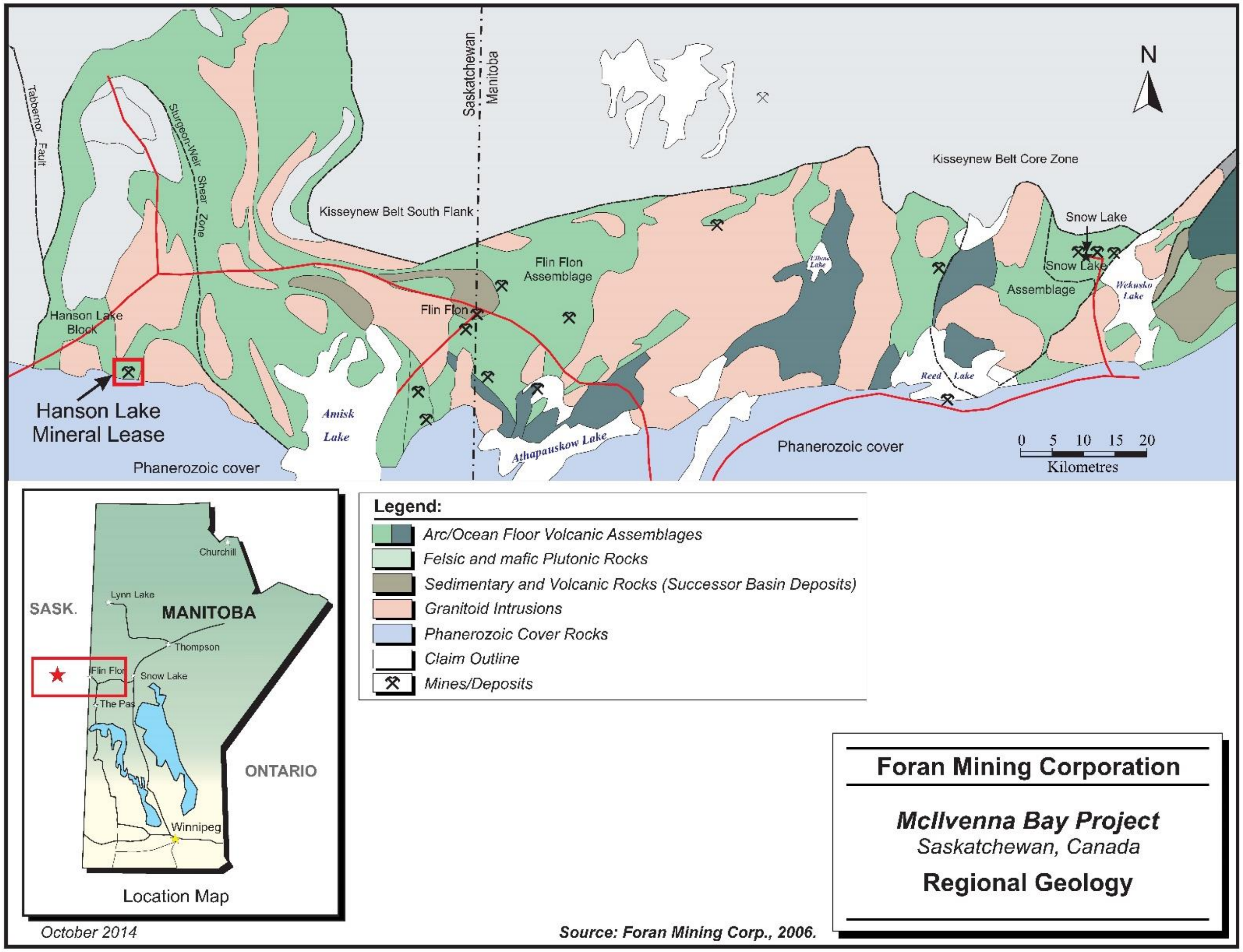


Figure taken from the 2015 Technical Report.

The exposed portion of the FFGB is approximately 250 km in an east-west direction by 75 km north-south. Although it has an apparent easterly trend, this is an artefact of the belt's tectonic contact with gneissic metasedimentary, metavolcanic, and plutonic rocks to the north (Kisseynew Domain) and the east-trending trace of Phanerozoic platformal cover rocks to the south. In reality, the FFGB extends hundreds of kilometres to the south-southwest beneath a thin cover of essentially flat-lying, Phanerozoic sedimentary rocks.

By Early Ordovician time, the area of northern Saskatchewan and Manitoba had been effectively peneplaned and a regolith was developed on exposed rocks. Inundation by the Ordovician ocean initiated the deposition of the Phanerozoic cover sequence which, in the McIlvenna Bay area, is now represented by the basal Winnipeg Formation sandstone overlain by the Red River Formation dolomite.

In the general Flin Flon area, the predominant direction for the Late Wisconsinan ice-flow indicators is south-southwest indicating that the ice was flowing from a Keewatin dispersal centre. The resulting tills are thin and generally reflect local bedrock lithologies (McMartin et al., 1999).

7.2 LOCAL GEOLOGY

The Hanson Lake Block, the host terrain of McIlvenna Bay, is bound to the east by the Sturgeon-Weir Shear Zone and to the west by the Tabbernor Fault Zone. The block extends an unknown distance to the south beneath a nearly flat lying cover of Ordovician sandstones of the Winnipeg Formation, and dolomites of the Red River Formation. To the north, the block is bound by the Kisseynew Domain, a gneissic metasedimentary belt and the Attitti Complex. The east end of the block hosts the Hanson Lake Pluton, a large compositionally variable granodiorite to pyroxenite intrusion.

In the Hanson Lake area, north of the Paleozoic margin, the exposed Proterozoic rocks of the Hanson Lake Block are dominated by juvenile island arc, felsic to intermediate metavolcanic rocks, with subordinate amounts of mafic volcanics, minor intermediate volcanics, and greywackes. Oxide facies iron formations are not commonly exposed, but their presence has been confirmed by diamond drilling. Long continuous magnetic trends suggest that the distribution of iron formations is very widespread in the area south of Hanson Lake. The sequence has been intruded by various felsic intrusions, some of which are believed to be subvolcanic intrusions. Abundant diorite and gabbro plugs and dykes cut the sequence, as well as minor ultramafic intrusions (Koziol et al., 1991). The supracrustal rocks generally dip moderately to steeply east to northeast. South of Hanson Lake, the Proterozoic sequence is poorly understood because of the unconformably overlying Paleozoic sedimentary rocks. McIlvenna Bay projects to subsurface under the sedimentary cover (Lemaitre, 2000).

At least two distinct folding events, both having northerly trending fold axes, have influenced the stratigraphy in the Hanson Lake Area. The Hanson Block structural fabric is dominated by a north to northwest-southeast trending, upright regional transposition foliation. A protracted D2 structural event resulted in tight to isoclinal, southwest plunging F2 folds and local southwest verging mylonite zones. D3 deformation resulted in tight north trending folds followed by a brittle D4 event characterized by north-south trending faults.

Peak regional metamorphism in the areas west and north of Hanson Lake reached upper amphibolite facies as observed by the partial melting of the granodiorite-tonalite assemblage in the Jackpine and Tulabi Lake areas. At McIlvenna Bay, the Proterozoic sequence exhibits a greenschist metamorphic facies as the deposit alteration assemblages are dominated by sericite and chlorite. The greenschist facies is probably a retrograde event after a previous amphibolite grade since relict cordierite, anthophyllite, garnet and andalusite are commonly observed in the VMS alteration package (Lemaitre, 2000). U-Pb ages of supracrustal rocks in the block constrain the metamorphic event between 1,808 and 1,804 Ma (Maxeiner et al., 1999). U-Pb age dating of a quartz-feldspar porphyry (a possible subvolcanic intrusion) which intruded the supracrustal sequence yielded a date of 1888 □ 12 Ma.

7.3 PROPERTY GEOLOGY

The property geology map is shown in Figure 7.2. Lacking any outcrop in the area of the deposit, the property geology has been interpreted from the drill core record with help from geophysical surveys. The discussion below is extracted from Lemaitre (2000).

The stratigraphy of the deposit area, which was divided into six formations (Figure 7.3), has been defined over a 2 km strike length by a total of 239 drill holes. The lowest formation intersected by drilling both structurally and stratigraphically is the McIlvenna Bay Formation (Figure 7.4), the host of McIlvenna Bay. The McIlvenna Bay Formation is overlain to the north by the Cap Tuffite Formation. The McIlvenna Bay Formation and the Cap Tuffite Formation may be genetically related but have been separated as they are temporally distinct, as demonstrated by the positioning of the McIlvenna Bay deposit between these two units, an obvious exhalative horizon (and hence a period of clastic and volcanosedimentary quiescence). Overlying the Cap Tuffite Formation is the Koziol Iron Formation, a long and distinctive marker formation traceable for several kilometres along strike by mapping and geophysics. Topping the Koziol Iron Formation is the Rusk Formation, a thick package of mafic volcanics. The Rusk Formation in turn is overlain by the thin HW-A Formation, an exhalative massive sulphide horizon which grades laterally into iron formation. Capping the HW-A Formation is a thick unsorted bimodal package of mafic and felsic volcanics and mafic intrusions and minor iron formations tentatively called the Upper Sequence which may be thickened due to folding and faulting. The stratigraphic package has been cut by several different intrusions, the largest of which is the Davies Gabbro, represented by one or more a sill-like plugs found within the Cap Tuffite Formation. The Proterozoic basement geology is unconformably overlain by the relatively flat lying to shallowly south-dipping Ordovician dolomites and sandstones of the Red River and Winnipeg Formations which have an average total thickness between 20 m and 30 m.

Figure 7.2
Project Geology Map

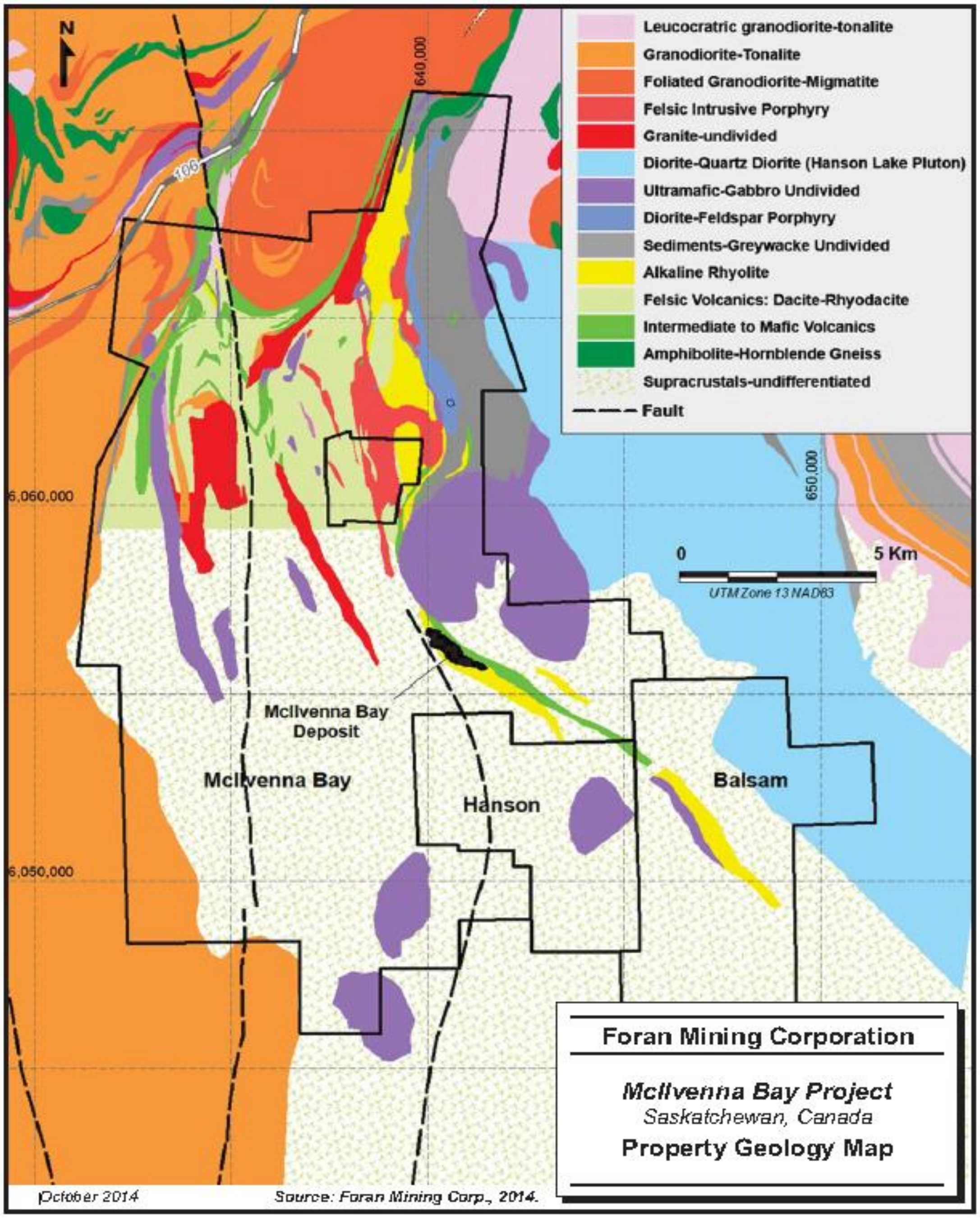


Figure taken from the 2015 Technical Report.

Figure 7.3
Stratigraphic Column for the McIlvenna Bay Deposit Area

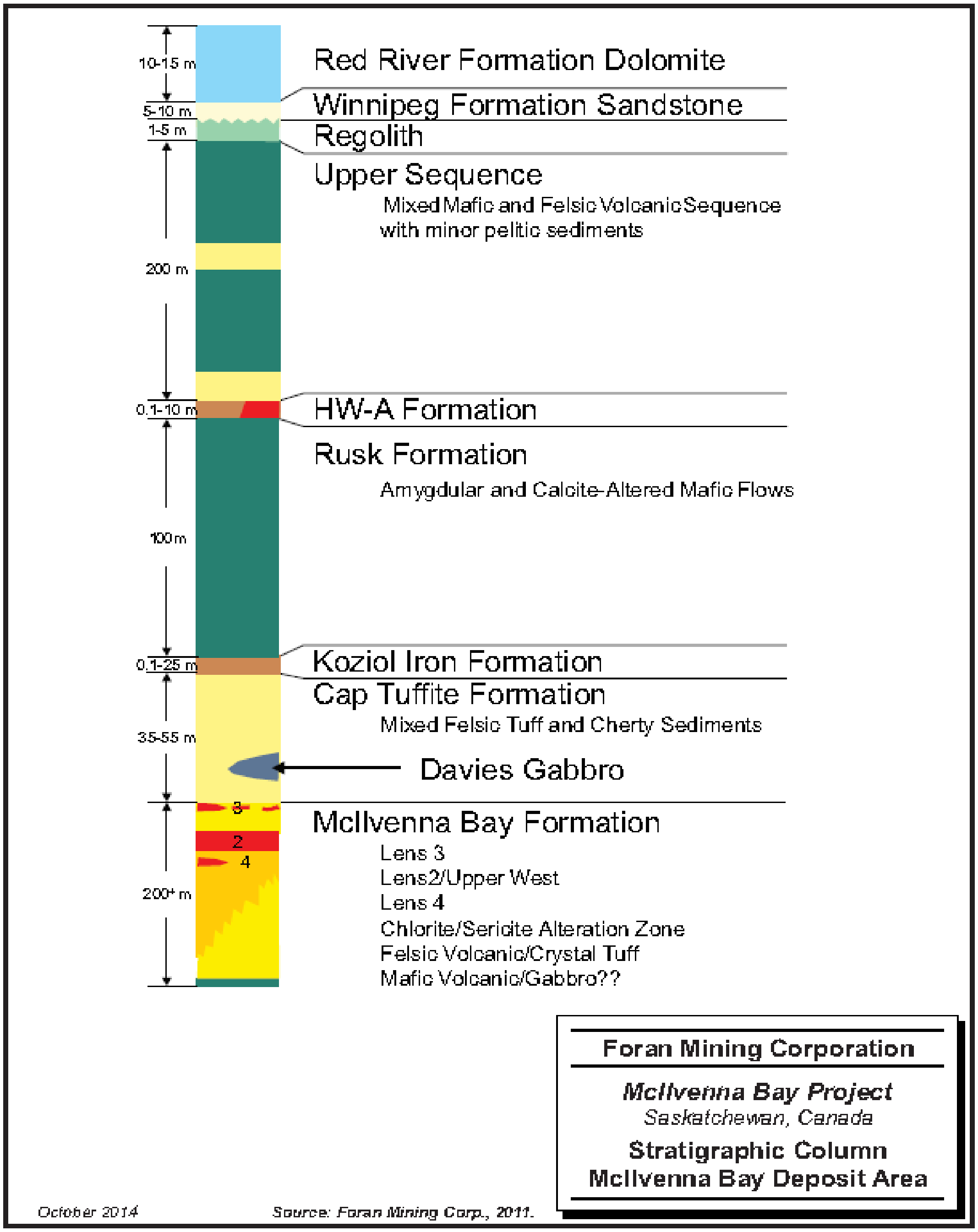


Figure taken from the 2015 Technical Report.

Figure 7.4
Cross-Section 9650E (Looking WNW)

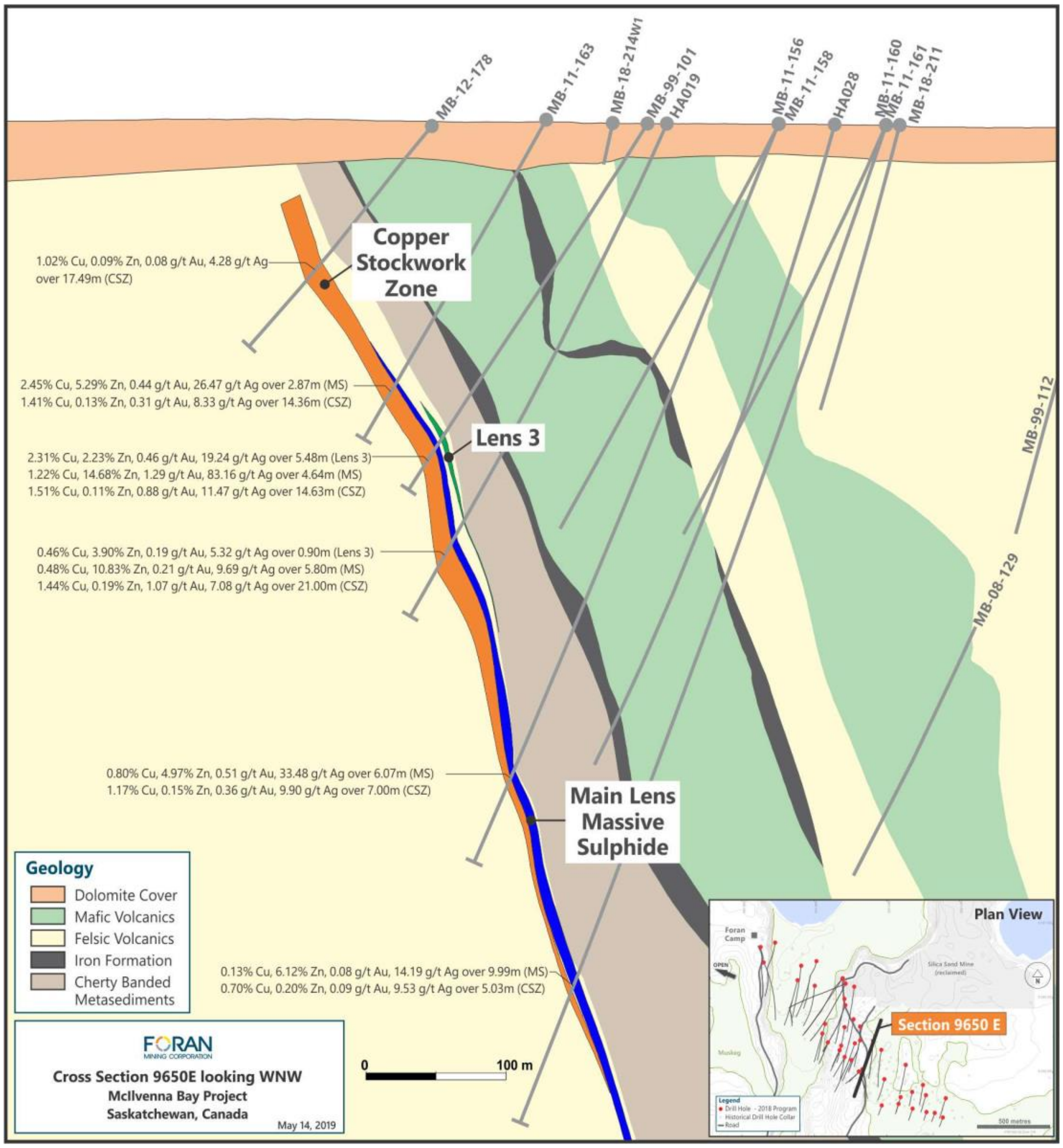


Figure supplied by Foran in June, 2019.

The McIlvenna Bay Formation, the host formation of the sulphide deposit, is known only to the extent it has been drilled below the footwall of the deposit. The formation is at least 200 m thick (true thickness) and the comprises massive and semi-massive sulphides and copper-rich stringer zones that make up the McIlvenna Bay deposit, and a succession of variably altered felsic volcanics, volcaniclastics, and/or volcanic-derived sediments of rhyolitic composition.

Overlying the mineralized horizons of the McIlvenna Bay Formation is the Cap Tuffite Formation, a sequence of intercalated felsic volcanic and cherty metasediments which have been intruded by sills and dykes of the Davies Gabbro (described below). The unit ranges from 35 m to 55 m thick, is finely banded to finely laminated, and ranges from white to cream to grey-green in colour. Sections of the formation range from very finely laminated, bleached chert to 1 to 10 cm thick banded, fine grained, aphanitic rhyolitic tuff. Discrete contacts between the units are nebulous. Instead, wide transitions are observed from one end member to the other. It is believed that the formation represents a sequence of re-deposited, water-lain, distal volcaniclastics and chert. An east to west zonation is observed in the Cap Tuffite from cherty-dominated in the east to rhyolitic-dominated in the west.

Stratigraphically overlying the Cap Tuffite is the Koziol Iron Formation, a long, continuous exhalative horizon traceable in drill core and by geophysics over several kilometres and, as such, an excellent stratigraphic marker horizon. The unit is a true oxide-facies iron formation that ranges from 0.1 m to 25 m true thickness and is composed of 1 to 5 cm thick bands of fine-grained chert, interbedded with 1 mm to 50 mm massive magnetite bands and 1 cm to 1 m thick massive grunerite ±garnet ±magnetite ±chlorite bands. Occasional pyrite and/or pyrrhotite are observed in selected bands. Near the base of the iron formation is a ±one metre thick graphitic shear/fault zone which is oriented sub-parallel to the stratigraphy and/or the S1 transposition foliation.

Overlying the Koziol Formation is the Rusk Formation, a thick package of massive and calcitealtered mafic volcanic rocks that are approximately 100 m thick. The mafic rocks are likely massive flows, although the thickness of individual flow units cannot be determined from drill core. No distinct flow tops or pillow structures have been observed, however, patchy, 1 to 2 mm diameter white to pink rounded feldspar amygdules have been noted locally.

Topping the Rusk Formation is another exhalative horizon, the HW-A Formation which ranges from 1 cm to 5 m thick and shows a transition from west to east from oxide-facies iron formation to massive pyrite ±sphalerite.

Overlying the HW-A Formation is +400 m thick Upper Sequence, a bimodal package of volcanic units that have been difficult to correlate from hole to hole. Approximately 45% of the unit is composed of aphanitic, grey, felsic volcanic, and 50% fine-grained mafic volcanic rocks. Some of the mafic units may be gabbroic intrusions. Approximately 5% of the unit is composed of greywackes and at least two additional oxide-facies iron formation horizons. Individual members of the formation are difficult to trace between drill holes as the existing drill holes that are collared far enough to the north to intersect the Upper Sequence are sparse and generally widely spaced. The Upper Sequence is not yet defined to the extent that it could be broken down into formational units. The down plunge drilling program has discovered that the Upper Sequence may be the core of a regional synclinal structure and that the bimodal sequence may be structurally repeated by both folding and faulting (Lemaitre, 2000).

The Davies Gabbro, a plug up to 100 m thick east of McIlvenna Bay, extends westward toward the centre of the sulphide body where it narrows into a series of thin dykes. The gabbro appears to be a series of sills that have intruded along the bedding planes of the Cap

Tuffite Formation. The unit ranges from fine-grained to very coarse grained; the grain size appears to be directly related to the unit thickness. Chilled margins have been observed on the thicker dykes. It appears that the gabbro intruded along the bedding planes of the wet, cherty banded sediments of the Cap Tuffite.

7.4 STRUCTURE

Stratigraphy in the deposit area strikes between 275° and 295° and dips to the north at 65° to 70°, although in selected areas it dips vertically. The deposit has the same orientation as the stratigraphy and also plunges at approximately 45° to the northwest. Rocks in the host stratigraphy are massive to strongly foliated, the intensity of which depends on the competency of each individual unit and the degree of alteration.

The McIlvenna Bay stratigraphy appears to have been subjected to at least two main phases of deformation. The first phase of deformation is believed to have been an isoclinal folding event which may have been related to the regional F2 event (Lemaitre, 2000). This isoclinal folding was responsible for the development the dominant foliation (S1) in the deposit area, oriented at approximately 280°/65°, and resulted in the transposition of the original bedding into the plane of the S1 fabric so that the stratigraphy is now sub-parallel to this foliation. The foliation is well developed in the least competent stratigraphic units, particularly the footwall altered rocks.

Isoclinal folding of the iron formation has been observed locally in several drill holes with a plunge that is estimated to be approximately 45° to the west or west-north-west, which is roughly parallel to the plunge of the deposit (Lemaitre, 2000). This may suggest that the plunge of the deposit and the orientation of higher grade/thicker shoots in the deposit may be related to re-orientation during this deformational event.

A strong crenulation (F3?) of the foliation is locally developed in the stratigraphy, but it is most common in portions of the footwall alteration zone. The plunge of the crenulation is much flatter, usually less than 25°, and trends either north-west or north-east. This trend and plunge of the crenulation appears to be parallel to the fold axis of gentle to open folds observed in banded felsic volcano-sedimentary units both above and below the deposit and may be responsible for the broad warping of the stratigraphy observed in the magnetic maps between the Hanson Lake and the south end of McIlvenna Bay (Lemaitre, 2000).

There is some evidence of faulting documented in drill core in the deposit area. However, it is difficult to determine the orientation, scale, or continuity of any faults at the present time. Often faulting, when present, appears to be oriented sub-parallel to the stratigraphy and may represent discontinuities that helped to facilitate the transposition during deformation.

7.5 MINERALIZATION

McIlvenna Bay is a Volcanogenic Massive Sulphide Deposit (VMS) which consists of structurally modified, stratiform, volcanogenic, polymetallic massive sulphide mineralization and associated stringer style mineralization. The massive to semi-massive sulphides contain copper and/or zinc, with lower concentrations of silver, gold and lead while the stringer style mineralization generally contains elevated copper and gold. The deposit has undergone moderate to strong deformation and upper greenschist to possibly lower amphibolite facies metamorphism. The sulphide lenses are now attenuated down the plunge to the northwest.

The McIlvenna Bay deposit includes five separate zones and two styles of mineralization that are mineralogically and texturally distinct and typical of VMS deposits, including:

- Massive to semi-massive sulphide mineralization in the Main Lens and Lens 3.
- Stockwork-style sulphide mineralization in CSZ that directly underlies the Main Lens.
- Two other small lenses of stockwork-style mineralization:
    - the Stringer Zone which is located between the Main Lens and Lens 3.
    - the Copper Stockwork Footwall Zone ("CSFWZ") which occurs as a separate lens underneath the CSZ for approximately 140 m of strike length which could represent a fault offset and repetition of the Main Lens and CSZ.

The Main Lens at McIlvenna Bay is a large massive to semi-massive sulphide horizon containing a metal zonation consisting of Cu-Au-rich material near the upper plunge line of the Deposit which transitions down dip into a more Zn-Ag-dominant massive sulphide. In the 2013 resource estimate, the Main Lens was sub-divided into the copper-rich Upper West Zone (UWZ) and the more zinc-rich Zone 2 based on these differences in mineralogy. However, statistical analysis of the assay grades within the lens, suggests that there is a gradual transition between the two zones and that a hard boundary is not appropriate. Therefore, in the 2019 Resource Estimate, the Main Lens massive sulphide is reported as a single zone. The Main Lens massive sulphide is a continuous mineralized horizon which varies from 0.1 to 36.0 m in thickness and averages 5.5 m overall (Figure 7.5).

The CSZ is a zone of stockwork style copper-rich mineralization that directly underlies and is in contact with the massive sulphide. The zone is wedge-shaped, running parallel to the plunge line Main Lens massive sulphide. Based on the limit of current drilling, the zone extends up-dip beyond the upper edge of the massive sulphide for approximately 100-200 m and terminates downdip where it pinches out against the massive sulphide approximately 100-200 m before the Main Lens ends. This unit is interpreted to represent the feeder zone to the massive sulphide system that was transposed into its current geometry during deformation. The CSZ varies from 0.3 to 37.2 m in thickness with an average thickness of 12.1 m.

The Main Lens massive sulphide and the underlying CSZ are generally in contact with one another throughout the Deposit, giving the bulk of the Deposit an average thickness of 17.6 m overall. The mineralization in the deposit plunges at approximately -35˚ northwest from near surface for a down plunge length of approximately 2,000 m (Figure 7.6).

Figure 7.5
Longitudinal Section through the Main Lens Massive Sulphide

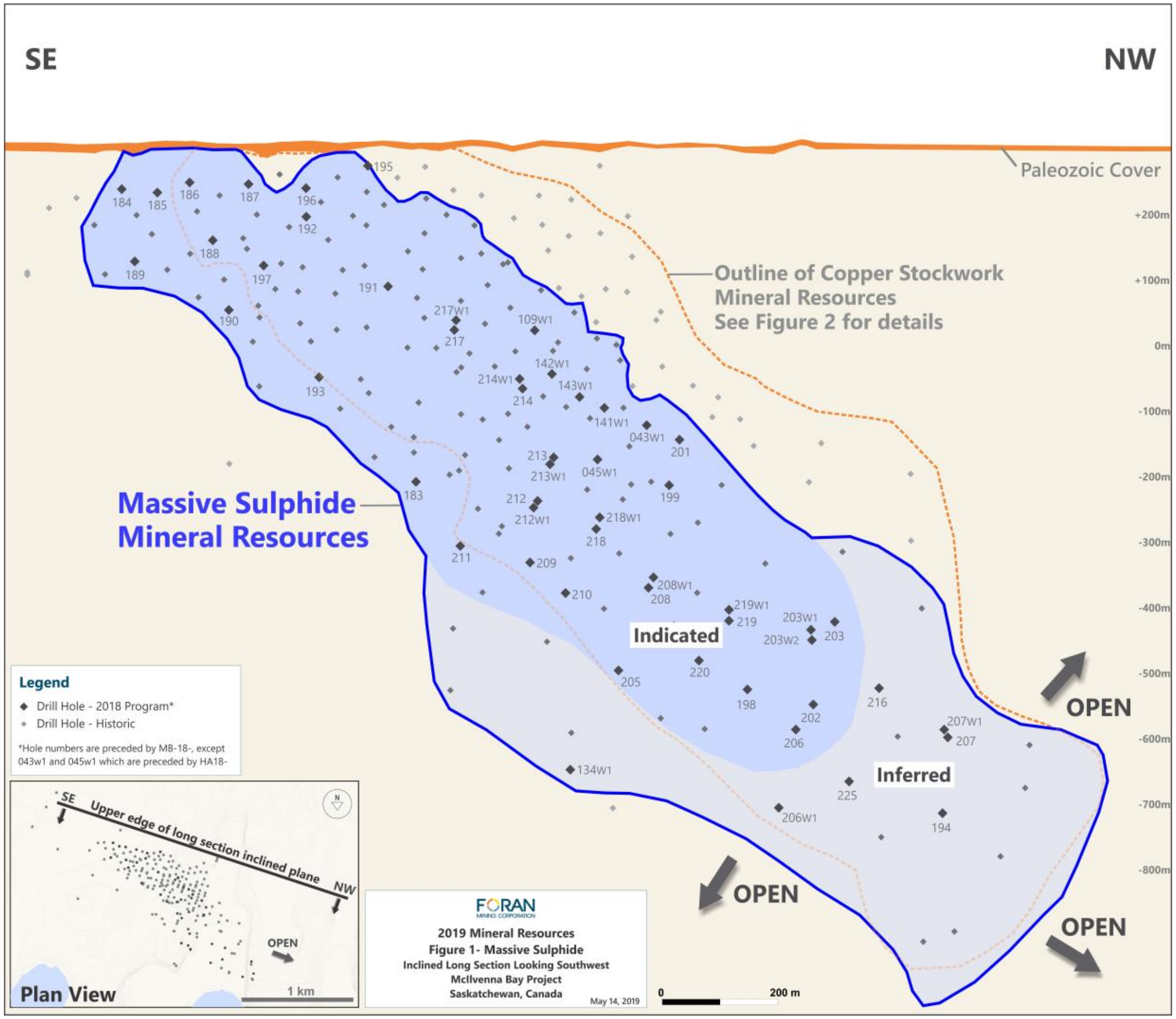


Figure provided by Foran and dated as of June, 2019.

Figure 7.6
Longitudinal Section through the Copper Stockwork Zone

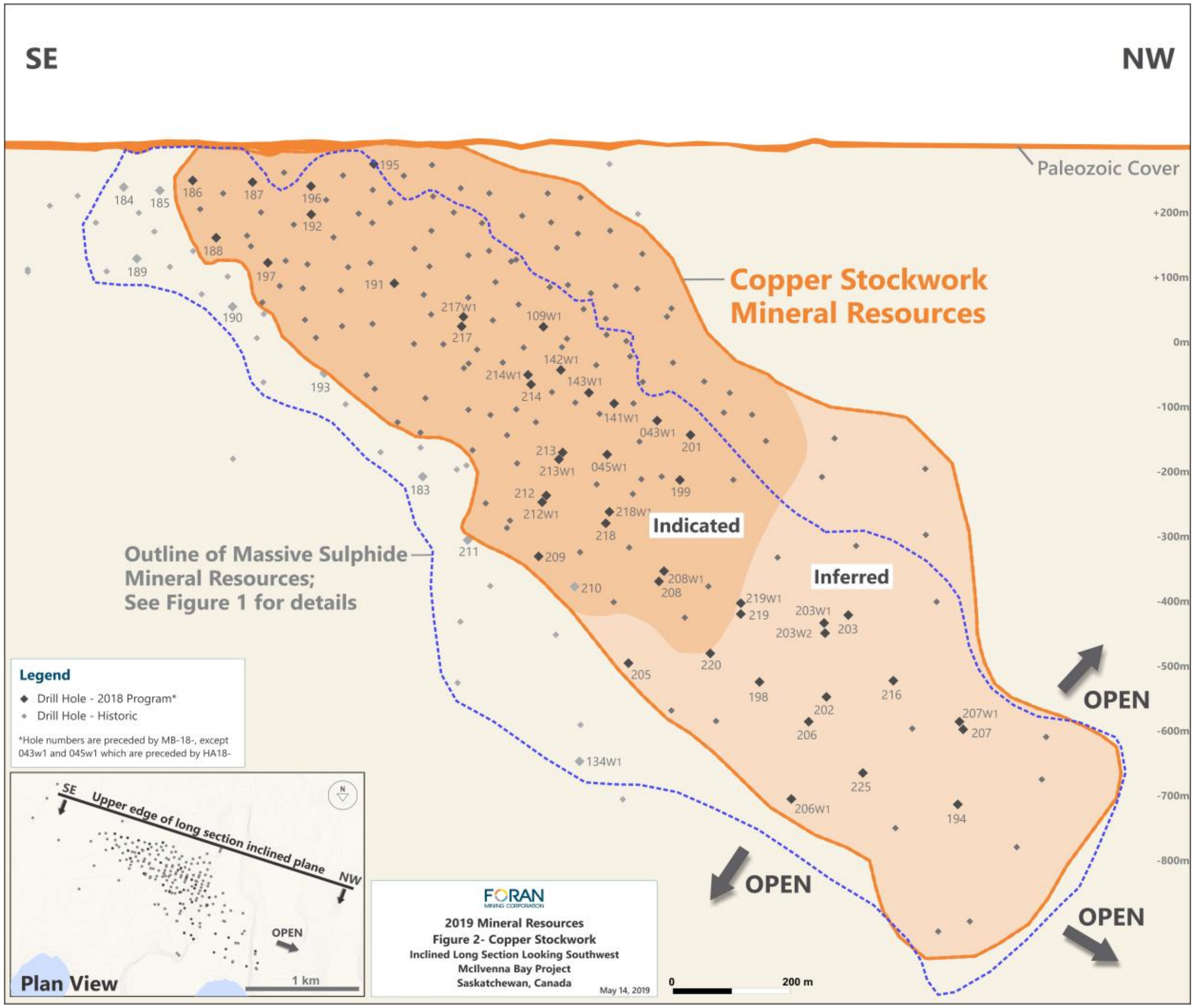


Figure provided by Foran and dated as of June, 2019.

Lens 3 is a massive sulphide that sits approximately 10 to 30 m in the hangingwall above the Main Lens and could represent a stacked massive sulphide lense within the deposit (Figure 7.4). This lens has been traced intermittently along a strike length of 1,440 m and plunges parallel to the underlying Main Lens and CSZ. The lens ranges in thickness from 0.1 to 12.5 m and averages 2.8 m.

The Stringer Zone comprises narrow, intermittent stringer-style sulphide mineralization that occurs sporadically between the massive sulphides of the Main Lens and Lens 3.

The CSFWZ is a separate lens that underlies the CSZ and has been intersected in nine drill holes over approximately 140 m of strike length in the shallow, central part of the deposit. The lens varies in thickness from 0.3 to 17 m with an average thickness of 4.4 m. The CSFWZ dominantly consists of stockwork style copper-rich mineralization similar to the CSZ, although in several holes, narrow massive sulphide was also intersected at the top of the interval. It is possible that the CSFWZ represents a fault offset and repetition of the Main Lens and CSZ, but further drilling is required to prove the relationship of this lens to the rest of the deposit.

Massive to locally semi-massive sulphides are typical of the Main Lens and Lens 3 horizons in the deposit. The massive sulphide mineralization tends to be composed of 70% to 80% medium-sized and subrounded pyrite grains resembling ‘buckshot’ in a fine-grained sphalerite-rich matrix. Sphalerite occurs as fine-grained and sometimes feathery minerals located in the interstices of the pyrite grains, ranging from 5% to 25% of the total unit. The sphalerite is generally dark to medium brown in colour. Faint banding of the massive sulphides is occasionally apparent. Up to 10% fine-grained grey quartz, and occasionally fine calcite, are also observed in the interstices. Subangular to subrounded inclusions or fragments of massive black chlorite ranging from 2 to 50 mm in diameter comprise 10% of the unit. Patchy but commonly rounded chert fragments ranging from 1 to 3 cm in diameter can constitute up to 20% of the unit locally. Such chert, when present, is often surrounded by one to three-centimetre-thick zones enriched in pale brown sphalerite.

The semi-massive sulphides range from 20% to 60% sulphides which are found as veinlets, veins, and pods within strongly chlorite-altered rock. The sulphide portion tends to be either sphalerite or chalcopyrite dominant, with less than 20% fine-grained pyrite. Sphalerite-dominant portions are generally comprised of reddish or pale brown to blonde sphalerite indicative of zinc-rich and iron-poor sphalerite. Individual veins or pods have been documented to contain up to 56% zinc. Less common are the chalcopyrite-dominant intervals which are composed of 80% chalcopyrite over narrow widths. Veining and replacement textures are common in the semi-massive sulphides.

The CSZ mineralization is confined to the area below the Main Lens massive sulphide, but locally similar stringer style of mineralization has also been observed between the Main Lens and Lens 3. In these instances, stringer-style mineralization can occur directly above the Main Lens massive sulphide, directly below Lens 3 or in the intervening stratigraphy between the two lenses, where it has been broken out as the “Stringer Zone” in the 2019 resource estimate. The nature of the stockwork zone mineralization varies according to the host rock alteration, but dominantly this style of mineralization is associated with moderate to strong chlorite alteration. Chlorite alteration-hosted copper stockwork mineralization comprises chalcopyrite and pyrrhotite, with occasional pyrite, and is found in veinlets and pods cutting the chlorite. Sericite-quartz altered copper stockwork zones tend to be less prevalent and comprise exclusively chalcopyrite which lines fine, hairline fractures within the strongly silicified host, and as 5 to 10 cm long semi-massive pods containing angular to rounded host rock fragments. These pods and fractures appear to be late brittle features and may suggest that the chalcopyrite was remobilized into fractured rock possibly during deformational events.

The sulphide mineralogy and the size of the alteration footprint suggest the presence of a proximal vent environment along the entire top plunge line of McIlvenna Bay which is represented by the copper-rich portion of the massive sulphide. The location of the Lens 3 and possible the CSFWZ zones respectively overlying and underlying the Main Lens is interpreted by Foran geologists to indicate the occurrences of smaller hydrothermal pulses at intervals along the timeline.

In the 2015 report it was noted that "*the UW-MS, L2MS, and CSZ all remain open down plunge and, likely, both the zones and the plumbing system underlying them will continue at depth*". This point has been demonstrated by Foran exploration programs subsequent to publication of the 2015 Technical Report, and the zones are currently still open down plunge.

8.0 DEPOSIT TYPES

The following section has been extracted from the 2015 Technical Report for the McIlvenna Bay Project and updated or edited where necessary.

The McIlvenna Bay Project hosts a VMS deposit, of a type commonly found in Canada in Precambrian through Mesozoic volcano-sedimentary greenstone belts occupying extensional arc environments such as a rifts or calderas. They are typified by synvolcanic accumulations of sulphide minerals in geological environments characterized by submarine volcanic rocks. The associated volcanic rocks are commonly relatively primitive (tholeiitic to transitional), bimodal and submarine in origin (Galley et al., 2006). The spatial relationship of VMS deposits to synvolcanic faults, rhyolite domes or paleotopographic depressions, caldera rims or subvolcanic intrusions suggests that the deposits were closely related to particular and coincident hydrologic, topographic, and geothermal features on the ocean floor (Lydon, 1990).

VMS deposits are exhalative deposits, formed through the focused discharge of hot, metal-rich hydrothermal fluids. These deposits commonly occur in clusters which form a VMS camp. In many cases, it can be demonstrated that the sub-seafloor fluid convection system was apparently driven by large, 15 to 25 km long, mafic to composite, high level subvolcanic intrusions. The distribution of synvolcanic faults relative to the underlying intrusion determines the size and areal morphology of the camp alteration system and ultimately the size and distribution of the VMS deposit cluster. These fault systems, which act as conduits for volcanic feeder systems and hydrothermal fluids, may remain active through several cycles of volcanic and hydrothermal activity. This can result in several periods of VMS formation at different stratigraphic levels (Galley et al., 2005).

The idealized, undeformed and unmetamorphosed Archean VMS deposit, as exemplified by the Matagami deposits, typically consists of a concordant lens of massive sulphides, composed of 60% or more sulphide minerals (pyrite-pyrrhotite-sphalerite-chalcopyrite with associated magnetite), that is stratigraphically underlain by a discordant stockwork or stringer zone of vein-type sulphide mineralization (pyrite-pyrrhotite-chalcopyrite and magnetite) contained in a pipe of hydrothermally altered rock (Sangster and Scott, 1976). The upper contact of the massive sulphide lens with hanging wall rocks is usually extremely sharp, while the lower contact is gradational into the stringer zone. A single deposit or mine may consist of several individual massive sulphide lenses and their underlying stockwork zones.

It is thought that the stockwork zone represents the near-surface channel ways of a submarine hydrothermal system and the massive sulphide lens represents the accumulation of sulphides precipitated from the hydrothermal solutions, on the sea floor, above and around the discharge vent (Lydon, 1990). VMS deposits are commonly divided into Cu-Zn, Zn-Cu, and Zn-Pb-Cu groups according to their contained ratios of these three metals (Galley et al., 2005).

Most Canadian VMS deposits are characterized by discordant stockwork vein systems or pipes that, unless transposed by structure, commonly underlie the massive sulphide lenses, but may also be present in the immediate hanging wall strata. These pipes, comprised of inner chloritized cores surrounded by an outer zone of sericitization, occur at the centre of more extensive, discordant alteration zones.

The alteration zones and pipe systems often host stringer chalcopyrite-pyrite/pyrrhotite ± Au and may extend vertically below a deposit for several hundred metres or may continue above the deposit for tens to hundreds of metres as a discordant alteration zone (Ansil and Noranda deposits). In some cases, the proximal alteration zone and attendant stockwork/pipe vein mineralization connects a series of stacked massive sulphide lenses (Amulet, Noranda, LaRonde, and Bousquet deposits), representing synchronous and/or sequential phases of mineralization formation during successive breaks in volcanic activity (Galley et al., 2005).

The McIlvenna Bay deposit consists of structurally modified, stratiform, volcanogenic, polymetallic massive sulphide mineralization and associated stringer zone mineralization. The structural deformation and related transposition of the stratigraphy in the deposit area appears to be responsible for the current geometry of the CSZ. This zone of stringer-style mineralization occurs as a compact, continuous zone directly underlying the massive sulphide. The sulphides contain copper and zinc, with low lead and silver and gold values.

The McIlvenna Bay deposit has undergone strong deformation and upper greenschist to amphibolite facies metamorphism. The massive sulphide lenses are now attenuated down the plunge to the northwest. Typical aspect ratios of length down-plunge to width exceed 10:1. The extent of remobilization of sulphides within the deposit is uncertain.

9.0 EXPLORATION

A portion of the following section has been extracted from the 2015 Technical Report and updated to reflect the exploration since then. Previous mineral resources discussed in this section have all been subsequently superseded by the current estimate discussed in Section 14.0 of this report and are only noted for their part in outlining the Foran's sequential exploration history of the McIlvenna Bay Project.

9.1 FORAN EXPLORATION 1998 TO 2012

9.1.1 Exploration on the McIlvenna Bay Deposit or in the Immediate Area

On acquisition of the property in 1998, Foran embarked on a diamond drilling program to test new targets as well as in-fill the existing drill pattern on the McIlvenna Bay Deposit. Phase I of this program commenced in December, 1998 and carried out through the winter of 1998-1999. A total of 55 holes were drilled during this program, totalling 27,958 m. Geosight Consulting Canada (Geosight) was retained to prepare a resource estimate using the drill holes completed by previous operators. In 1999, Foran initiated environmental baseline studies and commenced engineering work for construction of a road to access the property.

Drilling continued during the winter of 1999-2000 but, was temporarily halted pending financing. Three holes totalling 2,938 m were completed in 2000, and an access road was constructed. M'Ore Exploration Services Ltd (M'Ore) prepared a resource estimate which was released on June 14, 2000. This block model estimate was based on a total of 63,344 m of diamond drilling from 124 holes, of which 33,350 m of drilling was completed by Foran between December, 1998 and May, 2000. The mineralization had been delineated to a maximum vertical depth of 1,230 m up to this period.

As of May 31, 2000, Foran had drilled an additional 59 holes totalling 33,350 m, with 57 holes directly testing the deposit. The first 44 holes were drilled with the objective of upgrading the quality of the resource, down to a depth of 580 m, from the inferred resource category to the indicated resource category. The last 15 holes were drilled below the plunge line and down plunge of the deposit with this drilling successful in extending the deposit an additional 300 m vertically below the plunge of the previous resource base.

After 2000, exploration work on the property ceased, and the option agreement with the Hanson Lake Joint Venture was allowed to lapse. Foran acquired a new option agreement in 2005 and resumed work. Scott Wilson RPA (a predecessor to RPA Inc.) was retained in 2006 to audit the mineral resource estimate and prepare a NI 43-101 Technical Report (Cook and Moore, 2006). The mineral resources dropped significantly owing to an increase in the cut-off grade used, which resulted in removal of much of the Copper Stringer Zone (CSZ) as it was then termed.

In early 2007, Foran completed an airborne deep-penetrating Versatile Time-Domain Electromagnetic (VTEM) survey over portions of the Bigstone, Balsam, and McIlvenna Bay properties. The program comprised 404.6 line-km on 150 m line spacing over the McIlvenna Bay/Balsam properties and 321 line-km over the Bigstone property.

In the winter of 2007-2008, Foran conducted a diamond drill hole program based on recommendations from the Technical Report on the McIlvenna Bay Project prepared by RPA dated November 27, 2006 (Cook and Moore, 2006). Seven diamond drill holes were completed for a total of 6,455 m. Drill holes were between 691.5 m and 1298.4 m in length on sections 9400E through 9700E, with the objective of the drilling being to tighten drill hole spacing and upgrade the mineral resources down plunge on L2MS. A number of drill holes failed to intersect the deposit at depth. Subsequently, Foran determined that the holes which missed their targets were drilled at orientations that made it impossible to intersect the deposit at the targeted depths.

Exploration work underwent a hiatus until 2011 when the company was re-financed, and a new management team was brought in to run the company. That winter, Foran conducted a diamond drilling program consisting of 10 holes totalling 5,056.0 m. This program targeted a portion of the CSZ and was designed to in-fill and prove up the continuity over a portion of the zone in the central part of the deposit, at that time, some of the drill core from the earlier 2007 to 2008 program was also relogged and sampled.

The winter 2011 drilling was successful, and RPA was retained to update the mineral resource estimate (Rennie, 2011) for the CSZ. The zone was re-interpreted, using a nominal 0.5% Cu cut-off grade and a minimum apparent thickness of 3 m. The other zones were largely unchanged, with the exception of Lens 4, which was incorporated into the FW. The re-inclusion of the CSZ resulted in a large increase in the total 2011 mineral resources when compared to the prior 2006 estimate.

Drilling resumed in August, 2011 and ran through to November, 2011, with a total of 8,158 m completed in 18 holes. The purpose of the drill program was to in-fill the deposit to further increase the confidence in the resource, collect sample material for metallurgical testwork, and to test the up-dip extension of the CSZ. Detailed geotechnical logging was also conducted, and a suite of samples were collected to initiate geochemical characterization studies of the mineralized zones. Metallurgical sampling was conducted from core collected in a series of HQ-size diamond drill holes. A re-survey program was completed for all of the drill hole collars that could still be identified on the property. In addition, downhole gyroscopic surveys were carried out in 39 of the historic holes along with the 2011 drill holes.

Foran also completed a helicopter-borne geophysical survey in 2011 that comprised 1,587.4 line-km of versatile time domain electromagnetic (VTEMplus) and horizontal magnetic gradiometer (mag) over those areas of the McIlvenna Bay property not covered in 2007 (Figure 9.1).

In 2012, Foran completed 3,825 m of diamond drilling in 15 holes. The drilling was completed during a winter program, which allowed access to areas covered by muskeg that were not accessible during the previous summer. The drilling was directed at near-surface projections of the deposit in order to upgrade the classification and extend the known mineralization. Drilling was dominantly completed utilizing HQ-sized core to provide additional material for future metallurgical testwork. Geotechnical and hydrogeological studies were also conducted during the program.

Figure 9.1
Geophysical Surveys 2007 to 2014

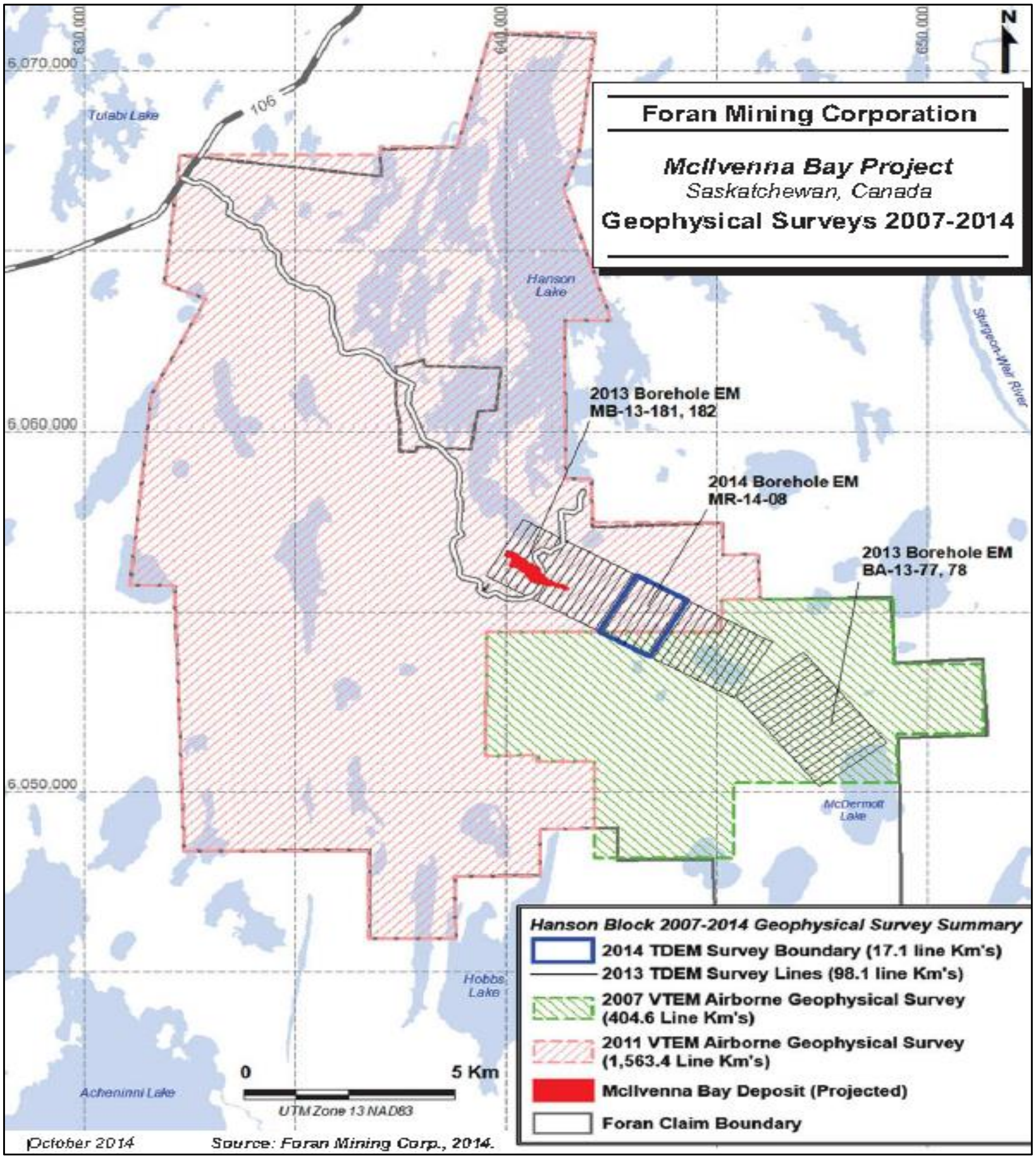


Figure taken from the 2015 Technical Report.

Metallurgical testwork on the samples collected from the 2011 drilling was completed in June 2012. The work was carried out by G&T Metallurgical Services Ltd., of Kamloops, BC. Three composite samples, consisting of 516 kg of drill core, were created for each of three different mineralogical domains: the CSZ, L2MS, and UW-MS. The samples were then used in batch and locked cycle flotation testing, as well as determination of Bond Work Indices.

In late 2012, RPA was engaged to prepare an updated mineral resource estimate for the Project, using drill results completed up to that time. The estimate update was completed in March 2013 (Rennie, 2013) and resulted in an increase of 15% in the Indicated tonnage and 18% in the Inferred tonnage. As this increase was not deemed to be material, a new NI 43-101 Technical Report was not triggered. However, the 2013 estimate was used as the basis of the PEA completed by JDS and disclosed in the PEA Technical Report dated January, 2015. As with all other mineral resource estimated mentioned in this section it has now been superseded by the current mineral resource estimate discussed in Section 14 of this report.

Coincident with the update of the mineral resource estimate, Foran drilled four diamond drill holes totalling 2,243 m on the deposit in 2013. These holes were not incorporated into the 2015 estimate and a review by RPA concluded that the impact of these holes on the mineral resource estimate used in the 2015 Technical Report would be negligible. However, these drill holes along with all of the subsequent drilling have been included in the current estimate discussed in Section 14.0.

9.1.2 Exploration Conducted Outside the Immediate Area of the McIlvenna Bay Deposit 2013 to 2014

In addition to the work done on McIlvenna Bay deposit, Foran has conducted exploration activities on the surrounding property area to look for additional deposits. Exploration work carried out in 2013 included 98.1 line-km of ground-based time-domain electromagnetic surveying (TDEM) which covered the McIlvenna Bay deposit and the trend of the geology to the southeast into the Balsam area. The survey grid covered portions of the McIlvenna Bay property, the southeast corner of the Hanson Block claims and a portion of the Balsam property (Figure 9.1). Borehole electromagnetic surveys (BHEM) were carried out in two holes in the Thunder Zone/Balsam areas as well as two others at McIlvenna Bay deposit.

Foran has also drilled a number of holes on regional targets within the property boundary but outside of the immediate McIlvenna Bay area. Figure 9.2 shows the location of these targets and summarizes the amount of drilling done. In 2012 and 2013, Foran drilled six holes, totalling 2,163 m on five separate regional targets in the southern portion of the property.

In 2013, nine holes, totalling 3,211 m were drilled in the Balsam/Thunder Zone area, located 5 to 7 km southeast of the McIlvenna Bay deposit. Initial drilling during this program targeted areas of known mineralization in the Balsam area to infill them in an attempt to expand the mineralized zones and better understand the stratigraphy of the immediate area. The program was successful in intersecting new mineralization and appeared to indicate that there are several mineralized zones at different stratigraphic levels at Balsam, but that the zones tend to poddy in nature. Near the end of the program a new electromagnetic (EM) conductor was identified as part of the concurrent ground geophysical program. One of the last drill holes of the program tested this anomaly and was successful in intersecting a new zone of mineralization, termed the Thunder Zone along the same geological trend that hosts the McIlvenna Bay deposit. Massive sulphide mineralization was intersected in BA-13-77 which included a 3.66 m intercept grading 4.08% Cu, 0.43 g/t Au, and 27.0 g/t Ag at the Thunder Zone, which appeared to be open for expansion along strike to the northwest.

In 2014, a short geophysical program comprised 17.1 line-km of detailed TDEM was completed along strike to the southeast of the McIlvenna Bay deposit and northwest of the new Thunder zone discovery, to confirm the location and characteristics of a new large deep-seated EM conductor (Target A) also generated from the 2013 ground geophysical survey. The EM response at Target A had similar characteristics to those observed from the McIlvenna Bay deposit and the late time response of the anomaly suggested a sulphide conductor. Following the detailed geophysics, Foran drilled 1,864 m in two holes on Target A, located just east of the McIlvenna Bay deposit (Figure 9.2). The first drill hole was terminated early due to excessive flattening, but the second hole was completed to a depth of 1,683 m, but no significant sulphide mineralization was intersected that would explain the anomaly. The drilling was followed by a BHEM survey, which. suggested that the conductor was still present below the hole and the geological logging indicated that the stratigraphy was cut by a dyke at that location of the conductor, so that the source of the conductor was not tested by the drill hole.

Lithogeochemical sampling has been carried out on drill core from McIlvenna Bay, as well as at Thunder Zone/Balsam areas, and in surface exposures in a broad area surrounding Hanson Lake (Figure 9.3). The work was focused on building a chemo-stratigraphy for the rocks of the area. The surface sampling around Hanson Lake was conducted jointly with the Saskatchewan government as part of a company-sponsored master's thesis study. A total of 1,406 samples were collected as part of this program. Final synthesis of the results of this work will be included in a pending M.Sc. thesis report.

Figure 9.2
Regional Drilling Summary 2011 to 2014

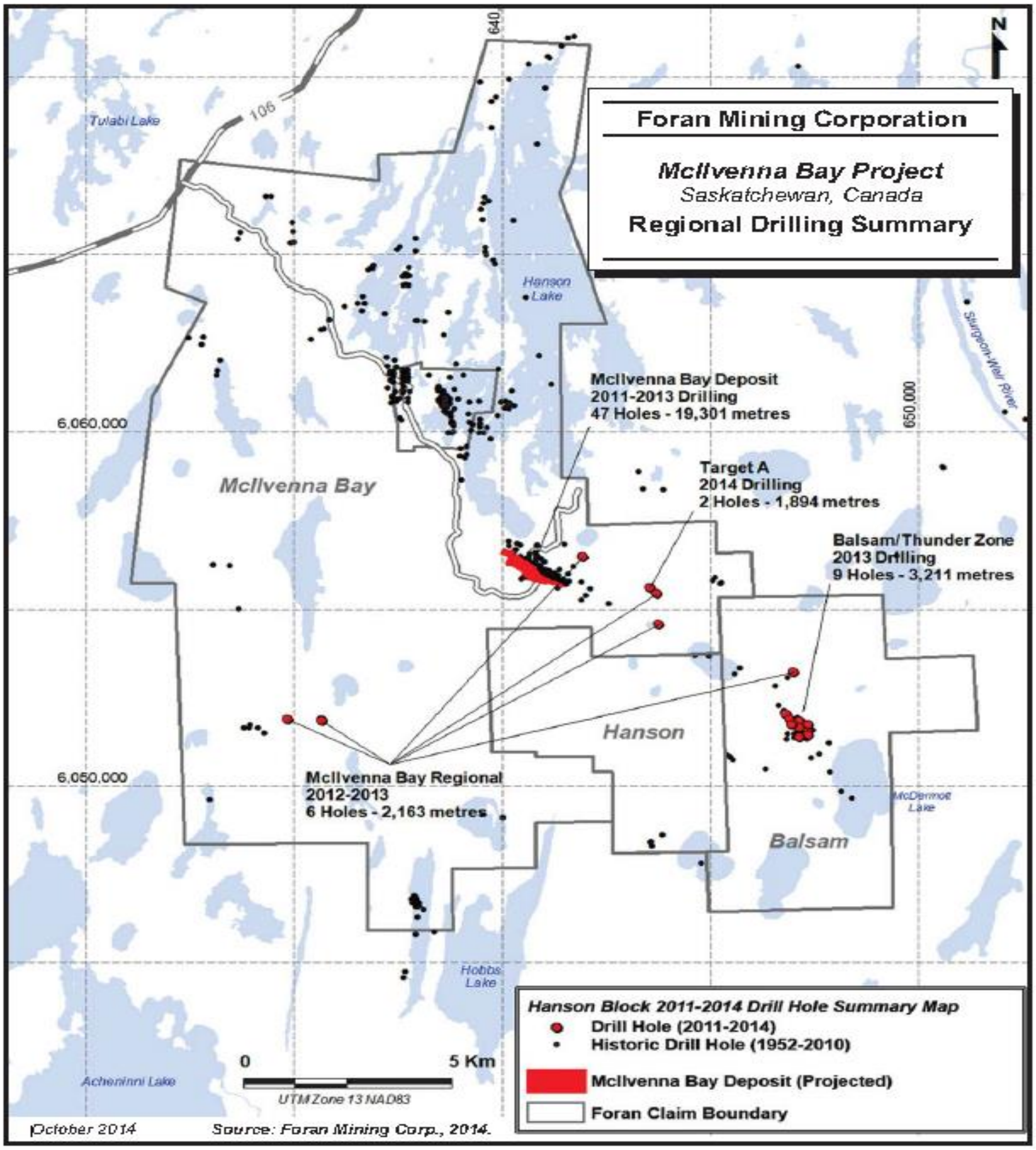


Figure taken from the 2015 Technical Report.

Figure 9.3
Lithogeochemical Sampling Surveys 2012 to 2014

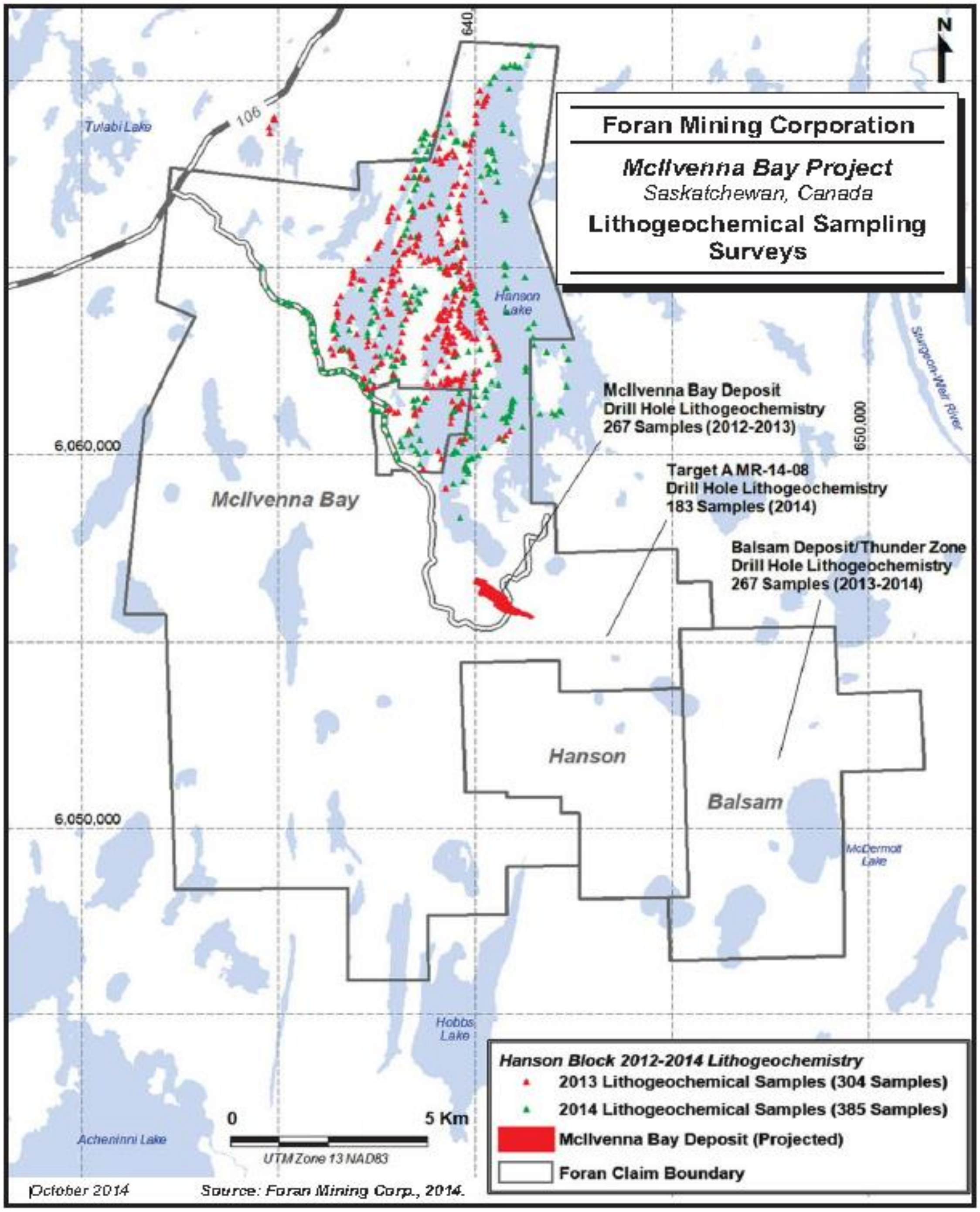


Figure taken from the 2015 Technical Report.

9.2 FORAN EXPLORATION 2015 TO PRESENT

9.2.1 Exploration on the McIlvenna Bay Deposit or in the Immediate Area

No further exploration/drilling was conducted on the McIlvenna Bay deposit until the winter of 2018. In December, 2017 Foran signed a Technical Services Agreement with Glencore Canada Corporation, under which Glencore will contribute its professional and technical services, assistance, guidance and advice in connection with the objective of completing a Feasibility Study on McIlvenna Bay, in exchange for an exclusive off-take contact to purchase or toll process all of the concentrates and/or other mineral products produced from the Project at prevailing market rates. With this agreement in place, Foran embarked on a large infill and expansion drill program designed to convert as much of the deposit resource as possible into indicated categories which could potentially be converted into reserves for the upcoming Feasibility study.

In 2018, Foran conducted 26,827 m of drilling in 60 drill holes targeting the deposit. The program was completed in two phases, with 14,986.5 m in 32 drill holes (including several wedged holes) completed during the phase I winter program and 11,840.5 m in 28 holes (including wedges) completed during the phase II summer program. The focus of the winter program was to upgrade both the near surface and deep portions of the deposit which are covered by muskeg and not accessible during summer months, while the summer program focused on the middle part of the deposit which was accessible from higher ground. Both programs were completed using oriented coring techniques to provide a better understanding of the geological structures in the deposit area. A number of wedge holes were also drilled during the programs in order to provide additional material for metallurgical testwork. In addition to converting inferred resources to the indicated category, other program components included geotechnical, hydrogeological and metallurgical testwork.

Geotechnical components of program included 3,733 m of detailed geotechnical logging on holes drilled at orientations amenable to both structural and resource studies. In addition, three short geotechnical holes (151.3 m) were drilled to characterize the proposed portal location and four short vertical holes (104 m) were drilled for piezometer installations to help quantify near surface groundwater flow in the immediate deposit area.

Material for metallurgical testwork was collected from all phase I and II drillholes, with either a quarter or half of each sampled interval submitted for testing. Metallurgical work is being carried out by Base Metallurgical Laboratories Ltd. (Base Metallurgical), of Kamloops, BC. A total of 1,440.96 kg of drill core was provided from 2018 drilling, supplemented with 712.4 kg of coarse rejects from assayed material from the 2018 program. Another 38.34 kg of core material from 2011 drilling was collected for HLS testing. Testwork currently under way is comprised of grind and flotation circuit tests, as well as DMS upgrading to maximize value.

As a part of phase II summer drilling, a downhole resurveying program was also undertaken. A number of holes were identified that did not have a full gyro surveys completed during the

2011 downhole resurvey program due to blockages in drill holes at surface or at depth. Those holes that displayed suspicious or non-existent historic downhole surveys beyond blockages were re-opened with a drill on the pad and re-surveyed with a True North Gyro.

To develop a larger library of ore density measurements across the deposit, Foran employees collected 1,932 bulk density measurements both from 2018 drill holes, and historic core (from 2011, 2012 and 2007), that was not significantly weathered. Bulk density measurements were matched to sampled intervals, with individual pieces labelled to ensure correct wet and dry weights. Samples were measured using a larger scale than the regular specific gravity measurements. The precision of the scale used was within 1 g (0.5 g for skilled operators), therefore the larger sample sizes (often between 2 and 4 kg) minimized the error introduced by the 1.0 g precision. These bulk density samples are considered more representative of the actual density of the mineralized material in the ground compared to measurements taken from isolated, random small samples of core.

As a follow up to both programs BHEM surveys were completed on a number of holes to look for additional lenses below the level of current drilling. The program was successful in its mandate and culminated with the 2019 resource estimates which is the subject of this report.

9.2.2 Exploration Conducted Outside the Immediate Area of the McIlvenna Bay Deposit

Since 2015 Foran has completed several drill programs in the McIlvenna Bay area, targeting geophysical anomalies generated from the 2013 ground TDEM survey discussed in Section 9.1.2, above.

In 2015, Foran completed five drill holes encompassing 1,914 m at the Thunder zone to follow up on the new discovery from 2013 discussed above. The program was successful in intersecting massive and stringer sulphide mineralization in four of the five holes drilled which defines a mineralized zone over approximately 300 m of strike length that remains open for expansion. The best result from the program came from the last hole, BA-15-83 which intersected two zones, an upper zone containing 2.04% Cu, 3.47% Zn, 0.37 g/t Au and 11.6 g/t Ag over 3.46 m followed by a deeper zone containing 0.62% Cu, 3.41% Zn, 0.36 g/t Au and 27.24 g/t Ag over 8.39 m (including an interval of 3.70 m grading 7.16% Zn).

During the winter of 2017, Foran returned to follow up on the Target A EM conductor first drilled in 2014. One hole was drilled during the 2017 program to attempt to intersect the conductor down dip of the 2014 drill hole. The hole (MR-17-09) was drilled to a depth of 1,323 m (short of the target depth) before an early spring thaw forced the shutdown of the drilling. The rods were left hanging in the hole when the drill rig was demobilized to facilitate the completion of the hole during the winter 2018 program.

During the 2018 winter program at McIlvenna Bay, MR-17-09 was extended to completion, reaching a final depth of 1,542 m. The hole hit a zone of exhalative material/iron formation from 1,386 to 1,396 m with strong silicification, garnet growth and chlorite alteration along with net textured to locally semi-massive pyrrhotite (2% to 40% overall) and trace pyrite and/or chalcopyrite. It was determined with a subsequent BHEM survey that this zone likely represented the source conductor, but based on the response, the hole had only intersected the upper edge of the modelled plate and the strongest part of the conductor still lay below the hole.

In 2019, Foran returned to Target A to continue the drilling and attempt to get a better test of the conductor by targeting the centre of the modelled conductor plate. Initially the plan was to wedge a short hole off of MR-17-09, but due to technical difficulties, multiple attempts to wedge the hole failed and it was decided instead to collar a new hole. This hole MR-19-10 was drilled to a depth of 1,749 m and intersected a package predominantly consisting of altered and silicified exhalate/iron formation from 1,547 to 1,572 m, which was similar to the zone from MR-17-09. The zone contained variable amounts of pyrrhotite with trace pyrite and chalcopyrite as above, but the interval was also cut by a number of graphitic shears/faults which may have contributed to the EM response. There were no appreciable base metals associated with the zone at this location but given the large size of the modelled conductor plate, further follow-up exploration is warranted.

9.3 MICON QP COMMENTS

The exploration programs conducted by Foran to date on the Project have continued to delineate additional mineralization at the McIlvenna Bay deposit. Further work will be needed to determine the full extent of the mineralization both in the down plunge direction and at depth. If the Project was put into production, though, the extent of the mineralization either down plunge or at depth might be more economically defined by underground drilling.

Further exploration programs will be necessary to identify the extent and tenor of the mineralization in a number of satellite zones which have been identified either historically or more recently by Foran. Further exploration will also be able to determine if these satellite zones of mineralization are economically viable for the purposes of exploitation along with the main deposit.

10.0 DRILLING

The first portion of this Section 10.1 has been extracted from the 2015 Technical Report. The second portion of this Section discussing the drilling since 2014 reflects the work conducted by Foran since the January, 2015, Technical Report was published.

10.1 DRILLING TO 2014 (RPA DISCUSSION)

Diamond drilling has spanned a fairly broad period, starting with Cameco in 1988. Cameco (and partners) drilled 68 holes, of which 56 targeted the McIlvenna Bay deposit. All other drilling in and around the Project area has been completed by Foran. A summary of drilling within McIlvenna Bay deposit is provided in Table 10.1.

Table 10.1
McIlvenna Bay Deposit Diamond Drilling Summary to August, 2014

Company	Year	Number of Holes	Metres Drilled (m)
SMDC (with partners Esso, Tri-gold)	1988	26	7,702.00
Cameco (SMDC) (with partner Trimin)	1989	30	14,550.53
Cameco (with partner Billiton)	1990	13	7,693.70
Foran	1998	3	997
Foran	1999	62	28,992.70
Foran	2000	3	2,938.30
Foran	2007	3	3,214.20
Foran	2008	4	3,310.70
Foran	2011 Phase I	10	5,056.00
Foran	2011 Phase II	18	8,158.00
Foran	2012	15	3,825.00
Foran	2013	4	2,243.00
TOTAL		**191**	**88,681.13**

Table taken from the 2015 Technical Report.

RPA noted that the totals provided by Foran for the Cameco-era drilling do not match that contained in the database. The database contains 68 of these holes totalling 30,905.6 m of drilling versus 69 holes and 29,946.2 m of drilling as listed in Table 10.1. The apparent discrepancies were due to holes that were lost and re-collared, and other holes that were drilled by Cameco and subsequently lengthened by Foran. Some holes that were collared and then abandoned appear in the database, and some do not, so it is was not really possible to reconcile the drilled totals. The metres from the lengthened holes are contained within the database as though they were drilled by Cameco, but they should have been recorded as drilled by Foran. For some of the abandoned and lengthened holes, the records are not complete. Consequently, it is not possible to fully reconcile what is in the database, which is supported by logs, and what is reported. In some instances, Foran has re-logged older drill core to update the records.

The incidents of apparent discrepancies have been investigated by Foran personnel and documented as follows:

- Hole 22, collared by SMDC/Esso in 1988, was deepened by Foran in 1999.
- Log for Hole 7 is missing.
- Holes 35 and 40, collared by Cameco/Trimin in 1989, were lost and re-collared as 35A and 40A, respectively; original drilled intervals not recorded.
- Log for Hole 42 is missing.
- Hole 43, also collared by Cameco/Trimin in 1989, was deepened by Foran in 1999.
- Holes 58, 66, and 67, collared by Cameco/Billiton in 1990, subsequently deepened by Foran.
- Holes 62 and 63 also appear to have been deepened, but it is not clear by whom.
- No logs were available for holes 62 or 58D.
- Holes 68, 120, and 121 were collared by Foran, lost, and re-drilled; now recorded as 68A, 120A, and 121A, respectively.
- Hole 122W1 was drilled as a wedge.
- Hole 123 was not drilled in the deposit area, and therefore not included in McIlvenna Bay database.
- Holes 126, 130, and 131 were planned but not drilled, and so records with these hole numbers do not exist.

In RPA's opinion, these apparent discrepancies have been adequately explained and do not present a significant concern for the drill hole database particularly as the only data used for resource estimation is recorded in logs and verifiable or has been re-acquired through logging of early core.

Cameco and Foran employed similar drilling procedures on McIlvenna Bay. The top of the holes from surface down through the Paleozoic cover sequence was drilled with HQ equipment. The drill string was reduced to NQ for drilling below the Proterozoic regolith. All but a handful of the Cameco holes, and all of the Foran holes still have their HQ rod string in the hole allowing one to locate the holes on surface and to re-enter them if necessary.

Downhole surveying of Cameco holes HA-60 through HA-65 was completed using acid tests only. Holes HA-01 through HA-17, and HA-66 and HA-67 were completed using Tropari and acid test measurements. All other Cameco holes were surveyed using the Techdel International Light-Log system.

Initially, downhole surveying on the Foran holes was done using a combination of Tropari measurements and acid tests. Due to the presence of magnetic rocks in the stratigraphy, especially the iron formations, Tropari azimuths were sometimes inaccurate and were occasionally ignored in order to get reasonably accurate hole locations. Tropari measurements were taken at approximately 75 m intervals, and acid tests were taken every 50 m.

The use of Tropari measurements was considered acceptable for the shorter holes as the influence of the one or two iron formation horizons intersected in such holes could be eliminated by careful analysis of the Tropari data, logging of the core, and magnetic susceptibility measurements of the core from area around the survey location. However, the Tropari instrument was found to be totally inadequate as a surveying tool for the deep, step-out holes 67, 111, 120A, 122, 122W1, 124, and 125. Foran concluded that the locations of the intersections of these holes had an estimated error of ±50 m in the east-west direction and ±25 m in the vertical direction (Lemaitre, 2000).

Starting with the winter program of 2011, the holes were surveyed initially with a Reflex EZ Shot instrument by the drillers during the drilling process as a means of tracking the trend of the drill hole during drilling. The EZ Shot tool provides an accurate dip, but also uses a magnetic compass to determine the azimuth. At the completion of the program, holes MB-11-136 to -145, inclusive, were re-surveyed using a Gyro tool from Reflex Instruments, which is not affected by magnetics. There were significant differences found between the results for the two instruments. Based on this result, the gyro tool was deemed to provide the most accurate survey result and this tool was used for all subsequent downhole surveys used in the database. For all future drill programs, a similar protocol was followed, with an EZ Shot tool employed by the drillers for routine tracking of the hole at 50 m intervals during drilling and a final gyro survey completed at the end of the hole to provide an accurate hole trace for the database.

In 2011, a program of re-surveying was also conducted to re-located as many of the older drill collars as possible to validate the historic database. Where the casing could be found and the holes were still open, a downhole survey was redone using the Gyro instrument. This resulted in revisions to the locations and paths of some holes, which impacted the geological interpretations and grade interpolations. In RPA's opinion, this was a prudent and worthwhile exercise, as there were some significant changes made to the projected path of some holes.

A drill hole location map showing the drill holes up to August, 2014, is provided in Figure 10.1. In RPA's opinion, the drilling and surveying conducted on the property has been done to industry standards and there are no apparent issues that would have a significant deleterious impact on the estimation of mineral resources.

Figure 10.1
Drill Collar Locations to August, 2014

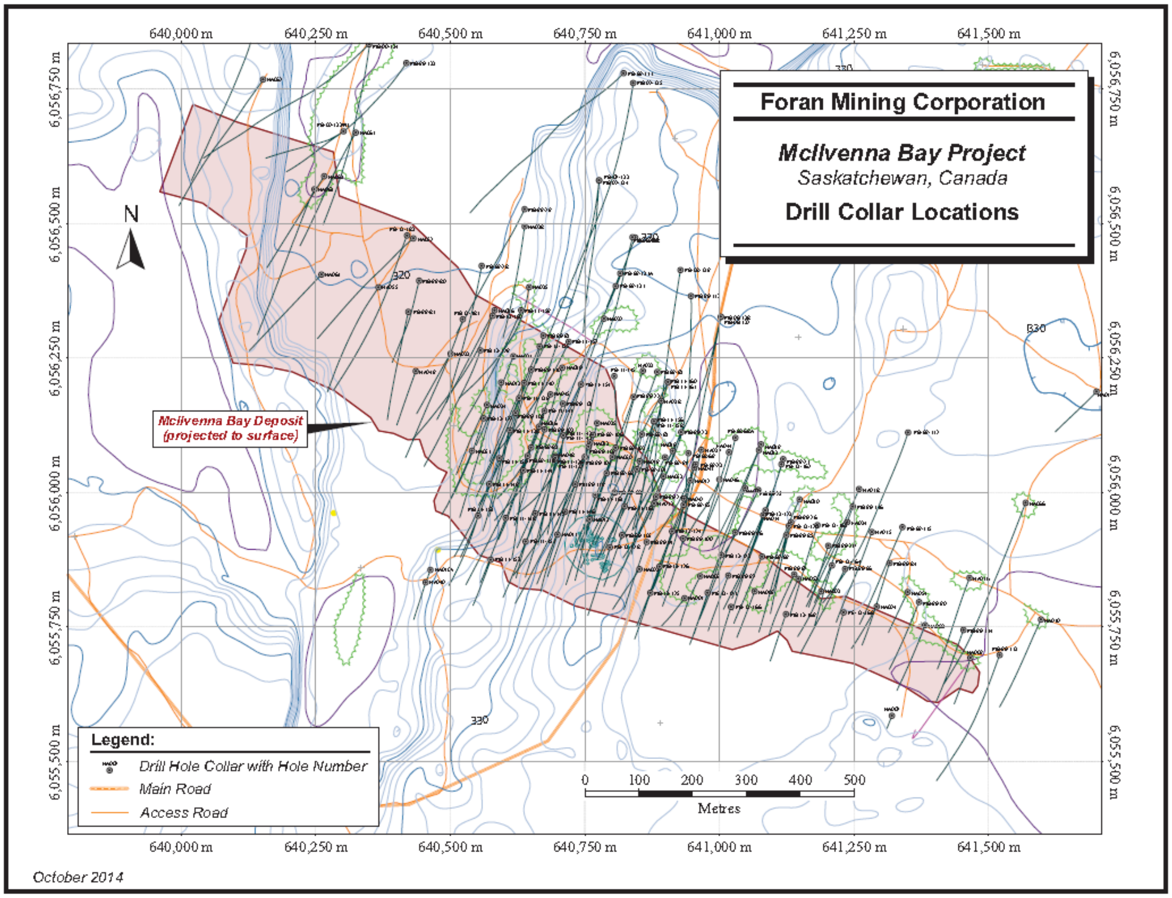


Figure taken from the 2015 Technical Report.

10.2 FORAN DIAMOND DRILLING 2014 TO PRESENT

No further drilling was conducted on the McIlvenna Bay deposit until the winter of 2018, when Foran embarked on a large infill and expansion drill program at the deposit designed to convert as much of the deposit resource as possible into indicated categories which could potentially be converted into reserves for the upcoming Feasibility Study.

The 2018 program consisted of 26,827 m of drilling in 60 drill holes which was completed in two phases, with 14,986.5 m in 32 drill holes (including several wedged holes) completed during the phase I winter program and 11,840.5 m in 28 holes (including wedges) completed during the phase II summer program. Table 10.2 and Table 10.3 provide detailed information on the drill holes from the 2018 program and plan map showing the collar locations and hole traces is provided in Figure 10.2.

Table 10.2
Summary of the 2018 Phase I Diamond Drilling Program, McIlvenna Bay Deposit

Drill Hole	UTM NAD 83 Zone13 Easting	UTM NAD83 Zone13 Northing	Elevation	Azimuth from Total Station	Dip	Length (m)
MB-18-183	640961.55	6056152.38	330.46	189.25	-73.82	701.00
MB-18-184	641386.19	6055696.85	332.07	199.52	-55.52	113.00
MB-18-185	641330.43	6055727.59	331.93	198.80	-56.72	110.50
MB-18-186	641273.78	6055733.70	331.92	198.46	-56.02	100.50
MB-18-187	641177.32	6055756.53	331.91	197.89	-55.79	137.50
MB-18-188	641269.95	6055847.54	331.97	197.00	-57.21	215.00
MB-18-189	641406.73	6055826.48	332.30	198.94	-57.81	248.00
MB-18-190	641249.16	6055915.98	331.97	189.86	-66.86	320.00
MB-18-191	640983.05	6055954.84	330.94	193.44	-62.89	317.00
MB-18-192	641095.20	6055834.00	331.88	197.64	-56.61	176.00
MB-18-193	641130.52	6056051.29	332.40	190.16	-65.72	447.00
MB-18-194	640229.57	6056875.69	319.32	183.27	-79.81	1160.00
MB-18-195	640964.92	6055778.35	331.40	199.61	-55.19	119.00
MB-18-196	641080.70	6055787.40	331.73	198.17	-56.34	122.00
MB-18-197	641174.58	6055869.36	332.00	191.63	-68.25	251.00
MB-18-198	640503.65	6056584.79	319.71	184.74	-76.98	918.00
MB-18-199	640574.40	6056328.22	320.40	193.51	-71.15	655.00
MB-18-200	640409.75	6056719.88	319.27	183.02	-75.68	496.00
MB-18-201	640555.88	6056262.74	320.76	196.51	-72.11	565.00
MB-18-202	640409.792	6056719.76	319.26	186.02	-71.84	1007.00
MB-18-203	640384.69	6056622.34	319.40	192.57	-71.79	861.00
MB-18-203-W1	640384.69	6056622.34	319.40	192.57	-71.79	201.00
MB-18-203-W2	640384.69	6056622.34	319.40	192.57	-71.79	169.00
MB-18-204	640515.00	6056752.00	319.39	184.00	-75.00	27.00
MB-18-205	640708.67	6056497.43	327.53	187.13	-73.89	932.00
MB-18-206	640515.03	6056750.93	319.38	186.48	-75.14	1032.00
MB-18-206-W1	640515.03	6056750.93	319.38	186.48	-75.14	579.00
MB-18-207	640130.36	6056846.12	329.76	171.41	-72.81	1068.00
MB-18-207-W1	640130.36	6056846.12	329.76	171.41	-72.81	198.00
MB-18-208	640713.94	6056454.73	329.54	200.63	-68.72	841.00
MB-18-209	640815.50	6056310.08	330.45	181.57	-71.29	429.00
MB-18-210	640772.07	6056358.76	329.83	186.86	-72.15	471.00
Total Metres						**14,986.50**

Table supplied by Foran in June, 2019.

Table 10.3
Summary of the 2018 Phase II Diamond Drilling Program, McIlvenna Bay Deposit

Drill Hole	UTM NAD 83 Zone13 Easting	UTM NAD83 Zone13 Northing	Elevation	Azimuth from True North Gyro	Dip	Length Drilled (m)
HA067	640152.50	6056767.00	329.60	234.59	-78.46	201
HA18-043w1	640594.60	6056204.00	326.61	197.47	-74.99	172.5
HA18-045w1	640686.20	6056182.00	328.64	197.96	-75.91	153.5
MB-18-109w1	640757.00	6056085.00	332.07	199.07	-62.47	111.5
MB-18-134w1	640776.40	6056580.00	327.85	185.25	-78.04	122
MB-18-141w1	640675.10	6056151.00	328.73	190.22	-72.32	265.5

Drill Hole	UTM NAD 83 Zone13 Easting	UTM NAD83 Zone13 Northing	Elevation	Azimuth from True North Gyro	Dip	Length Drilled (m)
MB-18-142w1	640710.20	6056106.00	331.76	185.89	-69.17	100.5
MB-18-143w1	640710.20	6056106.00	331.73	184.83	-72.02	90.5
MB-18-208w1	640713.90	6056455.00	329.54	202.15	-68.97	240
MB-18-209	640815.50	6056310.00	330.45	182.68	-71.46	357
MB-18-210	640772.10	6056359.00	329.83	183.60	-72.24	348
MB-18-211	640905.90	6056215.00	331.78	182.09	-74.18	755
MB-18-212	640816.60	6056219.00	332.30	199.27	-74.67	696
MB-18-212w1	640816.60	6056219.00	332.30	199.27	-74.67	136
MB-18-213	640780.60	6056198.00	332.16	199.35	-70.87	648
MB-18-213w1	640780.60	6056198.00	332.16	199.35	-70.87	422.5
MB-18-214	640831.70	6056022.00	333.38	231.26	-75.10	555
MB-18-214w1	640831.70	6056022.00	333.38	231.26	-75.10	147
MB-18-215	640694.80	6056635.00	323.75	221.10	-62.32	606
MB-18-216	640150.40	6056744.00	329.10	153.29	-71.01	1,050
MB-18-217	640807.00	6056008.00	335.31	155.90	-71.93	528
MB-18-217w1	640807.00	6056008.00	335.31	155.90	-71.93	145.5
MB-18-218	640708.70	6056306.00	327.48	187.76	-74.18	708
MB-18-218w1	640708.70	6056306.00	327.48	187.76	-74.18	115
MB-18-219	640693.90	6056633.00	323.72	213.83	-63.52	942
MB-18-219w1	640693.90	6056633.00	323.72	213.83	-63.52	130.5
MB-18-220	640716.50	6056601.00	325.66	205.55	-68.09	1,002
MB-18-225	640715.90	6056601.00	325.58	245.91	-72.29	1,092
Total Metres						**11,840.5**

Table supplied by Foran in June, 2019.

Drill hole collars were located in the field by a surveyor/geologist with a survey transit or Differential GPS and two foresight pickets were placed in front of the drill to allow the drill to be aligned at the proper azimuth. The drill holes were started with HQ sized core and drilled until they passed through the dolomite cap rock and sand layer and/or through the regolith. Once into solid bedrock the rod string was reduced to NQ size and the holes was drilled to depth, leaving the HQ rod string as casing. Once the drill hole was reduced to NQ the surveyor completed a 'heads and tails' survey of the rod string to obtain an accurate azimuth and a final collar location for the hole.

During drilling, downhole survey readings were routinely collected by the drill crew at 50m intervals as the holes progressed, utilizing an EZshot survey tool to track the progress of the hole. The EZshot tool provides an accurate reading for the dip of the hole, however, the tool uses a magnetic compass to determine the azimuth. Due to the occurrence of some magnetic units in the stratigraphy at McIlvenna Bay, the azimuth data for some readings from the EZshot tool may be dubious, but they provide a back up of survey data for the hole in the event that it is lost and not available for surveying at the end of drilling. Due to the magnetic parts of the stratigraphy, all drill holes had a separate downhole survey conducted once drilling was complete, as described below, to ensure that accurate survey data was available for each hole.

Figure 10.2
Drill Collar Locations to September, 2018

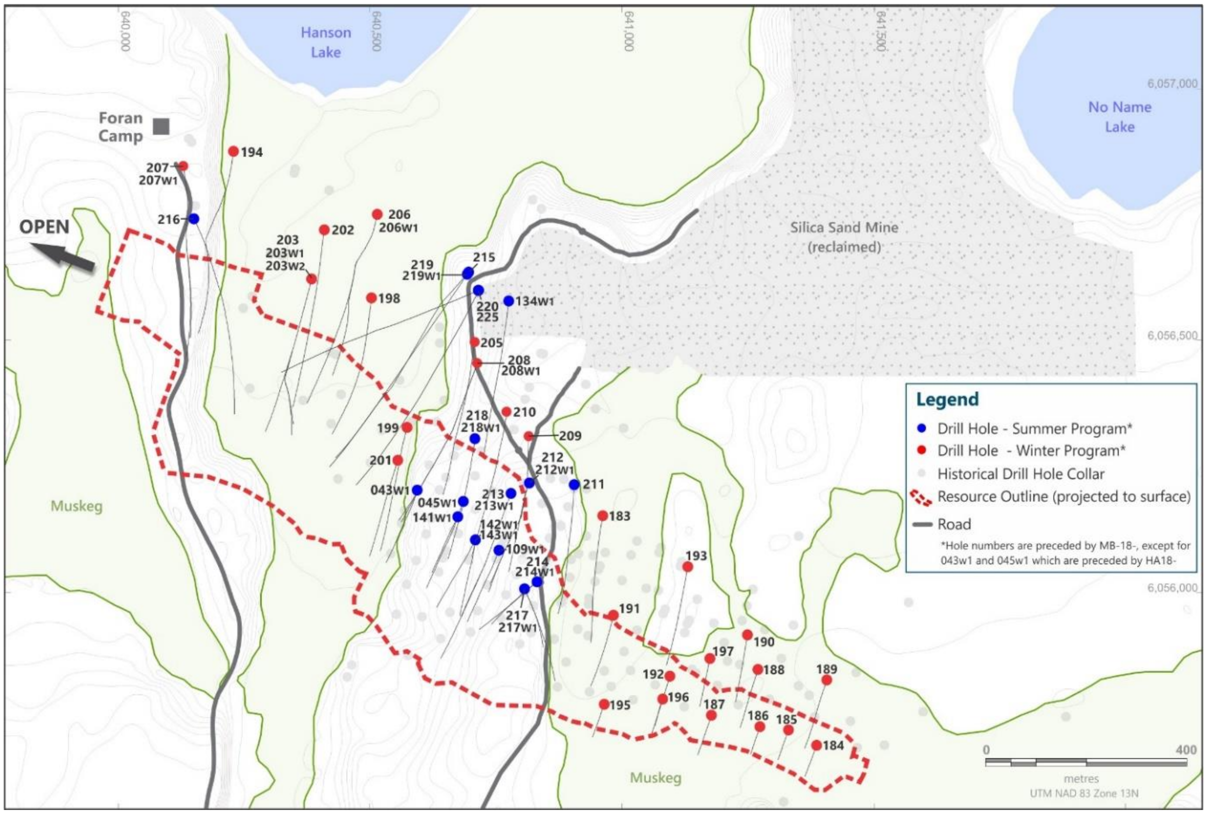


Figure supplied by Foran in June, 2019.

At the completion of each drill hole a downhole survey was completed using a MEMS Gyro Tool, provided by Reflex Instruments, which provides an accurate trace of the drill hole at depth. The gyro tool is a downhole survey instrument that is magnetically independent making use of gyros rather than a magnetic compass to determine orientations and therefore the results are not affected by magnetic rock units such as iron formations, etc. in the stratigraphy. Surveys were generally conducted from the bottom of the hole up, with measurements collected at five or ten metre intervals throughout the hole. The survey data collected by the gyro tool is taken as the most accurate source and these results are used in the drill hole database. Part way through the winter 2018 drill program, North Seeking Gyro tools were obtained from Reflex Instruments, and Stockholm Precision tools. North seeking gyro instruments are unaffected by magnetic terrain similar to MEMS instruments but have the added benefit of not requiring a collar survey to calculate the holes azimuth, instead the tool calculates the station azimuths independently.

Once the core was received at the McIlvenna Bay core shack, geological and geotechnical core logging was completed. Geospark Consulting Inc. (Geospark) core logging software, under license from Geospark, was used to collect all the pertinent geological data from the drill core along with a detailed description of the rock units and sample information. All drill core was logged by Foran employees at the McIlvenna Bay core shack.

For the 2018 drill program, all drill holes were completed using the ACT III digital core orientation system from Reflex Instruments to provide oriented drill core. The system allows the bottom of each run to be marked by the driller's helper before the core is retrieved from the core tube and placed in the core boxes. Prior to logging, the core was aligned on a section of angle iron relative to that mark and a 'bottom' reference line was marked on the core. This provides a reference line which can be used to take structural measurements of fabrics in the rock which are aligned as they would have been in the ground prior to drilling. This process provides valuable information on the true orientation of structures in the ground a will greatly assist in the interpretation of the geology of the deposit.

10.3 MICON QP COMMENTS

Micon's QP has reviewed and discussed the drilling programs with Foran personnel both during the site visit and at other times throughout its audit and review of the mineral resource estimate. Micon's QP believes that the programs have followed the best practices guidelines as outlined by the CIM for exploration.

In the opinion of Micon's QP for this section, Foran has achieved its objective of outlining the mineralization in the McIlvenna Bay deposit with its diamond drilling programs. The drilling programs on the McIlvenna Bay deposit was sufficiently extensive to be used as the basis of a mineral resource estimate at the McIlvenna Bay Project.

11.0 SAMPLE PREPARATION, ANALYSES AND SECURITY

Section 11.1 below has been extracted from the 2015 Technical Report. Section 11.2 and beyond reflect the exploration since the 2015 Technical Report was written.

11.1 SAMPLE PREPARATION ANALYSIS AND SECURITY (1988 TO 2013)

This section describes, to the best of RPA's knowledge, the historical procedures employed initially by Cameco and later by Foran.

11.1.1 Cameco (1988 to 1991)

Little information is available for security measures employed, QA/QC procedures, and who actually prepared the samples. The samples of sawn core were initially sent to TSL Laboratories Inc., (TSL) in Saskatoon. Each sample was crushed to a minimum of 60% passing -10 mesh and was split, with the rejects being stored at TSL's laboratory. A split portion, approximately 250 g, was pulverized to 90% passing -150 mesh. The split halves were assayed by standard Atomic Absorption (AA) techniques for zinc, copper, silver, and lead and by fire assay-atomic absorption (FA-AA) for gold. When the initial assay samples exceeded 1% Zn, 1% Cu, or 1 g/t Au, the sample was re-analysed. Samples from HA-01 to HA-06 were assayed at TSL. The remainder of the samples from HA-07 through HA-67 were assayed at Eco-Tech Laboratories (Eco-Tech) in Creighton, Saskatchewan (Eco-Tech). A total of 152 check assays were performed at TSL, Bondar-Clegg & Company Ltd. (Bondar-Clegg) in Ottawa, and TerraMin Research Labs Ltd. (TerraMin) (Calgary). Cameco was pleased with the Eco-Tech results and believed that TSL returned somewhat lower values for zinc and, to a lesser extent, copper during check assays (MRDI, 1998).

11.1.2 Foran (1998 to 2000)

The bulk of the assaying from the Foran drilling programs was done at TSL. Once sawn, individual samples were packaged in individual plastic sample bags, which were sealed with packing tape, boxed, and taken directly by a Foran representative from the field to Creighton, Saskatchewan. The boxes were shipped via bus to Saskatoon where a representative from TSL collected the boxes and brought them to the lab.

At TSL, each sample was crushed to a minimum of 60% passing -10 mesh and then split, with the rejects being stored at TSL. A split portion, approximately 250 g, was pulverized to 90% passing -150 mesh. All samples were analysed for copper, zinc, lead, gold, and silver, while samples from holes MB-99-78 through 125 were also analysed for iron and sulphur. All samples were also analysed by a 31-element ICAP scan that was completed at the TSL laboratory. Copper, lead, zinc, and silver analyses were done by Atomic Absorption Spectrophotometry, while the gold was determined by standard FA procedures.

One in ten samples assayed by TSL was shipped to the Saskatchewan Research Council's Geoanalytical Services Laboratory (SRC) in Saskatoon for check assaying. In the case of a discrepancy between the original and check assay results, the sample was rechecked by XRAL Laboratories Ltd. (XRAL) in Toronto to determine the most accurate result. In their signed assay reports, TSL included the analytical results of all internal repeat samples (duplicates) and TSL in-house or Certified Reference Material standard samples inserted into the assaying sequence. Foran's experience was that for most elements, TSL assayed very slightly lower (<10% difference) than the corresponding assay done at the SRC.

Generally, zinc, lead and silver assays were less than 10% lower at TSL than at SRC, copper assays were less than 5% lower, and gold results were comparable (Lemaitre, 2000).

During the time periods noted, it is not known what the certifications were for the various laboratories mentioned.

The QA/QC procedures used by Foran were not as rigorous as one might expect in a current program. Nonetheless, RPA believes that the work was done in accordance with the best practices of the time and that the results should be reliable.

11.1.2.1 Specific Gravity Determinations

From hole MB-99-87 to MB-99-125, Foran had specific gravity determinations of each sample done by TSL using the weight in water – weight in air method on the intact core sample. Holes MB-99-78 to MB-99-86 did not have any specific gravity determinations but did have iron and sulphur analytical data. Holes prior to MB-99-78 do not have any specific gravity determinations or any sulphur analytical data.

11.1.3 Foran (2007 to 2008)

All core was split using a diamond saw. Sampling was done on a range of intervals up to a maximum of 1.24 m often with breaks at lithological and mineralogical contacts. Assay tags were stapled into the boxes.

Samples were analysed at TSL for gold, silver, copper, lead, and zinc by AA with a four-acid digestion. Samples were analysed for gold, silver, copper, lead, and zinc in all holes except MB 07 135. Over limit gold and silver were rerun using fire assay of a 30 g aliquot with a gravimetric finish. All samples were crushed to 70% -10 mesh, riffle split to a 250 g sub sample, which was then pulverized to 95% -150 mesh.

Samples were in the custody of Foran personnel or their designates until delivered to the lab. The site is fairly remote and, while not fenced, was continually supervised and relatively immune to incursions from unauthorized personnel.

There is no record in the database of any independent assay QA/QC protocols applied for these programs. In RPA's opinion, this is a significant deviation from industry best practices which impacts on the overall perceived reliability of the assay database. It is noted that assay QA/QC protocols have since been adopted by Foran, and this is viewed as a positive step. It is also noted that in 2011, Foran checked the sampling, re-logged the core, and did some re-sampling of the 2007-2008 holes. There was good agreement with the sample and logging records, and therefore, there is no reason to suspect that the assay work done in 2007-2008 is sub-standard.

11.1.4 Foran (2011 to 2013)

The initial winter 2011 program was managed under contract to Equity Exploration Consultants Ltd. Subsequent to that, all exploration work was managed by Foran personnel.

Up until the latter part of the 2011 program, holes were logged in a dedicated facility established in an old office building. At the time of the last RPA site visit, Foran was in the process of moving to a new building constructed specially for core handling. This facility has been fully configured and is presently in use.

Core was logged for lithology, mineralization, and alteration. Geotechnical measurements included recovery, Rock Quality Designation (RQD), and magnetic susceptibility. All core was photographed prior to sampling. The sampling was done using a diamond saw. The maximum sample length was standardized to one metre with breaks at lithological and mineralogical contacts. Routine bulk density measurements were taken from intact core specimens.

RPA inspected several sampled intervals and considers the sampling to have been done properly, in a manner appropriate for the deposit type and mineralization style. In RPA's opinion, the orientation and distribution of the samples are such that they will be representative of the deposit.

Drill core from early programs were either stored in racks or cross-stacked boxes on site. Foran has collected the cross-stacked core, re-boxed it, and placed it in racks. The older Cameco core, although in racks, is exposed to the elements and has suffered some degradation as a result. Foran personnel have reportedly begun re-boxing and storing this core as well.

Assay QA/QC protocols were introduced, in the winter of 2011, which comprised inclusion of a blank, standard, and duplicate into the sample stream at a nominal rate of one for every 20 samples. Duplicates comprised both quarter-cores (field duplicates), as well as splits from pulps (preparation duplicates) which were inserted on a rotating basis. The duplicates were taken at a rate of one in 20 samples; however, they alternated between field and preparation duplicates. Following the winter 2011 program, the protocol was revised slightly so that the lab duplicates were completed by taking a second pulp from the sample reject material rather than a second split from the pulp.

Material for the blanks consisted of locally obtained barren carbonate rock. The standards material comprised eight different commercially prepared reference standards, listed below in Table 11.1.

The samples were analysed at TSL for Cu, Zn, Pb, and Ag by AA following four-acid digestion, as described above. Samples were analysed for Au using fire assay with AA finish and over-limits for Au were re-assayed by fire assay with gravimetric finish. All samples were also routinely analysed separately by a 30 element ICP package following Aqua Regia digestion for trace metal concentrations. A 30 g aliquot was used for the FA-AA analyses, and a 58.32 g aliquot was used for FA-gravimetric assays. As with the 2007-2008 programs, all samples were crushed to 70% -10 mesh, riffle split to a 205 g subsample, which was then pulverized to 95% -150 mesh.

Table 11.1
Reference Standards – 2011 to 2013 Program

Standard	Au (ppb)		Ag (ppm)		Cu (%)		Pb (%)		Zn (%)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
GBM909-11			25.5	1.7	0.5344	0.0195	0.2074	0.0103	1.9486	0.0591
GBM909-12			51.7	3	1.083	0.0339	0.4191	0.0141	4.0073	0.1348
GBM909-13			127.3	6.8	3.2093	0.1295	0.8513	0.0327	6.8362	0.2363
G310-4	430	30								
CDN-ME-11	1,380	100	79.3	6	2.44	0.11	0.86	0.1	0.96	0.06
CDN-ME-17			38.2	3.1	1.36	0.1	0.676	0.054	7.34	0.37
GLG307-1	2.86	1.7								
CDN-GS-P7B	710	70	13.4	1.6						
CDN-FCM-7	896	84	64.7	4.1	0.526	0.026	0.629	0.042	3.85	0.19
CDN-ME-18	512	70	58.2	5.1	1.931	0.086	0.098	0.012	4.6	0.22

Source: RPA, Rennie, 2011

Notes: Standard deviations (SD) are provided by the manufacturer and are derived from umpire assays of the standards. They provide a basis for derivation of error limits. In this table SD refers to +/-2 SD, which is the error limits provided by the manufacturer for the standard based on the results of round-robin testing.

The above table and notes were extracted from the 2015 Technical Report and modified as required.

The QA/QC results were gathered and collated to check for failures. Duplicates were plotted on diagrams comparing the absolute relative difference between duplicate pairs with the mean of the pair. Reasonable agreement was obtained for both the field and prep duplicates.

Blanks and standards were plotted in chronological order and compared with the nominated values and acceptable error limits. For blanks, all values returned were very low and there were no failures. A number of standards failures were reportedly obtained during the 2011 winter program which resulted in re-assay of partial batches (batch of 20 samples in the sample stream surrounding failure).

In three cases, the failure was determined to have resulted from improper labelling of the standards packets. In all other cases the batches of samples passed on re-assay and those results were used in the database.

There were two standard failures during the summer 2011 program. In both cases, batches of 20 samples surrounding the failure were re-assayed. The batches passed on re-run and the results of these re-runs were used in the database.

Three standards and one blank failure were obtained in 2012, which resulted in the re-run of the affected batches. The results passed for all samples on re-run and the revised data was incorporated into the database. One batch from the 2013 winter program was re-run owing to a standard failure.

RPA has reviewed the assay QA/QC results for the 2011, 2012, and 2013 programs and concluded that there were no concerns evident.

Equity personnel re-logged five of the seven 2007-2008 drill holes in 2011 and updated the geology, geotechnical data and verified the sample intervals. The core was reported to be completely intact and sample intervals were easily checked with no discrepancies noted. Samples were focused on the mineral zones with one or two shoulder samples from the adjacent rocks. All analytical certificates were available from TSL and corresponded to the sample numbers in the core boxes.

Foran has continued with re-logging of portions of holes in order to help resolve complications in the geological interpretations.

11.1.4.1 Specific Gravity Determinations

At the time of the resource update, Foran had collected 1,085 density measurements from core specimens. RPA plotted scatter diagrams of the measured density against the sample metal grades and found a reasonably robust linear relationship between density and zinc grade. A regression formula was derived in order to estimate block density from the interpolated zinc grades. This formula is as follows:

$$SG = (0.075 \times Zn) + 2.8124$$

The density for each block was calculated from the interpolated zinc grade.

Foran has since made many more density measurements, and at present, there are 2,501 determinations in the database. RPA recommends that the regression formula be updated with this more recent data.

In RPA's opinion, Foran's present logging, sampling, and assaying protocols are consistent with good industry practice. The QA/QC program as designed and implemented by Foran is adequate and the assay results within the database are suitable for use in a Mineral Resource estimate.

11.2 MICON QP COMMENTS ON SAMPLE PREPARATION ANALYSIS AND SECURITY (1988 TO 2013)

Where possible Micon's QP was able to review the work conducted by RPA that was commented on in the 2015 Technical Report and agrees with RPA's opinions regarding the work and that it was suitable for conducting mineral resource estimates.

11.2.1 Notes Regarding Assay Laboratories

TSL quality control system conforms to the requirements of ISO/IEC Standard 17025 guidelines and in April, 2004, it received its certificate stating accreditation for specific tests from the Standards Councils of Canada, Laboratory Number 538. TSL participates in the proficiency testing program sponsored by the Canadian Certified Reference Materials Project. TSL has qualified for Certificates of Laboratory Proficiency since the program's inception in 1997, and this program is a requirement of its ISO/IEC 17025 accreditation. TSL is independent of both Micon and Foran.

Bondar-Clegg & Company Ltd. was an independent commercial assay laboratory company which was taken over by ALS Chemex Labs Ltd. in December, 2001.

Eco-Tech Laboratories in Creighton, Saskatchewan was an independent commercial assay laboratory company which appears to have been struck off the public company registry in Saskatchewan as noted in Part 1 of the December 27, 2002 Sask Gazette. It is recorded as struck off the register pursuant to Section 29.0.

> *Section 290(1) enumerates the circumstances under which a corporation may have its name struck from the register of corporations. The most common circumstances for striking the name of a corporation from the register are where: the Branch Director does not receive a return, notice or other document or prescribed fee required by the Act; the corporation gives notice to the Branch Director that it has ceased to carry on business in Saskatchewan; the corporation is not entitled to carry on business under the act of incorporation of the jurisdiction in which it was incorporated; the corporation is issued a Certificate of Discontinuance pursuant to Section 182; the corporation is dissolved; or the corporation is amalgamated with one or more other corporations. Before striking a corporation off the register, the Branch Director will send notice to the corporation advising the corporation of the default under Section 290(1) and stating that unless the default is remedied within 30 days after the date of the notice, the name of the corporation will be struck off the register. If the corporation does not cure the default within the time mentioned in the notice, the Branch Director may strike the name off the register and publish notice thereof in the Saskatchewan Gazette.*

No information was obtained regarding the TerraMin Research Labs Ltd. of Calgary, Alberta. and it appears this laboratory is no longer operating.

XRAL Laboratories Ltd. (XRAL) as purchased by the SGS Group in 1988. XRAL was an anacronym that stood for X-Ray Assay Laboratories Ltd.

All of the above laboratories are or were independent laboratories which charged a fee to process a sample. These laboratories are or were independent of the Foran or the other companies which conducted work on the McIlvenna Bay Project. At the time of operation, Micon's QP believes that the laboratories applied the best practices in undertaking their assaying techniques and obtained any certifications necessary to operate as independent laboratories serving the mineral industry.

11.3 SAMPLE PREPARATION ANALYSIS AND SECURITY (2018 TO PRESENT)

For the 2018 programs drilling was completed using NQ size diamond drill core for all holes. During the logging process mineralized intersections were marked for sampling by the geologist and given a unique sample number. The samples were sawn in half with a diamond saw blade and the sample interval and sample number was marked on a metal tag that was stapled into the core box at the start of the sample interval as a permanent record. Half NQ core was placed in plastic bags with the sample tag, sealed and submitted for assay, while the second half was returned to the core box for storage on site. The sealed plastic sample bags were placed in labelled rice sacks for hand delivery to TSL by Foran employees. Samples generally averaged one metre in length in homogeneous material, with a maximum of 1.5 m or a minimum of 0.20 m taken in select circumstances, if required, to conform with geological contacts and/or mineralized zones. Under no circumstances were samples taken across geological boundaries.

QA/QC measures employed by Foran included the insertion of one certified standard, one blank (barren dolomite) and one lab duplicate within every sequence of 20 samples, similar to previous programs completed since 2011. Part-way through the winter 2018 program, however, it was decided to beef up the amount of QA/QC material inserted in the sample stream and to increase the number of duplicate analysis completed by the assay lab. This resulted in a revised protocol which consisted of the use of seven standards of varying grades (high, medium, low), two blanks and two field duplicates inserted in the sample stream for every 100 samples taken prior to shipment of the samples to the laboratory. A list of the certified standards used for the program are provided in Table 11.2.

At the laboratory, a second split was taken from the initial pulp for every tenth sample processed, to represent a pulp duplicate, and a second pulp is created from the original reject for every 11th sample as a prep duplicate. These samples are analysed in order with the original sample stream. All QA/QC reference material was checked for compliance prior to compiling the assay data and any batches with failures of QA/QC material were re-run by the laboratory.

The 2018 samples were analysed at TSL for Cu, Zn, Pb, and Ag by AA following four-acid digestion. Samples were analysed for Au using fire assay with AA finish and over-limits for Au (>1 g/t) were re-assayed by fire assay with gravimetric finish. All samples were also routinely analysed separately by a 30 element ICP package following Aqua Regia digestion for trace metal concentrations. A 30 g aliquot was used for the FA-AA analyses, and a 58.32 g aliquot was used for FA-gravimetric assays. As with the 2007-2013 programs, all samples were crushed to 70% -10 mesh, riffle split to a 205 g subsample, which was then pulverized to 95% -150 mesh.

Table 11.2
Reference Standards – 2018 Program

Standard	Au (ppb)		Ag (ppm)		Cu (%)		Pb (%)		Zn (%)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
CDN-ME-11	1,380	100	79.3	6	2.44	0.110	0.86	0.1	0.96	0.06
CDN-ME-17	452*	58	38.2	3.1	1.36	0.100	0.676	0.054	7.34	0.37
CDN-FCM-7	896	84	64.7	4.1	0.526	0.026	0.629	0.042	3.85	0.19
CDN-ME-18	512	70	58.2	5.1	1.931	0.086	0.098	0.012	4.60	0.22
CDN-ME-1410	542	48	69	3.8	3.80	0.170	0.248	0.012	3.682	0.084
CDN-ME-14	100*	20	42.3	4.2	1.22	0.078	0.495	0.030	3.10	0.28
CDN-ME-1705	3,660	210	78.3	6.4	1.35	0.050	0.058	0.004	0.71	0.04
CDN-ME-1406	678	54	57.1	3.7	0.32	0.012	0.485	0.026	2.27	0.08
OREAS 622	1,850	132	102	6.6	0.486	0.016	2.210	0.134	10.24	0.36
CDN-ME-1707	2,020	214	27.9	2.9	2.72	0.11	0.097	0.006	0.539	0.016

Notes: Standard deviations (SD) are provided by the manufacturer and are derived from umpire assays of the standards. They provide a basis for derivation of error limits. In this table SD refers to +/-2 SD, which is the error limits provided by the manufacturer for the standard based on the results of round-robin testing.

A total of 1,562 samples (including all QA/QC materials) were analysed during the 2018 Phase I program and there were seven standard failures reported from the assaying. The first failure occurred while the historic QA/QC protocols were still in effect, so a batch of 20 samples surrounding the failed standard was re-run. All other instances occurred once the new QAQC protocols had been established and in these cases a group of seven samples was re-run (three samples either side of the failure in the sample stream). In all cases the standard material passed on re-run and the revised assay results for these samples were incorporated into the database.

A total of 1,550 samples (including all QA/QC materials) were analysed during the 2018 Phase II program and there were ten standards and three blanks that failed QAQC protocols during the program. These failed samples and their surrounding groups of samples (generally three samples either side) were re-assayed by the laboratory. In all cases the batches of samples passed on re-run and the revised assay results for these samples were incorporated into the database.

11.3.1 Specific Gravity Determinations

A number of additional specific gravity measurements were completed on intact core during the 2018 program, both through the continued routine measurement of individual core pieces for the different rock units during the logging process, as well as, the collection of 'bulk' specific gravity measurements for complete samples. Specific gravity data was collected on intact core using the weight in water – weight in air method. For the 'bulk density' measurements an apparatus was set up for the weight scale in the core shack utilizing a large basket, which allowed entire sample intervals to be weighed at once and therefore provide a much more representative value.

The database for the deposit consists of 4,435 specific gravity measurements from individual core samples taken from all lithologies in the deposit area measured either on site or at the assay lab. The database also includes 1,932 bulk specific gravity measurements collected for complete sample intervals from the mineralized zones of 61 drill holes spread spatially through the deposit. As discussed above, the bulk density measurements were taken on complete sample intervals and are much more representative of the density of the mineralized material in the ground than small randomly selected core pieces.

11.4 MICON QP COMMENTS ON SAMPLE PREPARATION ANALYSIS AND SECURITY (2018 TO PRESENT)

Micon's QP was able to review the work conducted by Foran on its 2018 to present drilling programs and is of the opinion that the QA/QC programs have been conducted in line with CIM best practices. Micon's QP believes that the work is suitable for use in conducting a mineral resource estimate on the McIlvenna Bay Project.

12.0 DATA VERIFICATION

12.1 GENERAL

This is Micon's first Technical Report for the McIlvenna Bay Project in Saskatchewan. The QP's site visit and data verification was conducted to independently verify the geology and data provided by Foran for this Technical Report. Independent check sampling was conducted to verify the nature of the mineralization at the McIlvenna Bay Project.

The QPs responsible for the preparation of this report and their areas of responsibility and site visits are noted in Table 12.1.

Table 12.1
Qualified Persons, Areas of Responsibility and Site Visits

Qualified Person	Title and Company	Area of Responsibility	Site Visit
William J. Lewis, B.Sc. P.Geo.	Senior Geologist	1 through 12 (except 12.3), 14 (except 14.10.2), 23 through 26	2018/08/16 to 2018/08/18
Ing. Alan San Martin, MAusIMM(CP)	Mineral Resource Specialist	12.3	None
Richard Gowans, P.Eng.	President and Principal Metallurgist	13	None
NI 43-101 Sections not applicable to this report		15,16,17,18,19,20,21 and 22	

Messrs. Lewis, San Martin and Gowans are all employees of Micon.

12.2 SITE VISIT

A site visit was conducted between August 16 and August 18, 2018, during which the McIlvenna Bay property was inspected, and various aspects of the Project were discussed. The exploration programs for the Project were also discussed in detail. The onsite exploration QA/QC procedures were reviewed and discussed during a review of the core logging and sampling procedures at the core logging facility.

Mr. Lewis conducted the site visit with the assistance of Roger March, P.Geo., Vice President of Exploration for Foran.

Figure 12.1 shows the core storage area at Foran's McIlvenna Bay camp during the site visit. This storage area holds both the historical core as well as the core from Foran's previous drilling programs.

Figure 12.2 shows the buildings used to log core and prepare samples at Foran's McIlvenna Bay camp during the site visit.

Figure 12.3 shows one of the drills set up and drilling during the Micon site visit in August, 2018.

Figure 12.1
Core Storage Area at Foran's McIlvenna Bay Camp

Figure 12.2
Buildings Related to Logging and Sample Preparation at Foran's McIlvenna Bay Camp

Figure 12.3
Drill Set-up and Drilling During the 2018 Micon Site Visit

After the site visit, Micon’s QP, Mr. Lewis, selected 13 random reject core samples from Foran’s McIlvenna Bay drilling samples located at TSL in Saskatoon. Micon requested that TSL re-assay the selected samples and send the results to Micon’s Toronto office. The TSL sample preparation procedures and standard assaying procedures are summarized in Table 12.2.

Table 12.2
TSL Sample Preparation and Standard Assaying Procedures

Procedure	**Sample Type**	**Number of Samples**	**Size Fraction**		**Sample Preparation**
Preparation	Reject	13	Reject approx. 70% - 10 mesh (1.70 mm)		Riffle Split, Pulverize
			Pulp approx. 95% - 150 mesh (106 µm)		
Assay	**Element Name**	**Unit**	**Extraction Technique**	**Lower Detection Limit**	**Upper Detection Limit**
	Au	ppb	Fire Assay/AA	5	3,000
	Au	g/t	Fire Assay/Gravimetric	0.03	100 %
	Ag	g/t	HNO_3-HF-$NCIO_4$-HCI/AA	1	1,000
	Cu	%	HNO_3-HF-$NCIO_4$-HCI/AA	0.01	80
	Pb	%	HNO_3-HF-$NCIO_4$-HCI/AA	0.01	80
	Zn	%	HNO_3-HF-$NCIO_4$-HCI/AA	0.01	80
Samples for Au Fire Assay/AA (ppb) are weighed at 30 grams.					
Samples for Au Fire Assay/Gravimetric (g/t) are weighed at 1 AT (29.16 g).					
Samples for Ag (g/t), Base Metals (%) are weighed at 0.5 g.					

Table 12.3 summarizes the 13 random reject core samples and descriptions chosen by Micon for re-assaying. All samples were taken from one drill hole, but the samples represent the different mineralized zones encountered by the drill hole and represent various grade ranges.

Table 12.3
Random Reject Core Samples Re-Assayed at Micon's Request

Drill Hole	Mineralized Zone	Sample Number	From (m)	To (m)	Interval (m)
HA-18-045w1	Upper Sx Zone	780581	514.70	515.70	1.00
		780583	516.30	516.80	0.50
		780584	516.80	517.80	1.00
	UWZ	780588	519.34	519.55	0.21
		780593	521.38	521.96	0.58
		780597	523.53	524.30	0.77
	CSZ	780600	526.25	526.72	0.47
		780604	528.50	528.82	0.32
		780607	530.22	530.90	0.68
		780608	530.90	531.27	0.37
		780609	531.27	532.30	1.03
		780614	535.10	536.10	1.00
		780618	538.10	539.10	1.00

Table 12.4 summarizes the results of Micon's re-assaying of the 13 samples chosen from Foran's samples originally submitted for assaying by TSL. Three samples were also chosen for specific gravity testwork.

Micon also requested that TSL perform a Multi-Element ICP analysis of the samples using Aqua Regia digestion of the samples.

The ICP-AES, Aqua Regia Leach digestion (HCl-HNO_3) liberates most of the metals noted in Table 12.5 except those marked with an asterisk where the digestion will not be complete.

Table 12.4
TSL Results for the Thirteen Random Samples Chosen by Micon for Re-assaying

Sample Number	Micon Assay Results								Foran Original Assay Results				
	Au (ppb)[1]	Au1 (ppb)	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)	Specific Gravity	Au (g/t)	Ag (g/t)	Cu (%)	Pb (%)	Zn (%)
780581	110			10.8	0.85	0.02	0.7	2.68	0.1	11.7	0.76	0.02	0.6
780583	140			20.5	2.29	0.02	2.23		0.11	19.6	1.92	0.01	1.83
780584	130			16.9	0.62	0.12	1.08		0.095	17.6	0.51	0.1	0.95
780588	620			45.7	0.77	0.88	10.3		0.56	45.5	0.73	0.75	9.98
780593	420			16.4	1.87	0.04	4.33		0.33	16.2	1.71	0.03	3.93
780597	>1,000	>1,000	1.37	34.2	3.25	0.27	2.57	3.08	1.23	34.2	3.06	0.23	2.63
780600	>1,000		7.27	44.8	5.36	0.05	0.38		6.86	39.9	5.02	0.04	0.4
780604	10			0.4	<0.01	<0.01	<0.01		0.005	0.9	0.005	0.005	0.005
780607	180			7.4	1.49	<0.01	0.06		0.14	3.3	1.38	0.005	0.05
780608	880			35.9	9.05	0.02	0.63		0.75	33.4	9.22	0.02	0.68
780609	320			6.5	1.5	<0.01	0.15	2.68	0.25	6.7	1.46	0.005	0.16
780614	150			3.6	0.66	<0.01	0.04		0.11	5.1	0.72	0.005	0.05
780618	35			2.2	0.65	<0.01	0.03		0.035	3.2	0.64	0.005	0.03
GS-1P5P	1,450												
GS-7E			7.34										
ME-8				61	0.1	1.94	2						
ME-1411				44.1	1.54	0.26	0.47						

Note 1: 1 ppm = 1 g/t = 1,000 ppb = 0.0001%

Table 12.5
Lower Detection Limits for Aqua Regia Leach Digestion

Element Name	Lower Detection Limit	Element Name*	Lower Detection Limit
Ag	0.3 ppm	Mo	1 ppm
Al*	0.01 %	Na*	0.01 %
As	2 ppm	Ni	1 ppm
Ba*	1 ppm	P*	0.001 %
Be*	1 ppm	Pb	3 ppm
Bi	3 ppm	S	0.05 %
Ca*	0.01 %	Sb	3 ppm
Cd	0.5 ppm	Sn*	5 ppm
Co	1 ppm	Sr*	1 ppm
Cr*	1 ppm	Ti*	0.01 %
Cu	1 ppm	V*	1 ppm
Fe*	0.01 %	W*	2 ppm
K*	0.01 %	Y	1 ppm
Mg*	0.01 %	Zn	1 ppm
Mn*	2 ppm	Zr*	1 ppm

Note: * The elements marked with an asterisk indicate that the digestion will not be complete.

Table 12.6 summarizes the assays for the elements using the Multi-Element ICP analysis of the samples using Aqua Regia digestion.

Copies of the TSL assay certificates sent to Micon for the samples are included as Appendix 2.

12.3 DATABASE REVIEW

Micon received the updated database on January 7, 2019, the data was organized in multiple Excel files. Micon proceeded to compile and review the data, no errors were found, however, drill hole MB-99-108 was ignored because of the suspicious collar and down the hole survey location. During the construction of the wireframes, a few records were changed in the mineralized zones table to improve the 3D interpretation of the envelopes.

Micon had previously undertaken an extensive review of Foran's database as part of an independent internal review of its McIlvenna Bay Project. Micon was therefore familiar with the database prior to undertaking the independent review and audit of the current mineral resource estimate.

12.4 MICON QP COMMENTS

The Micon and its QPs responsible for reviewing both the exploration work and the mineral resource estimate have reviewed the material and database provided by Foran and found that the data were adequate for the use in undertaking a mineral resource estimate on the McIlvenna Bay Project. The data provided by Foran is suitable to be used as the basis of a mineral resource estimate that can be used as the foundation of Foran's ongoing work towards completion of a Feasibility Study for the McIlvenna Bay Project.

Table 12.6
Summary of Assay Values for the Multi-Element ICP Analysis, Aquia Regia Leach Digestion Method

Element	Ag	Al	As	B	Ba	Bi	Ca	Cd	Co	Cr	Cu
Units	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
780581	10.1	4.00	10	28	16	24	0.57	22.9	27	35	8,172
780583	20.1	2.96	26	<20	63	6	0.30	80.3	48	62	>10,000
780584	14.8	3.30	30	<20	139	79	0.84	31.0	25	59	5,829
780588	42.0	0.84	202	24	10	64	5.98	302.6	51	34	6,831
780593	15.4	0.90	119	27	3	7	7.97	146.2	24	15	>10,000
780597	35.2	0.96	272	26	3	31	9.78	98.0	24	17	>10,000
780600	39.2	1.34	81	<20	30	72	0.05	18.2	87	59	>10,000
780604	<0.3	1.17	18	47	118	<3	0.33	<0.5	6	67	51
780607	6.1	2.15	27	35	49	28	0.07	3.4	27	61	>10,000
780608	33.0	1.40	140	27	22	42	0.03	33.5	77	77	>10,000
780609	5.9	2.14	73	39	40	32	0.06	5.4	53	61	>10,000
780614	2.2	2.74	29	<20	28	5	0.11	1.7	8	78	6,210
780618	2.0	2.15	5	23	9	4	0.04	1.3	13	70	6,216

Element	Fe	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P
Units	%	ppm	ppm	%	ppm	%	ppm	ppm	%	ppm	%
780581	10.53	25	<1	0.08	32	3.16	727	2	<0.01	2	0.003
780583	11.18	15	2	0.22	25	2.43	511	1	0.01	4	0.021
780584	8.57	16	<1	0.42	31	3.00	579	1	0.03	12	0.068
780588	18.64	34	27	0.02	14	4.24	1,097	2	<0.01	3	0.002
780593	16.53	21	7	0.01	16	6.42	1,443	2	0.01	2	0.002
780597	16.97	25	6	<0.01	20	6.33	1,353	<1	0.01	2	0.003
780600	14.76	13	2	0.21	12	1.06	101	1	<0.01	2	0.001
780604	1.98	6	<1	0.70	6	0.81	284	<1	0.07	7	0.042
780607	5.10	9	<1	0.40	14	1.79	171	1	0.01	1	<0.001
780608	14.80	15	1	0.14	9	1.14	118	1	<0.01	2	<0.001
780609	8.38	9	<1	0.23	16	1.66	247	<1	0.01	1	0.001
780614	4.84	14	<1	0.19	19	2.23	306	2	0.01	3	0.008
780618	3.79	10	<1	0.09	18	1.76	212	1	<0.01	2	0.001

Element	Pb	S	Sb	Sc	Sr	Th	Ti	Tl	V	W	Zn
Units	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm
780581	266	3.77	<3	<5	6	3	0.015	<5	<1	<2	6,393
780583	217	6.81	<3	<5	14	<2	0.022	<5	4	<2	>10,000
780584	1,230	4.09	<3	<5	41	<2	0.046	<5	23	<2	8,909
780588	8,864	>10.00	22	<5	50	<2	0.005	<5	1	<2	>10,000
780593	413	>10.00	17	<5	38	<2	0.006	<5	<1	<2	>10,000
780597	2,901	9.13	36	<5	52	<2	0.007	<5	<1	<2	>10,000
780600	453	>10.00	<3	<5	2	<2	0.013	<5	<1	<2	3,453
780604	28	0.14	<3	<5	8	<2	0.075	<5	26	<2	92
780607	84	2.18	<3	<5	3	<2	0.023	<5	<1	<2	604
780608	224	6.23	<3	<5	1	<2	0.009	<5	<1	<2	5,576
780609	67	4.59	<3	<5	3	<2	0.017	<5	<1	<2	1,451
780614	15	1.14	<3	<5	5	<2	0.011	<5	6	<2	518
780618	7	0.86	<3	<5	2	<2	0.007	<5	<1	<2	378

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 METALLURGICAL TESTWORK PROGRAMS

Two phases of preliminary metallurgical testwork have been completed using composite half drill core samples representing the main ore types identified at McIlvenna Bay. The first phase was completed in 2012 by ALS Metallurgy (ALS-M), Kamloops BC, and the second phase in 2016 by Base Metallurgical Laboratories Ltd (BML), also located in Kamloops.

The preliminary bench scale tests included standard Bond ball and rod mill tests, batch rougher and cleaner flotation tests, locked cycle flotation tests, pre-concentration amenability tests and tailings settling tests.

At the end of 2018, Foran contracted BML to undertake a detailed metallurgical testwork program that could support a feasibility level of study. A total of approximately 930 kg of split drill core from the 2018 drilling was prepared by Foran and forwarded to BML. At the date of this report there are no results available from this program of testwork and therefore this section only includes the 2012 and 2016 preliminary work.

13.2 METALLURGICAL SAMPLES

For the 2012 test program at ALS-M, Foran selected and prepared approximately 516 kg of half drill core comprising 127 sample intervals from the 2011 drill program. These samples were crushed, split and combined into three composites that represented the three main ore types; namely, the copper stockwork zone (CSZ), the lens 2 massive sulphide (L2-MS) and the upper-west massive sulphide (UW-MS). Selected analyses of these metallurgical composites are shown in Table 13.1.

The samples used for the 2016 test program were half drill core originating from the 2012 drill program. A total of around 380 kg of zone 2 (Z2) mineralization and 240 kg of upper-west zone (UWZ) was received by BML and these samples were apportioned into four composites for each zone. The four zones were termed hangingwall (HW), copper stockwork zone (CSZ), massive sulphide (MS) and footwall (FW). A Main composite comprising 8% each of FW and HW, 43% to 49% of MS, and 35% to 41% CSZ was prepared for the UZW and Z2 zones. The analyses of the main ore zone composites and the combined test composites (UZW-Main and Z2-Main) are summarized in Table 13.1.

The analyses of potentially deleterious elements in the composite samples, such as arsenic and antimony, were typically below detection limit (<0.01%).

Table 13.1
Metallurgical Composite Analyses

Sample	kg	Cu (%)	Pb (%)	Zn (%)	Fe (%)	Au (%)	Ag (g/t)	Mg (%)	S (%)
ALS-M (2012)									
CSZ	73	1.45	0.02	0.17	7.4	0.34	8	2.06	4.6
L2-MS	70	0.30	0.43	7.25	28.3	0.19	16	3.71	31.7
UW-MS	50	1.61	0.16	3.97	17.8	0.55	25	5.83	18.2
BML (2016)									
CSZ-Z2	43	1.64	0.02	0.26	6.5	0.27	11	-	3.6
CSZ-UWZ	31	1.74	0.02	0.36	6.6	0.46	15	-	2.6
MS-Z2	60	0.33	0.30	7.80	26.6	0.20	20	-	32.0
MS-UWZ	32	2.76	0.91	9.51	17.8	1.91	78	-	22.5
UWZ-Main	75	1.73	0.41	4.21	11.2	1.23	39	-	10.9
Z2-Main	124	0.71	0.17	4.06	16.0	0.20	14	-	17.3
2019 Indicated Mineral Resources									
Main Lens -MS	-	0.90	0.40	6.43	-	0.52	26	-	-
CSZ	-	1.43	0.02	0.28	-	0.40	9	-	-

13.3 MINERALOGY

The mineralogical work completed on representative samples from the McIlvenna Bay deposit includes ore characterization and predictive metallurgy studies by Terra Mineralogical Services (Terra) of Peterborough, Ontario and Bulk Mineral Analysis (BMA) using the QEMSCAN, and optical microscopy by ALS-M. These studies were undertaken in 2012 and the three 2012 composite samples (CSZ, L2-MS and UW-MS) were used for this work.

Additional work in 2013 by Terra comprised ore characterization and predictive metallurgy studies on samples the east upper zone, the west zone and the east deep zone.

As part of the Phase 2 testwork program in 2016, Terra completed a mineralogical characterization study of samples from the four composites (MS-UMZ, CSZ-UMZ, MS-Z2 and CSZ-Z2).

13.3.1 Mineral Content

The main economic minerals in the three types of mineralization were identified as sphalerite for zinc, chalcopyrite for copper and galena for lead. Minor amounts of tarnished chalcopyrite or "blue chalcopyrite" grains were observed, which contained high silver concentrations (up to 1 wt% Ag). Minor to trace minerals identified included stannite, cassiterite, tetrahedrite, bi-tellurides and biselenides. Gangue sulphides were chiefly pyrite and lesser pyrrhotite, as well as trace amounts of arsenopyrite.

In a few samples, native gold, electrum and sulphosalt grains were found, predominately associated with chalcopyrite. This suggests that the bulk of gold and silver would likely report to the copper concentrates.

The McIlvenna Bay samples were classified as mainly coarse to medium grained, comprising intergrowths of non-opaque gangue and sulphide minerals. For L2-MS and UW-MS types, the mineralization can be classified as semi-massive to massive sulphide, whereas CSZ is a typical low sulphide stringer material.

The estimated contents of the main minerals identified by ALS-M in 2012 and Terra in 2016 are presented in Table 13.2. The main economic minerals identified (highlighted in the table) are chalcopyrite in the CSZ samples, sphalerite in the L2-MS samples and both chalcopyrite and sphalerite in the UW-MS samples.

Table 13.2
Estimated Mineral Content (Vol %)

Mineral	2012 ALS-M			2016 Terra			
	CSZ	L2-MS	UW-MS	MS-UWZ	MS-Z2	CSZ-UWZ	CSZ-Z2
Chalcopyrite	4.2	0.9	5.3	8.0	1.0	7.0	5.4
Galena	-	0.5	0.1	2.5	0.5	0.3	
Sphalerite	0.2	10.7	5.8	18	11	1.5	0.5
Gahnite	0.1	<0.1	1.2	-	-	-	-
Pyrite	4.4	50	25.8	33	60	1.5	8
Pyrrhotite	0.1	2.7	3.8	0.5	<0.1	0	0.1
Non-Opaque Gangue	90.9	32.9	55.5	37.5	27.0	89.5	86
Iron oxides	<0.1	2.3	2.5	0.5	0.5	0.2	<0.1

The non-opaque gangue consisted mainly of carbonate and micaceous minerals in both the L2-MS and UW-MS samples, and prevalently quartz and minor micas in the CSZ material. Platy micaceous minerals such as sericite, hydro-muscovite, talc / anthophyllite, chlorite, and biotite, occurred pervasively throughout the mineralized zones. Iron-oxides (mainly magnetite) occurred locally in moderate amounts and minor amounts of zinc spinel mineral gahnite ($ZnAl_2O_4$) were also locally encountered. It was noted that gahnite is not digested in a standard aqua regia digestion assay method.

13.3.2 Economic Mineral Liberation

At a nominal 80% passing (P_{80}) grind size of 100 µm, chalcopyrite in CSZ sample was about 63 percent liberated when assessed in two dimensions, with most of the interlocked copper with non-sulphide gangue in binary forms. This suggests potential for good copper recovery by rougher flotation at this grind size.

Liberation characteristics of the two massive sulphide composites (L2-MS and UW-MS) were significantly worse that CSZ, with multiphase interlocking of the valuable minerals for both samples. It was noted that liberation improved for both the MS samples with a finer grind.

Terra reported that mineralization is fairly constant throughout the McIlvenna Bay deposit and has similar characteristics to many other VMS deposits occurring in the Flin Flon belt or from other VMS camps. The CSZ mineralization will be the least difficult to process while the massive sulphide mineralization will be the most challenging. The main metallurgical challenges appear to be:

- The effective separation and removal of non-opaque gangue from the economic minerals.
- The effective separation of chalcopyrite from sphalerite (Cu-Zn separation).
- Good separation of galena from sphalerite (Pb-Zn separation).

13.4 METALLURGICAL TESTWORK

13.4.1 Comminution

The standard Bond work indices test results for the Phase 1 and Phase 2 testwork composite samples are presented in Table 13.3.

Table 13.3
Standard Bond Comminution Test Results

Sample Description	Bond Ball		Bond Rod	
	kWh/t	P_{80}	kWh/t	P_{80}
ALS-M (2012)				
CSZ	16.1	80	17.0	882
MS	11.6	83	12.7	869
UW-MS	14.0	81	15.6	852
BML (2016)				
CSZ-Z2	17.9	80	-	-
CSZ-UWZ	18.4	80	-	-
MS-Z2	11.3	78	-	-
MS-UWZ	11.9	78	-	-

Notes: The Bond ball mill tests use a 106 µm aperture sieve (150 mesh) and the Bond rod mill tests a 1,180 µm aperture test sieve (14 mesh).

These tests suggest a significantly lower hardness for the massive / semi-massive sulphide mineralization compared to the CSZ mineralization.

13.4.2 Pre-Concentration Tests

Heavy liquid separation tests were performed by BML (2016) using the Z2 and UWZ Main Composites. The objective of these tests was to determine the amenability of the mineralization to potential pre-concentration using heavy media separation which would eliminate gangue or sub cut-off grade material prior to the grinding circuit.

For the UWZ composite, greater than 95 percent of the zinc was retained in the sink at an SG of 2.83 with a rejection of nearly half of the mass in the float. The separation was effective at the three size ranges tested, which were >15 mm, <15 mm >12.5 mm and <12.5 mm >6.3 mm. Copper performance was less successful, with about 85% of the copper reporting to the sink fraction.

The performance of the Z2 composite was less favourable compared to UWZ. Under the same conditions only a third of the feed mass was rejected to the float. Metal recoveries to the sink fractions were about 65% for copper but 97% for zinc.

13.4.3 Flotation

13.4.3.1 ALS-M (2012)

ALS-M completed a number of preliminary batch rougher and cleaner flotation tests on the three composites (CSZ, L2-MS and UW-MS). This was followed by a series of locked cycle tests (LCT).

The results from the final LCTs are summarized in Table 13.4, Table 13.5 and Table 13.6, below. The key grade and recovery numbers are highlighted in yellow.

Table 13.4
Locked Cycle Flotation Test Results – CSZ

Stream	Wt%	Grade (% or g/t)						Distribution (Recovery) (%)					
		Cu	Zn	Fe	S	Ag	Au	Cu	Zn	Fe	S	Ag	Au
Feed	100	1.57	0.16	7.2	4.5	8	0.39	100	100	100.0	100.0	100.0	100.0
Cu Con	5.1	29.2	1.05	30.3	33.5	126	6.4	95	34	21	38	77	85
Cu Cl. Tail.	3.9	0.79	0.57	21.7	19.3	14	0.81	2	14	12	17	7	8
Cu Ro.Tail	91	0.06	0.09	5.3	2.2	2	0.03	3	52	67	45	17	7

Table 13.5
Locked Cycle Flotation Test Results – L2-MS

Stream	Wt%	Grade (% or g/t)								
		Cu	Pb	Zn	Fe	S	Ag	Au	Mg	C
Feed	100	1.74	0.18	4.00	17.72	17.33	25.85	0.66	6.10	1.05
Prefloat	2.8	0.86	0.13	1.44	6.6	4	23	1.16	12.2	0.4
Cu Con	6	24.2	1.3	6.4	27.2	34.4	216	6.5	0.46	0.12
Zn Con	5.6	1.87	0.24	54.3	8	32.5	63	0.81	0.25	0.1
Zn Cl Tail	7.7	0.69	0.14	2.39	24.7	21.4	22	0.53	5.74	1.06
Zn Tail	77.8	0.14	0.1	0.44	17.4	15	9	0.19	6.77	1.21
Distribution (Recovery) (%)										
Feed		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Prefloat		1.4	2.0	1.0	1.0	0.6	2.5	4.9	5.6	1.1
Cu Con		83.3	42.5	9.6	9.2	11.9	50.2	59.4	0.5	0.7
Zn Con		6.0	7.3	76.2	2.5	10.5	13.7	6.9	0.2	0.5
Zn Cl Tail		3.0	5.9	4.6	10.7	9.5	6.6	6.2	7.3	7.8
Zn Tail		6.2	42.4	8.6	76.5	67.4	27.1	22.5	86.5	89.9

Table 13.6
Locked Cycle Flotation Test Results – UW-MS

Stream	Wt%	Grade (% or g/t)								
		Cu	Pb	Zn	Fe	S	Ag	Au	Mg	C
Feed	100	1.74	0.18	4.00	17.72	17.33	25.85	0.66	6.10	1.05
Prefloat	2.8	0.86	0.13	1.44	6.6	4	23	1.16	12.2	0.4
Cu Con	6	24.2	1.3	6.4	27.2	34.4	216	6.5	0.46	0.12
Zn Con	5.6	1.87	0.24	54.3	8	32.5	63	0.81	0.25	0.1
Zn Cl Tail	7.7	0.69	0.14	2.39	24.7	21.4	22	0.53	5.74	1.06
Zn Tail	77.8	0.14	0.1	0.44	17.4	15	9	0.19	6.77	1.21
Distribution (Recovery) (%)										
Feed		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Prefloat		1.4	2.0	1.0	1.0	0.6	2.5	4.9	5.6	1.1
Cu Con		83.3	42.5	9.6	9.2	11.9	50.2	59.4	0.5	0.7
Zn Con		6.0	7.3	76.2	2.5	10.5	13.7	6.9	0.2	0.5
Zn Cl Tail		3.0	5.9	4.6	10.7	9.5	6.6	6.2	7.3	7.8
Zn Tail		6.2	42.4	8.6	76.5	67.4	27.1	22.5	86.5	89.9

13.4.3.2 BML (2016)

A series of rougher and cleaner tests were completed on the individual composites and the Main composites. Parameters considered included primary grind size, talc depressants, cyanide dosage for zinc and pyrite depression, and regrind sizing. Preflotation to remove talc was also investigated. The flotation testwork program concluded with a series of LCTs on the main composites at various primary and regrind sizes.

For the Z2-Main composite, LCTs were performed at two primary grind sizes (P_{80} 100 µm and 75 µm). The finer grind provided slightly better results with copper recovery of 59% into a 23.5% Cu concentrate and zinc recovery of 80% into a 51.5% zinc concentrate.

The metallurgical performance for the LCTs on the UWZ-Main composite was also improved at the finer grind with copper recovery of 83.8% into a 22.1% Cu concentrate and zinc recovery of 71.9% into a 54.5% zinc concentrate. The results for these two LCTs are presented in Table 13.7 and Table 13.8.

Table 13.7
Locked Cycle Flotation Test Results – Z2-Main

Stream	Wt%	Grade (% or g/t)						
		Cu	Pb	Zn	Fe	S	Ag	Au
Feed	100	0.68	0.15	4.08	13.8	16	14	0.25
Cu Con	2	23.4	3.18	5.84	22.4	25.8	301	5.67
Zn Con	6	1.93	0.54	51.5	9	31	41	0.29
Zn Cl Tail	13	0.83	0.24	4.03	22.8	25.6	18	0.18
Zn Ro Tail	79	0.07	0.04	0.25	12.5	13	5	0.14
Distribution (Recovery) (%)								
Feed		100	100	100	100	100	100	100
Cu Con		58.7	35.9	2.5	2.8	2.8	36.8	39
Zn Con		17.8	22.4	79.7	4.1	12.2	18.4	7.4
Zn Cl Tail		16	20.7	13	21.7	21	16.9	9.5
Zn Ro Tail		7.5	21	4.8	71.3	64	28	44.1

Table 13.8
Locked Cycle Flotation Test Results – UWZ-Main

Stream	Wt%	Grade (% or g/t)						
		Cu	Pb	Zn	Fe	S	Ag	Au
Feed	100	1.93	0.4	4	10.9	8.7	45	1.17
Cu Con	7	22.1	3.98	9.9	21.9	28.4	361	13
Zn Con	5	2.29	0.93	54.5	7.1	30.2	122	1.23
Zn Cl Tail	8	1.5	0.35	2.97	16.3	12.7	62	0.5
Zn Ro Tail	79	0.08	0.04	0.19	9.6	5	9	0.14
Distribution (Recovery) (%)								
Feed		100	100	100	100	100	100	100
Cu Con		83.8	73.1	18.2	14.6	23.9	59.1	81.7
Zn Con		6.3	12.3	71.9	3.4	18.3	14.3	5.6
Zn Cl Tail		6.5	7.3	6.2	12.4	12.1	11.6	3.6
Zn Ro Tail		3.4	7.3	3.8	69.6	45.7	15	9.2

13.4.3.3 Flotation Concentrate Quality

Multi element analyses of the final copper and zinc concentrates produced by the final LCTs undertaken by ALS-M in 2012 and BML (2016) are presented in Table 13.9.

The copper concentrates tend to contain silver and gold in payable quantities. Although there are no deleterious elements that would likely incur smelter penalties, the levels of mercury, selenium and fluorine are elevated and need to be monitored in future work programs.

The silver in the zinc concentrates may be partially payable but the gold content tends to be too low. Elements of concern in the zinc concentrates are mercury, cadmium and iron.

Table 13.9
Locked Cycle Flotation Test Concentrate Analyses

Element	Symbol	Units	Copper Concentrates				Zinc Concentrates			
			Z2 Main	UWZ	UW-MS	CSZ	Z2 Main	UWZ	MS	UW-MS
Copper	Cu	%	23.4	22.1	24.2	29.2	1.93	2.29	0.63	1.87
Zinc	Zn	%	5.84	9.9	6.4	1.05	51.5	54.5	54.8	54.3
Lead	Pb	%	3.18	3.98	1.29	0.07	0.54	0.93	0.46	0.24
Silver	Ag	ppm	302	357	216	126	40	118	38	63
Gold	Au	ppm	6.15	13.4	6.5	6.38	0.31	1.06	0.29	0.81
Antimony	Sb	ppm	96.3	106	100	20	19.9	63.9	30	40
Arsenic	As	ppm	51.8	38.1	101	96	50.3	54.3	92	53
Bismuth	Bi	ppm	64.8	217	117	219	10.8	67.2	24	55
Cadmium	Cd	ppm	136	282	186	48	1490	1560	1464	1608
Calcium	Ca	%	0.19	0.07	0.48	0.35	0.49	0.24	0.58	0.45
Chlorine	Cl	%	0.01	0.01	0.12	0.08	0.02	< 0.01	0.17	0.1
Cobalt	Co	ppm	3.7	4.5	52	60	8	7.9	12	12
Fluorine	F	%	0.13	0.14	0.03	0.02	< 0.01	0.02	< 0.01	0.01
Iron	Fe	%	21.3	20.9	27.2	30.3	9.51	7.02	7.8	8.01
Magnesium	Mg	%	0.18	0.16	0.39	0.23	0.26	0.3	0.22	0.21
Manganese	Mn	%	0.007	0.005	0.011	0.004	0.031	0.025	0.039	0.077
Mercury	Hg	ppm	19.1	5.86	11	20	> 10	> 10	155	79
Molybdenum	Mo	ppm	4.85	3.71	30	30	0.93	2.62	10	0
Nickel	Ni	%	4.8	8.3	58	34	3.1	7.7	32	16
Potassium	K	%	0.01	0.01			< 0.01	< 0.01		
Phosphorus	P	g/t			106	46			23	51
Platinum	Pt	g/t			0.278	0.172			0.099	0.023
Rhenium	Re	ppm	0.003	0.004			0.004	0.004		
Selenium	Se	ppm	274	317	212	178	19	34.4	89	169
Silicon	Si	%	7.57	5.23	0.63	2.73	0.49	1.28	0.05	0.13
Sulphur	S	%	25.8	28.4	34.4	33.5	31.0	30.2	32.1	32.5
Tellurium	Te	ppm	0.43	1.37			0.12	0.55		
Titanium	Ti	%	< 0.001	< 0.001			< 0.001	< 0.001		
Tin	Sn	ppm	> 200	> 200			139	80		
Tungsten	W	ppm	0.4	0.2			0.3	0.9		
Uranium	U	ppm	0.7	0.3			0.3	0.4		

13.4.4 Solid-Liquid Separation

Settling tests were conducted by BML in 2016 using final tailings from finer grind LCTs on the two main composites (Z2-Main and UWZ-Main). Flocculant dosages were tested at 10, 20 and 30 g/t dosages. Results for both composites were similar, with settling rates measuring between 230 and 392 mm/minute at an average ultimate compact solids density of approximately 49% by weight.

13.5 RECOMMENDATIONS FOR FUTURE TESTWORK

A detailed program of metallurgical testwork is currently ongoing. The objectives of this work are to optimize the process flowsheet and to provide metallurgical inputs and parameters for a feasibility level of study.

The scope of the testwork program comprises detailed desktop studies on three metallurgical composites representing the upper polymetallic orebody (UWZ-MS), the lower polymetallic orebody (MS-2) and the copper stockwork orebody (CSZ). The program also includes variability testing of specific samples that spatially represent the mineral resources.

The planned test program using the three metallurgical composites includes mineralogical characterization studies, grindability work index tests, grind size optimization studies, reagent scheme and consumption optimizations, optimization of recoveries and concentrate grades, characterization of concentrates including dewatering, and tailings handling characterization. Additional tests include ore zone blending, ore aging (oxidation), potential for pre-using heavy media separation, and concentrate self-heating potential.

14.0 MINERAL RESOURCE ESTIMATES

14.1 INTRODUCTION

This section presents the updated mineral resource estimate for Foran's McIlvenna Bay Project in Saskatchewan. This mineral resource estimate is based upon Foran's drilling database which both the historical drilling and Foran's drilling up to the end of 2018. Micon's QPs have reviewed and audited the mineral resource estimate and the estimate is presented here for disclosure as per NI 43-101 standards of disclosure for mineral projects.

The 2018 drilling program was designed to improve the confidence of the known mineralization, previously reported by Foran in 2013, and to potentially increase the inferred resources at depth. Previous iterations of the resource model have been completed and published since 2010 including the latest iteration in 2013 by RPA. The last iteration in 2013 was used as the basis for the Preliminary Economic Assessment completed by JDS in 2014 and re-issued in 2015. All of these previous iterations are now superseded by the current 2019 estimate contained in this section.

14.2 CIM MINERAL RESOURCE DEFINITIONS AND CLASSIFICATIONS

If a company is a reporting Canadian entity, all resources and reserves presented in a Technical Report should follow the current CIM definitions and standards for mineral resources and reserves. The latest edition of the CIM definitions and standards was adopted by the CIM council on May 10, 2014, and includes the resource definitions reproduced below:

Mineral Resources are sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource.

A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction.

The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.

Material of economic interest refers to diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals.

The term Mineral Resource covers mineralization and natural material of intrinsic economic interest which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of Modifying Factors.

Inferred Mineral Resource

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.

An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

An Inferred Mineral Resource is based on limited information and sampling gathered through appropriate sampling techniques from locations such as outcrops, trenches, pits, workings and drill holes. Inferred Mineral Resources must not be included in the economic analysis, production schedules, or estimated mine life in publicly disclosed Pre-Feasibility or Feasibility Studies, or in the Life of Mine plans and cash flow models of developed mines. Inferred Mineral Resources can only be used in economic studies as provided under NI 43-101.

Indicated Mineral Resource

An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit.

Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation.

An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

Mineralization may be classified as an Indicated Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such as to allow confident interpretation of the geological framework and to reasonably assume the continuity of mineralization. The Qualified Person must recognize the importance of the Indicated Mineral Resource category to the advancement of the feasibility of the project. An Indicated Mineral Resource estimate is of sufficient quality to support a Pre-Feasibility Study which can serve as the basis for major development decisions.

Measured Mineral Resource

A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit.

Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation.

A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

Mineralization or other natural material of economic interest may be classified as a Measured Mineral Resource by the Qualified Person when the nature, quality, quantity and distribution of data are such that the tonnage and grade or quality of the mineralization can be estimated to within close limits and that variation from the estimate would not significantly affect potential economic viability of the deposit. This category requires a high level of confidence in, and understanding of, the geology and controls of the mineral deposit.

14.3 MINERAL RESOURCE DATABASE AND WIREFRAMES

14.3.1 Database

The basis for the mineral resource estimate was a drill hole database provided by Foran on December 9th, 2018. The database and underlying QA/QC were validated by Foran prior to being used in the modelling and estimation. After a further visual validation of the database, it was decided to exclude two drillholes[3] from the resource estimate due to conflicting geological information. Table 14.1 summarizes the types and amount of data in the database and the portion of the data used for the mineral resource estimate.

Table 14.1
McIlvenna Bay Project Database

Data Type	In Database	Used For 2019 Resource Estimate*
Collar	246	244
Survey	15,648	15,454
Assay	8,920	8,765

*Excludes two drillholes from the resource estimate due to conflicting geological information.

14.3.2 Wireframes

Jointly with Foran geologists, five mineralized domains were defined representing different areas and styles of VMS mineralization.

- Massive Sulphide – Main mineralized lens with internal gradational boundaries. The lens was previously modelled as two separate zones (MS and Upper West), but contact plots show no justification for a hard boundary.
- CSZ – Copper stockwork zone sitting stratigraphically below the massive sulphide.
- Stringer Zone – Copper and zinc stringer zone in the hangingwall above the massive sulphides.
- Lens 3 – Massive sulphide lens sitting in the hangingwall to the Stringer zone.
- FW – Small massive to semi-massive zone ore zone below the CSZ.

[3] The excluded drillholes are MB-99-108 and MB-08-127. Drill hole 108 was removed due to an inaccurate collar location as confirmed by Foran and drill hole 127 was excluded due to conflicting mineralization intervals between drill holes 127 and 73 located within 3.3 m of each other. Drill hole 73 was selected based on Foran’s review of the mineral intersections used for modelling the deposit.

Wireframes were generated based on a set of mineralized intercepts defined by Foran and validated. The wireframes for each of the five domains were validated against drill hole data and found to reasonably represent the mineralization and the host rock. All of the mineralization is hosted within the same lithological unit, the McIlvenna Bay Formation with minor local exceptions where the Lens 3 and Stringer mineralization can cross the hanging wall contact into the cap tuffite unit. The host rock package is of variably mineralized felsic and mafic volcanics, capped by a unit of mixed felsic tuff and cherty sediments locally mineralized and overlain by the Koziol Iron Formation.

Figure 14.1 is a screenshot showing the relationship between Lens 3 and the Copper Stockwork mineralized domains while Figure 14.2 shows the Massive Sulphide and Stringer mineralized domains and with Figure 14.3 showing all of the mineralized domains in relation to one another.

Figure 14.4 is a cross-section of the geological model showing all the grade shells hosted in the McIlvenna Formation with the figure looking towards the northwest.

Figure 14.1
Screenshot Showing Lens 3 and the Copper Stockwork Mineralized Domains

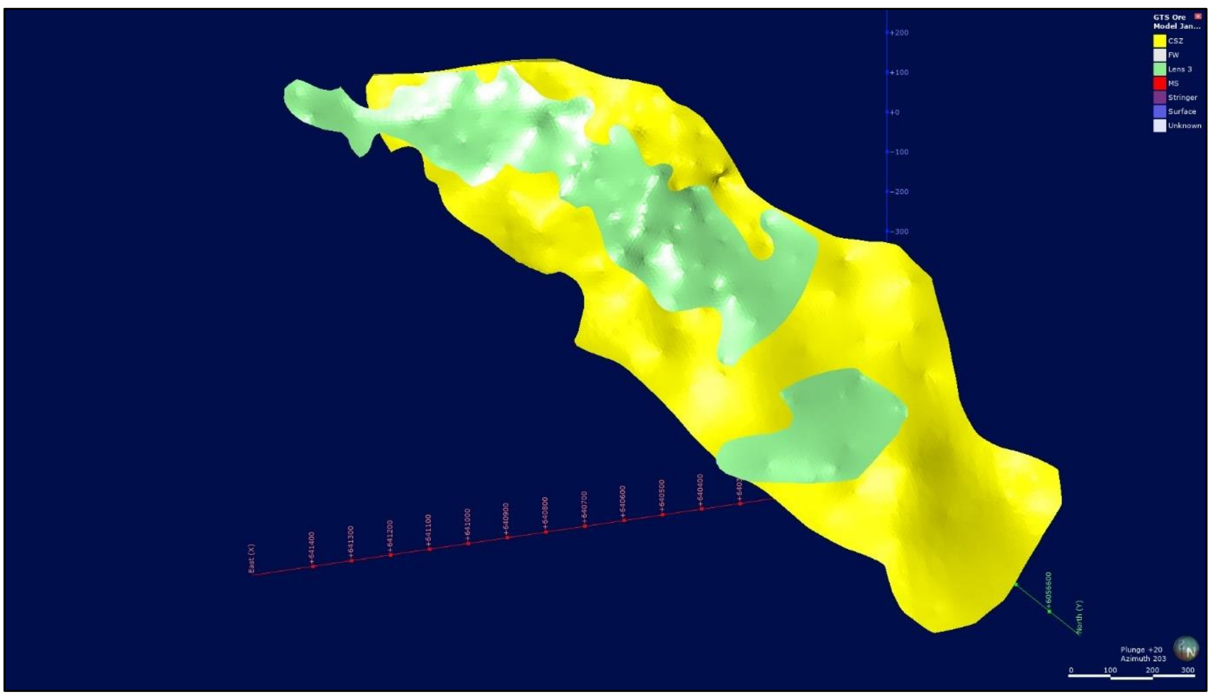


Figure 14.2
Screenshot Showing the Massive Sulphide and the Stringer Mineralized Domains

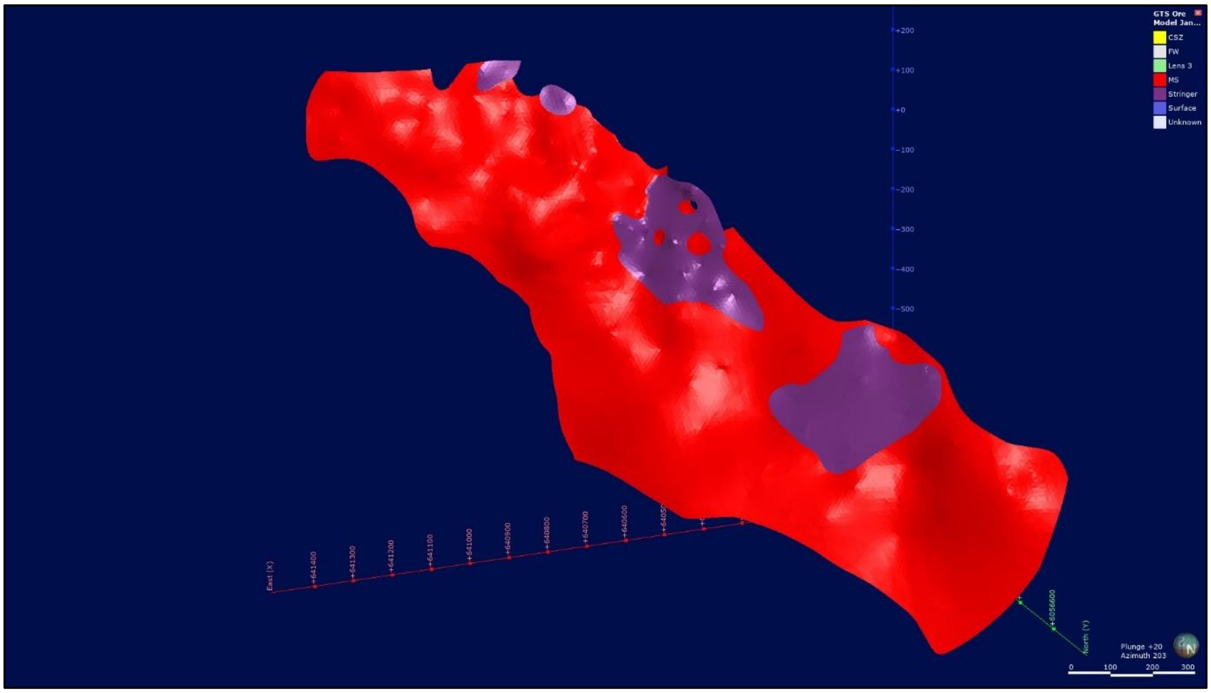


Figure 14.3
Screenshot Showing All of the Mineralized Domains

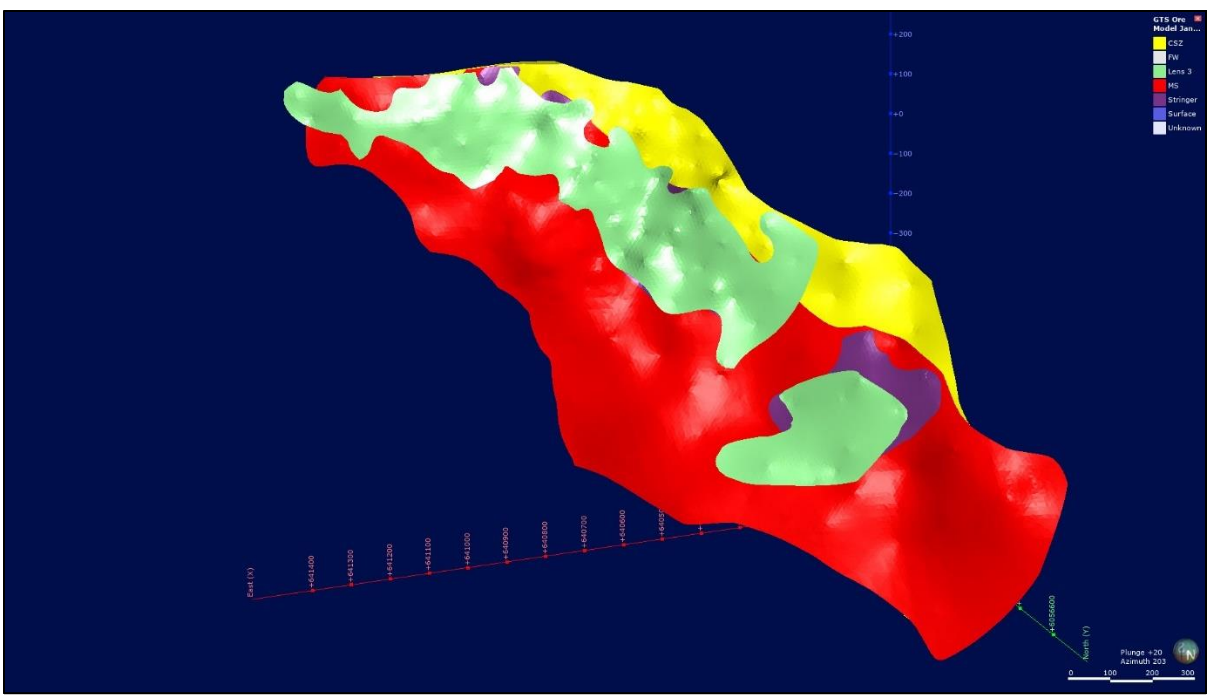
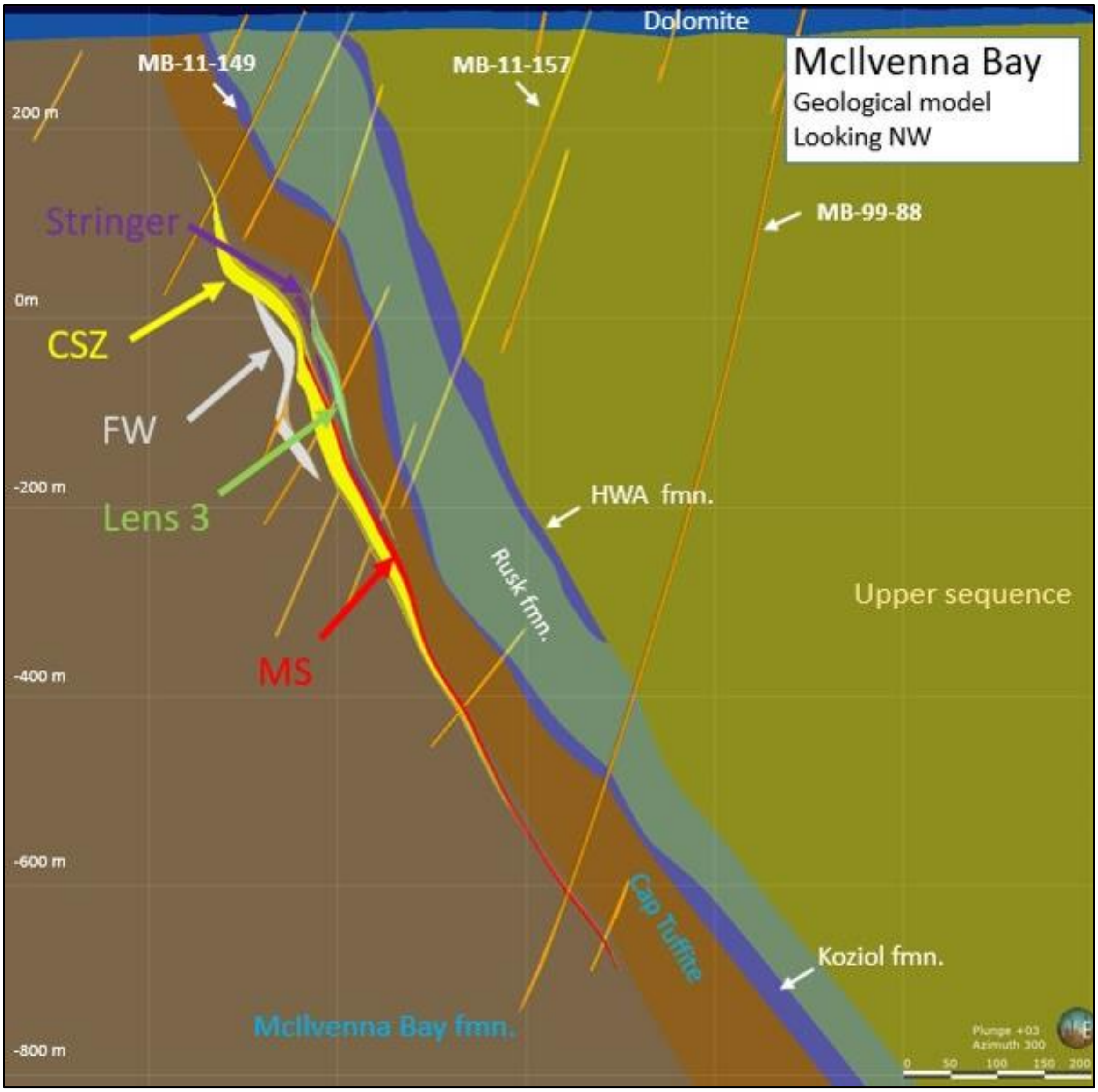


Figure 14.4
Cross-Section showing all Mineralized Grade Shells Hosted in the McIlvenna Bay Formation



A detailed geological and statistical analysis was performed to examine the grade variability and continuity within the MS and Upper West Zone (UWZ) areas. The principle justification for the merging of two domains is the grade transition across the two areas of mineralization (MS and UWZ). Contact plots illustrate that the transition is gradual and imposing a hard break between the two areas would misrepresent the grade transition and metal ratios.

Figure 14.5 is a contact plot across the old UWZ wireframe boundary depicting a Zn grade transition of all composites inside (left) and outside (right) Zone 2 (left). The gradual slope indicates a transitional contact. Figure 14.6 is a contact plot across the old UWZ wireframe boundary showing Zn grade transition of Zone 2 MS (left) and UWZ (right) the gradual slope indicates a transitional contact. Zn grade transition of all composites inside (left) and outside (right) Zone 2 Massive Sulphide zone is shown in Figure 14.7. The gradual slope indicates a transitional contact. Figure 14.8 shows Zn grade transition of UWZ (left) and Zone 2 MS (right) the gradual slope indicates a transitional contact. Figure 14.24, later in this section, shows the visual appreciation of the transitional contact. This also reflects the nature of VMS deposits but the result on estimation when using a hard boundary would be to either over or under-estimate of the Zn or Cu along what is now a grade transition zone.

Figure 14.5
Contact Plot Showing all Composites Inside (Left) and Outside Lens 2 (Right)

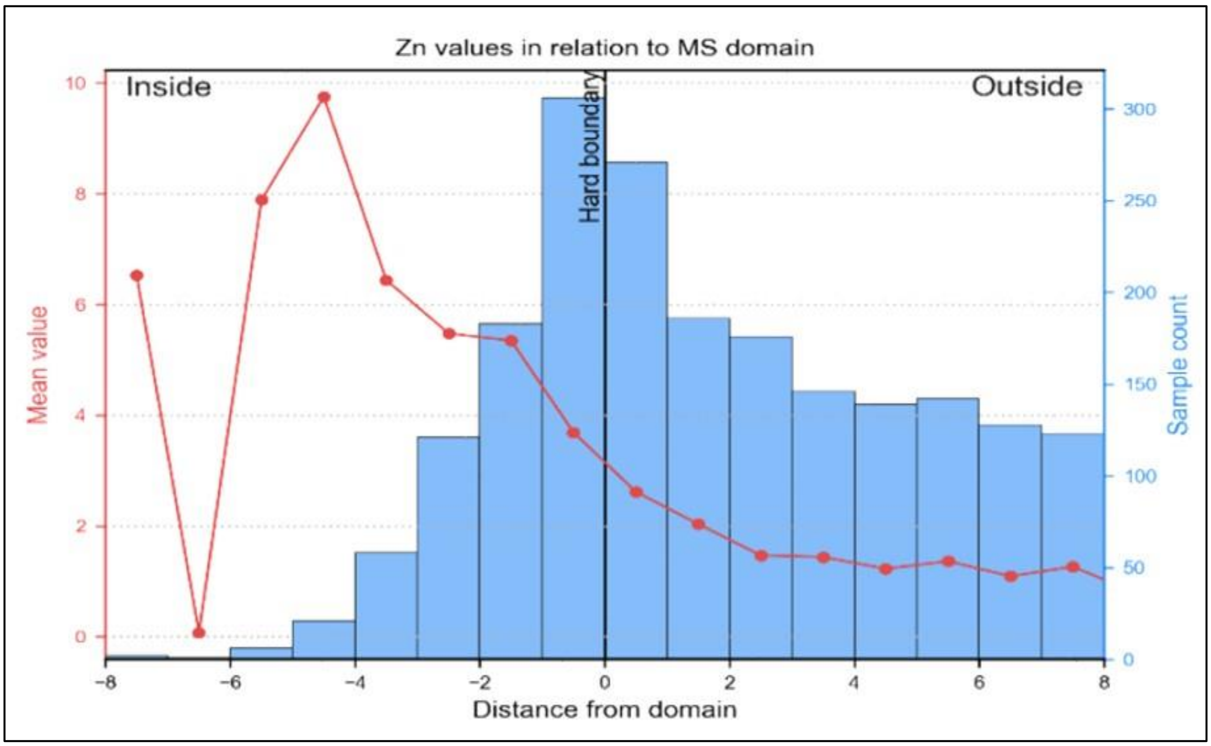


Figure 14.6
Contact Plot Showing Zn Grade Transition of Lens 2 MS (Left) and Lens 2 UWZ (Right)

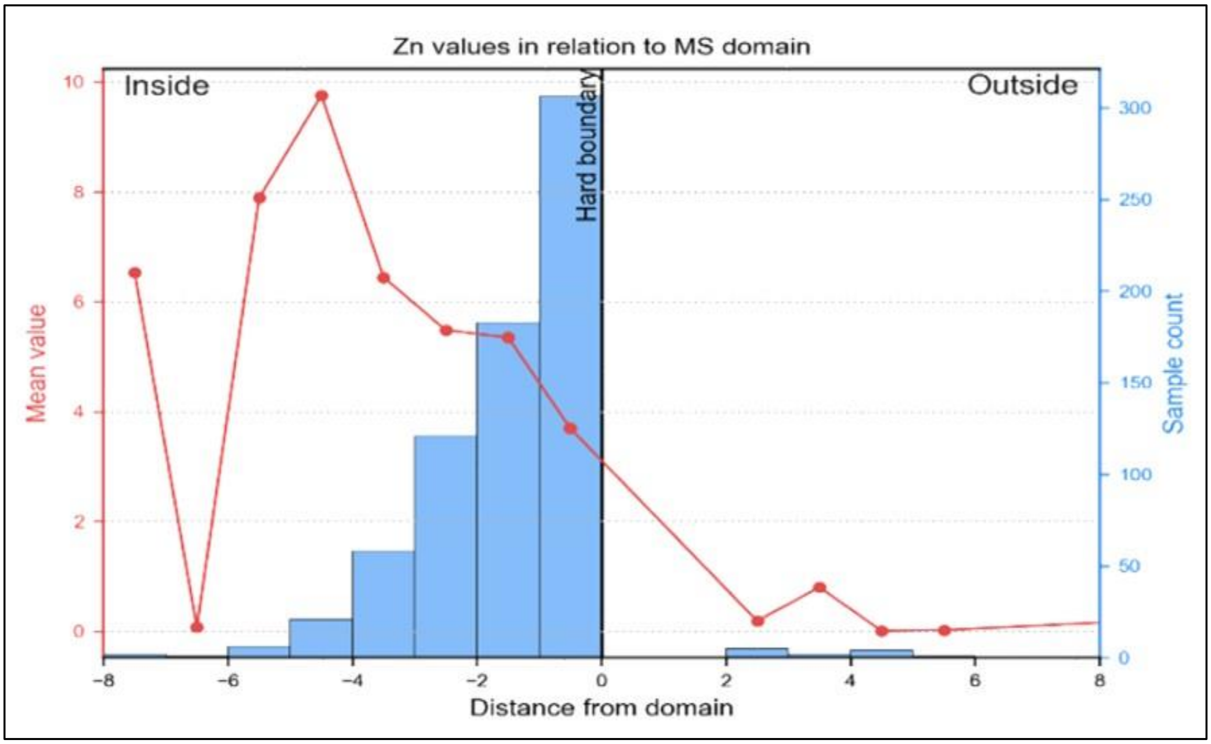


Figure 14.7
Contact Plot Showing Zn Grade Transition of All Composites Inside (Left) and Outside (Right) Lens 2 Semi-Massive Sulphide

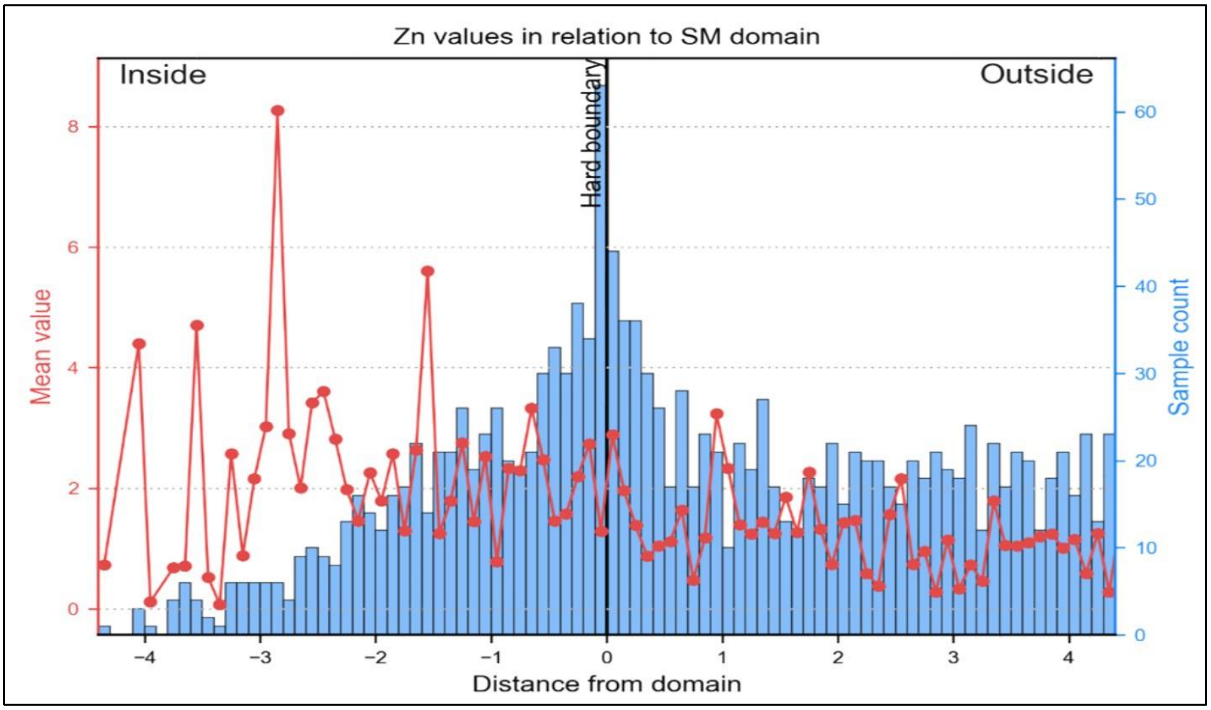
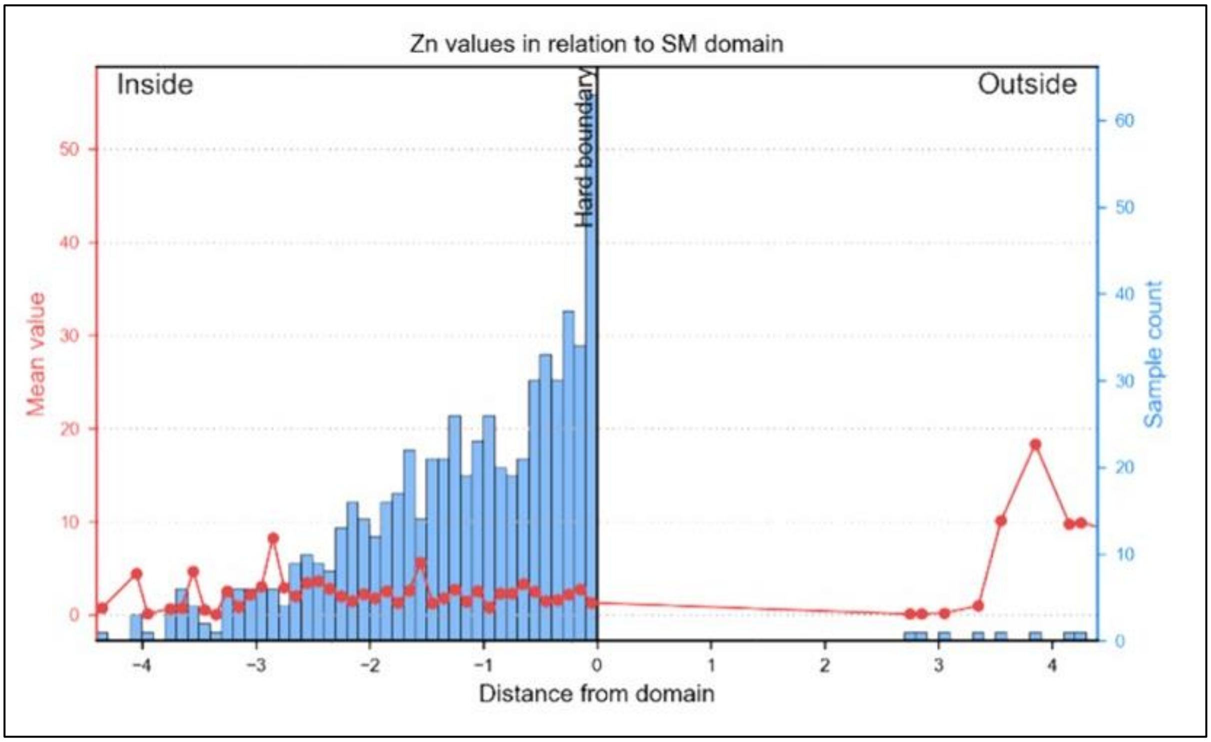


Figure 14.8
Contact Plot Showing Zn Grade Transition of Lens 2 UWZ (Left) and Lens 2 SMS (Right)



All diamond drill holes are properly snapped to the 3D wireframes to ensure that the volume to be estimated matches both the drilling and logging data collected on the deposit. Visual wireframe validation is presented in the cross-sections shown as Figure 14.9 and Figure 14.10 and indicates the wire frames respect the interval selection and are properly snapped to the drill hole data.

Figure 14.9
Type Cross-Section Showing Cu Assay Grade and the Modelled Wireframes

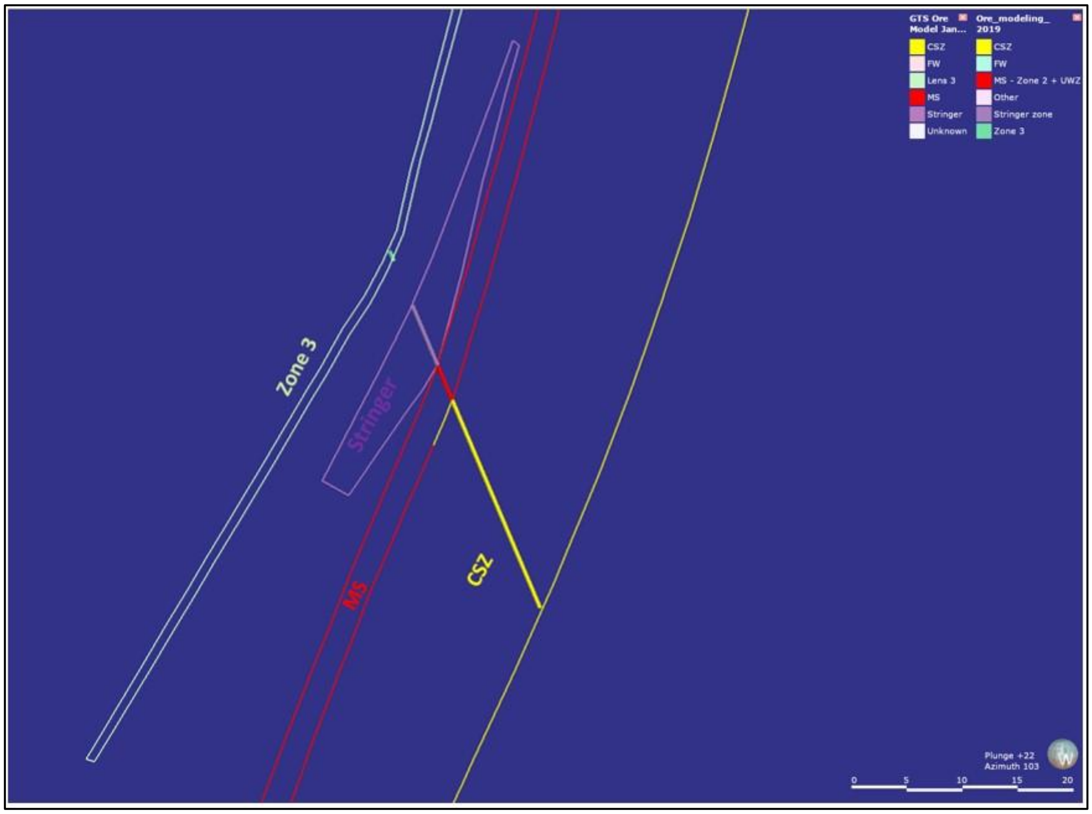
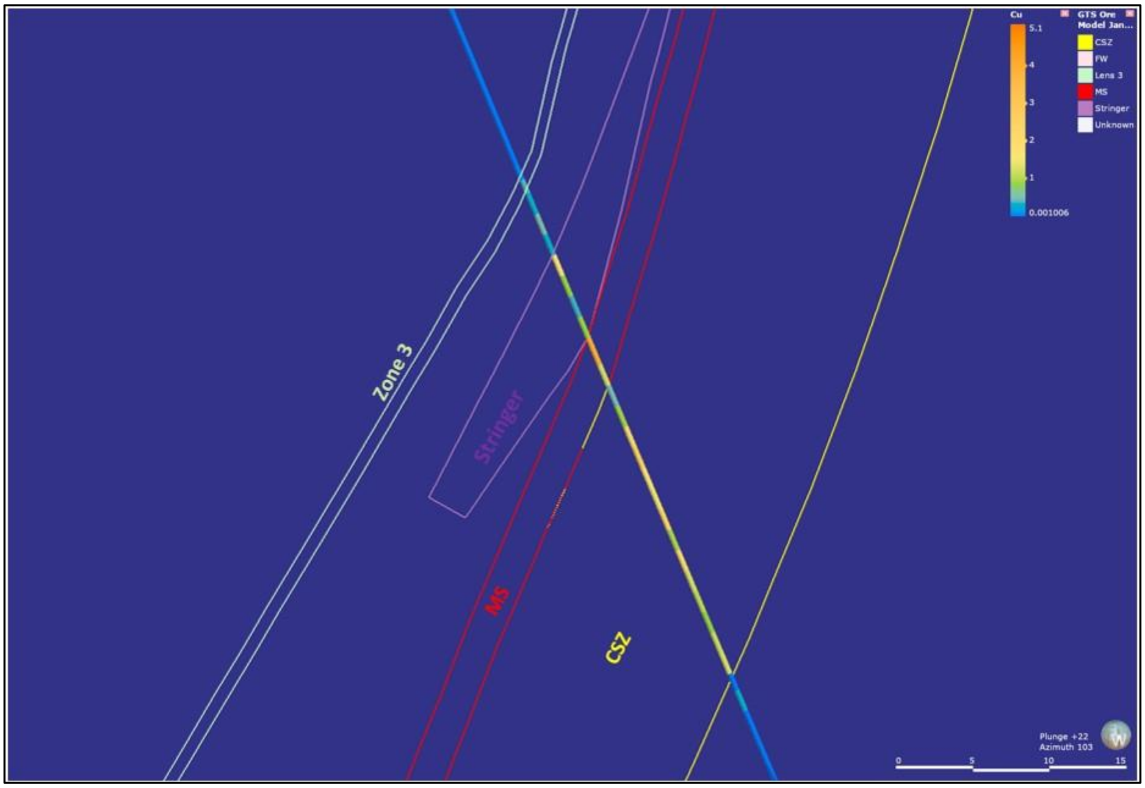


Figure 14.10
Type Cross-Section Showing Mineralized Intercepts defined by Foran and the Modelled Wireframes



14.4 COMPOSITING AND VARIOGRAPHY

14.4.1 Compositing

Compositing was performed in Leapfrog Edge, with 1 m composites being used for all domains to honor the initial assay sample resolution and to fit the narrow width of the mineralized zones.

Figure 14.11 and Table 14.2 shows the change of support from using the raw assays to a 1 m composite for the CSZ domain.

Figure 14.11
Graph Showing the Change of Support From the Raw Assays to 1 Metre Composites for the CSZ Domain

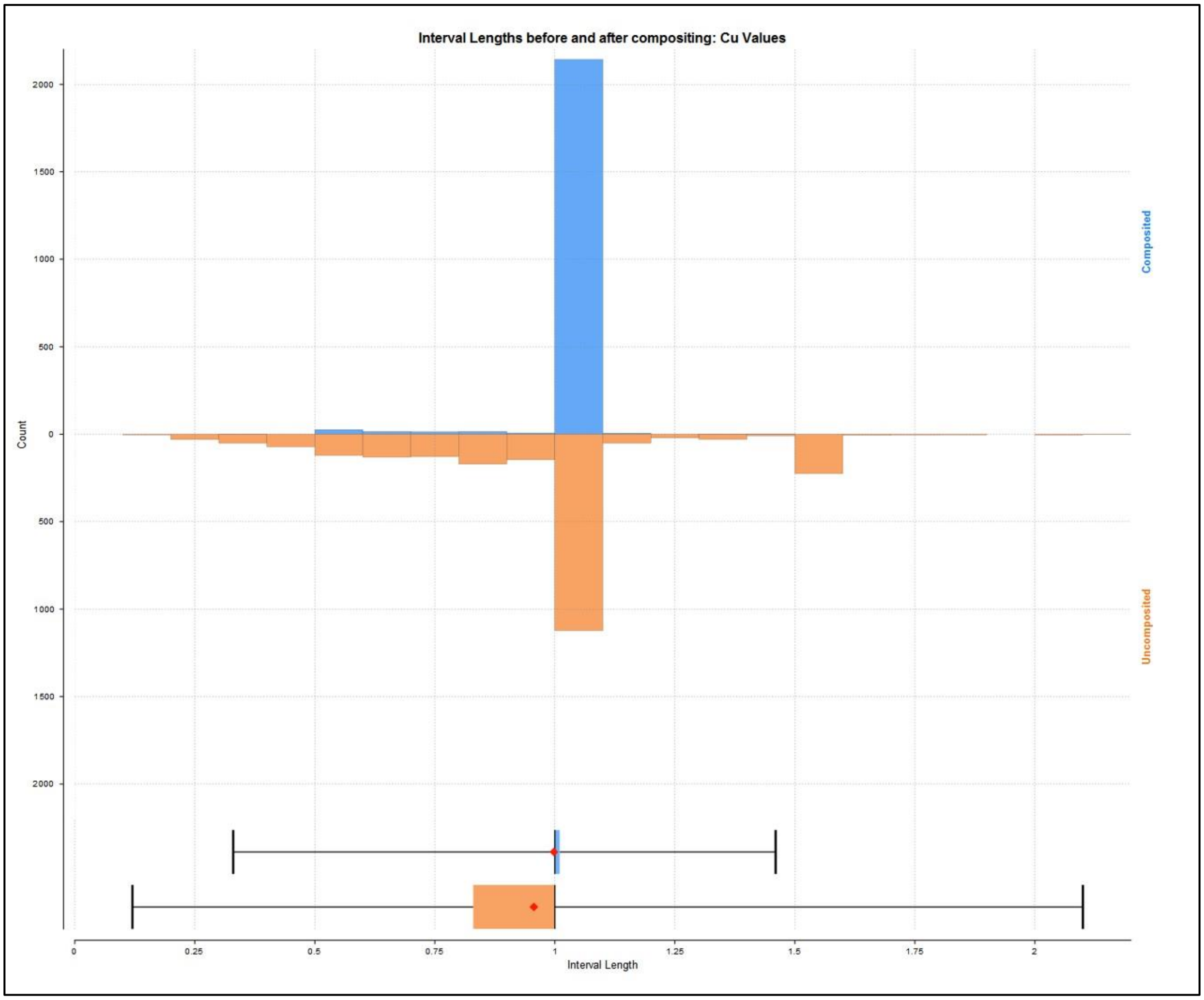
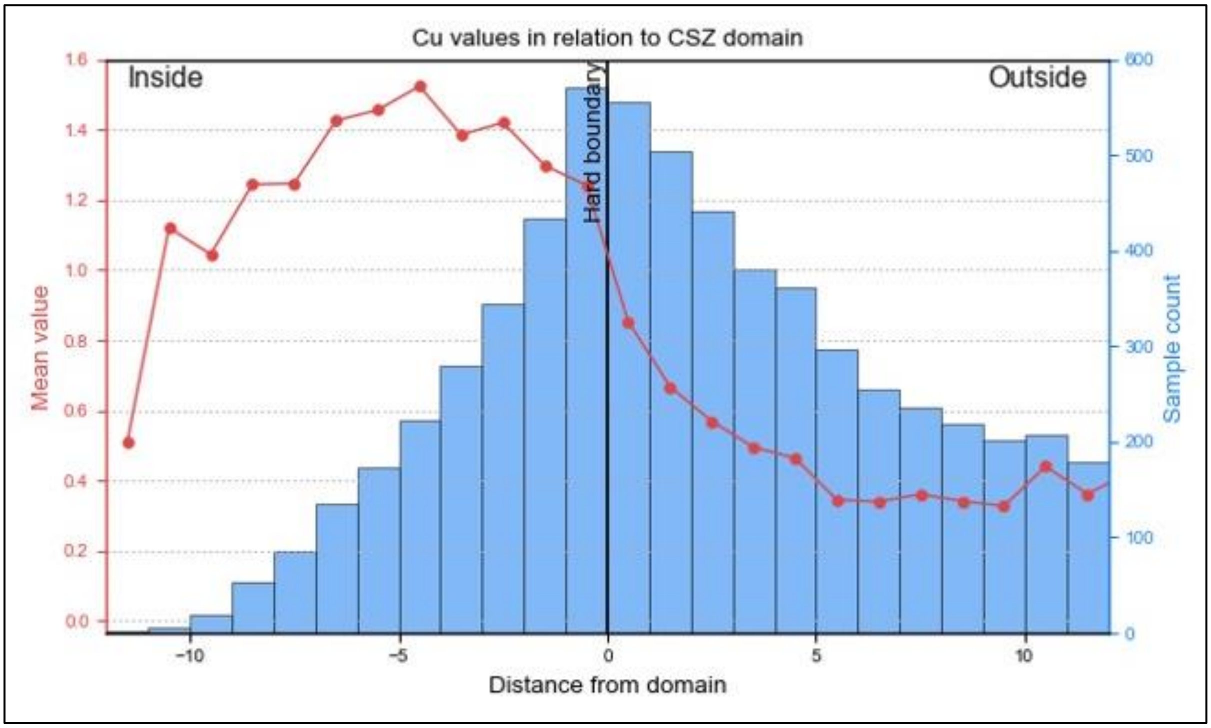


Table 14.2
Tabulation of the Change in Support from the Raw Assays to 1 Metre Composites for the CSZ Domain

Description	Composited Assays	Un-composited Assays
Count	2,288	2,326
Length (m)	2,223.7	2,224.5
Mean	0.998	0.956
SD	0.066	0.284
CV	0.067	0.297
Variance	0.004	0.080
Minimum	0.330	0.120
Q1	1.000	0.830
Q2	1.000	1.000
Q3	1.010	1.000
Maximum	1.460	2.100

Boundary analysis was performed on the composites to verify the nature of the contacts. While the grade within the wireframes are transitional to the external material, hard boundaries are used in all cases based on geological features which is standard practice in the mining industry. In Figure 14.12 the MS (outside) and CSZ (inside) domains are very close spatially particularly in the up-dip portion of the MS domain. Since both domains are somewhat enriched in Cu, the transition appears gradual, however since the mineralization style is very different, the data from each unit is not permitted to influence the other.

Figure 14.12
Boundary Analysis for Cu in the CSZ Domain



14.4.2 Variography

Variograms were calculated in Leapfrog Edge individually by metal and domain. The variograms produced with the 2018 drilling data demonstrated that the ranges of continuity for all domains decreased slightly relative to the January, 2018 internal model but increasing understanding of the grade variability at shorter ranges.

Figure 14.13 to Figure 14.17, are dominant metal variograms for each domain, illustrating the typical behavior for grade continuity at McIlvenna Bay. Experimental variograms are well-modeled by nested nugget and two-structure models. As is typical with this style of sheet-like semi-massive to massive mineralization, the short-range variability is low, resulting in a nugget of approximately 10% of the total variance. Grade continuity along the major axis is generally over 100 m, whereas the semi-major and minor axes have ranges of 70 m to 80 m and 20 m to 30 m, respectively.

Figure 14.13
Copper Variogram Model and Fan Map for the CSZ Domain

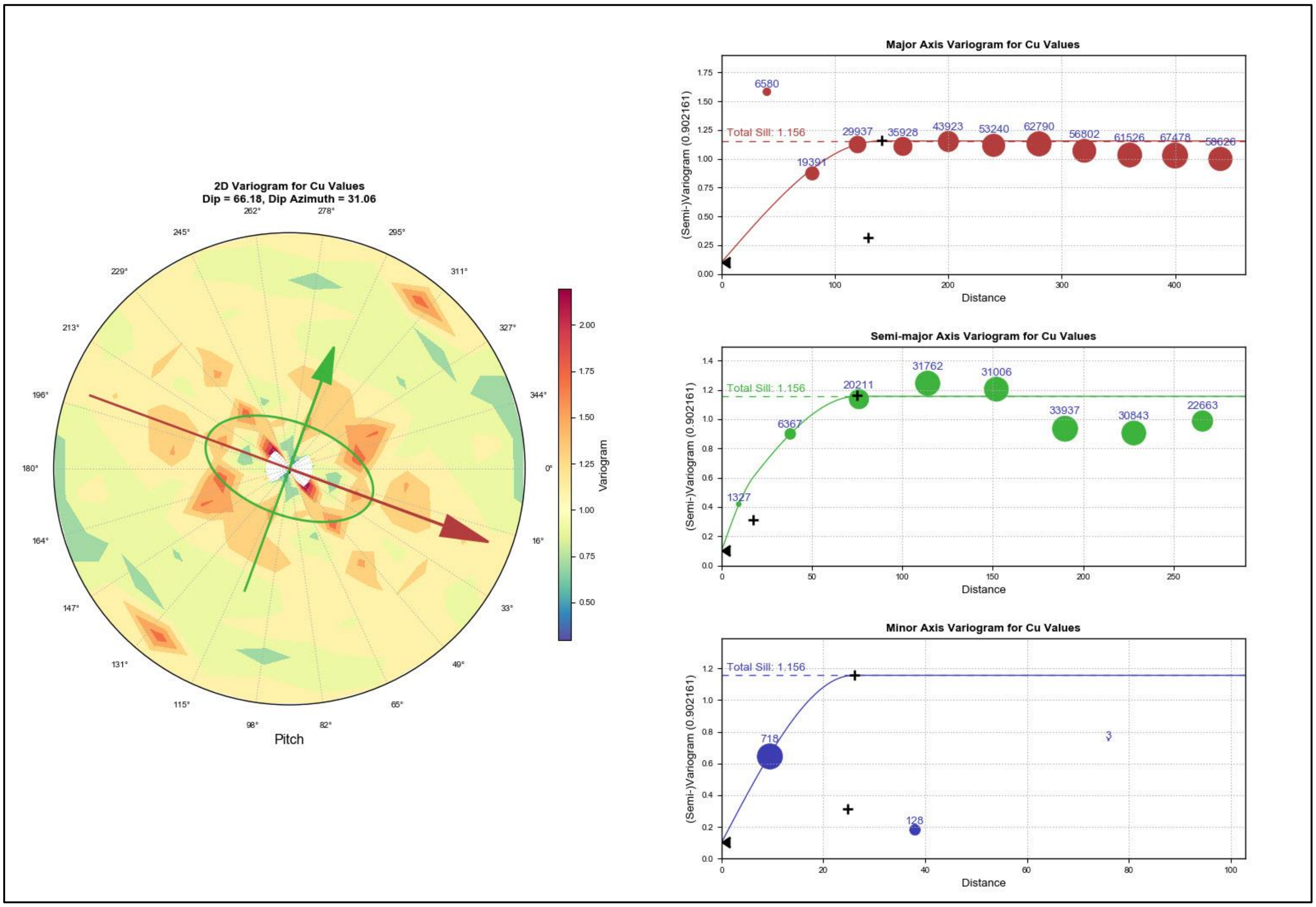


Figure 14.14
Copper Variogram Model and Fan Map for the FW Domain

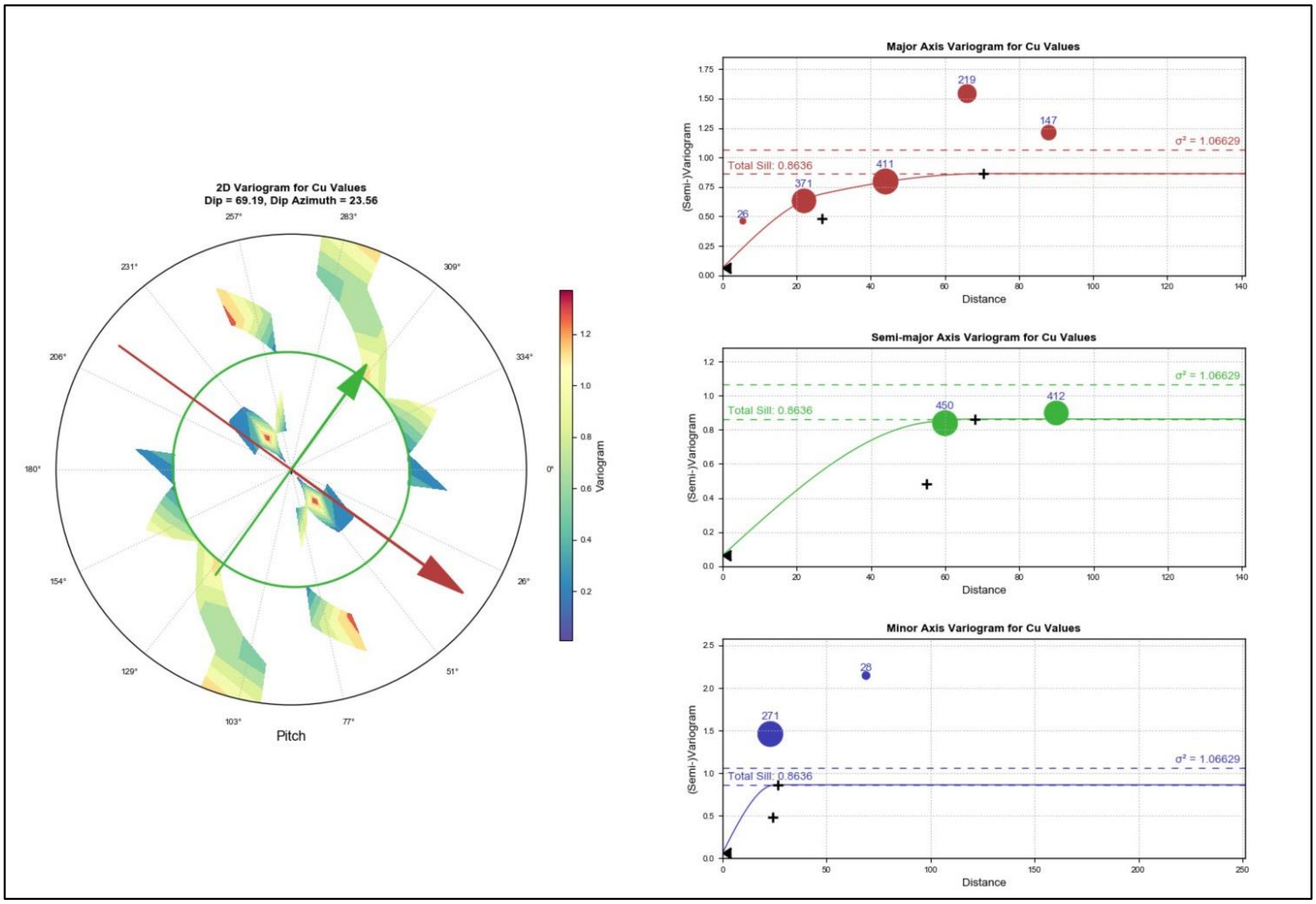


Figure 14.15
Zinc Variogram Model and Fan Map for the Lens 3 Domain

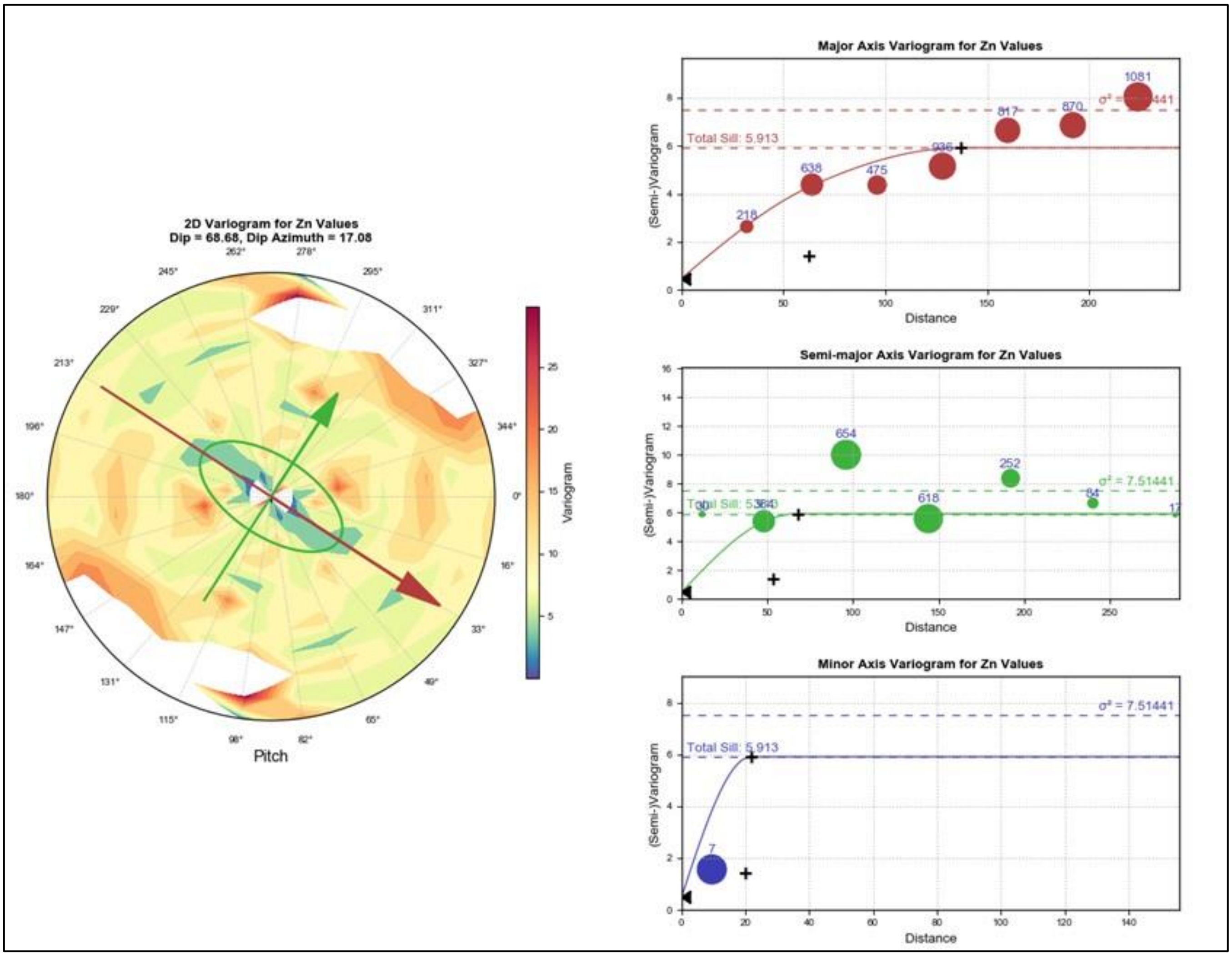


Figure 14.16
Zinc Variogram Model and Fan Map for the MS Domain

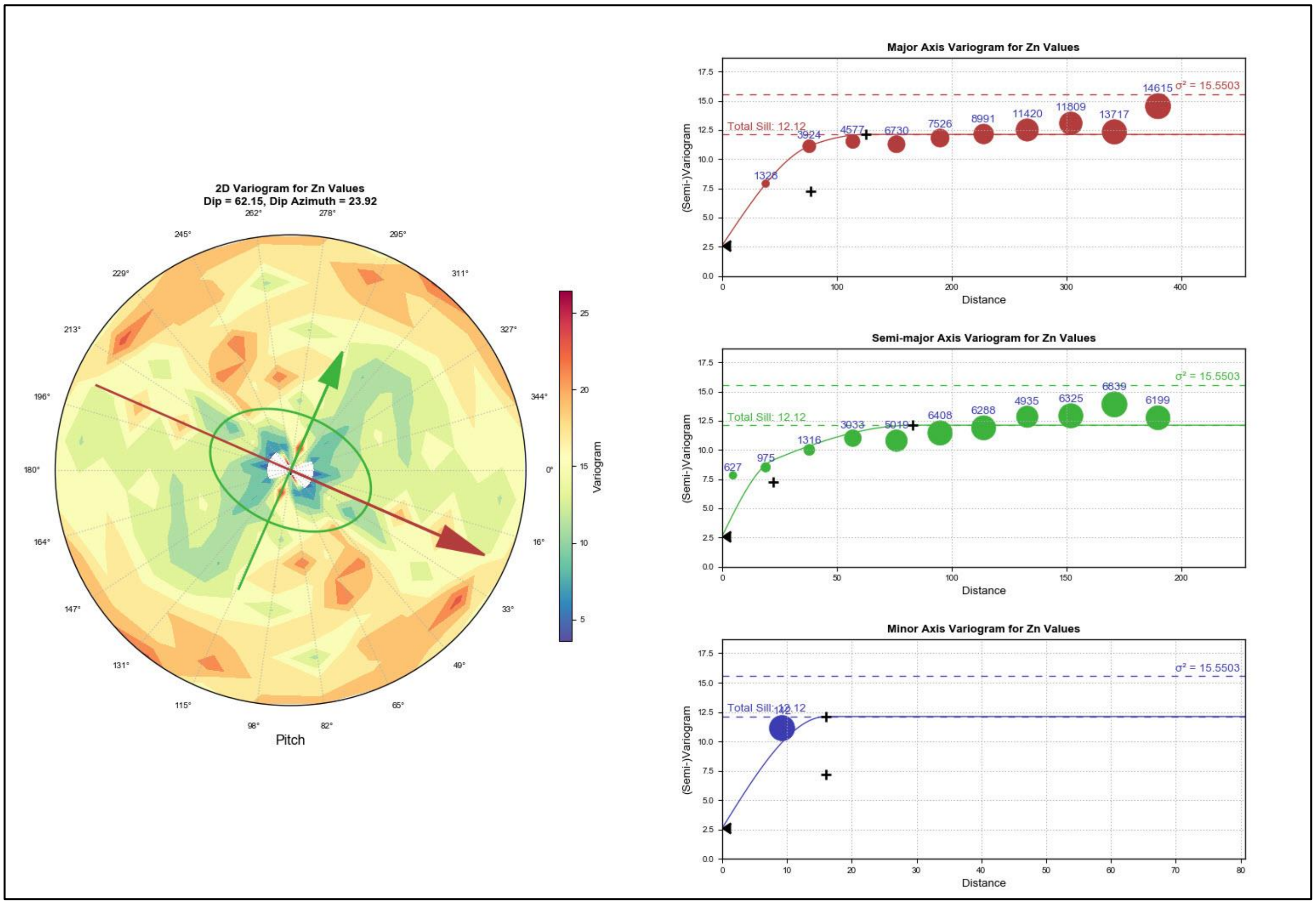
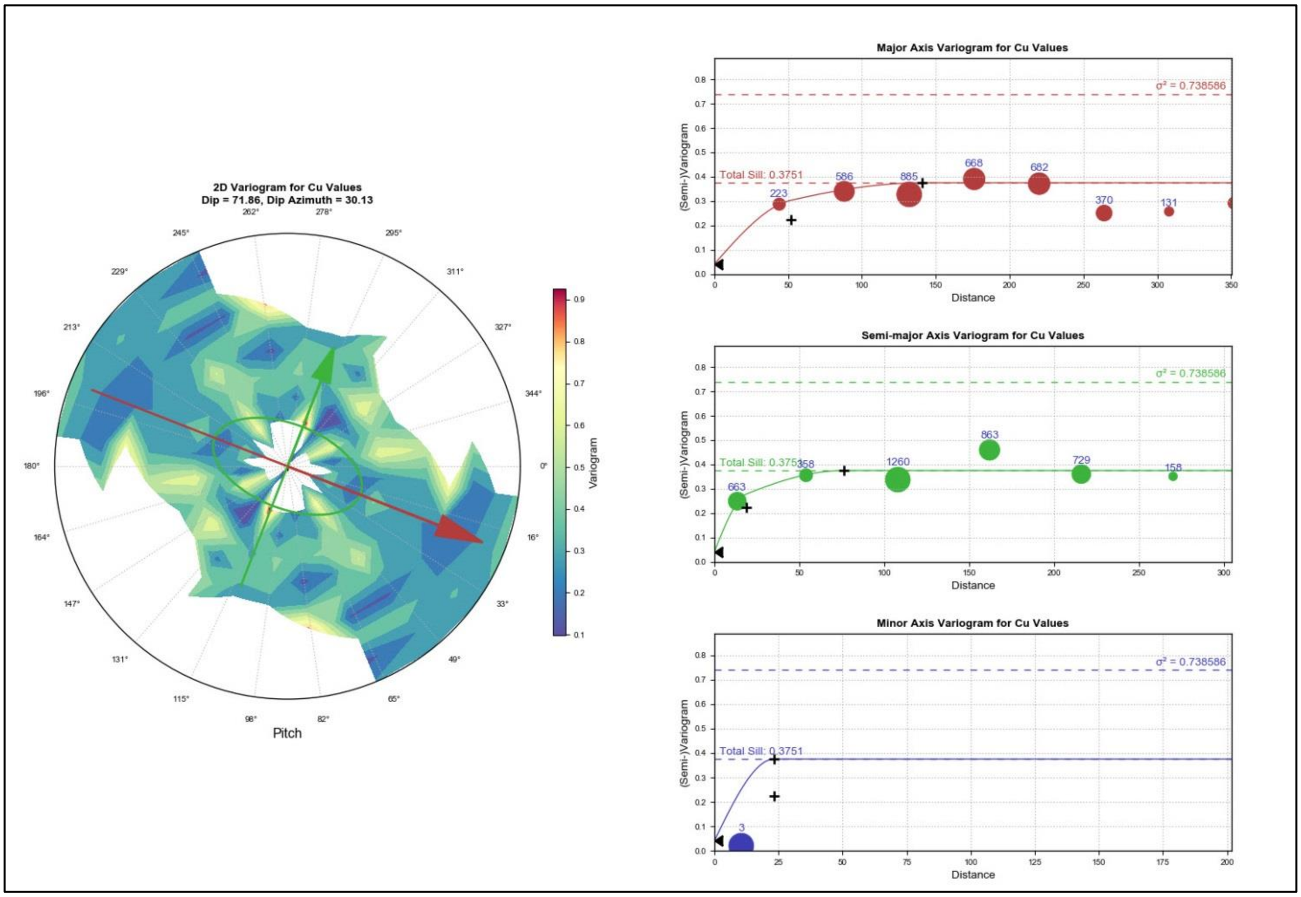


Figure 14.17
Copper Variogram Model and Fan Map for the Stringer Domain



14.4.3 Kriging Neighbourhood Analysis

Based on the modelled variograms, Kriging Neighbourhood Analysis (KNA) was performed on the McIlvenna Bay domains to determine the optimal Kriging parameters for the resource estimation (block size, minimum and maximum number of data points, discretization, and search ellipse size).

KNA uses the modeled variogram, and other criteria such as the maximum number of composites per hole, to conduct a local estimate and to assess the quality of the estimate based on the chosen parameters. In subsequent iterations, the block size, number of composites, size of the search ellipse and block discretization are varied. The Kriging Efficiency[4] and Slope of Regression[5] (or conditional bias), are reviewed for each set of parameters to measure the quality of the estimate. In the McIlvenna Bay study, KNA was used to determine the optimal estimation parameters for the first pass estimation.

[4] A measure of the effectiveness of the kriged estimate to reproduce the local block grade accurately.
[5] Summarises the degree of over-smoothing of high and low grades.

The optimal search criteria were used in the interpolation of the grade into the parent blocks, which were later sub-blocked for accurate volume representation.

Figure 14.18 shows the sample KNA analysis for the MS domain used to determine the optimal Kriging parameters for the estimation of the zinc.

The search ellipsoids were configured with the major and semi-major axes parallel to the overall plane of mineralization for each domain. For each domain 3 passes were used with search ranges presented in Table 14.3. In the second and third passes, the interpolation would overwrite blocks estimated by the previous pass. The maximum search distances for each domain were based on the dominant metal per domain.

For the first and second passes, blocks required a minimum of 5 composites to generate an estimate, and the maximum number of composites per block was limited to 20. For the third pass a minimum of 2 composites and maximum of 20 composites was used. No more than 4 composites could be used from any one drill hole for all three passes. The same search parameters were used for all elements (i.e., copper, zinc, lead, gold, and silver) within each domain. Table 14.4 summarizes the optimal Kriging plans identified by KNA and employed in the block model estimation.

Block model grade estimation was completed in Leapfrog Edge. A single estimation method, ordinary kriging, was used for all metals, however validation estimates using ID^2 and NN were also performed.

Figure 14.18
Sample KNA Analysis for the MS Domain for Determining Optimal Kriging Parameter for Zinc Estimation

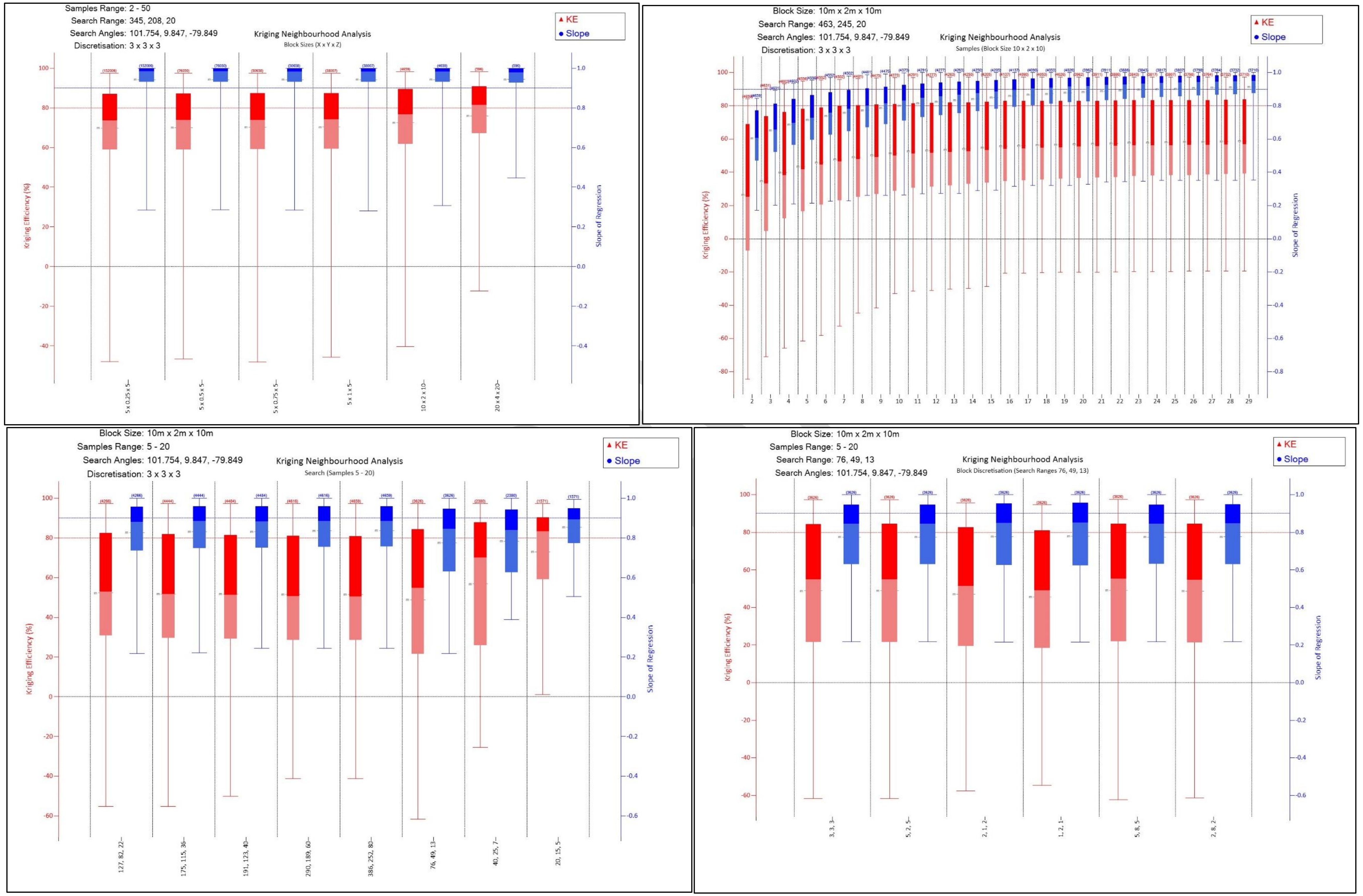


Table 14.3
Search Ellipse Ranges Obtained from KNA (Performed in Snowden Supervisor)

Domain	Pass	Major	Semi-Major	Minor
CSZ	1	55	45	12
	2	80	65	17
	3	170	140	35
FW	1	42	41	16
	2	70	68	26
	3	105	102	39
Len 3	1	75	50	20
	2	105	70	30
	3	210	140	50
MS	1	80	50	13
	2	120	70	20
	3	300	210	50
Stringer	1	75	70	10
	2	105	100	15
	3	210	200	30

Table 14.4
Summary of the Optimal Kriging Plans Identified by KNA and Employed in the Block Model Estimation

Pass Examples	Minimum Number of Samples	Maximum Number of Samples	Maximum Number of Samples/Hole
MS – Zn – OK – Pass 1	5	20	4
Stringer – Zn – OK – Pass 2	5	20	4
CSZ – Cu – OK – Pass 3	2	20	4
	Pass 1	**Pass 2**	**Pass 3**
Maximum Samples/Octant	5	5	-
Maximum Empty Octant	7	7	-

14.5 CAPPING

The influence of high-grade outliers on the overall grade estimates and contained metal is restricted by the use of top cuts applied to the composited data. Capping values were determined for each metal by domain using the Cumulative Distribution Function (CDF) and by examining the composite grade histograms. Figure 14.19 shows the CDF plot for determination of the copper outlier capping in the CSZ domain. Table 14.5 provides the capping values used for estimation per domain.

Figure 14.19
CDF Plot for Determining the Copper Outlier Capping in the CSZ Domain.

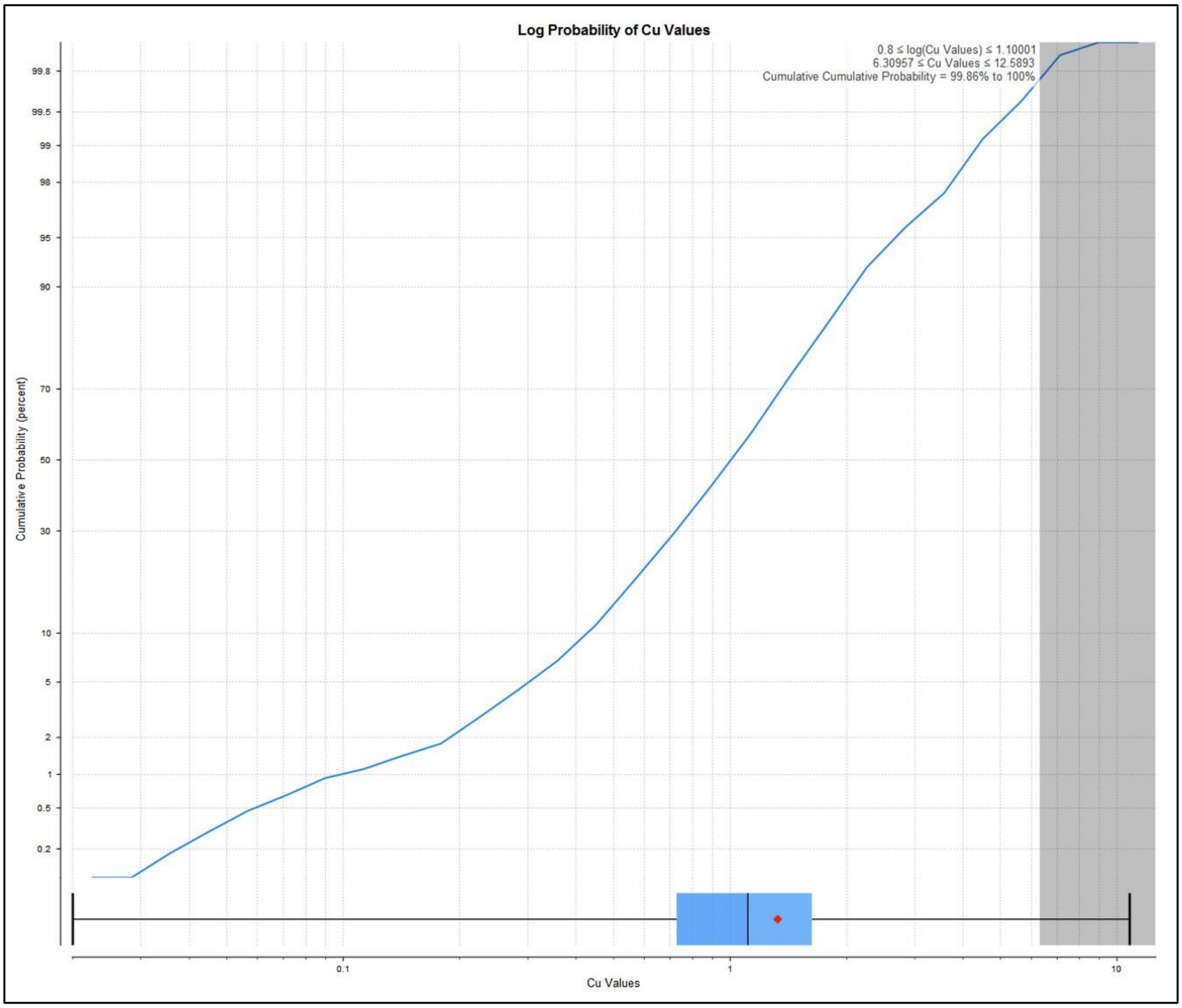


Table 14.5
Outlier Capping by Metal and Domain

	Ag		Au		Cu		Pb		Zn	
Domain	**Capping Value (g/t)**	**Number of Samples Capped**	**Capping Value (g/t)**	**Number of Samples Capped**	**Capping Value (%)**	**Number of Samples Capped**	**Capping Value (%)**	**Number of Samples Capped**	**Capping Value (%)**	**Number of Samples Capped**
CSZ	63	7	3	28	6.5	9	0.6	5	5	4
FW	50	1	3	3	5	3	---	---	8	5
Lens 3	50	2	2	2	56	4	0.6	9	8	16
MS	200	7	4	15	5	26	2.5	23	16	16
Stringer	50	5	1	6	2.5	15	0.5	3	6	2

14.6 DENSITY

The basis for the density estimates in the previous block model was a set of 1,085 density samples, used to build a simple linear regression[6]. In the present update, a larger database was available which permitted the determination of density by means of interpolation.

Table 14.6 summarizes the density measurement database for the McIlvenna Bay Project.

Table 14.6
Summary of the Density Measurements

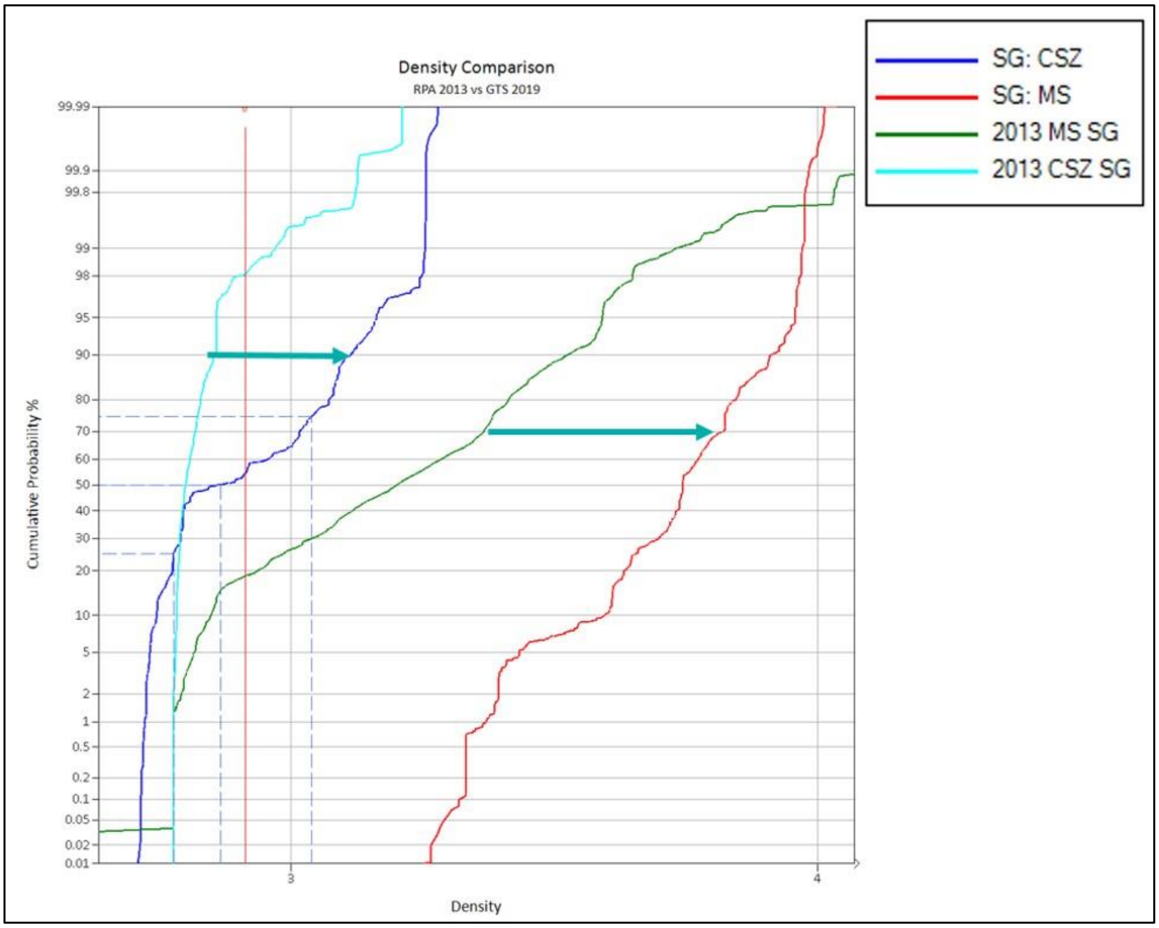
	Bulk Density				Specific Gravity			
Domain	**Number**	**Minimum**	**Mean**	**Maximum**	**Number**	**Minimum**	**Mean**	**Maximum**
CSZ	624	2.40	2.90	3.95	575	2.65	2.83	3.92
FW	286	2.74	3.66	4.39	242	2.67	3.33	5.64
Lens 3	53	2.73	3.41	4.10	96	2.33	3.09	5.36
MS	71	2.76	3.00	4.31	66	2.71	3.18	4.62
Stringer	38	2.76	2.99	4.00	30	2.72	2.75	2.78

Measurements of bulk density are considered the more robust, these data points (1,072, in total) were given precedence in the population of density in the block model. Where this data did not populate blocks, the specific density measurements were used (which do not consider bulk density). Comparison by means of a multilinear regression or stoichiometry was not possible since not all elements were available for analysis. The final block value was assigned using a rolling average (ID^0) for each domain, thus generating a smoother continuity of density.

Figure 14.20 shows a comparison of the final block model densities in the 2013 block model against the current 2019 update indicates that density was systematically underestimated in the past. Since the previous regression relied solely on Zn, the mass contributions from other dense minerals, such as pyrite and chalcopyrite, were not considered.

[6] SG = (0.075 x Zn) + 2.8124.

Figure 14.20
Density Comparison between the 2013 PEA Block Model and the 2019 Mineral Resource Block Model



14.7 BLOCK MODEL

A rotated, sub-blocked model was set-up in Leapfrog Geo to capture the lithological and domain coding, grade estimates, density and resource classification. Table 14.7 summarizes the parameters for the block model.

Table 14.7
Block Model Parameters

Block Model Setup			
	X	Y	Z
Parent Block size	10	2	10
Sub-Block count	2	8	2
	Az	Dip	
Rotation	45	0	
Model extent	X	Y	Z
Base point	639830	6056565	325
Boundary size	183000	532	1260

The geological model was evaluated on the sub-blocked model and block volumes were validated against wireframes. Table 14.8 summarizes the wireframe to block volume reconciliation.

Visual and numeric validation was performed to compare the results of the estimation methods and correlation to original input grades.

For increased confidence in the model estimate, and as a separate means of validation, a block model estimate was also generated in Datamine Studio RM. The validation estimate used the same domain wireframes and outlier top-cuts, but different variograms and search parameters. The Datamine block model was prepared as a validation tool, and both the visual and global means comparisons of the two models returned nearly identical results. This further validates both the accuracy and precision of the McIlvenna Bay Mineral Resource Estimate.

Table 14.9 summarizes the parameters used in the validation estimate.

Table 14.10 summarizes the comparison between the block model estimated in Leapfrog Edge (final model) and Datamine Studio RM (validation). The comparison was conducted at a zero-cut-off grade to compare the entire model and not just the potentially economic portion. This is because the economic portion of a resource model will vary due to changes in metal prices, mining and processing costs, general and administrative (G&A) costs, regulatory changes and taxes.

Table 14.8
Wireframe to Block Volume Reconciliation

Name	Block Count	Volume	Mean	Std. dev.	Coeff. Var.	Variance	Minimum	L. quartile	Median	U. quartile	Maximum
CSZ	795,561	7,794,612.5									
Zn	795,561	7,794,612.5	0.477	0.463	0.971	0.214	0.012	0.160	0.307	0.602	4.291
Cu	795,561	7,794,612.5	1.299	0.474	0.365	0.225	0.042	0.977	1.215	1.538	5.560
Pb	795,561	7,794,612.5	0.026	0.036	1.371	0.001	0.000	0.006	0.013	0.030	0.414
Ag	795,561	7,794,612.5	9.546	4.869	0.510	23.704	1.036	5.766	8.634	12.345	45.710
Au	795,561	7,794,612.5	0.374	0.297	0.793	0.088	0.000	0.159	0.295	0.492	3.041
SG	795,561	7,794,612.5	2.918	0.214	0.042	0.015	2.755	2.816	2.867	3.019	3.257
FW	24,117	297,787.5									
Zn	24,117	297,787.5	0.868	1.176	1.354	1.382	0.018	0.092	0.315	1.195	6.995
Cu	24,117	297,787.5	1.467	0.631	0.430	0.398	0.361	1.066	1.298	1.718	3.839
Pb	24,117	297,787.5	0.037	0.060	1.636	0.004	0.001	0.005	0.010	0.039	0.615
Ag	24,117	297,787.5	10.122	6.913	0.683	47.787	2.133	5.490	7.665	11.980	37.110
Au	24,117	297,787.5	0.472	0.274	0.581	0.075	0.044	0.258	0.436	0.633	1.803
SG	24,117	297,787.5	3.022	0.098	0.033	0.010	2.813	2.977	2.988	3.138	3.145
Lens 3	109,341	688,418.8									
Zn	109,341	688,418.8	2.905	1.746	0.601	3.050	0.021	1.357	2.995	4.141	7.746
Cu	109,341	688,418.8	0.823	0.520	0.632	0.271	0.000	0.467	0.733	1.037	4.712
Pb	109,341	688,418.8	0.122	0.133	0.924	0.013	0.004	0.039	0.076	0.177	0.563
Ag	109,341	688,418.8	13.976	5.439	0.389	29.581	1.879	10.133	13.035	16.648	39.530
Au	109,341	688,418.8	0.260	0.130	0.499	0.017	0.048	0.173	0.232	0.308	1.099
SG	109,341	688,418.8	3.473	0.166	0.048	0.027	3.106	3.331	3.541	3.588	3.659
MS	504,348	3,327,712.5									
Zn	504,348	3,327,712.5	5.957	2.561	0.430	6.560	0.249	3.833	6.295	7.796	14.557
Cu	504,348	3,327,712.5	1.004	0.980	0.976	0.960	0.024	0.234	0.616	1.556	5.201
Pb	504,348	3,327,712.5	0.374	0.287	0.768	0.083	0.000	0.160	0.321	0.513	2.500
Ag	504,348	3,327,712.5	25.548	15.957	0.625	254.626	3.803	17.107	21.389	28.703	177.546
Au	504,348	3,327,712.5	0.511	0.480	0.939	0.230	0.030	0.206	0.347	0.597	3.776
SG	504,348	3,327,712.5	3.717	0.147	0.040	0.022	3.224	3.626	3.716	3.807	4.042
Stringer	59,178	373,737.5									
Zn	59,178	373,737.5	0.585	0.625	1.069	0.391	0.070	0.260	0.424	0.624	4.592
Cu	59,178	373,737.5	1.177	0.378	0.321	0.143	0.145	0.883	1.144	1.465	2.409
Pb	59,178	373,737.5	0.039	0.041	1.050	0.002	0.004	0.017	0.028	0.040	0.438
Ag	59,178	373,737.5	12.640	4.034	0.319	16.277	5.700	10.174	11.745	13.520	42.281
Au	59,178	373,737.5	0.299	0.118	0.394	0.014	0.064	0.223	0.272	0.372	0.771
SG	59,178	373,737.5	2.995	0.111	0.037	0.012	2.828	2.936	2.941	2.983	3.296

Table 14.9
Summary of the Parameters Used in the Validation Estimate

Maintained from Leapfrog Geo/Edge Model	Independently Generated Parameters Datamine Studio RM Model
Wireframes	Variograms
Composites	Search ellipse orientations
Capping	Search parameters
Block model prototypes	Sub-blocking
	Resource classification (no grooming or management for the spotted dog effect)

Table 14.10
Comparison Between Block Model Estimated in Leapfrog Edge (Final Model) and Datamine Studio RM (Validation)

Software	Cut-off	Tonnes (Mt)	Zn (%)	Cu (%)	Pb (%)	Ag (g/t)	Au (g/t)
Edge	0	39.52	2.37	1.17	0.14	14.90	0.41
Datamine	0	39.32	2.40	1.17	0.15	14.94	0.42

Figure 14.21 to Figure 14.23 show the grade intensity (heat) map of the zinc grades for the Leapfrog and Datamine models as a comparison and the grade intensity map for the copper within the MS domain in the resource model.

Figure 14.21
Grade Intensity (Heat) Map of Zinc Grades from Leapfrog Model

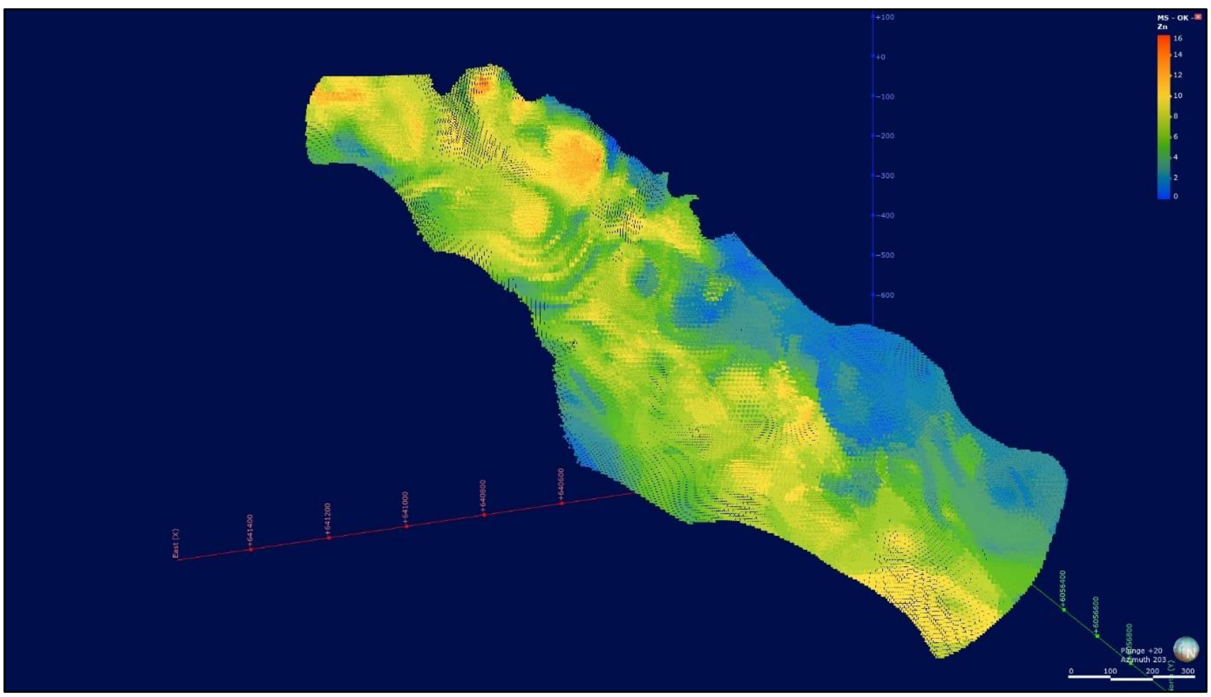


Figure 14.22
Grade Intensity (Heat) Map of Zinc Grades from Datamine Model

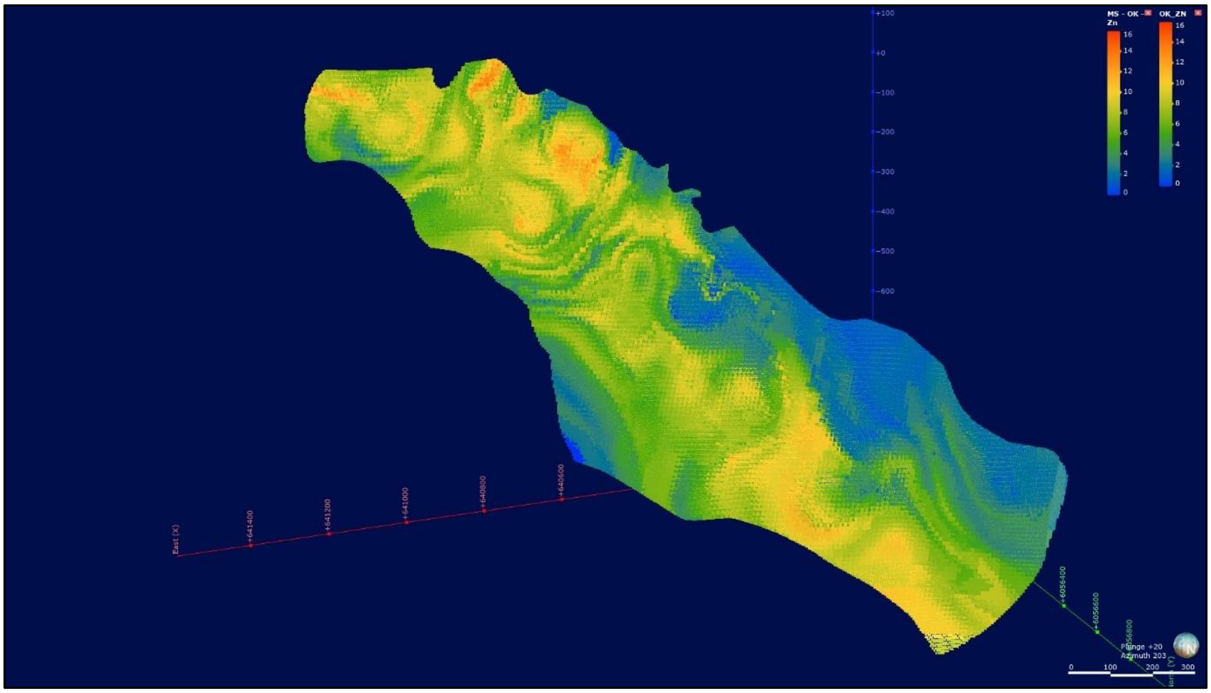
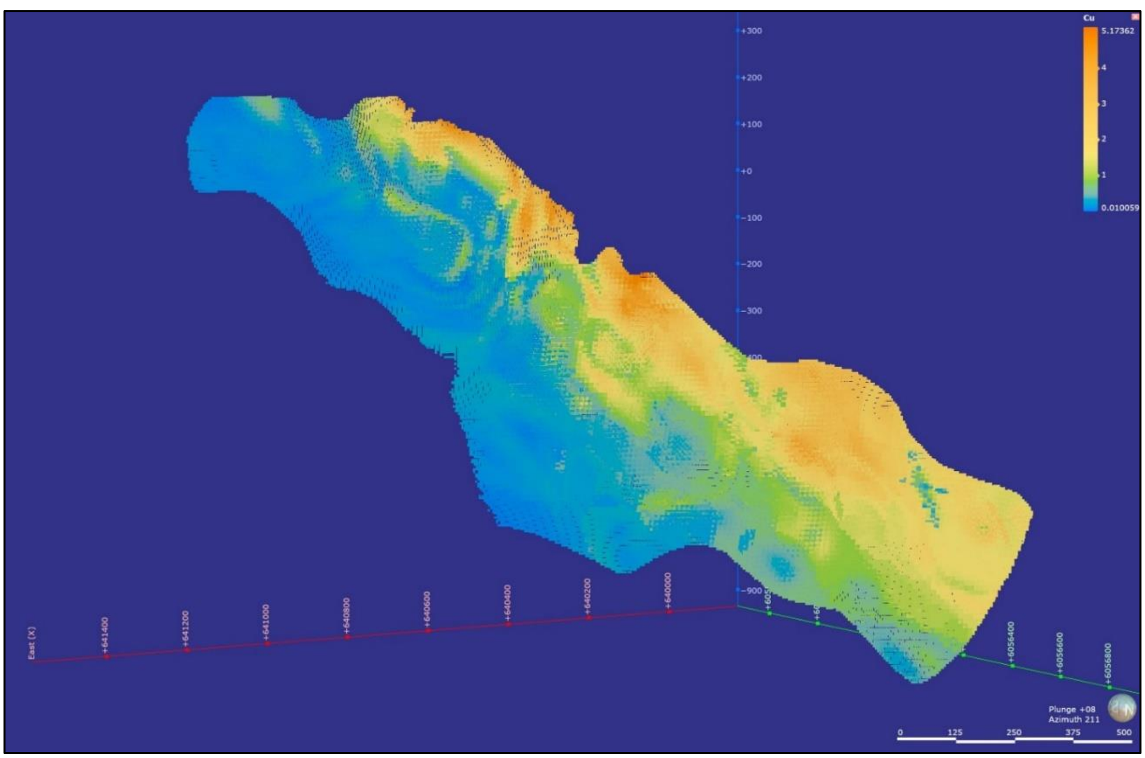


Figure 14.23
Grade Intensity (Heat) Map of Copper Grades for the MS Domain in the Resource Model



A visual validation was conducted which indicated there was a good correlation between the estimated grade and composite and assay values. The visual validation also indicated that the assays are properly snapped to domain as shown in Figure 14.24 and Figure 14.25.

Figure 14.24
General Cross-Section Showing the MS Domain Zinc Block Grade vs Composite Grade

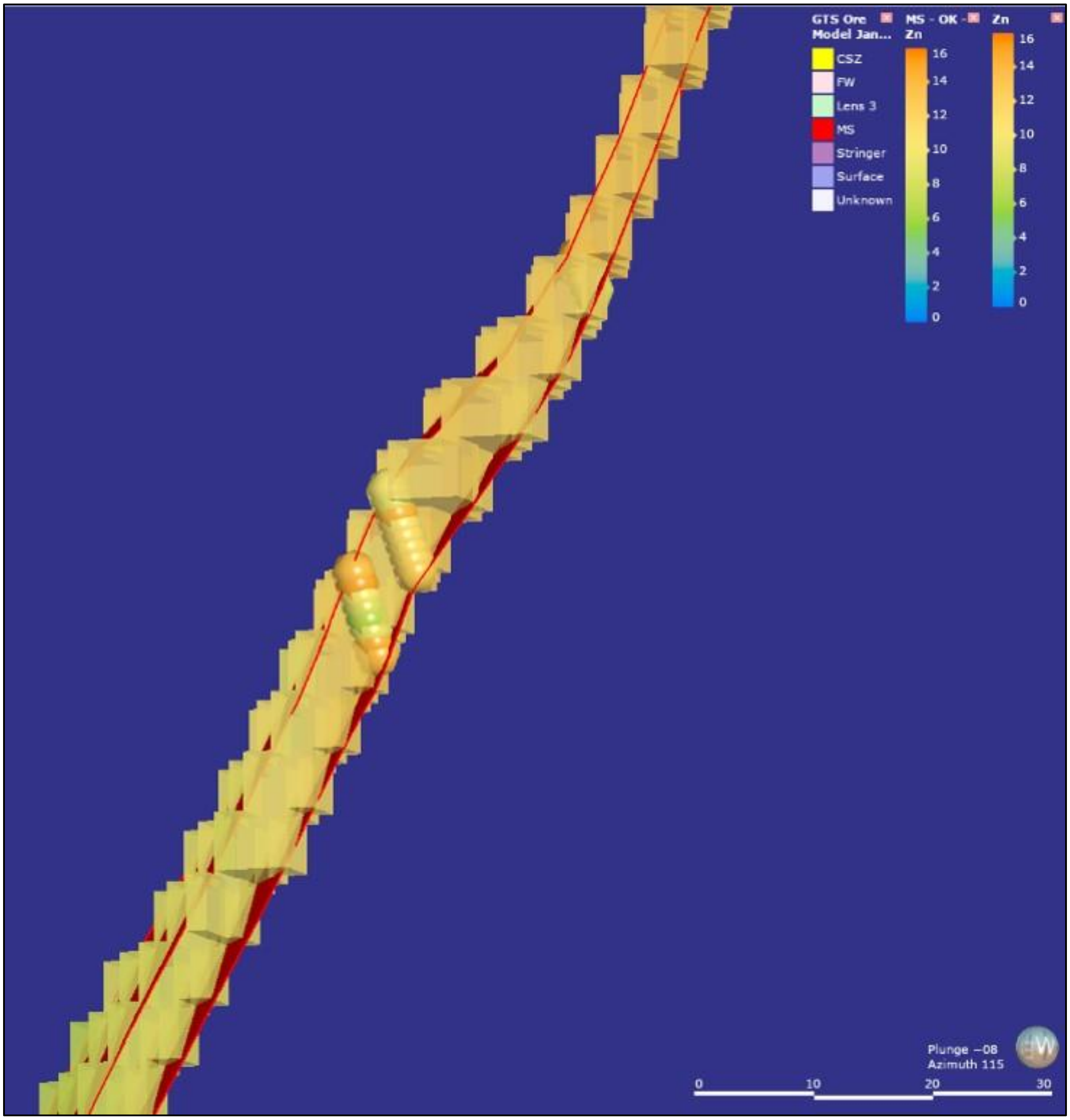
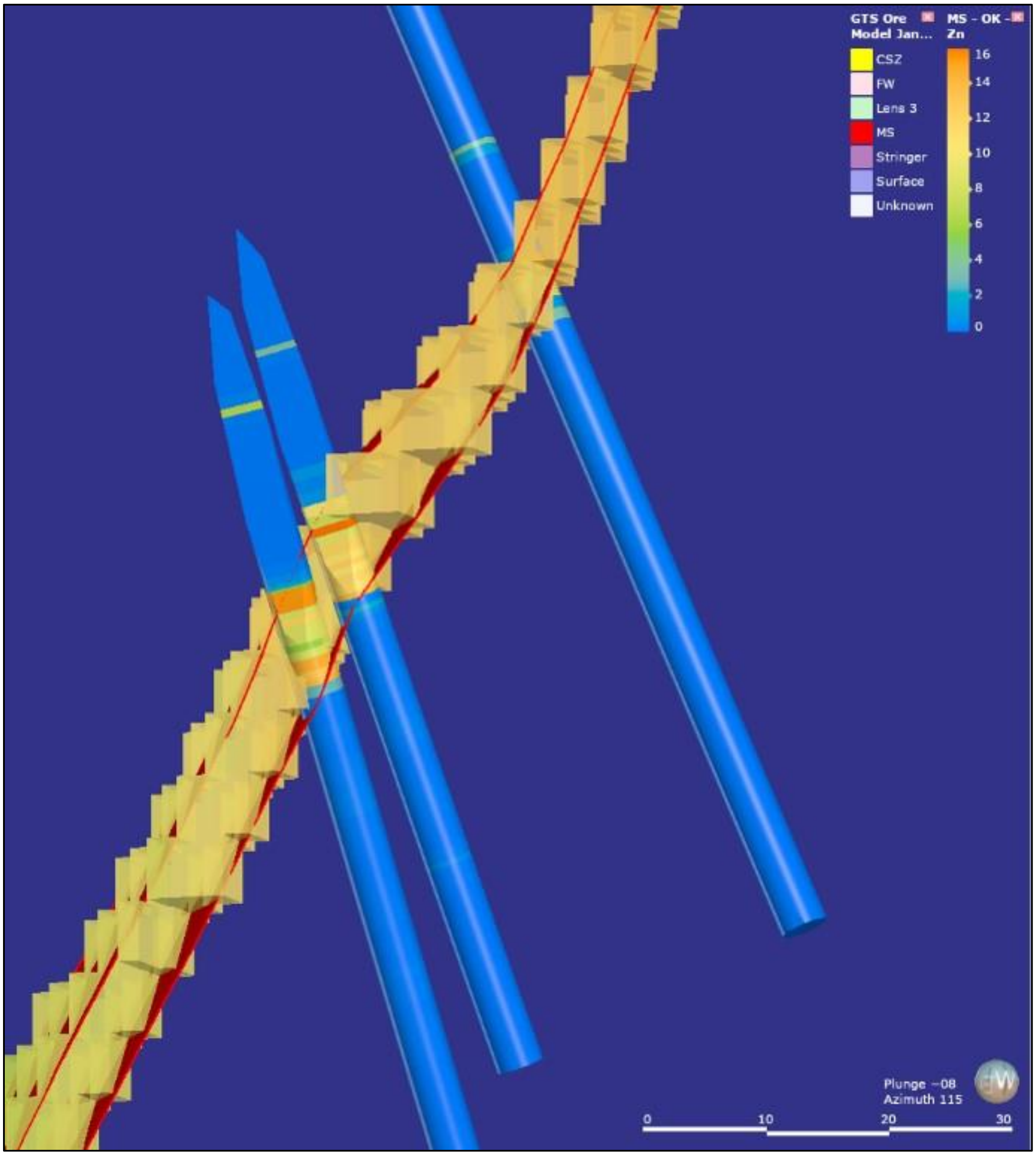


Figure 14.25
General Cross-Section Showing the MS Domain Zinc Grade vs Raw Assays



Swath plots are used as part of the validation process to show slices through the block model, usually in three different orientations (parallel, orthogonal and horizontal). The plots illustrate the correlation of input composite values for a given metal, with the output block estimates for the estimation methods used, such as NN, ID and OK. The quantity of data is also illustrated in the swath plot as a histogram. Swath plots are useful for identification of possible over or underestimation, as well as the degree of smoothing. Figure 14.26 presents the cross-sectional swath plot of the CSZ domain block model with Cu composite values, and the NN, ID^2 and OK block estimates. Figure 14.27 shows similar data for the MS domain using Zn composite values and estimation results. In both cases, swath plots across the block model show good correlation between the different estimation methods (ID^2, OK) and the declustered composite grades. There is no evidence of global or local over or underestimation, and the degree of smoothing is acceptable for the selected final OK estimate.

Figure 14.26
Northing Swath Plot of the Copper Estimate in the CSZ Domain

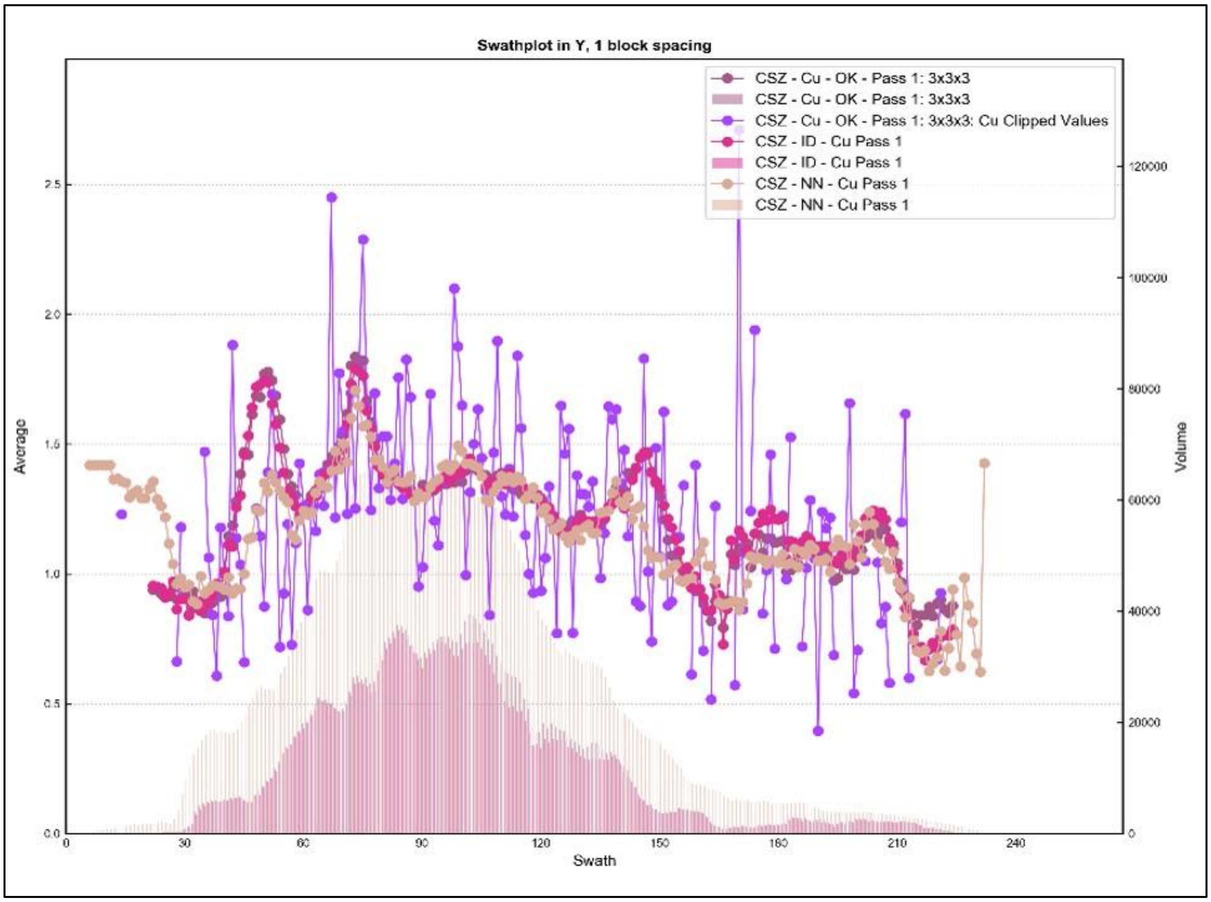
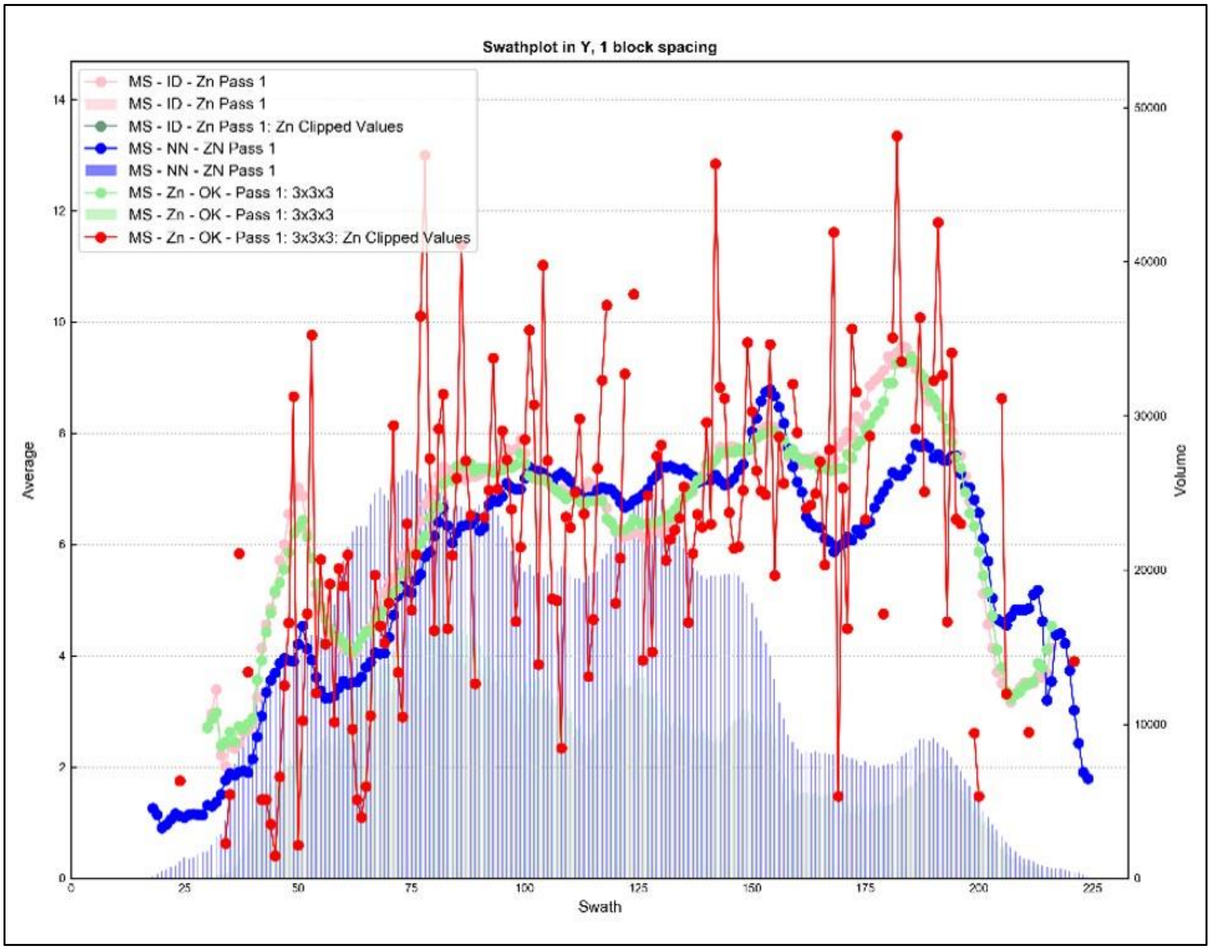


Figure 14.27
Northing Swath Plot of the Zinc Estimate in the MS Domain



14.8 MINERAL RESOURCE CLASSIFICATION

A preliminary assessment of the resource classification was generated by observing the integer field generated from the 3-pass search estimate process. Blocks estimated during each successively less stringent criterion were assigned either 1 (more stringent, highest confidence), 2 (moderate confidence) or 3 (least stringent, lowest confidence). The pattern generated by this automated process was visually reviewed against other information such as drill hole spacing and slope of regression.

Passes 1st and 2nd passes represent Indicated and 3rd pass Inferred resources. As the search ellipse passes produce a patchy distribution of blocks in various resource categories, the final classification is produced using hand-digitized shapes. A 3D polyline is drawn for each domain to encompass areas of contiguous material having the approximately the same measure of confidence based on statistical and geological criteria. The process was repeated for the Indicated and Inferred material to ensure that the classification is smooth and that extrapolation distances are reasonable.

Figure 14.28 through Figure 14.30 show the progression for the estimated blocks through Pass 1 and Pass 2 followed by the final groomed version of the resource classification.

Figure 14.28
Blocks Estimated During the Restrictive Pass 1 Estimation Process

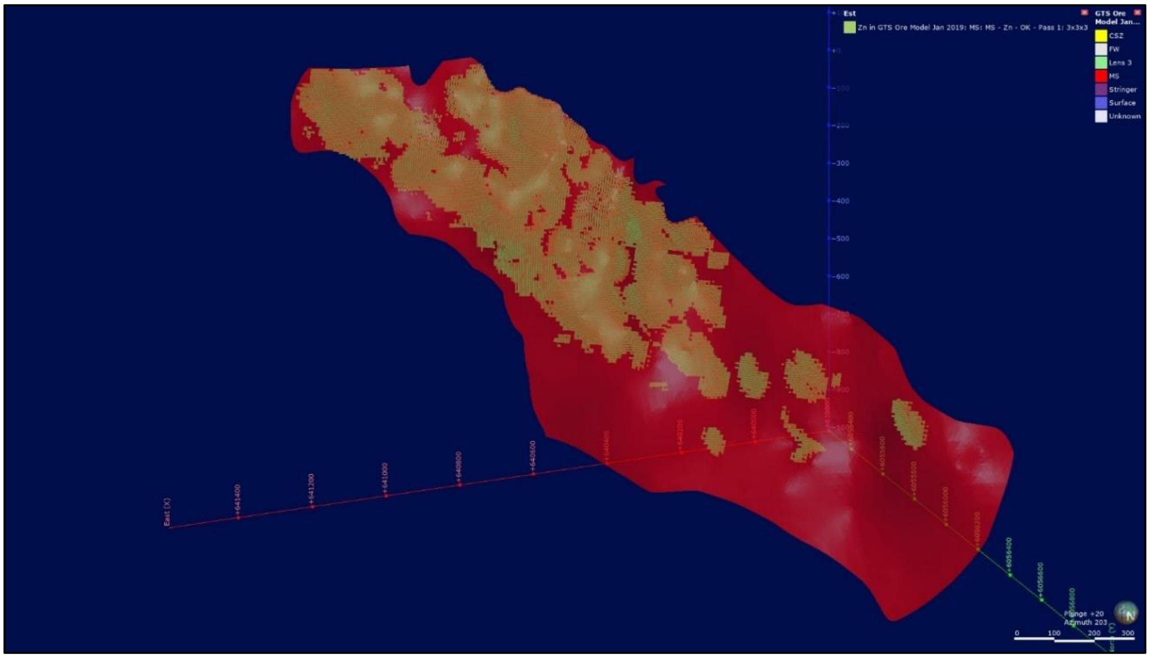


Figure 14.29
Blocks Estimated During the Pass 1 (Orange) and Pass 2 (Red) Estimation Process

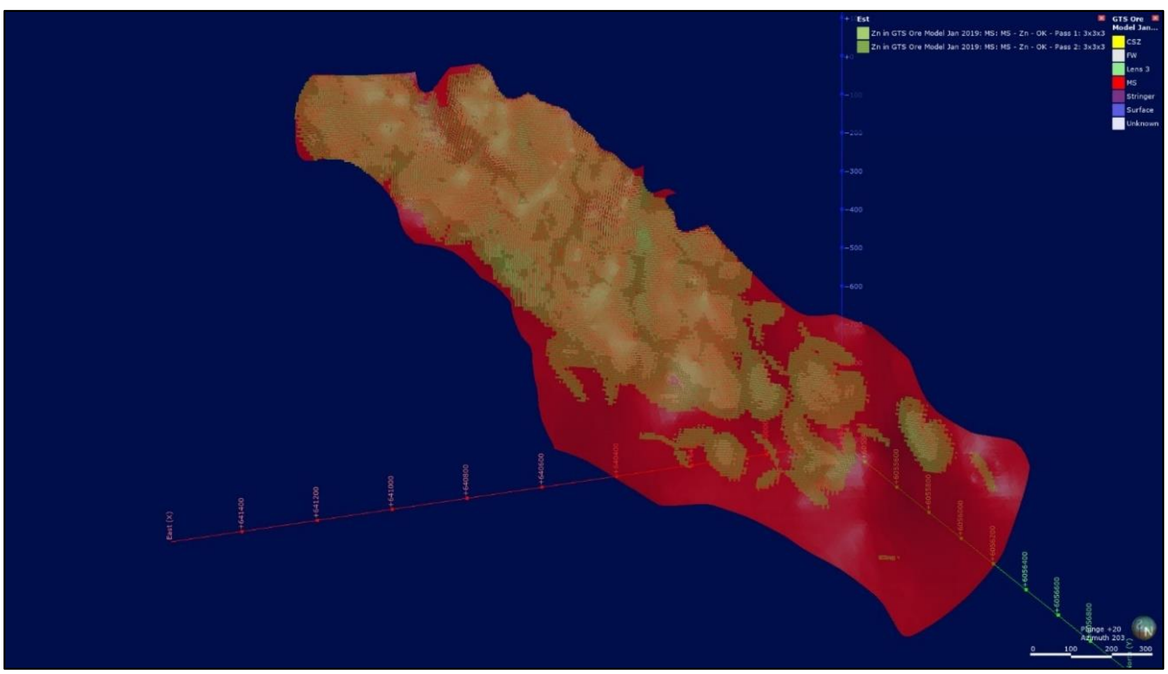
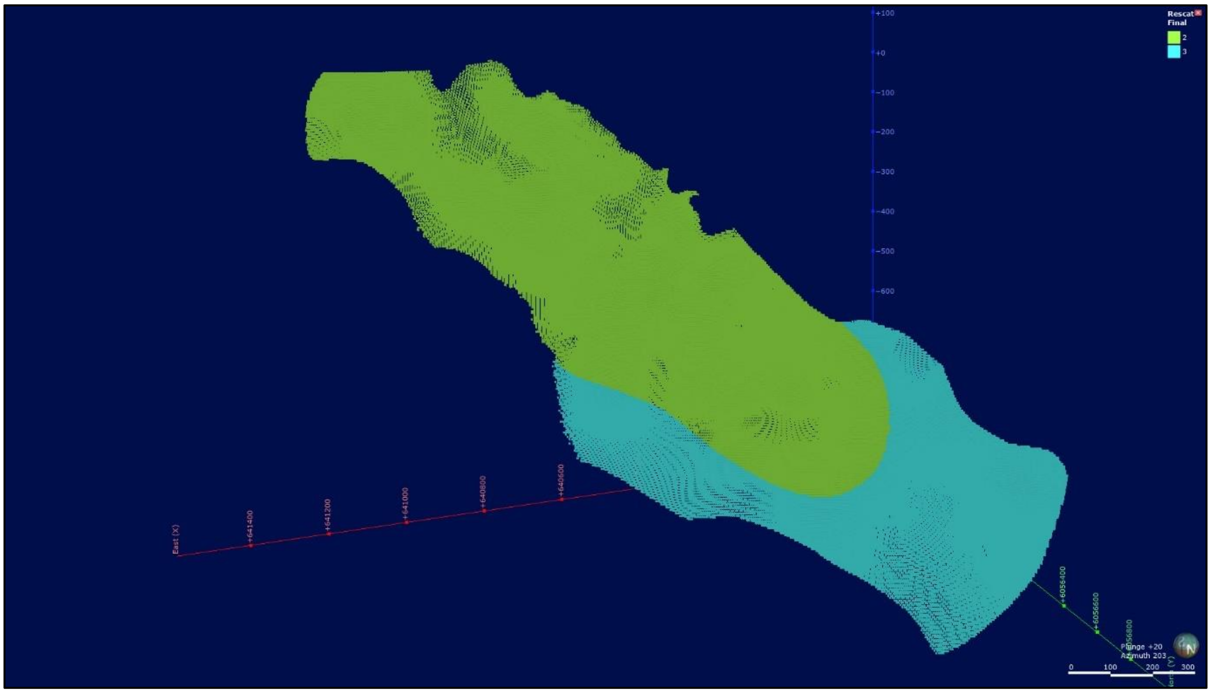


Figure 14.30
Final groomed Resource Classification: Indicated (Green) and Inferred (Turquoise)



14.9 CUT-OFF GRADE CRITERIA

Due to the multi-element nature of the of the McIlvenna Bay deposit an NSR value was used for the application of a cut-off to the block model. The NSR was estimated for each block using provisions for metallurgical recoveries, smelter payables, refining costs, freight, and applicable royalties (Table 14.11). Metallurgical recoveries were based on the results of laboratory testwork conducted during the 2013 Preliminary Economic Assessment study. The smelter terms and freight costs were estimated by Foran. Metal prices used for the mineral resources were based on consensus, long term forecasts from banks, financial institutions, and other sources. The calculation was based on the assumption that two products, a copper and a zinc concentrate, would be produced by a processing facility at site. The massive sulfide is split into Cu/Pb ratio greater than 1.2 and less than 1.2 as it is expected that Cu recovery will be significantly reduced where the ratio of Cu:Pb is less than 1.2.

Table 14.11
Mineral Resource Estimate NSR Parameter for the Cut-off Grade Assumption

	Descriptions	**Metal**	**Domains**		
			CSZ	MS Cu/Pb>1.2	MS Cu/Pb<1.2
Metallurgical Recoveries	Copper Conc	Copper	94%	83%	56%
		Zinc	34%	10%	2%
		Silver	77%	50%	34%
		Gold	85%	60%	39%
		Lead			59%

	Descriptions	Metal	Domains		
			CSZ	MS Cu/Pb>1.2	MS Cu/Pb<1.2
	Zinc Conc	Zinc		85%	85%
		Silver		27%	27%
		Gold		15%	15%
Metal Prices	Copper	US$/lb		$3.30	
	Zinc	US$/lb		$1.25	
	Silver	US$/oz		$16.20	
	Gold	US$/oz		$1,310	
	Lead	US$/lb		$1.00	
Smelting and Refining:	Copper	US$/dmt		$90.00	
	Zinc	US$/dmt		$215.00	
Transport	Copper	US$/dmt		$188.00	
	Zinc	US$/dmt		$97.00	

The cut-off was established using preliminary mining parameters and operating costs. For the preliminary NSR calculations metal recoveries were applied to establish distinct metal multipliers for the CSZ and MS domains. Those same formulas were applied to the other domains based on Zn and Cu content.

The following NSR formulas were used for the MS, Lens 3, Stringer and FW domains:

<u>CSZ Domain</u>

- NSR = (Ag*0.34) + (Au*33.47) + (Cu*55.71)

<u>MS – Lens 3 – Stringer – FW Domains</u>

- NSR = Cu/Pb <= 1.2 -> NSR= (IF Zn >= 1.5% -> Zn*15.46 or IF Zn < 1.5% -> Zn *0) + (Ag*0.12) + (Au*15.47) + (Cu*2.46) + (Pb *10.5)
- NSR = Cu/Pb > 1.2 -> NSR = (IF Zn >= 1.5% -> Zn*15.10 or IF Zn < 1.5% -> Zn *0) + (Ag*0.26) + (Au*26.56) + (Cu*46.69)

Foran has chosen to report the Mineral Resources at a cut-off value of US$60/t in order to be closer to the criterion used by other current and planned mining operations in the region.

14.10 MINERAL RESOURCE ESTIMATE

14.10.1 Mineral Resource Estimate

The mineral resource estimate reviewed and audited by Micon and its QPs is Summarized in Table 14.12. The effective date of this mineral resource is as of May 07, 2019 and is reported at using an NSR cut-off grade of US $60/t.

Table 14.12
Mineral Resources for the McIlvenna Bay Deposit, Reported at an NSR of US$ 60/t

NSR Cut-Off	Classification Category	Mineralized Domain (Zone)	Tonnage (Mt)	Cu (%)	Zn (%)	Pb (%)	Au (g/t)	Ag (g/t)
US $60/t (Base Case)	Indicated	Main Lens – Massive Sulphide	**9.25**	**0.90**	**6.43**	**0.40**	**0.52**	**25.97**
		Lens 3	1.99	0.85	3.29	0.14	0.27	14.71
		Stringer Zone	0.70	1.38	0.62	0.04	0.35	13.34
		Copper Stockwork Zone	**10.30**	**1.43**	**0.28**	**0.02**	**0.40**	**9.30**
		Copper Stockwork Footwall Zone	0.71	1.60	1.04	0.04	0.54	11.47
		Total	**22.95**	**1.17**	**3.05**	**0.19**	**0.44**	**16.68**
	Inferred	Main Lens – Massive Sulphide	2.97	1.29	4.79	0.29	0.47	23.58
		Copper Stockwork Zone	8.18	1.42	0.76	0.03	0.47	11.63
		Total	**11.15**	**1.38**	**1.83**	**0.10**	**0.47**	**14.81**

The mineral resources presented here were reviewed and audited by Micon's QPs using the CIM Definitions and Standards on Mineral Resources and Reserves as of May 10, 2014. Mineral resources unlike mineral reserves do not have demonstrated economic viability. At the present time, neither Micon nor the authors of this report believe that the mineral resource estimate is materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

14.10.2 Sensitivity Table

As part of its review and audit of Foran's 2019 mineral resource estimate, Micon conducted a sensitivity to illustrate the sensitivity of the mineral resource to a higher and lower NSR. Table 14.13 summarizes the NSR sensitivity at US$75/t and US$45/t with the base case at US$60/t.

Table 14.13
Summary of the NSR Sensitivities at US$75/t, US$45/t with Base Case at US$60/t

NSR Cut-Off	Classification Category	Mineralized Domain (Zone)	Tonnage (Mt)	Cu (%)	Zn (%)	Pb (%)	Au (g/t)	Ag (g/t)
US$75/t	Indicated	Main Lens – Massive Sulphide	9.13	0.91	6.46	0.40	0.52	26.05
		Lens 3	1.62	0.87	3.60	0.15	0.28	15.26
		Stringer Zone	0.42	1.50	0.71	0.04	0.38	13.59
		Copper Stockwork Zone	7.33	1.59	0.30	0.02	0.47	10.29
		Copper Stockwork Footwall Zone	0.52	1.76	1.30	0.05	0.62	13.25

NSR Cut-Off	Classification Category	Mineralized Domain (Zone)	Tonnage (Mt)	Cu (%)	Zn (%)	Pb (%)	Au (g/t)	Ag (g/t)
		Total	**19.02**	**1.21**	**3.58**	**0.22**	**0.48**	**18.44**
	Inferred	Main Lens – Massive Sulphide	2.92	1.30	4.81	0.29	0.47	23.60
		Copper Stockwork Zone	6.22	1.55	0.77	0.03	0.54	12.43
		Total	**9.14**	**1.47**	**2.06**	**0.11**	**0.52**	**16.01**
US$60/t (Base Case)	Indicated	Main Lens – Massive Sulphide	**9.25**	**0.90**	**6.43**	**0.40**	**0.52**	**25.97**
		Lens 3	1.99	0.85	3.29	0.14	0.27	14.71
		Stringer Zone	0.70	1.38	0.62	0.04	0.35	13.34
		Copper Stockwork Zone	**10.30**	**1.43**	**0.28**	**0.02**	**0.40**	**9.30**
		Copper Stockwork Footwall Zone	0.71	1.60	1.04	0.04	0.54	11.47
		Total	**22.95**	**1.17**	**3.05**	**0.19**	**0.44**	**16.68**
	Inferred	Main Lens – Massive Sulphide	2.97	1.29	4.79	0.29	0.47	23.58
		Copper Stockwork Zone	8.18	1.42	0.76	0.03	0.47	11.63
		Total	**11.15**	**1.38**	**1.83**	**0.10**	**0.47**	**14.81**
US$45/t	Indicated	Main Lens – Massive Sulphide	9.31	0.90	6.41	0.40	0.51	25.93
		Lens 3	2.23	0.84	3.07	0.13	0.27	14.31
		Stringer Zone	0.97	1.25	0.61	0.04	0.31	12.84
		Copper Stockwork Zone	12.12	1.34	0.27	0.02	0.36	8.74
		Copper Stockwork Footwall Zone	0.86	1.50	0.90	0.04	0.48	10.39
		Total	**25.49**	**1.14**	**2.79**	**0.17**	**0.41**	**15.72**
	Inferred	Main Lens – Massive Sulphide	3.05	1.26	4.74	0.30	0.46	23.48
		Copper Stockwork Zone	9.61	1.33	0.74	0.03	0.43	11.03
		Total	**12.66**	**1.31**	**1.70**	**0.09**	**0.44**	**14.03**

14.10.3 Changes to the Resource Estimate Since the 2013 RPA Estimate

This section has been added to allow the reader to see the comparison between the May, 2019, mineral resource estimate and the previous 2013 estimation. The comparison indicates an increase of Indicated tonnes from 13.9 Mt in 2013 to 23.0 Mt in 2019 (65% increase), and a slight decrease in Inferred resources from 11.3 Mt to 11.2 Mt in 2019 (<1% decrease). These changes are based on based on the addition of infill drilling which increased the confidence of the geological interpretation and the resource estimate. Remodeling of all domains, and the addition of 2 new domains, the FW and Stringer domains, also played an important role in the resource number increase.

A notable change from the previous model is the addition of additional specific gravity measurements, which were used to better estimate the density of the mineralization. Densities contained in the 2013 mineral resource estimate were based on an oversimplified, linear regression equation (using only Zn). In 2019, a more robust density database was used to estimate values throughout the model. This resulted in an increase of the estimated mean density for the two main domains, CSZ and MS, which better reflects the style and type of mineralization. In the CSZ domain, the mean density increases from 2.84 g/cm^3 in 2013 to 2.93 g/cm^3. The mean density for the MS domain shows a more significant increase from 3.18 g/cm^3 in 2013 to 3.71 g/cm^3 in 2019.

Table 14.14 compares the 2019 and 2013 resource estimates.

Table 14.14
Summary of the 2019 Resource Estimate versus the Previous 2013 Resource Estimate

Date of Estimate	Classification Category	Tonnes (Mt)	Zn (%)	Cu (%)	Ag (g/t)	Au (g/t)	Zn (Mlb)	Cu (Mlb)	Ag (Koz)	Au (Koz)
May, 2019	Indicated	22.95	3.05	1.17	16.68	0.44	1,545	593	12,307	324
	Inferred	11.15	1.83	1.38	14.81	0.47	450	340	5,312	169
January, 2013	Indicated	13.9	2.67	1.28	17.1	0.49	818	392	7,642	219
	Inferred	11.3	2.97	1.32	17.5	0.43	740	329	6,358	156
Difference between Estimates	Indicated	65%	14%	-8%	-2%	-10%	89%	51%	61%	48%
	Inferred	-1%	-38%	5%	-15%	10%	-39%	3%	-16%	8%

The 2013 estimation had two separate domains for what now comprises the MS domain. Historically UWZ and Lens 2 were always considered as a continuous geological unit with a Cu enrichment on the upper portion called UWZ. The analysis summarized in this report demonstrated that a hard-internal boundary was not justified given the nature of VMS deposits to exhibit gradational metal zonation within the massive sulphide lenses. The use of a hard boundary within the massive area of the deposit, would have masked the transitional character of the grade variability, and falsely indicated a more clear-cut distinction between “Cu-rich” and “Zn-rich” mineralization.

TECHNICAL REPORT SECTIONS NOT REQUIRED

The following sections which form part of the NI 43-101 reporting requirements for advanced projects or properties are not relevant to the current Technical Report for the McIlvenna Bay Project:

15.0 MINERAL RESERVE ESTIMATES

16.0 MINING METHODS

17.0 RECOVERY METHODS

18.0 PROJECT INFRASTRUCTURE

19.0 MARKET STUDIES AND CONTRACTS

20.0 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

21.0 CAPITAL AND OPERATING COSTS

22.0 ECONOMIC ANALYSIS

23.0 ADJACENT PROPERTIES

The following section has been extracted from the 2015 Technical Report for the McIlvenna Bay Project and updated or edited where necessary.

23.1 BASE METALS

There are no producing metal mines adjacent to the McIlvenna Bay property

Other VMS-style prospects are known to exist on Foran's claims and on adjacent ground (Figure 23.1). The more significant of these include the Balsam/Thunder Zone, located southeast of McIlvenna Bay, the Miskat Zone, which is located in the southernmost extremity of the property and the historic Bigstone deposit located on an adjacent property 25km to the west.

The past producing Hanson Lake Mine is also located approximately 5 km to the northwest of McIlvenna Bay. The mine operated between 1967 and 1969 and produced 162,200 tons of ore averaging 9.99% Zn, 5.83% Pb, 0.51% Cu, and 4.0 oz/t Ag prior to being shut down. An undisclosed tonnage of unmined resource exists below the workings of the mine.

23.2 FRAC SAND

Preferred Sands was the operator of a past producing silica sand (frac sand) quarry located immediately east of McIlvenna Bay. The quarry was operated as an open pit mine where up to 25m of dolomite cap rock was blasted and removed, accessing three to five metres of silica sand. The sand was mined, washed and sorted into various size factions and marketed throughout western Canada and the US where it was used as a proppant for hydraulic fracturing ("fracing"). In 2014, Preferred shutdown operations and the site was subsequently re-claimed by pushing the waste rock and remaining sand back into the pits and re-contouring the landscape.

The sand quarry leases overlie Foran's mineral tenure in the area (originally acquired in 1986) and were held by Preferred Sands and its predecessor companies since 1998 with additional leases in the area acquired in 2006. When the new management group took over operations for Foran in 2011, it was brought to the attention of the Saskatchewan Government that a potential conflict existed due to the granting of overlapping tenure. In order to protect the McIlvenna Bay deposit area from further conflict, a Crown Reserve was established by the Government over the deposit to remove this area from further staking. Subsequently, the regulations around sand quarry staking in the province were amended to remove areas of existing mineral tenure from availability. When Preferred Sands shutdown operations, In December, 2014, Foran acquired the five quarry leases from Preferred Sands that were in the vicinity of the McIlvenna Bay deposit to ensure that there was no further potential for conflict.

Figure 23.1
Adjacent Properties

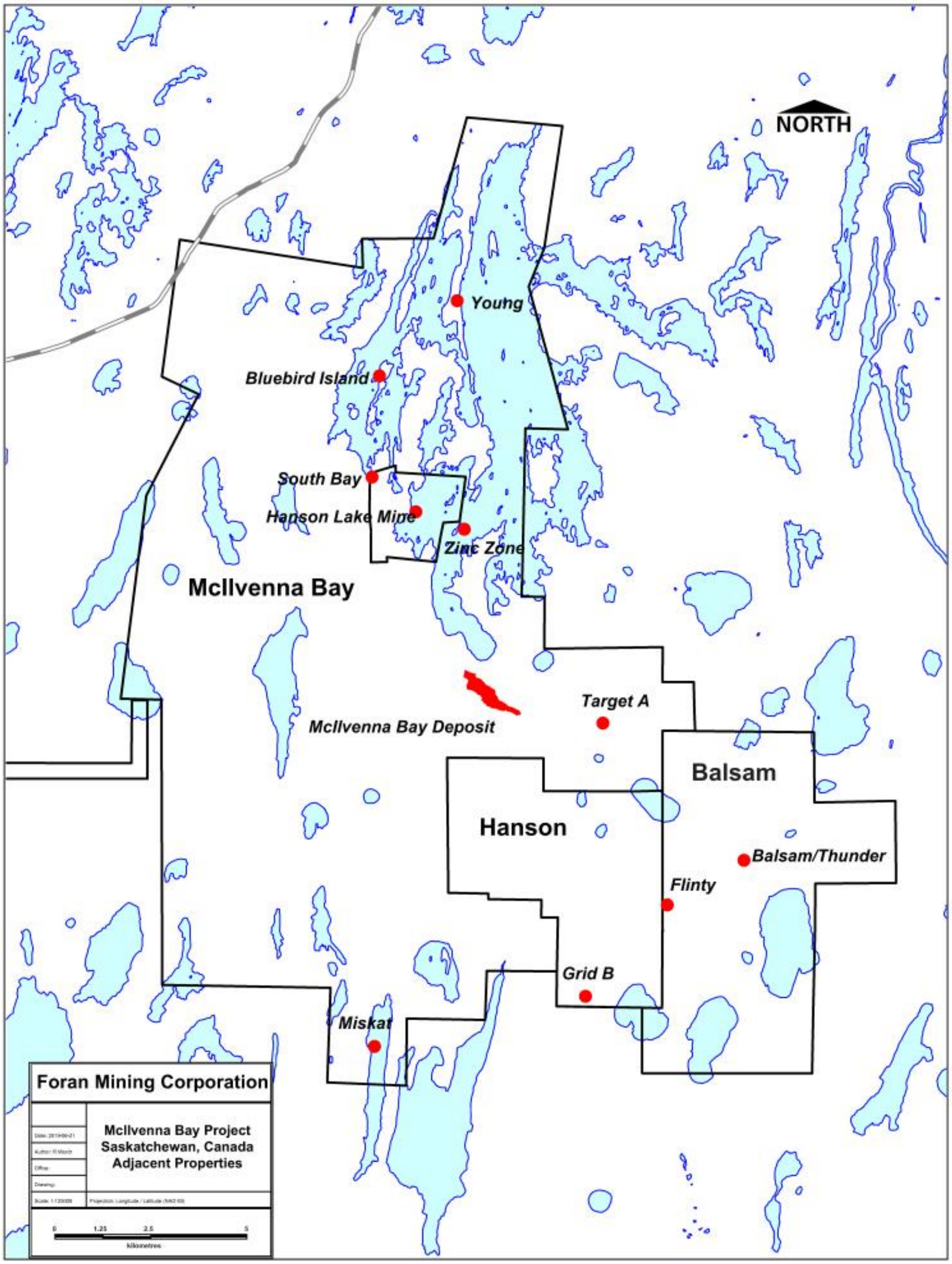


Figure provided by Foran dated June, 2019.

Hanson Lake Sand Corp. (now Strong Pine Energy Services) also has sand leases in the McIlvenna Bay area although no production has taken place.

There has been no effort by Foran to attempt to establish a frac sand resource estimate for the Project, although the same silica sand layer that was mined in the Preferred Sands pits extends over the McIlvenna Bay deposit. As such, no value has been taken or is implied from frac sand.

23.3 MICON QP COMMENTS

The QP of this section does not consider the information disclosed regarding the other base metal properties or deposits necessarily indicative of mineralization within the McIlvenna Bay deposit, which is the subject of this Technical Report.

The QP offers no opinion regarding any economic potential of the Frac Sand deposit and its exploitation is discussed in this section for information purposes only, amongst other factors which Foran will need to consider as it moves forward towards any production decision regarding the McIlvenna Bay deposit.

24.0 OTHER RELEVANT DATA AND INFORNMATION

All relevant data and information regarding Foran's McIlvenna Bay Project are included in other sections of this Technical Report.

The independent authors of this report are not aware of any other data that would make a material difference to the quality of this Technical Report or make it more understandable, or without which the report would be incomplete or misleading.

25.0 INTERPRETATION AND CONCLUSIONS

25.1 GENERAL

Foran is in the process of conducting a Feasibility Study on its McIlvenna Bay Project. As part of this ongoing study Foran requested that Micon review and audit the updated mineral resource estimate which will form the basis of the Feasibility Study. The mineral resource estimate has been updated using all of the available data from the drilling programs conducted since the last mineral resource estimate was completed by RPA in 2013.

25.2 MCILVENNA BAY PROJECT MINERAL RESOURCE ESTIMATE

25.2.1 General Notes

Foran has conducted a number of previous mineral resource estimates on the McIlvenna Bay Project which have combined both the historical drilling and that conducted by Foran since it first acquired the Project in 1998. All of the previous mineral resource estimates have been superseded by the current estimate contained in this Technical Report.

25.2.2 Database

The basis for the mineral resource estimate was a drill hole database provided by Foran on December 9th, 2018. The database and underlying QA/QC were validated by Foran prior to being used in the modelling and estimation. After a further visual validation of the database, it was decided to exclude two drillholes from the resource estimate due to conflicting geological information. Table 14.1 summarizes the types and amount of data in the database and the portion of the data used for the mineral resource estimate.

Table 25.1
McIlvenna Bay Project Database

Data Type	In Database	Used For 2019 Resource Estimate*
Collar	246	244
Survey	15,648	15,454
Assay	8,920	8,765

*Excludes two drillholes from the resource estimate due to conflicting geological information.

25.2.3 Wireframes and Other Modelling Parameters

25.2.3.1 Wireframes

Jointly with Foran geologists, five mineralized domains were defined representing different areas and styles of VMS mineralization.

- Massive Sulphide – Main mineralized lens with internal gradational boundaries. The lens was previously modelled as two separate zones (MS and Upper West), but contact plots show no justification for a hard boundary.
- CSZ – Copper stockwork zone sitting stratigraphically below the massive sulphide.
- Stringer Zone – Copper and zinc stringer zone in the hangingwall above the massive sulphides.
- Lens 3 – Massive sulphide lens sitting in the hangingwall to the Stringer zone.
- FW – Small massive to semi-massive zone ore zone below the CSZ.

Wireframes were generated based on a set of mineralized intercepts defined by Foran and validated. The wireframes for each of the five domains were validated against drill hole data and found to reasonably represent the mineralization and the host rock. All of the mineralization is hosted within the same lithological unit, the McIlvenna Bay Formation with minor local exceptions where the Lens 3 and Stringer mineralization can cross the hanging wall contact into the Cap Tuffite unit.

A detailed geological and statistical analysis was performed to examine the grade variability and continuity within the MS and Upper West Zone (UWZ) areas. The principle justification for the merging of two domains is the grade transition across the two areas of mineralization (MS and UWZ).

All diamond drill holes are properly snapped to the 3D wireframes to ensure that the volume to be estimated matches both the drilling and logging data collected on the deposit. A visual wireframe validation indicated the wire frames respect the interval selection and are properly snapped to the drill hole data.

25.2.3.2 Compositing

Compositing was performed in Leapfrog Edge, with 1 m composites being used for all domains to honor the initial assay sample resolution and to fit the narrow width of the mineralized zones.

25.2.3.3 Variography and Kriging Neighbourhood Analysis

Variograms were calculated in Leapfrog Edge individually by metal and domain. The variograms produced with the 2018 drilling data demonstrated that the ranges of continuity for all domains decreased slightly relative to Foran's January, 2018 internal model but increased the understanding of the grade variability at shorter ranges.

Based on the modelled variograms, Kriging Neighbourhood Analysis (KNA) was performed on the McIlvenna Bay domains to determine the optimal Kriging parameters for the resource estimation (block size, minimum and maximum number of data points, discretization, and search ellipse size).

KNA uses the modeled variogram, and other criteria such as the maximum number of composites per hole, to conduct a local estimate and to assess the quality of the estimate based on the chosen parameters. In subsequent iterations, the block size, number of composites, size of the search ellipse and block discretization are varied. The Kriging Efficiency[7] and Slope of Regression[8] (or conditional bias), are reviewed for each set of parameters to measure the quality of the estimate. In the McIlvenna Bay study, KNA was used to determine the optimal estimation parameters for the first pass estimation.

The search ellipsoids were configured with the major and semi-major axes parallel to the overall plane of mineralization for each domain. For each domain 3 passes were used and in the second and third passes, the interpolation would overwrite blocks estimated by the previous pass. The maximum search distances for each domain were based on the dominant metal per domain.

For the first and second passes, blocks required a minimum of 5 composites to generate an estimate, and the maximum number of composites per block was limited to 20. For the third pass a minimum of 2 composites and maximum of 20 composites was used. No more than 4 composites could be used from any one drill hole for all three passes. The same search parameters were used for all elements (i.e., copper, zinc, lead, gold, and silver) within each domain.

Block model grade estimation was completed in Leapfrog Edge. A single estimation method, ordinary kriging, was used for all metals, however validation estimates using ID^2 and NN were also performed.

25.2.3.4 Capping

The influence of high-grade outliers on the overall grade estimates and contained metal is restricted by the use of top cuts applied to the composited data. Capping values were determined for each metal by domain using the Cumulative Distribution Function (CDF) and by examining the composite grade histograms.

25.2.3.5 Density

Foran has continued to take density measurements as it continued its exploration programs which resulted in a larger database of measurements that permitted the determination of density by means of interpolation.

Measurements of bulk density are considered the more robust, these data points (1,072, in total) were given precedence in the population of density in the block model. Where this data did not populate blocks, the specific density measurements were used (which do not consider bulk density). Comparison by means of a multilinear regression or stoichiometry was not possible since not all elements were available for analysis. The final block value was

[7] A measure of the effectiveness of the kriged estimate to reproduce the local block grade accurately.
[8] Summarises the degree of over-smoothing of high and low grades.

assigned using a rolling average (ID0) for each domain, thus generating a smoother continuity of density.

25.2.3.6 Block Model

A rotated, sub-blocked model was set-up in Leapfrog Geo to capture the lithological and domain coding, grade estimates, density and resource classification.

The geological model was evaluated on the sub-blocked model and block volumes were validated against wireframes.

Visual and numeric validation was performed to compare the results of the estimation methods and correlation to original input grades.

For increased confidence in the model estimate, and as a separate means of validation, a block model estimate was also generated in Datamine Studio RM. The validation estimate used the same domain wireframes and outlier top-cuts, but different variograms and search parameters. The Datamine block model was prepared as a validation tool, and both the visual and global means comparisons of the two models returned nearly identical results. This further validates both the accuracy and precision of the McIlvenna Bay Mineral Resource Estimate

A visual validation was conducted which indicated there was a good correlation between the estimated grade and composite and assay values. The visual validation also indicated that the assays are properly snapped to domain.

25.2.4 Economic Parameters and Classification

25.2.4.1 Cut-off Grade Criteria

Due to the multi-element nature of the of the McIlvenna Bay deposit an NSR value was used for the application of a cut-off to the block model. The NSR was estimated for each block using provisions for metallurgical recoveries, smelter payables, refining costs, freight, and applicable royalties (Table 14.11). Metallurgical recoveries were based on the results of laboratory testwork conducted during the 2013 Preliminary Economic Assessment study. The smelter terms and freight costs were estimated by Foran. Metal prices used for the mineral resources were based on consensus, long term forecasts from banks, financial institutions, and other sources. The calculation was based on the assumption that two products, a copper and a zinc concentrate, would be produced by a processing facility at site. The massive sulfide is split into Cu/Pb ratio greater than 1.2 and less than 1.2 as it is expected that Cu recovery will be significantly reduced where the ratio of Cu:Pb is less than 1.2.

Table 25.2
Mineral Resource Estimate NSR Parameter for the Cut-off Grade Assumption

	Descriptions	Metal	Domains		
			CSZ	MS Cu/Pb>1.2	MS Cu/Pb<1.2
Metallurgical Recoveries	Copper Conc	Copper	94%	83%	56%
		Zinc	34%	10%	2%
		Silver	77%	50%	34%
		Gold	85%	60%	39%
		Lead			59%
	Zinc Conc	Zinc		85%	85%
		Silver		27%	27%
		Gold		15%	15%
Metal Prices	Copper	US$/lb		$3.30	
	Zinc	US$/lb		$1.25	
	Silver	US$/oz		$16.20	
	Gold	US$/oz		$1,310	
	Lead	US$/lb		$1.00	
Smelting and Refining:	Copper	US$/dmt		$90.00	
	Zinc	US$/dmt		$215.00	
Transport	Copper	US$/dmt		$188.00	
	Zinc	US$/dmt		$97.00	

The cut-off was established using preliminary mining parameters and operating costs. For the preliminary NSR calculations metal recoveries were applied to establish distinct metal multipliers for the CSZ and MS domains. Those same formulas were applied to the other domains based on Zn and Cu content.

Foran has chosen to report the Mineral Resources at a cut-off value of US$60/t in order to be closer to the criterion used by other current and planned mining operations in the region.

25.2.4.2 Mineral Resource Classification

A preliminary assessment of the resource classification was generated by observing the integer field generated from the 3-pass search estimate process. Blocks estimated during each successively less stringent criterion were assigned either 1 (more stringent, highest confidence), 2 (moderate confidence) or 3 (least stringent, lowest confidence). The pattern generated by this automated process was visually reviewed against other information such as drill hole spacing and slope of regression.

Passes 1st and 2nd passes represent Indicated and 3rd pass Inferred resources. As the search ellipse passes produce a patchy distribution of blocks in various resource categories, the final classification is produced using hand-digitized shapes. A 3D polyline is drawn for each domain to encompass areas of contiguous material having the approximately the same measure of confidence based on statistical and geological criteria. The process was repeated for the Indicated and Inferred material to ensure that the classification is smooth and that extrapolation distances are reasonable.

25.2.5 Mineral Resource Estimate and Sensitivity Table

25.2.5.1 Mineral Resource Estimate

The mineral resource estimate reviewed and audited by Micon and its QPs is Summarized in Table 14.12. The effective date of this mineral resource is as of May 07, 2019 and is reported at using an NSR cut-off grade of US$60/t.

Table 25.3
Mineral Resources for the McIlvenna Bay Deposit, Reported at an NSR of US$ 60/t

NSR Cut-Off	Classification Category	Mineralized Domain (Zone)	Tonnage (Mt)	Cu (%)	Zn (%)	Pb (%)	Au (g/t)	Ag (g/t)
US$60/t (Base Case)	Indicated	Main Lens – Massive Sulphide	9.25	0.90	6.43	0.40	0.52	25.97
		Lens 3	1.99	0.85	3.29	0.14	0.27	14.71
		Stringer Zone	0.70	1.38	0.62	0.04	0.35	13.34
		Copper Stockwork Zone	10.30	1.43	0.28	0.02	0.40	9.30
		Copper Stockwork Footwall Zone	0.71	1.60	1.04	0.04	0.54	11.47
		Total	**22.95**	**1.17**	**3.05**	**0.19**	**0.44**	**16.68**
	Inferred	Main Lens – Massive Sulphide	2.97	1.29	4.79	0.29	0.47	23.58
		Copper Stockwork Zone	8.18	1.42	0.76	0.03	0.47	11.63
		Total	**11.15**	**1.38**	**1.83**	**0.10**	**0.47**	**14.81**

The mineral resources presented here were reviewed and audited by Micon's QPs using the CIM Definitions and Standards on Mineral Resources and Reserves as of May 10, 2014. Mineral resources unlike mineral reserves do not have demonstrated economic viability. At the present time, neither Micon nor the authors of this report believe that the mineral resource estimate is materially affected by environmental, permitting, legal, title, taxation, socio-political, marketing, or other relevant issues.

25.2.5.2 Sensitivity Table

As part of its review and audit of Foran's 2019 mineral resource estimate, Micon conducted a sensitivity to illustrate the sensitivity of the mineral resource to a higher and lower NSR. Table 14.13 summarizes the NSR sensitivity at US$75/t and US$45/t with the base case at US$60/t

Table 25.4
Summary of the NSR Sensitivities at US$75/t, US$45/t with Base Case at US$60/t

NSR Cut-Off	Classification Category	Mineralized Domain (Zone)	Tonnage (Mt)	Cu (%)	Zn (%)	Pb (%)	Au (g/t)	Ag (g/t)
US$75/t	Indicated	Main Lens – Massive Sulphide	9.13	0.91	6.46	0.40	0.52	26.05
		Lens 3	1.62	0.87	3.60	0.15	0.28	15.26
		Stringer Zone	0.42	1.50	0.71	0.04	0.38	13.59
		Copper Stockwork Zone	7.33	1.59	0.30	0.02	0.47	10.29
		Copper Stockwork Footwall Zone	0.52	1.76	1.30	0.05	0.62	13.25
		Total	**19.02**	**1.21**	**3.58**	**0.22**	**0.48**	**18.44**
	Inferred	Main Lens – Massive Sulphide	2.92	1.30	4.81	0.29	0.47	23.60
		Copper Stockwork Zone	6.22	1.55	0.77	0.03	0.54	12.43
		Total	**9.14**	**1.47**	**2.06**	**0.11**	**0.52**	**16.01**
US$60/t (Base Case)	Indicated	Main Lens – Massive Sulphide	**9.25**	**0.90**	**6.43**	**0.40**	**0.52**	**25.97**
		Lens 3	1.99	0.85	3.29	0.14	0.27	14.71
		Stringer Zone	0.70	1.38	0.62	0.04	0.35	13.34
		Copper Stockwork Zone	**10.30**	**1.43**	**0.28**	**0.02**	**0.40**	**9.30**
		Copper Stockwork Footwall Zone	0.71	1.60	1.04	0.04	0.54	11.47
		Total	**22.95**	**1.17**	**3.05**	**0.19**	**0.44**	**16.68**
	Inferred	Main Lens – Massive Sulphide	2.97	1.29	4.79	0.29	0.47	23.58
		Copper Stockwork Zone	8.18	1.42	0.76	0.03	0.47	11.63
		Total	**11.15**	**1.38**	**1.83**	**0.10**	**0.47**	**14.81**
US$45/t	Indicated	Main Lens – Massive Sulphide	9.31	0.90	6.41	0.40	0.51	25.93
		Lens 3	2.23	0.84	3.07	0.13	0.27	14.31
		Stringer Zone	0.97	1.25	0.61	0.04	0.31	12.84
		Copper Stockwork Zone	12.12	1.34	0.27	0.02	0.36	8.74
		Copper Stockwork Footwall Zone	0.86	1.50	0.90	0.04	0.48	10.39
		Total	**25.49**	**1.14**	**2.79**	**0.17**	**0.41**	**15.72**
	Inferred	Main Lens – Massive Sulphide	3.05	1.26	4.74	0.30	0.46	23.48
		Copper Stockwork Zone	9.61	1.33	0.74	0.03	0.43	11.03
		Total	**12.66**	**1.31**	**1.70**	**0.09**	**0.44**	**14.03**

25.2.6 Changes to the Resource Estimate Since the 2013 RPA Estimate

This section has been added to allow the reader to see the comparison between the May, 2019, mineral resource estimate and the previous 2013 estimation. The comparison indicates an increase of Indicated tonnes from 13.9 Mt in 2013 to 23.0 Mt in 2019 (65% increase), and a slight decrease in Inferred resources from 11.3 Mt to 11.2 Mt in 2019 (<1% decrease). These changes are based on based on the addition of infill drilling which increased the confidence of the geological interpretation and the resource estimate. Remodeling of all domains, and the addition of 2 new domains, the FW and Stringer domains, also played an important role in the resource number increase.

A notable change from the previous model is the addition of additional specific gravity measurements, which were used to better estimate the density of the mineralization. Densities contained in the 2013 mineral resource estimate were based on an oversimplified, linear regression equation (using only Zn). In 2019, a more robust density database was used to estimate values throughout the model. This resulted in an increase of the estimated mean density for the two main domains, CSZ and MS, which better reflects the style and type of mineralization. In the CSZ domain, the mean density increases from 2.84 g/cm^3 in 2013 to 2.93 g/cm^3. The mean density for the MS domain shows a more significant increase from 3.18 g/cm^3 in 2013 to 3.71 g/cm^3 in 2019.

Table 14.14 compares the 2019 and 2013 resource estimates.

Table 25.5
Comparison of the 2019 and 2013 Resource Estimates

Date of Estimate	Classification Category	Tonnes (Mt)	Zn (%)	Cu (%)	Ag (g/t)	Au (g/t)	Zn (Mlb)	Cu (Mlb)	Ag (Koz)	Au (Koz)
May, 2019	Indicated	22.95	3.05	1.17	16.68	0.44	1,545	593	12,307	324
	Inferred	11.15	1.83	1.38	14.81	0.47	450	340	5,312	169
January, 2013	Indicated	13.9	2.67	1.28	17.1	0.49	818	392	7,642	219
	Inferred	11.3	2.97	1.32	17.5	0.43	740	329	6,358	156
Difference between Estimates	Indicated	65%	14%	-8%	-2%	-10%	89%	51%	61%	48%
	Inferred	-1%	-38%	5%	-15%	10%	-39%	3%	-16%	8%

The 2013 estimation had two separate domains for what now comprises the MS domain. Historically UWZ and Lens 2 were always considered as a continuous geological unit with a Cu enrichment on the upper portion called UWZ. The analysis summarized in this report demonstrated that a hard-internal boundary was not justified given the nature of VMS deposits to exhibit gradational metal zonation within the massive sulphide lenses. The use of a hard boundary within the massive area of the deposit, would have masked the transitional character of the grade variability, and falsely indicated a more clear-cut distinction between “Cu-rich” and “Zn-rich” mineralization.

25.3 CONCLUSIONS

Foran's exploration activities conducted since the last mineral resource estimate by RPA in 2013 have been successful in increasing the confidence in the geological interpretation of the deposit as well as increasing the mineral resources. Micon and its QPs believe that the current mineral resource estimate is robust and the data upon which the estimate is based is suitable for use as the basis of the Feasibility Study which Foran is undertaking at the current time.

26.0 RECOMMENDATIONS

26.1 EXPLORATION BUDGET AND OTHER EXPENDITURES

Since acquiring the mining permits comprising the McIlvenna Bay Property, Foran has completed a number of economic studies as well as exploration and drilling programs on both the McIlvenna Bay deposit and a number of secondary targets or zones. Foran has managed to outline potentially economic mineralization in the upper portion the McIlvenna Bay deposit but it remains open down plunge and at depth.

The upper portion of the mineralization has seen sufficient drilling to confidently classify a portion of the mineralization as indicated according to the current (2014) CIM guidelines. The mineralization encountered in the deeper portions of the deposit continues to be classified as inferred at this time. It is believed that future drilling programs will be able to upgrade the inferred material to indicated as well as defining further mineralization at depth and down plunge of the current mineral resource estimate. At this time, no further drilling of the deposit from surface has been outlined by Foran as it believes that it would be more cost effective to drill the deeper parts of the deposit from underground in the future. Micon and its QP concur with this approach for future drilling.

During the remaining portion of 2019, Foran is planning to conduct the studies and engineering necessary to complete a Feasibility Study of its McIlvenna Bay Project. Foran's proposed budget expenditures to complete the Feasibility Study and acquire permits are summarized in Table 26.1.

Table 26.1
Foran Budget Expenditures 2019

Remaining Direct Engineering Studies	Estimated Cost (CAD)
Geomechanical	$35,335
Hydrogeology	$44,979
Metallurgical	$109,702
Infrastructure	$265,902
Underground Mining	$484,527
Tailings/Other Ancillary Services	$90,059
Subtotal	**$1,030,504**
Other Feasibility Costs	
QP Services / Review / NI 43-101 Reporting	$206,472
Feasibility Study Management	$126,600
Environmental and Permitting	
Permitting	$100,000
Baseline & Other	$21,920
Community Engagement	$51,117
Subtotal	**$506,109**
Total	**$1,536,613**

Micon and its QPs agree with the direction of Foran's further studies and regards the expenditures and studies as appropriate. Micon and its QPs realizes that the nature of the programs and expenditures may change as the Feasibility Study advances due to various causes and that the final expenditures and results may not be the same as originally proposed.

26.2 FURTHER RECOMMENDATIONS

Micon's QPs understand that Foran will look at conducting further exploration programs on the McIlvenna Bay deposit from underground in order to gain further knowledge regarding the true extent of the base metal mineralization and conduct a Feasibility Study on the McIlvenna Bay deposit which occupies a portion of Foran's land position. In that context, Micon's QPs make the following additional recommendations:

1. Micon recommends that Foran completes its ongoing Feasibility Study.
2. Micon recommends that the any future exploration drilling on the McIlvenna Bay deposit should be conducted from underground.
3. Micon recommends that Foran continue to conduct exploration on the secondary deposits on the McIlvenna Bay property so that it may be able to outline secondary deposits which may contribute to mining production in the future.

27.0 DATE AND SIGNATURE PAGE

27.1 MICON INTERNATIONAL LIMITED

The independent Qualified Persons for this report are:

"William J. Lewis" {signed and sealed as of the report date}

William J. Lewis, P.Geo. Senior Geologist	Report Date: July 10, 2019 Effective Date: May 07, 2019

"Alan J. San Martin" {signed as of the report date}

Ing. Alan J. San Martin, MAusIMM (CP) Mineral Resource Specialist	Report Date: July 10, 2019 Effective Date: May 07, 2019

"Richard Gowans" {signed and sealed as of the report date}

Richard M. Gowans, P.Eng. President	Report Date: July 10, 2019 Effective Date: May 07, 2019

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Hudbay Minerals Inc., website www.hudbayminerals.com, (2018 and 2019) Press Releases.

Kitco website, www.kitco.com

SEDAR website, www.sedar.com

29.0 CERTIFICATES OF AUTHORS

CERTIFICATE OF AUTHOR
William J. Lewis

As the co-author of this report for Foran Mining Corporation entitled “Technical Report for the 2019 Mineral Resource Estimate on the McIlvenna Bay Project, Saskatchewan, Canada” dated July 10, 2019 with an effective date of May 07, 2019, I, William J. Lewis do hereby certify that:

1. I am employed by, and carried out this assignment for, Micon International Limited, Suite 900, 390 Bay Street, Toronto, Ontario M5H 2Y2, tel. (416) 362-5135, fax (416) 362-5763, e-mail wlewis@micon-international.com;
2. This certificate applies to the Technical Report titled ““Technical Report for the 2019 Mineral Resource Estimate on the McIlvenna Bay Project, Saskatchewan, Canada” dated July 10, 2019 with an effective date of May 07, 2019;
3. I hold the following academic qualifications:

B.Sc. (Geology)	University of British Columbia	1985

4. I am a registered Professional Geoscientist with the Association of Professional Engineers and Geoscientists of Manitoba (membership # 20480); as well, I am a member in good standing of several other technical associations and societies, including:
   - Association of Professional Engineers and Geoscientists of British Columbia (Membership # 20333)
   - Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories (Membership # 1450)
   - Professional Association of Geoscientists of Ontario (Membership # 1522)
   - The Canadian Institute of Mining, Metallurgy and Petroleum (Member # 94758)
5. I have worked as a geologist in the minerals industry for over 34 years;
6. I am familiar with NI 43-101 and, by reason of education, experience and professional registration, I fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes 4 years as an exploration geologist looking for gold and base metal deposits, more than 11 years as a mine geologist in underground mines and 19 years as a surficial geologist and consulting geologist on precious and base metals and industrial minerals;
7. I have read NI 43-101 and this Technical Report has been prepared in compliance with the instrument;
8. I conducted a site visit to the McIlvenna Bay Project between August 16 and 18, 2018 to review the drilling programs on the property and discuss the ongoing QA/QC program;
9. I have not written or co-authored any previous Technical Reports for the mineral property that is the subject of this Technical Report;
10. I am independent Foran Mining Corporation and its subsidiaries according to the definition described in NI 43-101 and the Companion Policy 43-101 CP;
11. I am responsible for Sections 1 to 12 (except 12.3), 14 (except 14.10.2), 23 to 26 of this Technical Report;
12. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this technical report not misleading;

Report Dated this 10th day of July, 2019 with an effective date of May 07, 2019.

“William J. Lewis” {signed and sealed as of the report date}

William J. Lewis, B.Sc., P.Geo.
Senior Geologist

CERTIFICATE OF AUTHOR
Ing. Alan J. San Martin, MAusIMM (CP)

As the co-author of this report for Foran Mining Corporation entitled "Technical Report for the 2019 Mineral Resource Estimate on the McIlvenna Bay Project, Saskatchewan, Canada" dated July 10, 2019 with an effective date of May 07, 2019, I, Alan J. San Martin do hereby certify that:

1. I am employed as a Mineral Resource Specialist by Micon International Limited, Suite 900, 390 Bay Street, Toronto, Ontario M5H 2Y2, tel. (416) 362-5135, fax (416) 362-5763, e-mail asanmartin@micon-international.com.

2. I hold a Bachelor Degree in Mining Engineering (equivalent to B.Sc.) from the National University of Piura, Peru, 1999.

3. I am a member in good standing of the following professional entities:
   - The Australasian Institute of Mining and Metallurgy, accredited Chartered Professional in Geology, Membership #301778.
   - Canadian Institute of Mining, Metallurgy and Petroleum, Member ID 151724.
   - Colegio de Ingenieros del Perú (CIP), Membership # 79184.

4. I have continuously worked in my profession since 1999, my experience includes mining exploration, mineral deposit modelling, mineral resource estimation and consulting services for the mineral industry.

5. I am familiar with NI 43-101 and form 43-101F1 regulations and by reason of education, experience and professional registration with AusIMM (CP), I fulfill the requirements of a Qualified Person as defined in NI 43-101.

6. I have not visited the McIlvenna Bay Project.

7. This is my first Technical Report on the property.

8. As of the date of this certificate to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this report not misleading.

9. I have read NI 43-101 and this Technical Report has been prepared in compliance with the instrument;

10. I am independent Foran Mining Corporation and its subsidiaries according to the definition described in NI 43-101 and the Companion Policy 43-101 CP.

11. I am responsible for the preparation of Section 12.3 and 14.10.2 of this Technical Report.

Report Dated this 10th day of July, 2019 with an effective date of May 07, 2019.

"Alan J. San Martin" {signed as of the report date}

Ing. Alan J. San Martin, MAusIMM (CP)
Mineral Resource Specialist

CERTIFICATE OF AUTHOR
Richard M. Gowans

As the co-author of this report for Foran Mining Corporation entitled "Technical Report for the 2019 Mineral Resource Estimate on the McIlvenna Bay Project, Saskatchewan, Canada" dated July 10, 2019 with an effective date of May 07, 2019, I, Richard Gowans do hereby certify that:

1. I am employed by, and carried out this assignment for, Micon International Limited, Suite 900, 390 Bay Street, Toronto, Ontario M5H 2Y2, tel. (416) 362-5135, fax (416) 362-5763, e-mail rgowans@micon-international.com.
2. I hold the following academic qualifications:

   B.Sc. (Hons) Minerals Engineering, The University of Birmingham, U.K. 1980.
3. I am a registered Professional Engineer of Ontario (membership number 90529389); as well, I am a member in good standing of the Canadian Institute of Mining, Metallurgy and Petroleum.
4. I am familiar with NI 43-101 and by reason of education, experience and professional registration, fulfill the requirements of a Qualified Person as defined in NI 43-101. My work experience includes over 35 years of the management of technical studies and design of numerous metallurgical testwork programs and metallurgical processing plants.
5. I have read NI 43-101 and this Technical Report has been prepared in compliance with the instrument.
6. I have not visited the Project site.
7. This is my first Technical Report for the McIlvenna Bay Project and I have not been involved in prior Technical Reports for this Project.
8. I am independent of Foran Mining Corporation and related entities.
9. I am responsible for Section 13 of this Technical Report.
10. As of the date of this certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make this technical report not misleading.

Report Dated this 10th day of July, 2019 and Effective Report Date: May 07, 2019.

"Richard Gowans" {signed and sealed as of the report date}

Richard Gowans P.Eng.
President

APPENDIX I

GLOSSARY OF MINING AND OTHER RELATED TERMS

GLOSSARY AND DEFINED TERMS

The following is a glossary of certain mining terms that may be used in this Technical Report.

A

Assay	A chemical test performed on a sample of ores or minerals to determine the amount of valuable metals contained.

B

Base metal	Any non-precious metal (e.g. copper, lead, zinc, nickel, etc.).
Bulk mining	Any large-scale, mechanized method of mining involving many thousands of tonnes of ore being brought to surface per day.
Bulk sample	A large sample of mineralized rock, frequently hundreds of tonnes, selected in such a manner as to be representative of the potential orebody being sampled. The sample is usually used to determine metallurgical characteristics.
By-product	A secondary metal or mineral product recovered in the milling process.

C

Channel sample	A sample composed of pieces of vein or mineral deposit that have been cut out of a small trench or channel, usually about 10 cm wide and 2 cm deep.
Chip sample	A method of sampling a rock exposure whereby a regular series of small chips of rock is broken off along a line across the face.
CIM Standards	The CIM Definition Standards on Mineral Resources and Mineral Reserves adopted by CIM Council from time to time. The most recent update adopted by the CIM Council is effective as of May 10, 2014.
CIM	The Canadian Institute of Mining, Metallurgy and Petroleum.
Concentrate	A fine, powdery product of the milling process containing a high percentage of valuable metal.
Contact	A geological term used to describe the line or plane along which two different rock formations meet.
Core	The long cylindrical piece of rock, about an inch in diameter, brought to surface by diamond drilling.

Core sample	One or several pieces of whole or split parts of core selected as a sample for analysis or assay.
Cross-cut	A horizontal opening driven from a shaft and (or near) right angles to the strike of a vein or other orebody. The term is also used to signify that a drill hole is crossing the mineralization at or near right angles to it.
Cut-off grade	The lowest grade of mineralized rock that qualifies as ore grade in a given deposit, and is also used as the lowest grade below which the mineralized rock currently cannot be profitably exploited. Cut-off grades vary between deposits depending upon the amenability of ore to gold extraction and upon costs of production.

D

Deposit	An informal term for an accumulation of mineralization or other valuable earth material of any origin.
Development drilling	Drilling to establish accurate estimates of mineral resources or reserves usually in an operating mine or advanced project.
Dilution	Rock that is, by necessity, removed along with the ore in the mining process, subsequently lowering the grade of the ore.
Dip	The angle at which a vein, structure or rock bed is inclined from the horizontal as measured at right angles to the strike.

E

Epithermal	Hydrothermal mineral deposit formed within one kilometre of the earth's surface, in the temperature range of 50 to 200°C.
Epithermal deposit	A mineral deposit consisting of veins and replacement bodies, usually in volcanic or sedimentary rocks, containing precious metals or, more rarely, base metals.
Exploration	Prospecting, sampling, mapping, diamond drilling and other work involved in searching for ore.

F

Face	The end of a drift, cross-cut or stope in which work is taking place.
Fault	A break in the Earth's crust caused by tectonic forces which have moved the rock on one side with respect to the other.

Flotation — A milling process in which valuable mineral particles are induced to become attached to bubbles and float as others sink.

Fold — Any bending or wrinkling of rock strata.

Footwall — The rock on the underside of a vein or mineralized structure or deposit.

Foran — Foran Mining Corporation, including, unless the context otherwise requires, the Company's subsidiaries.

Fracture — A break in the rock, the opening of which allows mineral-bearing solutions to enter. A "cross-fracture" is a minor break extending at more-or-less right angles to the direction of the principal fractures.

G

Grade — Term used to indicate the concentration of an economically desirable mineral or element in its host rock as a function of its relative mass. With gold, this term may be expressed as grams per tonne (g/t) or ounces per tonne (opt).

H

Hangingwall — The rock on the upper side of a vein or mineral deposit.

High grade — Rich mineralization or ore. As a verb, it refers to selective mining of the best ore in a deposit.

Host rock — The rock surrounding an ore deposit.

Hydrothermal — Processes associated with heated or superheated water, especially mineralization or alteration.

I

Indicated Mineral Resource

An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

Inferred Mineral Resource

An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

Intrusive — A body of igneous rock formed by the consolidation of magma intruded into other

K

km — Abbreviation for kilometre(s). One kilometre is equal to 0.62 miles.

L

Leaching — The separation, selective removal or dissolving-out of soluble constituents from a rock or ore body by the natural actions of percolating solutions.

Level — The horizontal openings on a working horizon in a mine; it is customary to work mines from a shaft, establishing levels at regular intervals, generally about 50 m or more apart.

M

m — Abbreviation for metre(s). One metre is equal to 3.28 feet.

Massive Sulphide Deposit

Any mass of unusually abundant metallic sulphide minerals, e.g. a kuroko deposit

Measured Mineral Resource

A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an

Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve.

Metallurgy — The science and art of separating metals and metallic minerals from their ores by mechanical and chemical processes.

Metamorphic — Affected by physical, chemical, and structural processes imposed by depth in the earth's crust.

Mill — A plant in which ore is treated and metals are recovered or prepared for smelting also, a revolving drum used for the grinding of ores in preparation for treatment.

Mine — An excavation beneath the surface of the ground from which mineral matter of value is extracted.

Mineral — A naturally occurring homogeneous substance having definite physical properties and chemical composition and, if formed under favourable conditions, a definite crystal form.

Mineral Claim/Permit

That portion of public mineral lands which a party has staked or marked out in accordance with federal or state mining laws to acquire the right to explore for and exploit the minerals under the surface.

Mineralization — The process or processes by which mineral or minerals are introduced into a rock, resulting in a valuable or potentially valuable deposit.

Mineral Resource

A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling. Material of economic interest refers to diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals. The term mineral resource used in this report is a Canadian mining term as defined in accordance with NI 43-101 – Standards of Disclosure for Mineral Projects under the guidelines set out in the Canadian Institute of Mining, Metallurgy and Petroleum (the CIM), Standards on Mineral Resource and Mineral Reserves Definitions and guidelines adopted by the CIM Council on December 11, 2005 and recently updated as of May 10, 2014 (the CIM Standards).

Mineral Reserve

A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified. The reference point at which Mineral Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. The public disclosure of a Mineral Reserve must be demonstrated by a Pre-Feasibility Study or Feasibility Study.

N

Net Smelter Return

A payment made by a producer of metals based on the value of the gross metal production from the property, less deduction of certain limited costs including smelting, refining, transportation and insurance costs.

NI 43-101

National Instrument 43-101 is a national instrument for the Standards of Disclosure for Mineral Projects within Canada. The Instrument is a codified set of rules and guidelines for reporting and displaying information related to mineral properties owned by, or explored by, companies which report these results on stock exchanges within Canada. This includes foreign-owned mining entities who trade on stock exchanges overseen by the Canadian Securities Administrators (CSA), even if they only trade on Over-The-Counter (OTC) derivatives or other instrumented securities. The NI 43-101 rules and guidelines were updated as of June 30, 2011.

O

Open Pit/Cut — A form of mining operation designed to extract minerals that lie near the surface. Waste or overburden is first removed, and the mineral is broken and loaded for processing. The mining of metalliferous ores by surface-mining methods is commonly designated as open-pit mining as distinguished from strip mining of coal and the quarrying of other non-metallic materials, such as limestone and building stone.

Outcrop — An exposure of rock or mineral deposit that can be seen on surface, that is, not covered by soil or water.

Oxidation — A chemical reaction caused by exposure to oxygen that results in a change in the chemical composition of a mineral.

P

Plant | A building or group of buildings in which a process or function is carried out; at a mine site it will include warehouses, hoisting equipment, compressors, maintenance shops, offices and the mill or concentrator.

Probable Reserve

A Probable Mineral Reserve is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proven Mineral Reserve.

Proven Reserve

A Proven Mineral Reserve is the economically mineable part of a Measured Mineral Resource. A Proven Mineral Reserve implies a high degree of confidence in the Modifying Factors.

Pyrite | A common, pale-bronze or brass-yellow, mineral composed of iron and sulphur. Pyrite has a brilliant metallic luster and has been mistaken for gold. Pyrite is the most wide-spread and abundant of the sulfide minerals and occurs in all kinds of rocks.

Q

Qualified Person | Conforms to that definition under NI 43-101 for an individual: (a) to be an engineer or geoscientist with a university degree, or equivalent accreditation, in an area of geoscience, or engineering, related to mineral exploration or mining; (b) has at least five years' experience in mineral exploration, mine development or operation or mineral project assessment, or any combination of these, that is relevant to his or her professional degree or area of practice; (c) to have experience relevant to the subject matter of the mineral project and the technical report; (d) is in good standing with a professional association; and (e) in the case of a professional association in a foreign jurisdiction, has a membership designation that (i) requires attainment of a position of responsibility in their profession that requires the exercise of independent judgement; and (ii) requires (A.) a favourable confidential peer evaluation of nthe individual’s character, professional judgement, experience, and ethical fitness; or (B.) a recommendation for membership by at least two peers, and demonstrated prominence or expertise in the field of mineral exploration or mining.

R

Reclamation | The restoration of a site after mining or exploration activity is completed.

S

Shoot	A concentration of mineral values; that part of a vein or zone carrying values of ore grade.
Skarn	Name for the metamorphic rocks surrounding an igneous intrusive where it comes in contact with a limestone or dolostone formation.
Stockpile	Broken ore heaped on surface, pending treatment or shipment.
Strike	The direction, or bearing from true north, of a vein or rock formation measure on a horizontal surface.
Stringer	A narrow vein or irregular filament of a mineral or minerals traversing a rock mass.

T

Terrain	A terrain in geology, in full a tectonostratigraphic terrain, is a fragment of crustal material formed on, or broken off from, one tectonic plate and accreted or "sutured" to crust lying on another plate.
Tonne	A metric ton of 1,000 kilograms (2,205 pounds).

U

Underground Mining	Is the process of extracting rock from underground using a network of tunnels and openings, often called stopes. This mining is generally more expensive with lower production rates due to the use of smaller equipment than open pit/ open cast mining at the surface.

V

Vein	A fissure, fault or crack in a rock filled by minerals that have travelled upwards from some deep source.
Volcanogenic	Formed by processes directly connected with volcanism: specif., said of mineral deposits (massive sulphides, exhalites, banded iron formations) considered to have been produced through volcanic agencies and demonstrably associated with volcanic phenomena.

W

Wall rocks	Rock units on either side of an orebody. The hanging wall and footwall rocks of a mineral deposit or orebody.

Waste — Unmineralized, or sometimes mineralized, rock that is not minable at a profit.

Working(s) — May be a shaft, quarry, level, open-cut, open pit, or stope etc. Usually noted in the plural.

Z

Zone — An area of distinct mineralization.

APPENDIX II

TSL ASSAY CERTIFICATES FOR MICON SAMPLES

TSL LABORATORIES
2 - 302 48th Street • Saskatoon, SK • S7K 6A4
P (306) 931-1033 F (306) 242-4717 E info@tsllabs.com

Company:	Micon International Ltd
Geologist:	B. Lewis
Project:	
TSL Report:	S55924
Date Received:	Nov 26, 2018
Date Reported:	Nov 28, 2018
Invoice:	76121

Remarks:

Sample Type:	Number	Size Fraction	Sample Preparation
Reject	13	Reject ~ 70% -10 mesh (1.70 mm) Pulp ~ 95% -150 mesh (106 µm)	Riffle Split, Pulverize
Pulp	0		None

Pulp Size: ~250 grams

Standard Procedure:

Samples for Au Fire Assay/AA (ppb) are weighed at 30 grams.
Samples for Au Fire Assay/Gravimetric (g/tonne) are weighed at 1 AT (29.16 g)
Samples for Ag (g/tonne), Base Metals (%) are weighed at 0.5 gram.

Element Name	Unit	Extraction Technique	Lower Detection Limit	Upper Detection Limit
Au	ppb	Fire Assay/AA	5	3000
Au	g/tonne	Fire Assay/Gravimetric	0.03	100%
Ag	g/tonne	HNO_3-HF-$HCl0_4$-HCl/AA	1	1000
Cu	%	HNO_3-HF-$HCl0_4$-HCl/AA	0.01	80
Pb	%	HNO_3-HF-$HCl0_4$-HCl/AA	0.01	80
Zn	%	HNO_3-HF-$HCl0_4$-HCl/AA	0.01	80

Results are representative of samples submitted for testing.
Test reports may be reproduced, in their entirety, without our consent.
Liability is limited to the analytical cost for analyses.

TSL LABORATORIES
#2 – 302 48th Street · Saskatoon, SK · S7K 6A4
P (306) 931-1033 F (306) 242-4717 E info@tsllabs.com

CERTIFICATE OF ANALYSIS

SAMPLE(S) FROM

Micon International Ltd.
Suite 900 - 390 Bay Street
Toronto, ON M5H 2Y2

REPORT No.
S55924

SAMPLE(S) OF

13 Reject

INVOICE #:76121
P.O.:

B. Lewis
Project:

	Au ppb	Au1 ppb	Au g/t	Ag g/t	Cu %	Pb %	Zn %	Specific Gravity	File Name
780581	110			10.8	0.85	0.02	0.70	2.68	S55924
780583	140			20.5	2.29	0.02	2.23		S55924
780584	130			16.9	0.62	0.12	1.08		S55924
780588	620			45.7	0.77	0.88	10.30		S55924
780593	420			16.4	1.87	0.04	4.33		S55924
780597	>1000	>1000	1.37	34.2	3.25	0.27	2.57	3.08	S55924
780600	>1000		7.27	44.8	5.36	0.05	0.38		S55924
780604	10			0.4	<0.01	<0.01	<0.01		S55924
780607	180			7.4	1.49	<0.01	0.06		S55924
780608	880			35.9	9.05	0.02	0.63		S55924
780609	320			6.5	1.50	<0.01	0.15	2.68	S55924
780614	150			3.6	0.66	<0.01	0.04		S55924
780618	35			2.2	0.65	<0.01	0.03		S55924
GS-1P5P	1450								S55924
GS-7E			7.34						S55924
ME-8				61.0	.10	1.94	2.00		S55924
ME-1411				44.1	1.54	.26	.47		S55924

COPIES TO: B. Lewis
INVOICE TO: Micon International Ltd.

Nov 28/18

SIGNED

Mark Acres - Quality Assurance

Page 1 of 1

TSL LABORATORIES
2 - 302 48th Street • Saskatoon, SK • S7K 6A4
P (306) 931-1033 F (306) 242-4717 E info@tsllabs.com

Company:	Micon International Ltd	TSL Report:	S55924
Geologist:	B. Lewis	Date Received:	Nov 26, 2018
Project:		Date Reported:	Nov 29, 2018
Purchase Order:		Invoice:	76121

Sample Type:	Number	Size Fraction	Sample Preparation
Reject	13	Reject ~ 70% at –10 mesh (1.70 mm) Pulp ~ 95% at –150 mesh (106 µm)	Riffle Split, Pulverize
Pulp	0		None

ICP-AES Aqua Regia Digestion $HCl-HNO_3$

The Aqua Regia Leach digestion liberates most of the metals except those marked with an asterisk where the digestion will not be complete.

Element Name	Lower Detection Limit	Element Name	Lower Detection Limit
Ag	0.3 ppm	Mo	1 ppm
Al *	0.01%	Na *	0.01%
As	2 ppm	Ni	1 ppm
Ba *	1 ppm	P *	0.001%
Be *	1 ppm	Pb	3 ppm
Bi	3 ppm	S	0.05 %
Ca *	0.01%	Sb	3 ppm
Cd	0.5 ppm	Sn *	5 ppm
Co	1 ppm	Sr *	1 ppm
Cr *	1 ppm	Ti *	0.01%
Cu	1 ppm	V *	1 ppm
Fe *	0.01%	W *	2 ppm
K *	0.01%	Y	1 ppm
Mg *	0.01%	Zn	1 ppm
Mn *	2 ppm	Zr *	1 ppm

Results are representative of samples submitted for testing.
Test reports may be reproduced, in their entirety, without our consent.
Liability is limited to the analytical cost for analyses.

TSL LABORATORIES INC.

2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Micon International Ltd
Attention: B. Lewis
Project:
Sample: 13 Reject / 0 Pulp

Report No: S55924
Date: November 30, 2018

MULTIELEMENT ICP ANALYSIS
Aqua Regia Digestion

Element / Sample	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm
780581	10.1	4	10	28	16	24	0.57	22.9	27	35	8172	10.53	25
780583	20.1	2.96	26	<20	63	6	0.3	80.3	48	62	>10000	11.18	15
780584	14.8	3.3	30	<20	139	79	0.84	31	25	59	5829	8.57	16
780588	42	0.84	202	24	10	64	5.98	302.6	51	34	6831	18.64	34
780593	15.4	0.9	119	27	3	7	7.97	146.2	24	15	>10000	16.53	21
780597	35.2	0.96	272	26	3	31	9.78	98	24	17	>10000	16.97	25
780600	39.2	1.34	81	<20	30	72	0.05	18.2	87	59	>10000	14.76	13
780604	<0.3	1.17	18	47	118	<3	0.33	<0.5	6	67	51	1.98	6
780607	6.1	2.15	27	35	49	28	0.07	3.4	27	61	>10000	5.1	9
780608	33	1.4	140	27	22	42	0.03	33.5	77	77	>10000	14.8	15
780609	5.9	2.14	73	39	40	32	0.06	5.4	53	61	>10000	8.38	9
780644	2.2	2.74	29	<20	28	5	0.11	1.7	8	78	6210	4.84	14
780618	2	2.15	5	23	9	4	0.04	1.3	13	70	6216	3.79	10
STD OREAS45EA	<0.3	3.08	4	22	143	<3	0.04	<0.5	47	847	673	20.63	29
STD DS11	1.6	1.02	41	<20	392	8	0.96	2.1	12	53	141	2.92	5
STD OREAS262	0.5	1.09	34	<20	240	<3	2.86	<0.5	25	38	112	3.2	6
BLK	<0.3	<0.01	<2	<20	<1	<3	<0.01	<0.5	<1	<1	<1	<0.01	<5

Element / Sample	Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Th ppm	Ti %
780581	<1	0.08	32	3.16	727	2	<0.01	2	0.003	266	3.77	<3	<5	6	3	0.015
780583	2	0.22	25	2.43	511	1	0.01	4	0.021	217	6.81	<3	<5	14	<2	0.022
780584	<1	0.42	31	3	579	1	0.03	12	0.068	1230	4.09	<3	<5	41	<2	0.046
780588	27	0.02	14	4.24	1097	2	<0.01	3	0.002	8864	>10.00	22	<5	50	<2	0.005
780593	7	0.01	16	6.42	1443	2	0.01	2	0.002	413	>10.00	17	<5	38	<2	0.006
780597	6	<0.01	20	6.33	1353	<1	0.01	2	0.003	2901	9.13	36	<5	52	<2	0.007
780600	2	0.21	12	1.06	101	1	<0.01	2	0.001	453	>10.00	<3	<5	2	<2	0.013
780604	<1	0.7	6	0.81	284	<1	0.07	7	0.042	28	0.14	<3	<5	8	<2	0.075
780607	<1	0.4	14	1.79	171	1	0.01	1	<0.001	84	2.18	<3	<5	3	<2	0.023
780608	1	0.14	9	1.14	118	1	<0.01	2	<0.001	224	6.23	<3	<5	1	<2	0.009
780609	<1	0.23	16	1.66	247	<1	0.01	1	0.001	67	4.59	<3	<5	3	<2	0.017
780644	<1	0.19	19	2.23	306	2	0.01	3	0.008	15	1.14	<3	<5	5	<2	0.011
780618	<1	0.09	18	1.76	212	1	<0.01	2	0.001	7	0.86	<3	<5	2	<2	0.007
STD OREAS45EA	<1	0.05	7	0.09	388	<1	0.02	365	0.028	21	<0.05	<3	80	3	9	0.093
STD DS11	<1	0.37	15	0.77	959	12	0.07	72	0.067	128	0.26	8	<5	59	6	0.077
STD OREAS262	<1	0.28	12	1.11	507	<1	0.07	59	0.037	49	0.25	3	<5	34	8	0.003
BLK	<1	<0.01	<1	<0.01	<2	<1	<0.01	<1	<0.001	<3	<0.05	<3	<5	<1	<2	<0.001

A 0.5 g sample is digested with 3 ml 3:1 HCl-HNO3 at 95C for 1 hour and diluted to 10 ml with D.I. H2O.

Signed: ____________
Mark Acres - Quality Assurance

Micon International Ltd
Attention: B. Lewis
Project:
Sample: 13 Reject / 0 Pulp

TSL LABORATORIES INC.

2 - 302 48th Street East, Saskatoon, Saskatchewan, S7K 6A4
Tel: (306) 931-1033 Fax: (306) 242-4717

Report No: S55924
Date: November 30, 2018

MULTIELEMENT ICP ANALYSIS
Aqua Regia Digestion

Element Sample	Tl ppm	V ppm	W ppm	Zn ppm
780581	<5	<1	<2	6393
780583	<5	4	<2	>10000
780584	<5	23	<2	8909
780588	<5	1	<2	>10000
780593	<5	<1	<2	>10000
780597	<5	<1	<2	>10000
780600	<5	<1	<2	3453
780604	<5	26	<2	92
780607	<5	<1	<2	604
780608	<5	<1	<2	5576
780609	<5	<1	<2	1451
780614	<5	6	<2	518
780618	<5	<1	<2	378
STD OREAS45EA	<5	296	<2	29
STD DS11	5	45	3	325
STD OREAS262	<5	20	<2	145
BLK	<5	<1	<2	<1

A 0.5 g sample is digested with 3 ml 3:1 HCl-HNO3 at 95C for 1 hour and diluted to 10 ml with D.I. H2O.

Signed: ____________________
Mark Acres - Quality Assurance