NI 43-101 Technical Report

PRELIMINARY ECONOMIC ASSESSMENT OF THE RE-SCOPED HOPES ADVANCE PROPERTY

Ungava Bay, Québec, Canada

Prepared for:

Oceanic Iron Ore Corporation

By qualified persons:

Derek Blais, P. Eng. .... BBA Inc.
Jeffrey Cassoff, P. Eng. ...... BBA Inc.
Eddy Canova, P. Geo......... GeoConsul Canova Inc.
Anna Klimek, P. Eng........... Wood Plc.

Effective Date: December 19, 2019
Signature Date: January 31, 2020

DATE AND SIGNATURE PAGE

This report is effective as of the 19th day of December 2019.

"Signed and sealed original on file"	*January 31, 2020*
Derek Blais, P. Eng. BBA Inc.	Date
"Signed and sealed original on file"	*January 31, 2020*
Jeffrey Cassoff, P. Eng. BBA Inc.	Date
"Signed and sealed original on file"	*January 31, 2020*
Eddy Canova, P. Geo. GeoConsul Canova Inc.	Date
"Signed and sealed original on file"	*January 31, 2020*
Anna Wood, P. Eng. Wood Plc.	Date

BBA
2020 Robert-Bourassa Blvd. Suite 300
Montréal, QC H3A 2A5
T +1 514.866.2111
F +1 514.866.2116
bba.ca

CERTIFICATE OF QUALIFIED PERSON

Derek Blais, P. Eng.

This certificate applies to the NI 43-101 Technical Report of the "Preliminary Economic Assessment of the Re-scoped Hopes Advance Property, Ungava Bay, Québec, Canada" (the "Technical Report"), prepared for Oceanic Iron Ore Corporation, issued on January 31, 2020, and effective as of December 19, 2019.

I, Derek Blais, P. Eng., do hereby certify that:

1. I am a Process Engineer in the consulting firm BBA Inc. located at 2020 Robert-Bourassa Blvd., Suite 300, Montréal, Québec, Canada, H3A 2A5.
2. I graduated from McGill University of Montréal with a B. Eng. in Materials Engineering in 2008 and again with an M. Eng. in 2010.
3. I am in good standing as a member of the Order of Engineers of Québec (#5029897).
4. I have practiced my profession continuously since my graduation. My relevant experience includes working on several projects/studies including many in iron ore processing.
5. I have read the definition of "qualified person" set out in NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer as independence is described in Section 1.5 of NI 43-101.
7. I am responsible for the coordination, consolidation and review of this NI 43-101 Technical Report. I have also authored and am responsible for Chapters 1, 2, 3, 13, 17, 18 (except Section 18.3.2), 19, 20, 21 (except portions related to marine facilities), and 22 to 27.
8. I did not personally visit the Hopes Advance Property that is the subject of the Technical Report.
9. I have no prior involvement with the property that is the subject of the Technical Report.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed this 31st day of January 2020.

"Signed and sealed original on file"

Derek Blais, P. Eng.
BBA Inc.

2020 Robert-Bourassa Blvd. Suite 300
Montréal, QC H3A 2A5
T +1 514.866.2111
F +1 514.866.2116

bba.ca

CERTIFICATE OF QUALIFIED PERSON

Jeffrey Cassoff, P. Eng.

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I, Jeffrey Cassoff, P. Eng., do hereby certify that:

1. I am a Senior Mining Engineer in the consulting firm BBA Inc. located at 2020 Robert-Bourassa Blvd., Suite 300, Montréal, Québec, Canada, H3A 2A5.
2. I graduated from McGill University of Montréal with a B. Eng. in Mining in 1999.
3. I am in good standing as a member of the Order of Engineers of Québec (#5002252).
4. I have practiced my profession continuously since my graduation in 1999. My relevant experience includes open pit mining operations and I have worked on many NI 43-101 studies, namely in iron ore.
5. I have read the definition of "qualified person" set out in NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am author and responsible for Chapters 15 and 16 and co-author of the relevant sections of Chapters 1, 21, 25 and 26.
8. I did not personally visit the Hopes Advance Property that is the subject of the Technical Report.
9. I have / have no prior involvement with the property that is the subject of the Technical Report by having co-authored previous independent reports on the property.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed this 31st day of January 2020.

"Signed and sealed original on file"

Jeffrey Cassoff, P. Eng.
BBA Inc.

CERTIFICATE OF QUALIFIED PERSON

Eddy Canova, P. Geo.

This certificate applies to the NI 43-101 Technical Report of the "Preliminary Economic Assessment of the Re-scoped Hopes Advance Property, Ungava Bay, Québec, Canada" (the “Technical Report”), prepared for Oceanic Iron Ore Corporation, issued on January 31, 2020, and effective as of December 19, 2019.

I, **Eddy Canova,** P. Geo., (OGQ No.403), of 1355 Rue Dufour, St. Faustin Lac Carre, Que J0T 1J2, do hereby certify that:

1. I am a geologist working as a Geological Consultant, GeoConsul Canova Inc., for Oceanic Iron Ore Corporation on this Technical Report.
2. I graduated with a Bachelor of Science (Geology), from the University of McGill, in 1977.
3. I am a Fellow of the Geological Association of Canada.
4. I am a member of the Ordre des Géologues du Québec (OGQ No. 403).
5. I have worked as a geologist for a total of 38 years since my graduation from university.
6. I have read the definition of “qualified person”, set out in National Instrument 43-101 (NI 43-101), and certify that by reason of my education, affiliation with a professional association (as defined by NI 43-101) and past relevant work experience, I fulfil the requirements to be a “qualified person” for the purposes of NI 43-101.
7. I have been on the property site during the field season of 2011, 2012, 2013 and have been on the property as recently as June 2014, and my involvement at the time was as an Exploration Director for Oceanic Iron Ore Corporation on the Hopes Advance property that is the subject of the Technical Report.
8. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.
9. I am the QP and Consultant for Oceanic Iron Ore Corporation, applying all the tests in Section 4.2 and 5.3 of NI 43-101. I am also QP and responsible of Chapters 4 to 12, 14 and 23 and am responsible for the relevant portions of Chapters 1, 25, 26 and 27.
10. I have read the National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.
11. I consent to the filing of the Technical Report as a technical report with the Ministry of Natural Resources of Quebec, including electronic publication in the public company files on their websites accessible by the public and on SEDAR, of the Technical Report.
12. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed this 31st day of January 2020.

“Signed and sealed original on file”

Eddy Canova, P. Geo., OGQ
GeoConsul Canova Inc.

Wood Environment & Infrastructure Solutions,
a Division of Wood Canada Limited
600 – 4445 Lougheed Highway
Burnaby, BC V5C 0E4
Canada
T: 604-294-3811

CERTIFICATE OF QUALIFIED PERSON

Anna Klimek, P. Eng.

This certificate applies to the NI 43-101 Technical Report of the " Preliminary Economic Assessment of the Re-scoped Hopes Advance Property, Ungava Bay, Québec, Canada" (the "Technical Report"), prepared for Oceanic Iron Ore Corporation, issued on January 31, 2020, and effective as of December 19, 2019.

I, Anna Klimek, P. Eng., do hereby certify that:

1. I am a Project Manager with Ports & Marine Group of Wood Plc. (Wood), located at 600-4445 Lougheed Highway, Burnaby, BC V5C 0E4, Canada.
2. I hold an M.Sc., Structural Engineering, University of Manitoba, (1993).
3. I am a registered member of the Association of Engineers and Geoscientists of BC (Member Number 112553).
4. I have worked as a structural engineer for 26 years. My work experience includes planning and design of bulk handling infrastructure and marine facilities which are part of the infrastructure required to develop mining properties. I am a qualified person for port design in support of mining projects.
5. I have read the definition of "qualified person" set out in NI 43-101 – Standards of Disclosure for Mineral Projects ("NI 43-101") and certify that, by reason of my education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a qualified person for the purposes of NI 43-101.
6. I am independent of the issuer applying all the tests in Section 1.5 of NI 43-101.
7. I am responsible for the preparation of Section 18.3.2 and the portion related to marine facilities in Chapter 21. I am also responsible for the relevant portions of port design as summarize in Chapters 1, 2, 25, 26 and 27 of the Technical Report.
8. I personally did not visit the property that is the subject to the Technical Report on January 31, 2020.
9. I have had no prior involvement with the property that is the subject of the Technical Report.
10. I have read NI 43-101 and the sections of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.
11. As at the effective date of the Technical Report, to the best of my knowledge, information and belief, the sections of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the portions of the Technical Report for which I am responsible not misleading.

Signed this 31st day of January 2020.

"Signed and sealed original on file"

Anna Klimek, P. Eng.

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Abbreviations and Units of Measure

Name	Abbreviation
Two-dimensional	2D
Three-dimensional	3D
Degree(s)	º
Degrees Celsius	ºC
Less than / Greater than	< / >
Micron(s)	µ
Percent(age)	%
Dollar(s), Canadian	CA$ / CAD / CAN$
Dollar(s), US	$ / US$ / USD
Association de la Construction du Québec	ACQ
Acid rock drainage	ARD
Act respecting threatened or vulnerable species	ATVS
Commission de la Construction du Québec	CCQ
Canadian Environmental Assessment Agency	CEAA
Canadian Institute of Mining, Metallurgy and Petroleum	CIM
Centimetre(s)	cm
Certificate of Authorization	CoA
Day	d
Diamond drill hole	DDH
Dry metric ton	dmt
Dry metric ton unit	dmtu
Engineering, Procurement and Construction	EPC
Engineering, Procurement and Construction Management	EPCM
Environmental Quality Act *(Québec)*	EQA
Environmental and social impact assessment	ESIA
Feasibility study	FS
Grams per metric tonne	g/t
Giga annum (1 billion)	Ga
GeoConsul Canova Inc.	GCC
Greenhouse gas	GHG
Gross Operating Hours	GOH
Global positioning system	GPS

Name	Abbreviation
Gigawatt hour	GWh
Hour(s)	h
Hectare(s)	ha
High pressure grinding roll	HPGR
Canadian Impact Assessment Act	IAA
Impact, Benefits Agreement	IBA
Inductively coupled plasma	ICP
Inverse distance cubed	ID^3
Inverse distance squared	ID^2
Inverse distance to the fifth power	ID^5
Inch(es)	in
Internal rate of return	IRR
James Bay and Northern Québec Agreement	JBNQA
Kativik Environmental Advisory Committee	KEAC
Kilogram(s)	kg
Kilometre(s)	km
Key Performance Indicators	KPI
Kilowatt	kW
Kilowatt hour	kWh
Litre(s)	L
Lerchs-Grossmann (algorithm)	LG
Low intensity magnetic separation	LIMS
Life-of-mine	LOM
Metre(s)	m
Cubic metre(s)	m^3
Million years	Ma
Ministère du Développement Durable, de l'Environnement et des Parcs du Québec	MDDEP
Ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques	MDDEFP
Metal and Diamond Mining Effluent Regulations	MDMER
Ministry of Energy and Natural Resources	MERN
Ministère des Forêts, de la Faune et des Parcs	MFFP
Metal leaching	ML

Name	Abbreviation
Millimetre(s)	mm
Mine Plan Schedule Optimizer	MPSO
Mineral resource estimate	MRE
Ministère des Ressources naturelles et de faune (Québec)	MRNF
Million metric tonnes	Mt
Million metric tonnes per annum	Mtpa
Not available/applicable	n/a
North American Datum	NAD
Canadian National Instrument 43-101	NI 43-101
Nunavik Marine Region Impact Review Board	NMRIRB
Nunavik Marine Region Planning Commission	NMRPC
Nunavik Marine Region Wildlife Board	NMRWB
Net Operating Hours	NOH
Net present value	NPV
Net smelter return	NSR
Ordre des géologues du Québec	OGQ
Ordinary kriging	OK
Prefeasibility study	PFS
Pre-production	PP
Quality Assurance/Quality Control	QA/QC
Qualified person	QP
Run-of-mine	ROM
Rock quality designation	RQD
Second	s
Semi-autogenous grinding	SAG
Species at risk act	SARA
Satmagan	Sat
SGS Mineral Services	SGS
SAG mill comminution	SMC
Tonne (metric, 2,205 pounds)	t
Tonnes per hour	t/h
Tonnes per cubic metre	t/m^3
Toxicity characteristic leaching procedure (TCLP)	TCLP

Name	Abbreviation
Tailings management facility	TMF
Transportable moisture limit	TML
Ton(s) (imperial, 2,000 pounds)	ton
Total suspended solids	TSS
Universal transverse Mercator	UTM
Value in use (VIU)	VIU
Vulcan Technologies	VT
Weighted average cost of capital	WACC
Wet high intensity magnetic separation	WHIMS
Weight recovery	WRCP
Weight percent	wt%
X-ray fluorescence	XRF
Year	y

1.0 SUMMARY

1.1 Introduction

The Hopes Advance deposits are included in the group of iron deposits held by Oceanic Iron Ore Corporation (Oceanic), known as the Ungava Property, located in the Ungava Bay region of northern Québec, in the northern extension of the Labrador Trough. This area represents significant iron resources potential and was extensively explored during the late 1950s through the mid-1960s.

The term "Hopes Advance deposits" refers to the ten mineralization zones in the immediate Hopes Advance Bay, which includes: Bay Zones B, C, D, E and F (collectively the "Bay Zone"), Castle Mountain, Iron Valley, West Zone 2, West Zone 4, and West McDonald (collectively the "West Zone"). This study investigates the potential of extracting and subsequently producing iron concentrates from the Castle Mountain, Iron Valley and Bay Zone F deposits.

The main reason for undertaking this study on a re-scoping basis is to determine whether it may be possible to achieve an acceptable return on investment by scaling down the production profile while reducing up-front capital to bring the Project to commercial production. This re-scoped PEA is based on initial nominal production of 5 Mtpa of dry concentrate followed by an expansion in Year 5 to 10 Mtpa. The financial analysis for the PEA is limited to a 28-year period, targeting only the three main deposits (Castle Mountain, Iron Valley and Bay Zone F). However, there is potential to continue the operations beyond 28 years. For both the initial and expansion phases, power is self-generated using diesel fuel by a barge-based power plant. Concentrate is filtered at the concentrator site and transported year-round by truck to the port stockpile. Concentrate is shipped only during the summer months, thus stockpiled during the winter months. Seasonal shipping is expected to reduce the cost of port infrastructure and avoid the transhipment of concentrate during the winter months. For this PEA, BBA Inc. (BBA) is proposing a modified process flowsheet that is more energy efficient, aimed at reducing power requirements (and fuel storage) and improving the project's carbon footprint associated to mineral processing.

This Report was prepared at the request of Oceanic. This Report is considered effective as of December 19, 2019.

In November 2012, Oceanic completed a prefeasibility study (PFS) on the Hopes Advance project and issued its NI 43-101 Report summarizing the results. Since the completion of the PFS and up to mid-2014, Oceanic had continued to advance the Project by undertaking work and studies on some important activities in the areas of environmental permitting, process and product optimization, product marketability and shipping optimization. As iron ore market conditions significantly deteriorated between mid-2014 and end of 2015, compared to those prevailing in 2011-2012, Oceanic, like many others planning new projects or expansion projects, went into a disciplined cash preservation mode. As such, between 2016 and present, only critical path project activities continued (limited to completion of some environmental baseline studies).

Since the iron ore market bottomed out in early 2016, iron ore prices have strengthened but have continued to remain volatile. The improvement in market conditions have been mainly driven by government pressure on Chinese steel mills to reduce air emissions. This, in turn has increased demand for iron ore feedstocks having higher Fe grade and lower content of deleterious elements such as silica, alumina and phosphorous. This has resulted in a significant increase in ‘quality premiums’ for higher purity iron ore products and renewed activity in the iron ore sector. In the Labrador Trough, previously curtailed operations have been successfully restarted by Champion Iron Ore (Bloom Lake Mine) and Tacora (Scully Mine).

These reports can be accessed from SEDAR’s electronic database http://www.sedar.com/.

1.2 Geology

The Hopes Advance iron deposits are a typical stratigraphic iron deposit similar to other Labrador Trough iron deposits. The iron mineralization deposit type is a Lake Superior Type iron formation and is located at the northern end of the Paleo-Proterozoic Labrador Trough. The iron formation has been extensively metamorphosed, faulted and folded. Farther south, the Labrador Trough hosts the iron ore deposits of Schefferville and Wabush Lake.

The Sokoman Iron Formation is the stratigraphic/geological control of the iron mineralization in the region. Strong folding has resulted in structural influence on the iron formation. The iron formation in the Ungava Bay area appears to be more or less continuous along its considerable strike length of over 300 km. The iron formation is folded into a south-southeast plunging syncline with the closure of the fold located to the north of Payne Bay. The limbs of this regional syncline are folded in a series of parasitic synclines and anticlines.

1.3 Metallurgical Testwork

Two metallurgical testwork programs were designed to assess the metallurgical characteristics of the mineral resources at Hopes Advance.

The first program, carried out by SGS Mineral Services (SGS), provided weight recovery and concentrate quality data on composites from drill holes that were used to further define the mineral resource. Approximately 611 composite samples were prepared from the Hopes Advance project area.

The second phase of testwork comprised a pilot plant program which was completed at SGS. The purpose of this work was to characterize the mineralization and to develop a flowsheet that would maximize weight recovery and produce an iron concentrate assaying greater than 66.6% Fe and less than 4.5% SiO_2 with low levels of alumina and phosphorus.

1.4 Mineral Resource Estimate

The Hopes Advance iron deposits comprise a total of ten mineral deposits. These deposits are a typical stratigraphic iron deposit similar to other Labrador Trough iron deposits of Lake Superior-type iron formations, located at the northern end of the Labrador Trough.

The Hopes Advance iron formations are thick Sokoman Iron Formation, with magnetite, magnetite and hematite units that strike east-west to northeast and have gentle dips to the south and southeast. The iron formations are typically 40–70 m thick, and often crop out at surface. The three largest deposits are the Castle Mountain, Bay Zone F and Iron Valley deposits.

Mineral Resources that were estimated assuming open pit mining methods in 2012 were reviewed in 2019 to determine if they were still current. These reviews included checks on the confidence classification assignments based on changes to defined terms between the 2010 and 2014 editions of the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves, inputs into the Whittle optimization shells that constrain the estimate, and commodity price assumptions as a result of the 2019 VIU Study. Eddy Canova, P. Geo, from GeoConsul Canova Inc. (GCC), a consultant to the Company concluded that the estimates remain current, and have an effective date of November 20, 2019, which is the date the reviews were completed.

Mineral Resources were estimated for the Bay Zone B, C, D, E, F, Castle Mountain, Iron Valley, West Zone 2, West Zone 4 and West Macdonald deposits and are totalled in Table 1-1.

Table 1-1: Hopes Advance summary of mineral resource estimate, effective date Nov. 20, 2019 (Cut-off grade 25% total Fe)

Classification	Tonnes (t 000)	Fe (%)	Concentrate tonnes (t 000)
Measured	774,241	32.2	288,971
Indicated	613,796	32.0	226,901
Measured and Indicated	**1,388,037**	**32.1**	**515,872**
Inferred	222,188	32.5	82,475

Notes to Table 1-1:

1) The Qualified Person responsible for the estimates (including the current Mineral Resource Estimates) is Mr. Eddy Canova, P. Geo., GeoConsul Canova Inc., a consultant to the Company.
2) Mineral Resources are reported assuming open pit mining methods. Mineral Resources were initially reported with an effective date of September 19, 2012, on block models that had an effective date of April 2, 2012. A review was undertaken in 2019, which concluded that the estimate and its inputs were current, and the effective date for the reviewed Mineral Resources is now November 20, 2019.
3) Mineral Resources are classified using the 2014 CIM Definition Standards. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

4) The Mineral Resources were estimated using a block model with parent blocks of 50 m by 50 m by 15 m sub-blocked to a minimum size of 25 m by 25 m by 1 m and using inverse distance weighting to the third power (ID^3) methods for grade estimation. A total of ten individual mineralized domains were identified and each estimated into a separate block model. Given the continuity of the iron assay values, no top cuts were applied. All resources are reported using an iron cut-off grade of 25% within conceptual Whittle pit shells and a mining recovery of 100%. The Whittle shells used the following input parameters, commodity price of US$115/dmt of concentrate; CA$:US$ exchange rate of 0.97; assumed overall pit slope angle of 50º; 1% royalty; mining cost of $2.00/t material moved; process cost of CA$16.22/t of concentrate; port costs of CA$1.45/t of concentrate; and general and administrative costs of CA$3.38/t of concentrate.
5) Estimates have been rounded and may result in summation differences.

1.5 Mining Methods

The mining method selected for the Project consists of a conventional open pit, truck and shovel, drill and blast operation. Vegetation and topsoil will be stripped and stockpiled for future reclamation use. Overburden will then be stripped and hauled to the waste dumps. The mineralized material and waste rock will be mined with 10 m high benches, drilled, blasted and loaded into a fleet of haul trucks using diesel hydraulic shovels. The mineralized material will be hauled to the primary crushing facility and the waste rock will be hauled to either the waste dumps or to the tailings facility to be used as construction material. The haul truck selected for the project has a nominal payload of 292 tonnes and the hydraulic shovel has a bucket capacity of 29 m^3.

The 1.3 billion tonne Mineral Resource available at Hopes Advance can potentially support a very long-life mining operation. At the start of the PEA it was decided that the study and its financial analysis would be limited to approximately a 30-year horizon since cash flows generated beyond this time frame have little impact on the net present value (NPV) of a project. The objective of the pit optimization analysis for the PEA was therefore to identify the most profitable mineral resources that should be mined in the first 30 years. It was also decided that the PEA would be limited to the Castle Mountain, Iron Valley and Bay Zone F deposits. Each of these deposits has favourable economic effects (higher grade and lower stripping ratios than the other deposits) and they are also the three largest resource bases of the ten deposits.

Open pit designs and pushbacks were than completed for each of the three deposits based on the results of the pit optimization analysis. Table 1-2 presents the subset of mineral resources for the Hopes Advance project within the PEA pit designs. A total of 557 Mt of overburden and waste rock must be mined to access the resources with the pit designs resulting in a strip ratio of 0.81:1.

Table 1-2: Subset of mineral resources within the PEA pit designs (above 25% Fe cut-off)

Deposit	Measured Resources			Indicated Resources			Total Resources		
	Tonne (Mt)	Fe (%)	WR (%)	Tonne (Mt)	Fe (%)	WR (%)	Tonne (Mt)	Fe (%)	WR (%)
Castle Mountain	266	32.6	38.0	107	32.6	38.0	**372**	**32.6**	**38.0**
Iron Valley	34	34.1	40.0	57	33.9	40.0	**91**	**34.0**	**40.0**
Bay Zone F	107	33.0	39.0	114	32.7	38.0	**221**	**32.8**	**38.5**
Total (1)	**406**	**32.8**	**38.4**	**278**	**32.9**	**38.4**	**684**	**32.9**	**38.4**

(1) Numbers may not add up due to rounding

The resources were then scheduled into a 28-year life-of-mine (LOM) plan using Hexagon's Mine Plan Schedule Optimizer (MPSO). During full production, the mine equipment fleet requirements were calculated to be 22 haul trucks, 3 hydraulic shovels, 1 wheel loader, and 4 production drills, in addition to the fleet of support and service equipment. The total mine workforce will reach a peak of 246 employees.

1.6 Recovery Methods

The Hopes Advance concentrator will be constructed in two phases where the first (initial) phase production rate is based on the production of 5 Mtpa of concentrate, and the second phase (expansion) will increase the total production to 10 Mtpa of concentrate in Year 5.

Processing of the Hopes Advance deposits is focused on production of high-grade iron concentrates via gravity and magnetic separation. Run-of-mine mineralized material is stage-crushed and then processed via high pressure grinding rolls (HPGR) to produce a mill feed.

The mill feed is ground to less than 300 µm and then fed to the gravity concentration circuit. The gravity concentration circuit spiral separators will have a weight recovery of 31.6% or 84% of total concentrate produced. The gravity concentration circuit tails is then fed to the magnetic recovery circuit. After an initial stage of magnetic separation, the material is ground to a P_{80} of 29 µm prior to finishing stages of magnetic separation stages. The circuit produces a magnetic concentrate which adds a further 6.0% by weight of concentrate (16% of total concentrate produced). The total weight recovery to the final concentrate is 37.6% of mill feed.

Gravity and magnetic concentrates are combined and filtered prior to being stockpiled at the concentrator. The concentrate is trucked year-round to the port concentrate load-out facility where it is then loaded onto ships during the summer months.

The first phase production rate is based on the production of 5 Mtpa of concentrate. An expansion to 10 Mtpa of concentrate will take place in Year 5. The process design basis for the Project is detailed in Table 1-3.

Table 1-3: Process design basis

Parameter	Unit**	Initial Phase*	Expansion Phase*
Total feed processing rate	Mtpa	13.25	26.50
Weight recovery for period	%	39.1	38.2
Weight recovery (LOM)	%	38.4	
Concentrate produced (Total)	Mtpa	5.18	10.13
Concentrate produced (gravity ~ 84%)	Mtpa	4.35	8.51
Concentrate produced (magnetic ~ 16%)	Mtpa	0.83	1.62
Final Concentrate Grade (%Fe, % SiO_2)	%	66.6% Fe, 4.50% SiO_2	
Crushing			
Crushing (1[ary] and 2[ary]) operating time	%	70%	70%
Nominal crushing rate	t/h	2,161	4,322
Design crushing rate	t/h	2,485	4,970
Concentrator (incl. HPGR)			
Concentrator operating time	%	90%	90%
Nominal concentrator fresh feed rate	t/h	1,681	3,361
Design concentrator fresh feed rate	t/h	2,017	4,033
Nominal concentrate production rate	t/h	682	1,274

* Initial Phase from Yr 1 to Yr 4. Expansion Phase from Yr 5 to Yr 28. Excludes ramp-up years Yr 1 & Yr 5.
** All tonnages are in dry metric tonnes. Final concentrate is at a nominal 8% moisture.

1.7 Project Infrastructure

The Hopes Advance project will require the following key surface infrastructure components and site services to support construction, commissioning and production for the planned operations:

- Crushing facilities;
- Concentrator;
- Power provided by power plant located on a barge near the port facilities;
- Port facilities;
- Main access road and site roads;
- Maintenance facilities;
- Camp accommodations;

- Administrative offices;
- Airstrip;
- Warehouses and storage;
- Emergency vehicle building and first aid;
- Site communications;
- Assay laboratory;

1.8 Market Studies

Oceanic's iron concentrate is a high grade (66.6% Fe) low impurity (alumina, phosphorus) product. The silica level is slightly higher than that of the Platts65 benchmark, however, the low alumina and phosphorus content makes it a high purity iron concentrate. This should thus attract improved pricing providing that customers that will better benefit from the absence of alumina and phosphorus are targeted. The fine concentrate particle size may result in a customer discount depending on the market, however, the magnetite content (and decreased sintering/pelletizing costs) will partially/completely offset the possible sizing penalty.

The base case selling price was derived from the analyst consensus (Vermeulen 2019) 62% Fe benchmark price of USD76.00/dmtu and applying a 15% premium on a dmtu basis to the 66.6% Fe via extrapolation and adding premium assumptions. This method established a selling price of USD104.96/dmt, CFR Port in China.

1.9 Environmental Studies

The Hopes Advance project is located in the arctic tundra domain which is associated with cold temperatures and sparse vegetation. Lakes and watercourses are found throughout the region. Migratory birds, terrestrial mammals (e.g., caribou and polar bear), marine mammals (e.g., beluga whales) and fish (e.g., arctic char) hold both an ecological significance and social importance to the Inuit population. Some of these species have also been designated as special status species by provincial law (Act respecting threatened or vulnerable species – ATVS) and/or federal law (Species at Risk Act – SARA). The region lies within the zone of continuous permafrost.

Oceanic initiated environmental and social studies for the Hopes Advance project in 2011. Government reports, databases and publications were reviewed in order to prepare the basis for the environmental and social impact assessment (ESIA). Field surveys were conducted for fish, hydrology, hydrogeology, mine waste and mineralized material geochemistry, and water and sediment quality. Additional surveys will be conducted in the coming months.

The Project falls under the Canadian Environmental Assessment Act 2012. The Hopes Advance project description was accepted by the Canadian Environmental Assessment Agency (CEAA) in August 2012 and ESIA Guidelines were issued in December 2012. However, the Canadian Impact Assessment Act (IAA) came into effect on August 29, 2019. As per section 181 of this Act, projects subject to the IAA that have received a Notice of Commencement under the CEAA 2012 on or before August 28, 2019 may proceed under the CEAA 2012 but must submit all information requested by the Agency no later than August 28, 2022, otherwise the assessment will be terminated. Proponent may also request transition to the IAA; however, request must be made by October 25, 2019.

It should be noted that the description of the re-scoped project is significantly different compared to the description of the initial project submitted to federal and provincial authorities. This may require amendments or a new project description submission to the federal and provincial authorities.

1.10 Capital and Operating Costs

1.10.1 Capital Costs

The capital cost estimate for this PEA was developed by BBA to an accuracy of +/-35% and is generally based on an Engineering, Procurement and Construction Management (EPCM) project execution strategy. This capital cost estimate is expressed in constant Q3-2019 United States Dollars ($ or USD) based on an exchange rate of 1.00 CAD = 0.75 USD.

The total estimated cost of capital is $2,515 million comprising $1,193.3 million for initial project development, $690.0 million for expansion project and sustaining capital of $631.7 million to be incurred over the life of the operations, as summarized in Table 1-4.

Table 1-4: Estimated capital costs

Category	Initial Phase	Expansion	Sustaining
	Million $		
Mining Capital Costs			
Mining equipment fleet	$30.3	$48.1	$358.6
Mining (capitalized pre-stripping)	$23.3	$0	$0
Project direct costs			
Mineral processing area	$206.9	$209.9	$0
TMF (dike construction)	$11.6	$6.8	$95.7
Port area	$181.8	$72.6	$0
Mine site infrastructure and services	$159.2	$41.0	$8.3
Port site infrastructure and services	$26.9	$33.4	$0
Electric power	$47.6	$28.0	$0
Other capitalized pre-production costs	$19.8	$17.6	$70.4
Total direct costs	**$707.3**	**$457.5**	**$533.0**
Indirect costs (including Owner's costs)	$266.0	$117.5	$28.7
Contingency	$187.2	$115.0	$26.5
Closure and rehabilitation costs	$32.8	$0.0	$43.5
Total	**$1,193.3M**	**$690.0M**	**$631.7M**

Note: Figure numbers may not add due to rounding.

1.10.2 Operating Costs

The operating cost estimate for this PEA was developed by BBA to an accuracy of +/-35% and is based upon testwork, reagent consumptions, benchmarked data, first principles and industrial standards.

Estimated average cash operating costs for the life-of-mine of the project are summarized in Table 1-5.

Table 1-5: Total estimated phase and average LOM operating cost ($/t dry concentrate)

Category	Initial Phase	Expansion	Avg. (LOM)
	$/t conc.	$/t conc.	$/t conc.
Mining	$9.38	$10.53	$10.44
Mineral processing	$10.93	$10.53	$10.56
Concentrate transport to port stockpile	$1.98	$1.98	$1.98
Port (concentrate handling and shiploading)	$3.99	$2.32	$2.44
General site services	$4.83	$3.11	$3.24
Administration	$1.77	$1.08	$1.13
Total Opex (excluding leased equipment)	**$32.88**	**$29.55**	**$29.80**
Leased equipment	$5.62	$0.51	$0.90
Total Opex	**$38.50**	**$30.06**	**$30.70**

Note: Figure numbers may not add due to rounding.

Royalties and working capital are not included in the operating cost estimate presented but are treated separately in the Economic Analysis presented in Chapter 22 of this Report.

1.11 Economic Analysis

The Economic Analysis for the Hopes Advance project was performed using a discounted cash flow model on both a pre-tax and post-tax basis. The internal rate of return (IRR) on total investment was calculated based on 100% equity financing. The NPV was calculated for discounting rates between 0% and 10%, resulting from the net cash flow estimated to be generated by the Project. The Project Base Case NPV was calculated based on a discounting rate of 8%. A sensitivity analysis was also performed for the pre-tax base case to assess the impact of a +/-30% variation of the Project initial capital cost, which does not include mining costs, royalty buyouts or leasing costs. Sensitivity analyses were also run with a +/-30% variation on annual operating costs and the price of iron concentrate (FOB Breakwater Port).

Table 1-6: Pre-tax economic analysis results (base case is bolded)

IRR = 20.5% **Payback = 6.2 years** **Discount Rate**	**NPV (M$)**
0%	$10,770 M
5%	$4,138 M
8%	**$2,377 M**
10%	$1,630 M

Table 1-7: Post-tax economic analysis results (base case is bolded)

IRR = 16.8% **Payback = 6.7 years** **Discount Rate**	**NPV (M$)**
0%	$7,124 M
5%	$2,607 M
8%	**$1,405 M**
10%	$ 895 M

1.12 Project Execution and Schedule

The key to success for executing the Hopes Advance project rests with planning of logistics and construction. Early in detailed engineering and with the support of procurement resources, the development of temporary and permanent infrastructure to support construction will be of prime importance. Construction of these aforementioned areas should begin in the summer of the third year (Yr -3) before start of production. This will be followed by engineering, procurement and construction activities for all Project areas based on the schedule that will be developed in the next study phases.

Table 1-8 presents a list of major key milestones and activities. In the next study phase, a more detailed logistics and construction plan should be developed.

Table 1-8: Key project implementation milestones

Major Milestones	Month
Completion of the FS	M -36
Start detailed engineering	M -36
Early infrastructure delivery and construction, site preparation (permits awarded)	M -30
Construction (mine site and port site)	M -27
Construction and commissioning completed, start production (Phase 1 only)	M 0

1.13 Conclusions and recommendations

The re-scoped Project, as presented in the PEA Report, is conceptual in nature and needs to be further developed at a PFS level. BBA recommends that work be undertaken to better define the technical aspects of the project as it is developed further. The most important work pertains to geotechnical characterization, lithological/metallurgical definition, constructability and execution and concentrate transport.

1.13.1 Risks

In this PEA, a formal risk register was not formulated; however, in the PFS study a formal risk register should be started and maintained throughout the study to analyze and mitigate potential risks established during the study. At this PEA level, the following key Project risks are identified and should be further analyzed in the next study phases of the project. Recommendations regarding the mitigation of some of these risks are given in Chapter 26.

- There is a risk that the metallurgical performance outlined in the study is not met which will impact the project financial performance;
- Tailings and Water Management has been developed to a conceptual level and require further study;
- Risk related to tailings dam failure need to be taken into consideration by design based on the latest standards and guidelines;
- Seasonal impact could limit the availability of water reclaimed from the TMF;
- Environmental and permitting take longer than expected or have material cost impact;
- Impact of new and evolving regulations on schedule, CAPEX and OPEX; (keep track and investigate new regulations as they relate to the project schedule)
- Impact of logistics and transport on project costs;
- Cargo liquefaction related to transportation of fine materials;
- Dust generation and management;
- Construction and execution plan will be greatly affected by seasonal conditions. (A basis of the construction plan must be established early).

1.13.2 Recommendations

On the basis of the results of this PEA, BBA recommends that a PFS be conducted on the Hopes Advance project to advance the project to the next phase. The proposed PFS would be a stage-gate for Oceanic to determine if the Project should be subsequently advanced further. BBA recommends that the following work be undertaken as the project is developed further:

1. Metallurgy: In the PFS, analyze metallurgical testwork data for each deposit by lithology to develop weight recovery equations for the gravity and magnetic circuit;
2. Metallurgy: Ahead of the FS, perform more detailed mineralogical analysis on core samples by deposit and by lithology to better understand hematite and magnetite deportment and liberation;
3. Geology: In the PFS, incorporate the lithologies into the geological block model so that the mine plan can be developed accordingly;
4. Mineral Resource Estimate: In the PFS, update the mineral resource estimate applying current economic parameters and generate an updated resource block model incorporating data by lithology;
5. In the PFS, include the overburden bedrock contact in the block model;
6. Ore hardness variability: Ahead of the FS, perform variability testwork (such as SPI) on drill cores, by deposit and by lithology;
7. Ore Hardness: Ahead of the FS, conduct further HPGR testwork;
8. Ore Hardness: Ahead of the FS, conduct testwork for regrind design using cobber tail samples;
9. Alternative concentration circuits: In the PFS, perform trade-off studies to evaluate alternative gravity concentration circuits incorporating hindered settlers, wet, high intensity magnetic separation and Reflux Classifiers in order to optimize iron recovery;
10. TMF: In the PFS, conduct options study to evaluate the following. Such an options study will likely be required as part of the environmental permitting process;
    a. Tailings dewatering options to reduce water pumped to the TMF in light of the fact that during winter, water from the TMF may not be available for recirculation. This should include thickened tailings as well as filtered tailings.
    b. TMF design based on cellular approach to allow for progressive reclamation.
    c. Design strategies to reduce overall TMF footprint.
11. Water management: In the PFS, conduct a more detailed seasonal water study;
12. Archeological areas: Ahead of the FS, considering that this PEA proposes to locate the concentrate stockpile at the port in an area where archeological features have been identified, this should be reviewed in more detail;

13. Dust control: In the PFS, develop conceptual dust control strategies for waste piles, crushed material stockpile and concentrate stockpile, to be developed in even further detail in the FS;
14. Concentrate freezing: In the PFS, considering that the concentrate that will be transported and stored during the winter months, it will be important to assess the impact of cold temperature on material handling;
15. Concentrate moisture content: Ahead of the FS, perform testwork on the concentrate to determine its transportable moisture limit (TML). This will define the moisture content to avoid risk of ship cargo liquefaction. In turn this will determine filtering technology required to achieve the required moisture content;
16. Geotechnical investigations: Ahead of the FS, geotechnical investigations should be performed to confirm the soil/seabed conditions. The soil characteristic will influence both the ports structure and extent of the causeway. This is because dredging the seabed may be a feasible option if the seabed has softer soil than the assumed rock;
17. Power generation: In order to reduce fuel consumption, complementary power generation systems should be explored such as wind power, small hydro (run of river) and tidal. Some grants may be available for undertaking studies as well as for development of such strategies. This can be assessed during the execution of the PFS and FS.
18. Construction and execution plan: In the PFS and subsequently in the FS, a basis of the construction plan must be established early to better define site constraints and logistics and help establish more accurate construction costs;
19. Product marketability: Considering that the gravity concentrate is no longer subjected to regrind, the particle size may be too fine for conventional sintering and too coarse for direct pelletizing. A more detailed market analysis, specific to the HA product should be undertaken in the next study phases.
20. Community engagement: Oceanic should continue their efforts in engaging the community and stakeholders to actively promote the Project.

2. INTRODUCTION

2.1 Scope of Study

The following Technical Report (the "Report") presents a Preliminary Economic Assessment (PEA) that summarizes the results of a re-scoping study for the Oceanic Iron Ore Corporation (Oceanic), Hopes Advance project, in the Ungava Bay region, in Northern Quebec. In November 2018, Oceanic retained the services of BBA Inc. (BBA) to lead this Study. This Report was prepared at the request of Oceanic, a Canadian publicly traded company listed on the TSX Venture Exchange under the symbol 'FEO'. Oceanic is a British Columbia incorporated company with its registered office located at:

3083 Three Bentall Centre
595 Burrard Street
Vancouver, BC
Canada, V7X 1L3
Tel: (604) 566-9080

This Technical Report titled "Preliminary Economic Assessment of the Re-scoped Hopes Advance Property", concerning the development of the Castle Mountain, Iron Valley and Bay Zone F deposits, was prepared by Qualified Persons (QP) following the guidelines of the "Canadian Securities Administrators" National Instrument 43-101 (effective June 30, 2011), and in conformity with the 2014 guidelines of the Canadian Mining, Metallurgy and Petroleum (CIM) Standard on Mineral Resources and Reserves.

This PEA replaces the previous 2012 PFS NI 43-101 report as the current Report for the Hopes Advance project. Since the current study is a PEA, NI 43-101 Guidelines do not permit the disclosure of Mineral Reserves. Although NI 43-101 Guidelines do allow for the use of Inferred resources to be included in an economic analysis for a PEA, as long as the appropriate cautionary language is used to qualify such an analysis, Oceanic and BBA have chosen not to include Inferred resources in the economic analysis of this PEA and, therefore, the PEA only includes the resources that have been classified as Measured and Indicated. The results of the 2012 PFS, including the mineral reserve estimate and economic analysis, are no longer relevant and should not be relied upon. It should be noted that a Preliminary Economic Assessment is preliminary in nature and there is no certainty that the Project described in this PEA Report will be realized.

This Report is considered effective as of December 19, 2019.

2.2 Background and Project History

The Hopes Advance deposits are included in the group of iron deposits held by Oceanic, known as the Ungava Property, located in the Ungava Bay region of northern Québec, in the northern extension of the Labrador Trough. This area represents significant iron resources potential and was extensively explored during the late 1950s through the mid-1960s.

The term "Hopes Advance deposits" refers to the ten mineralization zones in the immediate Hopes Advance Bay, which includes: Bay Zones B, C, D, E and F (collectively the "Bay Zone"), Castle Mountain, Iron Valley, West Zone 2, West Zone 4, and West McDonald (collectively the "West Zone").

In November 2012, Oceanic completed a prefeasibility study (PFS) on the Hopes Advance project and issued its NI 43-101 Report summarizing the results. Since the completion of the PFS and up to mid-2014, Oceanic had continued to advance the Project by undertaking work and studies on some important activities in the areas of environmental permitting, process and product optimization, product marketability and shipping optimization. As iron ore market conditions significantly deteriorated between mid-2014 and end of 2015, compared to those prevailing in 2011-2012, Oceanic, like many others planning new projects or expansion projects, went into a disciplined cash preservation mode. As such, between 2016 and present, only critical path project activities continued (limited to completion of some environmental baseline studies).

Since the iron ore market bottomed out in early 2016, iron ore prices have strengthened but have continued to remain volatile. The improvement in market conditions have been mainly driven by government pressure on Chinese steel mills to reduce air emissions. This, in turn has increased demand for iron ore feedstocks having higher Fe grade and lower content of deleterious elements such as silica, alumina and phosphorous. This has resulted in a significant increase in 'quality premiums' for higher purity iron ore products and renewed activity in the iron ore sector. In the Labrador Trough, previously curtailed operations have been successfully restarted by Champion Iron Ore (Bloom Lake Mine) and Tacora (Scully Mine).

2.3 Nature of Project Re-scope

The main reason for undertaking this Study on a re-scoping basis is to determine whether it may be possible to achieve an acceptable return on investment by scaling down the production profile while reducing up-front capital to bring the project to commercial production. The main fundamental changes proposed in this PEA, compared to the 2012 PFS, are described herein.

The 2012 PFS of the Hopes Advance Project was based on an initial project producing 10 Mtpa of dry concentrate followed by an expansion in Year 10 to 20 Mtpa of dry concentrate. The project life was 31 years. For the initial phase, power was self generated using No. 6 heavy fuel oil while for the expansion, power would be provided by Hydro-Quebec through a new high voltage transmission line. Concentrate in slurry form would be pumped by pipeline over a distance of 25 km and filtered and dried at the port with filtrate returned by pipeline to the concentrator. Concentrate would be shipped from the port facility year-round.

The PEA is based on initial nominal production of 5 Mtpa of dry concentrate followed by an expansion in Year 5 to 10 Mtpa. The financial analysis for the PEA is limited to a 28-year period, targeting only the three main deposits (Castle Mountain, Iron Valley and Bay Zone F). However, there is potential to continue the operations beyond 28 years. For both the initial and expansion phases, power is self-generated using diesel fuel by a barge-based power plant. Concentrate is filtered at the concentrator site and transported year-round by truck to the port stockpile. Concentrate is shipped only during the summer months, thus stockpiled during the winter months. Seasonal shipping is expected to reduce the cost of port infrastructure and avoid the transhipment of concentrate during the winter months. For this PEA, BBA is proposing a modified process flowsheet that is more energy efficient, aimed at reducing power requirements (and fuel storage) and improving the project's carbon footprint associated to mineral processing.

2.4 Sources of Information

BBA has based this PEA largely on the PFS on Hopes Advance (Micon, 2012) and its underlying mineral resource estimate and block model, as well as other information provided by Oceanic.

Oceanic has provided information regarding the ownership structure, as discussed in Chapter 4 of this Report. BBA believes that Oceanic has provided all information stemming from these agreements and has reasonably incorporated the impact of the information provided into the Economic Analysis presented in Chapter 22 of this Report.

For the PEA, BBA has performed the economic analysis on a pre-tax basis and has relied on Oceanic to provide annual tax payment estimates for performing the post-tax economic analysis, as outlined in Chapter 22 of this Report.

Chapter 27 of this Report contains a list of references that have been used and referred to in this PEA Report. Past technical reports on the Project can be accessed from SEDAR's electronic database http://www.sedar.com/.

2.5 Terms of Reference

Unless otherwise stated:

- All units in this Report are in the metric system;
- Grid coordinates are in a NAD83 UTM system;
- Unless otherwise stated, all costs are expressed in US Dollars ($ or USD or US$);
- The exchange rate used in this Study is $1.00 US = $1.33 CAN ($1.00 CAN = $0.75 US);
- Costs used for the pit optimization in Chapter 16 are presented in Canadian Dollars (CAD).

2.6 Report Responsibility and Qualified Persons

The following individuals, by virtue of their education, experience and professional association, are considered QPs as defined in the NI 43-101, and are members in good standing of appropriate professional institutions.

- Derek Blais, P. Eng., BBA
- Jeffrey Cassoff, P. Eng., BBA
- Eddy Canova, P. Geo., GeoConsul Canova Inc. (GCC)
- Anna Klimek, P. Eng., Wood Plc.

The QPs have contributed to the writing of this Report and have provided QP certificates, included at the beginning of this Report. The information contained in the certificates outlines the sections in this Report for which each QP is responsible. Each QP has also contributed figures, tables and portions of Chapters 1 (Summary), 25 (Interpretation and Conclusions), and 26 (Recommendations). Table 2-1 outlines the responsibilities for the various sections of the Report and the name of the corresponding Qualified Person.

Table 2-1: Qualified Persons and areas of report responsibility

Chapter	Description	Qualified Person	Company	Comments and exceptions
1.	Executive Summary	D. Blais	BBA	All QPs contributed based on their respective scope of work and the chapters/sections under their responsibility.
2.	Introduction	D. Blais	BBA	All Chapter 2
3.	Reliance on other Experts	D. Blais	BBA	All Chapter 3
4.	Project Property Description and Location	E. Canova	GCC	All Chapter 4
5.	Accessibility, Climate, Local Resource, Infrastructure and Physiography	E. Canova	GCC	All Chapter 5
6.	History	E. Canova	GCC	All Chapter 6
7.	Geological Setting and Mineralization	E. Canova	GCC	All Chapter 7
8.	Deposit Types	E. Canova	GCC	All Chapter 8
9.	Exploration	E. Canova	GCC	All Chapter 9
10.	Drilling	E. Canova	GCC	All Chapter 10
11.	Sample Preparation, Analyses and Security	E. Canova	GCC	All Chapter 11
12.	Data Verification	E. Canova	GCC	All Chapter 12
13.	Mineral Processing and Metallurgical Testing	D. Blais	BBA	All Chapter 13
14.	Mineral Resource Estimate	E. Canova	GCC	All Chapter 14
15.	Mineral Reserve Estimate	J. Cassoff	BBA	All Chapter 15
16.	Mining Methods	J. Cassoff	BBA	All Chapter 16
17.	Recovery Methods	D. Blais	BBA	All Chapter 17
18.	Project Infrastructure	D. Blais	BBA	All Chapter 18 except Section 18.3.2
		A. Klimek	Wood	Section 18.3.2
19.	Market Studies and Contracts	D. Blais	BBA	All Chapter 19
20.	Environmental Studies, Permitting, and Social or Community Impact	D. Blais	BBA	All Chapter 20
21.	Capital and Operating Costs	D. Blais	BBA	All Chapter 21 except marine facilities
		A. Klimek	Wood	Portion related to marine facilities
22.	Economic Analysis	D. Blais	BBA	All Chapter 22
23.	Adjacent Properties	E. Canova	GCC	All Chapter 23
24.	Other Relevant Data and Information	D. Blais	BBA	All Chapter 24
25.	Interpretation and Conclusions	D. Blais	BBA	All QPs contributed based on their respective scope of work and the chapters/sections under their responsibility.
26.	Recommendations	D. Blais	BBA	All QPs contributed based on their respective scope of work and the chapters/sections under their responsibility.
27.	References	D. Blais	BBA	All QPs contributed based on their respective scope of work and the chapters/sections under their responsibility.

2.7 Site Visits

Mr. Blais, Mr. Cassoff and Ms. Klimek have not visited the property.

Mr. Canova visited the property on the following dates: February 1-6 and 21-26, 2011, March 5 to October 24, 2011; April 2-16, 2012; May 29 to July 21, 2012; March 20-24, 2013; April 10 to May 10, 2013; June 21 to July 15, 2013; August 1-15, 2013; March 12-26, 2014; July 3-19, 2014; and August 1-19, 2014. Mr. Canova's site-work was related to drilling and exploration activities; nothing deemed relevant has changed at site since his last visits.

3. RELIANCE ON OTHER EXPERTS

3.1 Introduction

BBA has not verified the legal titles of the property nor any underlying agreement(s) that may exist concerning the licenses or other agreement(s) between third parties but has relied on Oceanic to have conducted the proper legal due diligence. The status of the mining claims under which Oceanic holds title to the mineral rights for the Hopes Advance project has been compiled by external services and verified by Oceanic. The description of the property is provided for general information purposes only.

3.2 Commodity Pricing and Markets

Mr. Paul Vermeulen of Vulcantech was retained by Oceanic to provide an updated product market study (Vermeulen, 2019) in support of the iron ore selling price used in the Project economic analysis for this PEA Study. The study was conducted by Mr. Paul Vermeulen, a metallurgical engineer with experience in the iron ore and steelmaking industries. Mr. Vermeulen worked for 11 years with ArcelorMittal South Africa and has since developed several pricing models for Rio Tinto as well as other major and junior mining companies. He is not considered a QP for the purpose of this NI 43-101 Report. The reported analyst consensus forecast selling prices were used in order to develop the base case selling price of the Hopes Advance concentrate. The study is discussed in Chapter 19 of this report and the derived selling price is used in the economic analysis in Chapter 22.

4. PROPERTY DESCRIPTION AND LOCATION

The Ungava Property contains several significant, historically identified, undeveloped iron deposits. Hopes Advance Bay is located in the south of this iron deposit range. The Ungava Property consists of several blocks of claims on NTS sheets 24M, 24N, 25C and 25D, and covers an area of approximately 35,998.77 ha. The Ungava Property extends between latitude 59°06'N to 60°50'N and from longitude 69°42'W to 71°05'W. The approximate centre of the Hopes Advance claims is 59°17'58"N, 69°54'13"W. The location of the Ungava Property is shown in Figure 4-1.

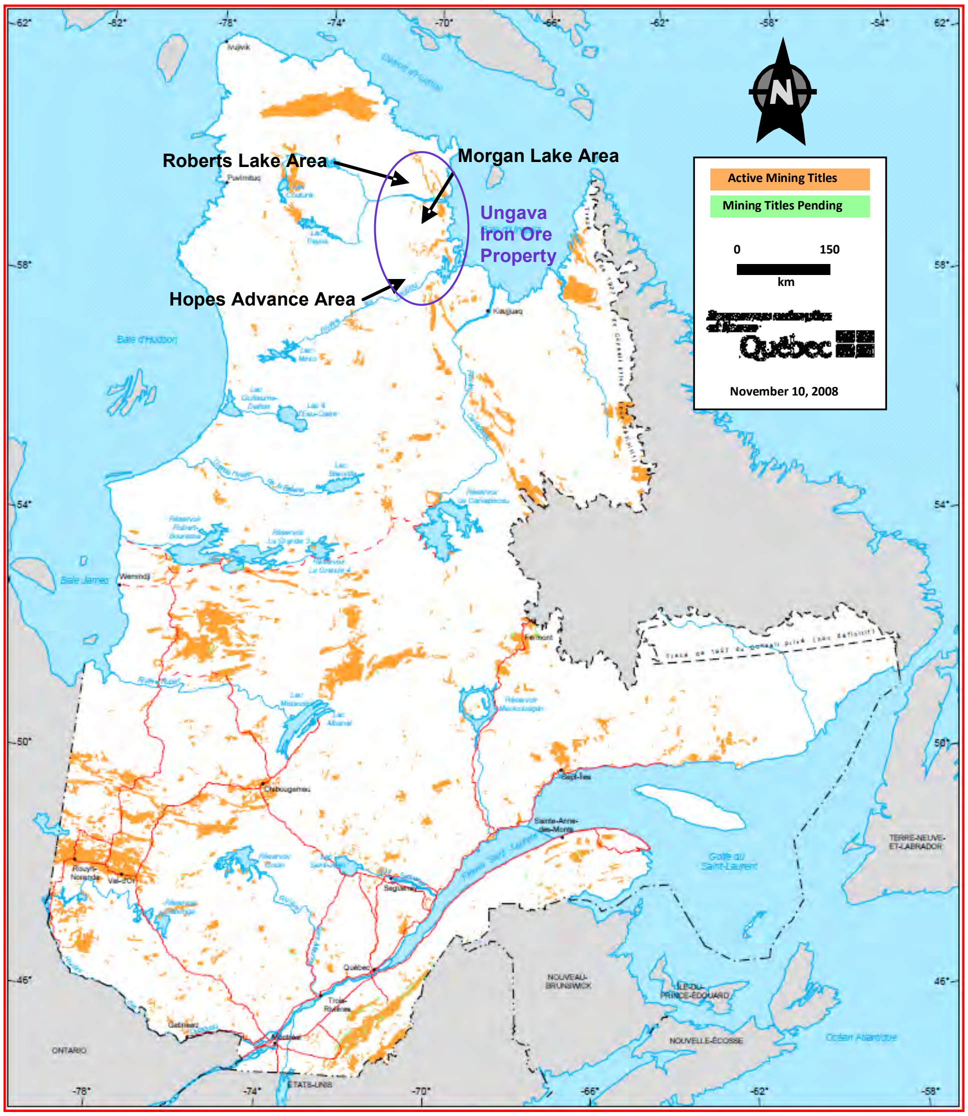


Figure 4-1: Location of the Ungava Property in northeastern Québec, Canada

The Hopes Advance project is made up of a number of historically identified iron deposits north of Ford Lake, Red Dog Lake, and the Red Dog River. The deposits are about 30 km inland from Hopes Advance Bay and the small village of Aupaluk. The iron deposit contained on the property nearest to tidewater is within about 5 km of Hopes Advance Bay.

There is extensive historical documentation for the properties that make up the Ungava Property. The deposits at the Hopes Advance area were the most advanced towards production with a detailed scoping study level report completed in the early 1960s (referred to as a feasibility study at that time).

Pacific Harbour entered into an agreement dated October 1, 2010 with John Patrick Sheridan of Toronto, Ontario and Peter Ferderber of Nepean, Ontario, (collectively referred to as the Vendors) to acquire a 100% interest, subject to a 2% net smelter return (NSR) royalty, in approximately 3,000 mining claims located near Ungava Bay, Québec. On November 30, 2010, the company closed the acquisition of the 100% interest, subject to the Vendors retaining a 2% NSR royalty on the property. Also, on closing the acquisition agreement, Pacific Harbour changed its name to Oceanic Iron Ore Corp.

As consideration for the acquisition, the company issued 30,000,000 common shares, of which 12,000,000 common shares were free trading and 18,000,000 were in escrow. The shares held in escrow were released as follows: 4,500,000 shares on each of the dates that are 18 months, 24 months, 30 months and 36 months following December 3, 2010, respectively.

On November 30, 2011, Oceanic paid an initial advance NSR payment of $200,000 and, thereafter, will pay minimum advance NSR payments of $200,000 per year, which will be credited against all future NSR payments payable from production. Oceanic may purchase 50% of the NSR by paying $3,000,000 at any time in the first two years following the commencement of commercial production from the property.

Exploration claims are established by paper staking and do not require that the limits be physically walked or marked. Until April 2010, obtaining claims by map designation could be done by mail, fax, electronically or in person with the Ministry or at its regional centres. Since April 2010, this can only be done electronically. Sheridan and Ferderber stated that the claims were all obtained through map designation and not by physical staking.

The Ungava Property (Hopes Advance, Morgan and Roberts) consists of 872 claims on 11 map sheets that extend along the known trace of the iron formation. The claims are valid but require rental fee payments every two years totalling $97,108.75. Exploration activities require an application and approval of the *Québec Ministère des Ressources naturelles et de la Faune* (MRNF). None of the claims are within parks, forest reserves or other areas that are restricted from exploration and mining. Areas that are restricted from staking or exploration are shown in Figure 4-2.

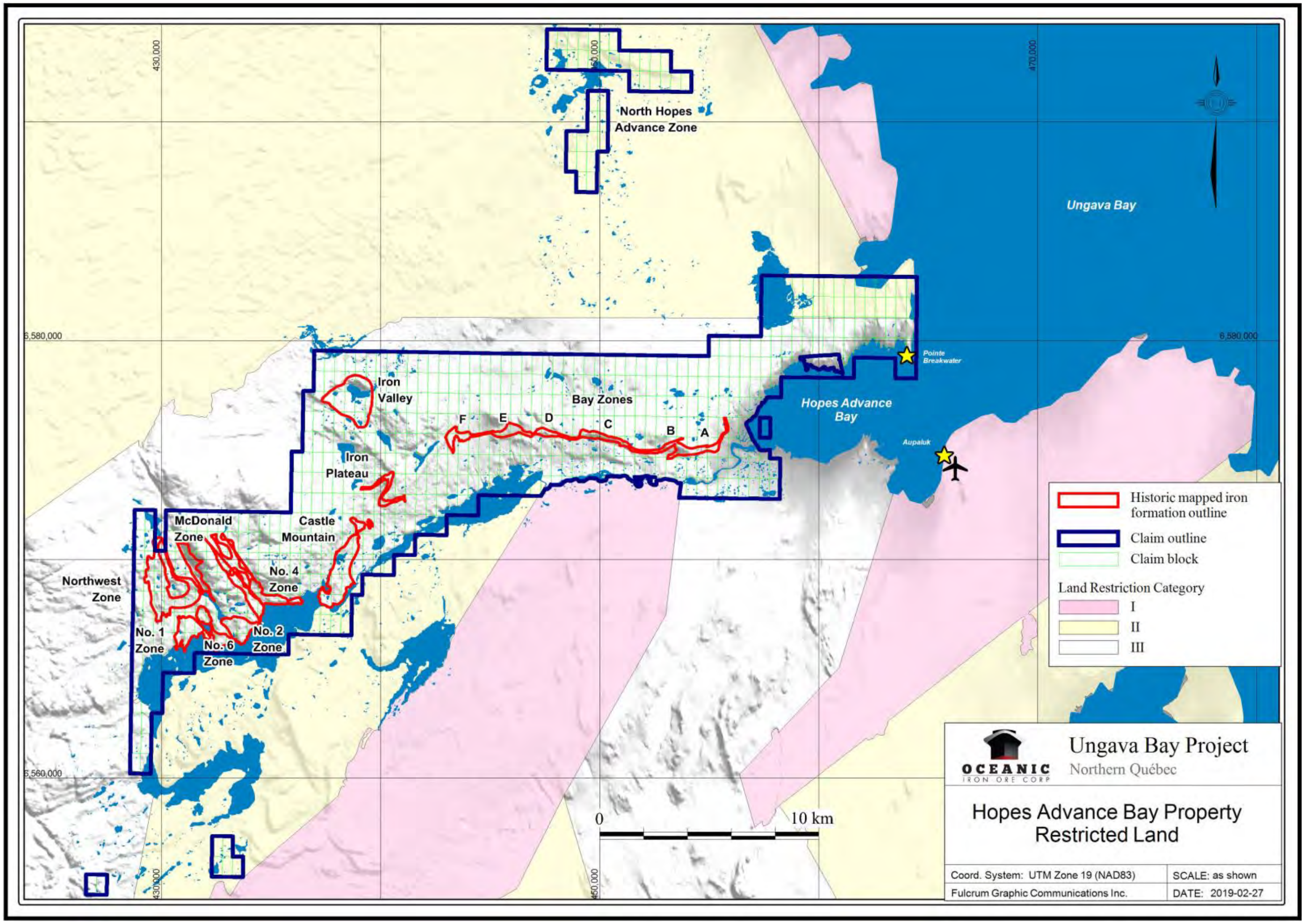


Figure 4-2: Restricted areas from staking or exploration

Claims expiring up until April 29, 2020 have been renewed and the soonest that any claims will expire is January 8, 2020. The annual rental fees for May 5, 2020 through November 17, 2021 total $77,008.25. Work required in lieu of assessment fees for 2020 to 2021 is $1,177,420.00 in assessment work filing. There are no pre-existing surface rights held on the property.

A summary of the mineral claims making up the Hopes Advance, Ungava Property at January 2020 is given in Table 4-1. Figure 4-2 and the complete list of claims presented in Appendix A is for Hopes Advance, Morgan and Roberts.

The Ungava Property is presently owned 100% by Oceanic.

Exploration activities are subject to the Québec Mining Act and its Regulations as well as the Québec Environmental Quality Act and its Regulations. These statutes set out the requirements for mineral exploration and the environmental controls required to manage exploration activities on site. The Québec Mining Act sets up the requirement for the exploration permit and any development permit if the project proceeds to that stage. The Québec Environmental Quality Act is comprehensive and covers a broad range of protection measures including pollution control, environmental impact assessment, requirements for land protection and rehabilitation, quality of water and waste water, hazardous materials, air quality control, consultation, and residual and hazardous wastes.

Oceanic is not aware of any environmental liabilities associated with the Hopes Advance Property that is the subject of this report.

Table 4-1: Summary list of Hopes Advance claims at January 1, 2020

Property	SNRC	Claims	Area (ha)	Rent ($)	Work required 2020-2021
Hopes Advance	24M01, 24M08, 24N05	623	25,637	67,799	1,088,080

In 2012, Oceanic conducted its exploration activities under the permit (*Permit d'Intervention*) issued by the MRNF (Number 3011939, issued April 19, 2012). In 2014, Oceanic had requested a permit for the geotechnical drilling off the Break Water Point for 10 geotechnical drill holes. On January 23, 2014, Oceanic received a response from the MDDEFP, "*Avis de non-assujettissement pour du Forage Géotechniques dans la Baie Hopes Advance – Programme 2014 – Ref: 7610-10-01-70112-00, 401102567*". In 2016, Oceanic renewed its permit with the MFFP for exploration and drilling and was granted a permit for the period of April 2016 to March 2017 with the permit number No. 3018672 ending on March 31, 2017. In 2017, Oceanic renewed its permit with the MFFP for exploration and drilling and was granted a permit for the period of April 2017 to March 2018 with the permit number No. 3018672 ending on March 31, 2018. Permits with the MFFP (*Permit d'Intervention*) were not requested for April 2018 to December 2019; however, if any further exploration work is required, this permit (*Permis d'Intervention*) will be required and any geotechnical drilling off the Break Water Point would require a drilling permit requested with the MDDEFP (*Avis de non-assujettissement pour du Forage Géotechniques dans la Baie Hopes Advance).*

On February 25, 2011, the Nunavik Land Holding Corporation of Aupaluk granted authorization to carry out exploration in the Hopes Advance project area.

The Land Holding of Aupaluk has granted a permit in 2011 to the company for establishing a camp.

The Hopes Advance project is located in Nunavik, the northern region of Québec, which falls under the jurisdiction of the James Bay and Northern Québec Agreement (JBNQA). This agreement, negotiated in 1975 between the Government of Québec, the Grand Council of the Crees of Québec and the Northern Québec Inuit Association, has led to specific provisions of Chapter II of the Québec Environmental Quality Act (EQA). The Kativik Environmental Advisory Committee (KEAC), composed of Kativik Regional Government, northern villages, provincial government and federal government representatives, serves as the official forum to implement and address environmental protection and management in the region.

In December 2006, the Nunavik Inuit Land Claims Agreement was reached between the Government of Canada, the Government of Nunavut and the Makivik Corporation on behalf of Nunavik Inuit. Makivik Corporation is the development entity that manages the heritage funds of the Nunavik Inuit as provided for in the JBNQA. The 2006 Land Claims Agreement a) affirms the existing aboriginal and treaty rights as recognized under the Constitution Act of 1982; and b) provides additional certainty regarding land ownership and use of terrestrial and marine resources. The Nunavik Inuit Land Claims Agreement Act has been adopted in July 2008.

Three new entities, the Nunavik Marine Region Wildlife Board (NMRWB), the Nunavik Marine Region Planning Commission (NMRPC), and the Nunavik Marine Region Impact Review Board (NMRIRB), have been established as a result of the aforementioned land claims agreement. Each board will play a significant role in assessing and approving any development in the Nunavik region.

Federal legislation will also need to be considered for any development in addition to the Inuit agreements, Nunavik agencies, and the Québec legislation mentioned above. Applicable federal legislation includes the Canadian Environmental Assessment Act, the Fisheries Act, the Canadian Environmental Protection Act, the Canada Water Act, the Navigable Waters Protection Act, Migratory Birds Act, and the Metal and Diamond Mining Effluent Regulations (MDMER). Tailings and waste rocks disposal in a natural water body should be avoided in project planning as legislated under the MDMER. In addition, exploration and potential development needs to consider species of special status that include caribou, beluga whale and musk ox. In March 2014 (Chabot, 2014), WSP conducted a regional reconnaissance study on musk ox in the greater Hopes Advance area. Musk ox were not observed on the Hopes Advance project area during the study. No other significant factors have been identified that can affect access, title or the right or ability to perform work on the property.

5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Hopes Advance project area is accessible from Aupaluk 10 km east in Nunavik, Québec, via helicopter or float plane (Figure 5-1). Aupaluk is serviced by regularly scheduled flights by Air Inuit from Kuujjuaq. First Air operates regularly scheduled flights to Kuujjuaq originating out of Montreal.

The nearest road is about 10 km from the Hopes Advance project area near Aupaluk. Aupaluk and Kangirsuk are not connected to each other or to any other community by road. Kangirsuk has a population of 549 (2011) while Aupaluk has a population of 195 (2011). The major population centre for the region is Kuujjuaq, located about 150 km southeast of the property with a population of 2,754 in 2016.

The Hopes Advance project is located within 10 km of Aupaluk. The closest accommodations are located in Aupaluk and Kangirsuk, both of which have a hotel and motel with restaurant and general store. If the Project goes into development, infrastructure, as described in Chapter 18 – Project Infrastructure, will be required.

The Hopes Advance project area is located in the sub-arctic treeless tundra of the Canadian Shield and Labrador Trough. Topographic relief can be up to a few hundred metres above sea level (generally less than 150 m). Much of the area is flat with local hills and ridges forming relatively prominent features. Numerous lakes and streams are found throughout the region. The mean annual temperature is -5.7°C, with the coldest temperatures recorded in January (average -24.3°C) and the warmest in July (average 11.5°C). Average annual precipitation recorded at Kuujjuaq is 527 mm, with the minimum in April and the maximum in August. Rainfall averages 227 mm. Snow falls between October and April. Winds are steady and sometimes reach high velocities, with an average of about 30 km per hour throughout the year. The wind directions are generally from the southwest and northeast. Due to the moderating influence of the sea, winter temperatures are no colder than northern Minnesota or southern Manitoba. The winters are long and the summers are short and cool. These climatic conditions are severe, though no more so than other regions of northern Canada.

The project area is located within the zone of permanent permafrost. Exploration can be carried out on the property between May and October. Mining operations will operate year-round, except under severe winter conditions where there could be interruptions. Projects in northern Nunavik (Raglan), with Glencore Canada Corp. and Exploration Minière Jien Nunavik Ltée., operate their pits all year-round.

The vegetation on the property is composed of sub-arctic tundra species including various small plants, mosses and lichens. Animal species present on the property include caribou and musk ox. In Ungava Bay, a small population of beluga whales is also present.

Oceanic Iron Ore Corp., November 2011.

Figure 5-1: Location map of the communities in northeastern Québec, Canada

No surface rights are held on the property. No power sources are currently available to the Project. Water sources are abundant in all areas of the property. Potential port sites have been identified within 26 km of the Hopes Advance project area. Experienced mining personnel would be sourced from mining centres in southern Québec. Adequate space is available for potential tailings storage areas, waste disposal areas, and sites for facilities.

6. HISTORY

The history of the discovery and early exploration of iron resources within the Labrador Trough is described by Auger (1958) in a report for the Ungava Iron Ores Company as follows:

> "The Labrador Trough is a stratigraphic and structural unit, which has been reported in northern Québec as early as 1852, by Father Babel, an Oblate missionary. In the latter part of the 19th Century, A. P. Low of the Geologic Survey of Canada mentioned the presence of abundant iron formation and in his report published in 1895, he recommends that the area be prospected for iron. In 1929, iron ore was found in Labrador by J. E. Gill and W. F. James in the iron formation of the Trough on the present property of the Iron Ore Company of Canada and in 1936, Dr. J. A. Retty made the first discovery of iron ore in Québec and began the systematic exploration of the Labrador Trough. His work was followed by that of numerous others, including the writer [Auger].
>
> "In the succeeding years from 1946 to date [1958] the Province of Quebec gave various companies large concessions covering most of the Labrador Trough from Knob Lake northward as far as Ungava Bay and southward as far as Mount Wright and Lake Mistassini. In 1951, a prospector, Ross Toms, staked the first claims in the Ford Lake region [Hopes Advance area]. The samples collected on these claims were brought to Mr. Cyrus S. Eaton of Cleveland, Ohio USA, who foresaw the potential economic significance of ore of this type located near tidewater. Mr. Hugh Roberts, a well-known consulting geologist from Duluth, examined the samples and recognized at once the economic value of the material under consideration and recommended that some geologic studies and exploratory drilling be done on the ground which is now [1958] the property of Atlantic Iron Ores Limited.
>
> "In 1952 and 1953, exploration was pushed northward along the Labrador Trough and new outcrops of iron ore were discovered with the resultant acquisition by the Cyrus Eaton interests of the mineral rights on the International Iron Ores Properties, north and south of Payne River. In the following years Oceanic Iron Ores Company and Quebec Explorers Limited obtained mining concessions on neighbouring grounds. This completed the granting of all the iron-bearing ground comprised within the Labrador Trough in Quebec."

The most active exploration period was from 1952 through 1961. Large iron mining operations were proposed at Hopes Advance Bay in the south. The project at Hopes Advance Bay was the most advanced in the area with a detailed scoping study and prefeasibility study being completed (called a feasibility study at that time).

During the same time period, large iron resources were developed southward along the Labrador Trough in Labrador and in Québec at Labrador City, Wabush, and Mount Wright. Additionally, large iron production plants (in Taconite) were brought into production in Minnesota and Michigan in the United States. All of this additional capacity was much closer to steel producing centres in the

United States and Canada resulting in much lower overall production costs than could be achieved by mining the deposits in the Ungava Bay region. As a result, all of the projects in this area had been suspended or terminated by the mid-1960s.

Minor exploration work continued on the property until the early 1970s. Since that time, other than some minor metallurgical testing, the only exploration work completed by previous companies has been airborne geophysical surveys completed during the 1990s. Airborne geophysics (radiometrics and magnetometer surveys) have been completed in 2006, 2007, 2008 and 2009 by Voisey Bay Geophysics Ltd., as contracted by Ferderber and Sheridan.

6.1 General Exploration History

6.1.1 Hopes Advance Project Area History

The Hopes Advance area iron deposits were first discovered in 1951 with active exploration from that time continuing through 1962. Exploration work completed on the property included exploration drilling, surface sampling, surface mapping, and metallurgical testwork. Detailed site layouts and pit designs were completed for a processing plant along the Red Dog River and a harbour on Hopes Advance Bay.

Eight of the deposits have had some drilling including Bay, Castle Mountain, Iron Valley, No. 1, West Zone 2 - West Zone 4, West Zone McDonald, and Northwest Corner zones. Other mineralization in the Hopes Advance area includes the No. 3 and No. 6 zones. The Northwest Corner zone is not considered in the present mineral resource estimate.

6.1.2 Hopes Advance Project Area Zones

The Hopes Advance area includes historically identified iron deposits including the Bay Zones A, B, C, D, E and F; Castle Mountain; Zones 1, 2, 3, 4, 5, and 6; the Northwest Corner, McDonald, and Iron Valley zones. The historical overall average grade for these deposits was 35.7% $Fe_{soluble}$ and was based on extensive exploration drilling (185 drill holes, 12,935 m), channel sampling, bulk samples, surface mapping, and economic studies.

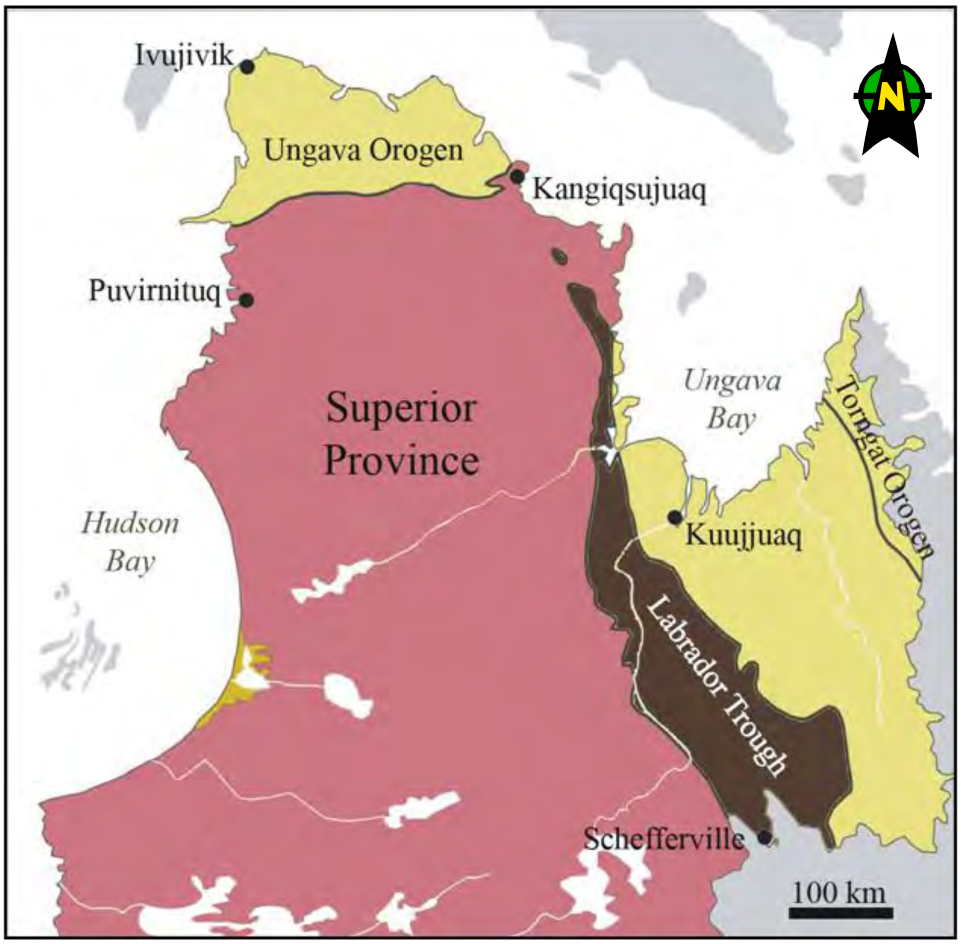
The historical work at Hopes Advance included mine plans including pit designs with ramps. All drill indicated areas had pits designed on them and waste stripping determined. No detailed annual mine plans were constructed and the overall stripping ratio was estimated to be about 0.32 to 1 on the drill indicated material. Initial mining would have been from the Castle Mountain and Bay Zone F deposits.

6.2 Historical Production

There has been no historical production from any of the iron deposits contained within the Ungava Property.

7. GEOLOGICAL SETTING AND MINERALIZATION

The iron formation that comprises the deposits of Oceanic's Ungava Property is situated at the northernmost extension of the approximately 1,000 km long Labrador Trough as shown in Figure 7-1. Farther south, the Labrador Trough hosts the iron ore deposits of Schefferville and Wabush Lake. The Labrador Trough, or New Québec Orogen, is a Paleoproterozoic (1,840 Ga) fold and thrust belt that is situated between the Archean aged Superior and Rae Provinces. The iron formation in the Labrador Trough has been dated at 1,880 Ga ±2 Ma.



Micon, 2008 after MNRF (http://www.mrnf.gouv.qc.ca/english/publications/mines/quebec-mines/gites_uranium.pdf).

Figure 7-1: Map showing major tectonic subdivisions of northern Québec and the Ungava Peninsula

The general stratigraphic sequence observed in the Ungava Property is composed of an Archean age granite gneiss basement; unconformably overlying the granite gneiss is a succession of meta-sedimentary rocks. (See Table 7-1). Immediately overlying the granite gneiss in most areas is quartzite of the Ford Lake Formation. The quartzite may contain magnetite, garnet and lenses or pods of mica schist. The quartzite grades upward into the Sokoman Iron Formation. The iron formation may be further subdivided based on variations in magnetite, hematite, carbonate and iron silicates. A conspicuous spotted iron silicate-carbonate-quartz bed caps the iron formation. Micaceous schist and slate that are intruded by gabbro sills overlie the Sokoman iron formation.

Table 7-1: Stratigraphic sequence in the Hopes Advance Area

Hopes Advance				Thickness (m)
Late Precambrian	**Leaf Bay Group**	Volcanic and sedimentary rocks. Diorite and gabbro sills and amphibolitic rocks	--	
	Red Dog Formation	Micaceous schist and slate with minor carbonate and quartzose beds	--	
	Sokoman Iron Formation	Iron silicate-carbonate-quartz iron formation		15-30
		Grunerite-magnetite-quartz iron formation		10-15
		Hematite-magnetite-quartz iron formation		45-60
		Carbonate-iron silicate-magnetite-quartz iron formation		12-15
	Ford Lake Formation	Quartzite and garnet-biotite-chlorite schist		Up to 30
Early Precambrian	**Archean Complex**	Unconformity		
		Granite and granite gneiss		

The Sokoman Iron Formation is the stratigraphic/geological control of the iron mineralization in the region. Strong folding has resulted in a structural influence on the iron formation. The iron formation in the Ungava Bay area appears to be more or less continuous along its considerable strike length of over 300 km. The iron formation is folded into a south-southeast plunging syncline with the closure of the fold located to the north of Payne Bay. The limbs of this regional syncline are folded in a series of parasitic synclines and anticlines.

Thrusting and recumbent folding of the iron formation in several areas has led to limb thickening, thinning, and doubling up of the mineralized horizons in some locations. The known deposits or more prospective areas on the property are those areas where the iron formation has been deformed and is now flat-lying, raised above the surrounding non-mineralized rocks, deformed into anticlines or synclines, doubled up or otherwise thickened.

Table 7-2 lists the lengths, widths (observed on the surface and not corrected to true thicknesses) and depths of mineralized zones as noted from the historic work conducted by the companies noted in Chapter 6 of this report.

Table 7-2: Description of length, width, depth and continuity of mineralized zones

Area / Mineralized Zone	Length (m)	Width (m)	Known depth (m)	Orientation	Continuity
Hopes Advance Bay					
A	~1,000	100-200	> 50	moderate to S	continuous iron unit with deposits along 10 km strike
B	>1,000	150-300	> 50	moderate to S	continuous iron unit with deposits along 10 km strike
C	>2,000	100-150	> 50	moderate to S	continuous iron unit with deposits along 10 km strike
D	>1,200	50-150	> 50	moderate to S	continuous iron unit with deposits along 10 km strike
E	>1,500	90-400	> 50	moderate to S	continuous iron unit with deposits along 10 km strike
F	>1,400	90-400	> 50	moderate to S	continuous iron unit with deposits along 10 km strike
Iron Valley	~1,700	~1,300	~ 40-50	~ flat lying	syncline, forms a bowl shape
Castle Mountain	~5,600	200-800	50-75	low angle to flat lying	good continuity
Zone No. 2	~1,000	~500	~ 50	low angle to flat lying	good continuity
Zone No. 4	~3,500	150-300	> 75	moderate to SW	folded, good continuity

7.1 Hopes Advance Project Area

The Hopes Advance area is unusual in that it is the only portion of the iron formation which strikes generally east-west. All other areas are dominated by strikes that range from north-northwest to north-south. The geology of the Hopes Advance project is presented in Figure 7-2.

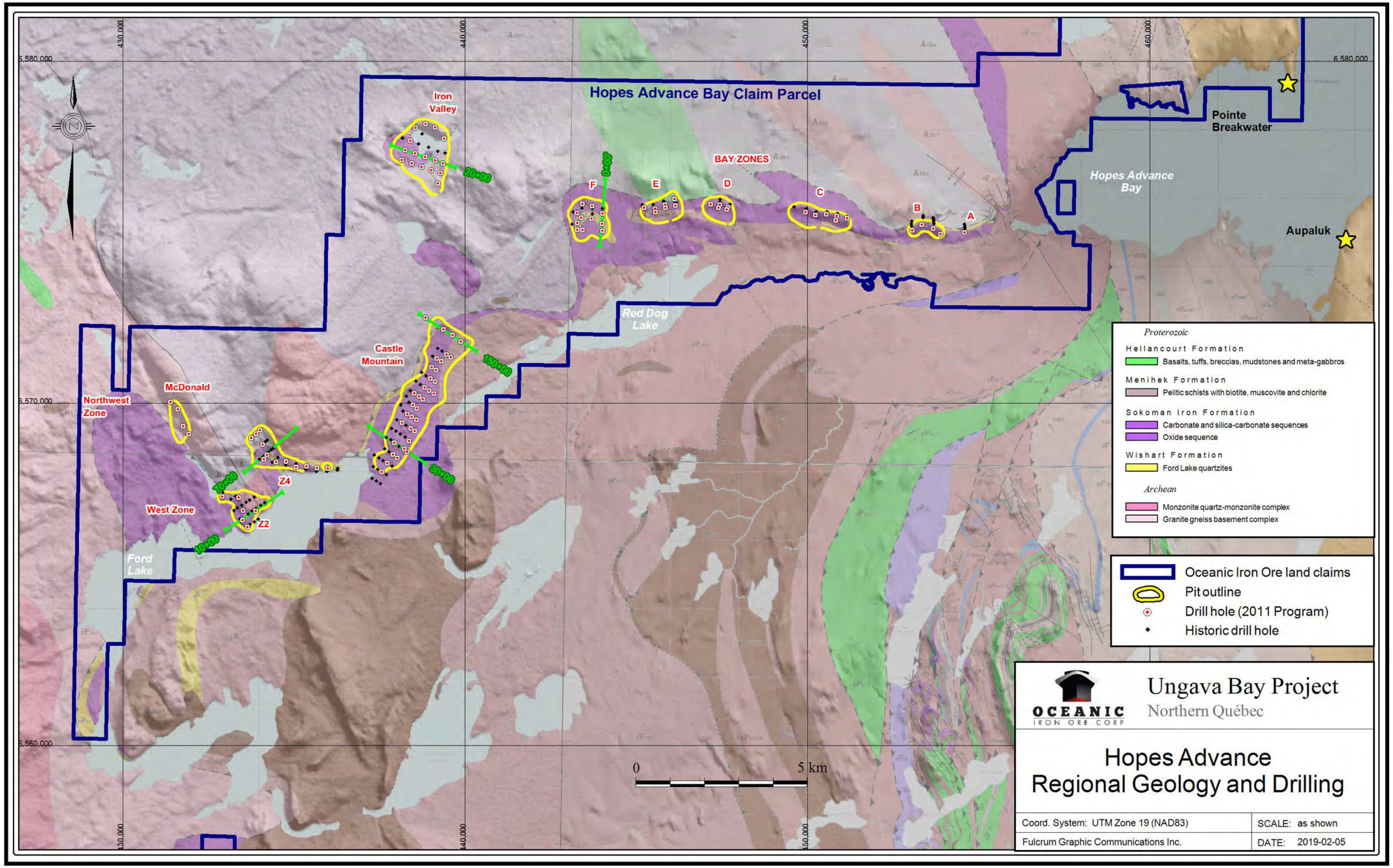


Figure 7-2: Geology of the Hopes Advance area

The bedding at Castle Mountain appears to form an open, upright anticline plunging shallowly to the southeast. However, fold closures in the otherwise relatively flat-lying rocks suggest complex folding and thrusting of the beds. Lean chert-magnetite iron formation is locally overlain by higher-grade chert-magnetite-hematite iron formation. Historic bulk sample trenches apparently targeted this horizon. Beds in the chert-magnetite-hematite iron formation are up to several feet thick. The chert-magnetite-hematite iron formation is overlain by spotted chert-magnetite-silicate iron formation, which in turn is overlain by spotted chert-carbonate rock. Fibrous amphiboles were noted in the transition between the chert-magnetite-hematite-silicate iron formation and the overlying chert-carbonate rock.

The bedding at Hopes Advance West Zone 4 is folded into a southeast plunging syncline. Chert-magnetite-hematite-silicate iron formation is overlain by spotted chert-magnetite-silicate iron formation and spotted chert-carbonate rock. Beds in the chert-magnetite-hematite-silicate iron formation are up to 0.5 m thick.

The bedding at Hopes Advance West Zone 2 is folded and locally thickened by north-northwest-striking thrust faults. Locally, there is evidence for thrusting where chert-magnetite-silicate iron formation overlies spotted chert-carbonate rock. Bedding dips 30° to 40° to the northeast. The chert-magnetite-silicate iron formation is overlain by spotted chert carbonate. Beds in the chert-magnetite-silicate iron formation are up to a couple of feet thick.

Outcrop at Hopes Advance Iron Valley is sparse. The distribution of outcrop in the area supports a syncline with Iron Valley mineralization lying on the axis. Chert-magnetite-hematite iron formation is overlain by spotted chert-carbonate rock. Two large float boulders of chert-specularite were observed. The float boulders were friable and may represent potentially economic mineralization that does not crop out. Specularite grains are approximately 100 µ in length.

7.1.1 Mineralization

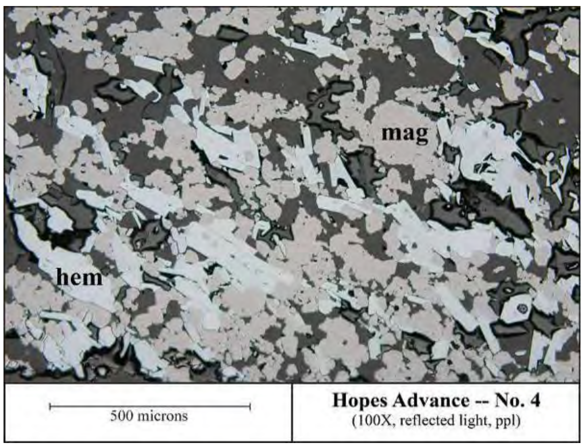
Exploration conducted during the 1950s identified several iron deposits north of Payne Bay to the Red Dog and Ford Lake areas near Hopes Advance Bay in the south.

Photomicrographs were prepared for samples collected from sites that were visited by Micon in 2008 (see Figure 7-3). The photomicrographs show the relatively simple mineralogy of the iron formation of the Ungava Property. The figure also demonstrates the potential variation in grain size affecting the potential liberation and recovery of iron oxides.

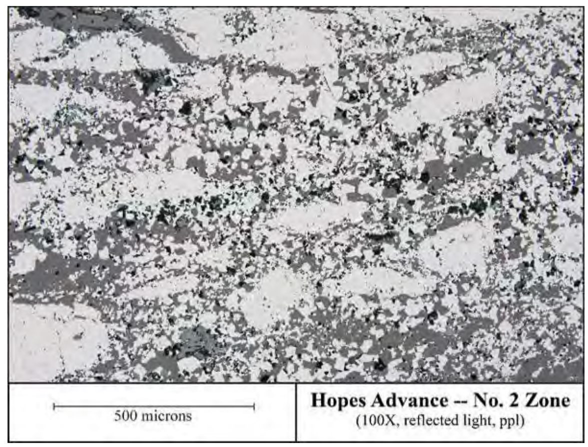
At the Hopes Advance Castle Mountain iron formation is composed of a mixture of magnetite and hematite. Magnetite grains (Figure 7-3c) range in size from 60 µ to 125 µ in diameter. Locally, the iron formation appears to be higher grade and relatively coarser-grained than at the occurrences visited to the north.

At the Hopes Advance West Zone 4 iron deposit, the relative proportion of magnetite to hematite varies across and along strike in the chert-magnetite-hematite-silicate iron formation. Magnetite grains are approximately 50 µ to 75 µ in diameter and hematite grains are approximately 100 µ in length (Figure 7-3a).

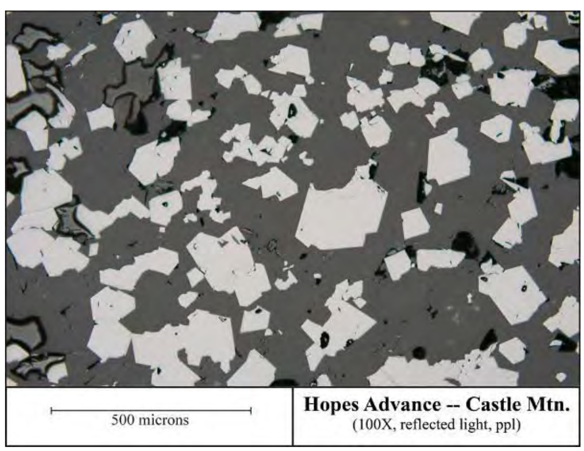
At the Hopes Advance West Zone 2 iron deposit, the grain size and grade of the chert-magnetite-silicate iron formation appears to be similar to other deposits at Hopes Advance (Figure 7-3b).



a)



b)



c)

Figure 7-3: Photomicrographs of grab samples from Ungava Property, Hopes Advance Project

a) Photomicrograph of grab sample from West Zone 4. Equant grains of magnetite (brown) intergrown with tabular hematite (white) and gangue minerals (grey). **b)** Photomicrograph grab sample from West Zone 2. Equant, granular disseminated and blocky aggregates (granules) of magnetite (brown) and gangue minerals (grey). **c)** Photomicrograph of grab sample from Hopes Advance Castle Mountain. Equant, euhedral, disseminated magnetite in a matrix of gangue minerals (grey). All photomicrographs are at the same magnification. Note the variation in the grain size of magnetite. The grab sample from Castle Mountain contains magnetite with an average grain size of 65 µ. The grab sample from West Zone 2 contains magnetite with an average grain size of 12 µ.

8. DEPOSIT TYPES

The iron mineralization in the Hopes Advance project area is of the Lake Superior Type (United States Geological Survey, 1995) and contains deposits that have characteristics of iron ores that require concentration to produce saleable products. Lake Superior Type iron formations were deposited in shallow waters on continental shelves and in shallow sedimentary basins. This type of iron formation contains a variety of mineralization types that can be grouped into two main categories: direct shipping and concentrating ores. Direct shipping ores have natural iron content greater than 51% and include the hard ores of northern Michigan and residual ores that have been mined in Australia, Brazil, Michigan, Minnesota and Canada.

Hard ores are high grade, massive and composed of magnetite and hematite. Residual ores are typically composed of hematite and martite and may contain goethite and limonite. Residual ores have been upgraded by weathering processes that have concentrated iron by the removal of gangue minerals, principally quartz. Concentrating ores are typically composed of magnetite and or hematite and silicate minerals at relatively low grades (20-30% Fe) that require grinding to liberate magnetite and/or hematite from the silicate minerals. Magnetite is concentrated by magnetic methods and hematite is concentrated by gravity or flotation methods.

The value of concentrating ores is determined by a combination of Fe grade and ease of liberation. For example, a lower Fe grade ore may have a higher value than a higher Fe grade ore if it liberates at a coarser grind enabling greater throughput with lower grinding costs. The iron ore mining operations that are currently active in the Labrador Trough, Iron Ore Company of Canada (IOC), Québec Cartier Mining Company (QCM) and Wabush Mines (Cliffs Natural Resources Inc.) all mine iron ores that are suitable for concentrating due to a combination of Fe grade and ease of iron ore liberation.

9. EXPLORATION

A description of the historical exploration work conducted on the property is provided in Chapter 6.

9.1 Geophysical surveys

Work conducted between 2006 and 2009 was predominantly airborne magnetometer and radiometric surveys carried out by Voisey Bay Geophysics Ltd., of Longue-Pointe-de-Mingan, Québec, on behalf of Sheridan and Ferderber. The surveys included:

- **2006**
  - 24M01 - airborne magnetometer and radiometrics
  - 24M08 - airborne magnetometer and radiometrics
  - 24N05 - airborne magnetometer and radiometrics
- **2007**
  - 24C10 - airborne magnetometer and radiometrics
  - 24M15 - radiometrics
  - 24M16 - airborne magnetometer and radiometrics
  - 24N12 - radiometrics
  - 24N13 - radiometrics
  - 24M09 - radiometrics
  - 25C04 - radiometrics
  - 25D01 - radiometrics
  - 25D07 - radiometrics
  - 25D08 - radiometrics
- **2008**
  - 24M01 - airborne magnetometer and radiometrics
  - 24M08 - airborne magnetometer and radiometrics
  - 24N05 - airborne magnetometer and radiometrics
- **2009**
  - 24M15 - airborne magnetometer and radiometrics
  - 24N12 - airborne magnetometer and radiometrics
  - 24N13 - airborne magnetometer and radiometrics
  - 25C04 - airborne magnetometer and radiometrics
  - 25D07 - airborne magnetometer and radiometrics
  - 25D08 - airborne magnetometer and radiometrics
  - 25D10 - airborne magnetometer and radiometrics
  - 25D14 - airborne magnetometer and radiometrics
  - 25D15 - airborne magnetometer and radiometrics

The surveys covered more than 232,600 ha and comprised over 18,400 km of flight lines. The grid coverage was 100 m by 1,000 m or 200 m by 1,000 m on east-west or north-south-oriented lines. The results of the surveys were used to outline the iron formation and assist in locating, or determine whether to retain, the claims.

9.1.1 2006 Airborne Geophysical Surveys

A multi-discipline geophysical survey was completed on three claim blocks:

- Block I (Main) - claims on map sheets 24N05, 24M08 and 24M01;
- Block II (North) - claims on 24N05;
- Block III (South) - claims on 24N05.

The program consisted of high-resolution, helicopter airborne magnetic and radiometric surveys. Data acquisition for the airborne phase was initiated on July 3, 2006 and completed on July 7, 2006. A total of 3,159.9 line-km of magnetic and radiometric data were acquired. The aircraft used for the towed, bird-magnetometer system was a Robinson R44 Raven. The spectrometer pack was mounted in the rear, passenger compartment of the helicopter. Flight lines were oriented east-west with a line separation of 150 m and tie lines were oriented north-south with a line separation of 1,500 m.

The magnetic anomalies correspond with the trace of an iron formation unit and confirm the location of the iron deposits that were the focus of work completed in the area in the 1950s and 1960s.

Invoices for the work completed in 2006 totalled $398,549 for 3,160 line-km covering a survey area of 345 km^2. The portion of the survey area covered by the claims is approximately 72%.

9.1.2 2007 Airborne Geophysical Surveys

In 2007 a series of multiple-discipline geophysical surveys were completed on:

- Block I to IV claims on 24M16 – June 9 to 14, 2007;
- Block I and II on 25D08 – June 23 to 26, 2007;
- Block I and II on 24N13 – June 26 to 29. 2007;
- Block I on 25D01 – July 17 to 18, 2007;
- Block I on 25C04 – July 20 to 21, 2007;
- Blocks I, II, III, and IV on 24M15 – July 21 to 24, 2007;
- Block I on 25D07 – July 18 to 19, 2007 (radiometric only);
- Block I on 24N12/24M09 and Block II on 24N12 – July 22 to 23, 2007 (radiometric only).

The programs consisted of high-resolution, helicopter-airborne magnetic and radiometric surveys. The surveys utilized the same aircraft and equipment as described for the 2006 programs. The surveys are summarized in Table 9-1.

Table 9-1: Summary of airborne geophysical surveys

Date	Line Orientation	Map Sheet	Block	Area Name	Number of Claims	Approx. Claim Area (ha)	Survey Area (SqKm)	% on Claims	Survey Grid	Survey Lines (km)	Tie Lines (km)	Subtotal (km)	Total (km)	Total C$
2006	east-west	24M01/24M08/24N05	I	Main	501	20,040	240	84%	150x1500	2,321	350	2,671		
2006	east-west	24N05	II	North	102	4,080	75	54%	150x1500	311	58	369		
2006	east-west	24N05	III	South	18	720	30	24%	150x1500	102	18	120		
													3,160	$ 398,549
2006					**621**	**24,840**	**345**	**72%**		**2,735**	**425**		**3,160**	**$ 398,549**
2007	east-west	24M16	I	Property 1	30	1,200	20	60%	100x1000	147	15	162		
2007	east-west	24M16	II	Property 2	77	3,080	31	100%	100x1000	392	44	435		
2007	east-west	24M16	III	Property 3	74	2,960	30	100%	100x1000	366	42	408		
2007	east-west	24M16	IV	Property 4	38	1,520	16	95%	100x1000	183	20	203		
													1,208	$ 183,364
2007	north-south	25D08	1	Property 1	138	5,520	59	94%	100x1000	750	79	829		
2007	north-south	25D08	2	Property 2	96	3,840	41	94%	150x1000	299	45	344		
													1,173	$ 145,549
2007	east-west	24N13	1	Property 1	406	16,240	176	92%	150x1000	1,279	196	1,475		
2007	east-west	24N13	2	Property 2	32	1,280	14	92%	150x1000	109	15	125		
													1,600	$ 190,774
2007	north-south	25D01	1	Property 1	57	2,696	39	68%	150X1000	263	37	300		
													300	$ 47,735
2007	north-south	25C04	1	Property 1	80	3,438	77	45%	150x1000	513	76	589		
													589	$ 100,062
2007	east-west	24M15	1	Property 1	35	1,512	18	84%	150x1000	120	16	136		
2007	east-west	24M15	2	Property 2	77	3,329	39	86%	150x1000	257	44	301		
2007	east-west	24M15	3	Property 3	44	1,906	22	88%	150x1000	141	22	162		
2007	east-west	24M15	4	Property 4	49	2,123	27	78%	150x1000	181	31	212		
													812	$ 115,714
2007	north-south	25D07	1	Property 1	104	4,388	66	67%	150x1000	436	71	506		
													506	$ 75,891
2007	north-south	24N12/24M09	1	Property 1	61	2,653	29	92%	150x1000	288	30	318		
2007	north-south	24N12/24M09	2	Property 2	36	1,569	18	87%	150x1000	119	20	140		
													458	$ 78,221
2007					**1434**	**59,254**	**721**	**82%**		**5,843**	**804**		**6,646**	**$ 937,310**
2008	east-west	24M01/24M08/24N05	I	Property 1	501	20,040	288	70%	150x1000	2,143	297	2,440		
2008	east-west	24N05	II	Property 2	102	4,080	63	65%	150x1000	417	62	479		
													2,919	$ 430,769
2008					**603**	**24,120**	**351**	**69%**		**2,560**	**359**		**2,919**	**$ 430,769**
2009		25D10	1		130	5,200	66	79%	200x1000	331	79	409		
2009		25D10	2		84	3,360	39	86%	200x1000	310	76	386		
													795	$ 157,951
2009		25D10	3		64	2,560	32	80%	200x1000	159	32	191		
													191	$ 45,063
2009		24N12/24N13	1		467	18,680	204	92%	200x1000	1,022	210	1,231		
													1,231	$ 176,166
2009		25D07/25D08	1		225	9,000	111	81%	200x1000	567	138	706		
2009		25D07/25D08	2		197	7,880	104	76%	200x1000	523	110	633		
													1,338	$ 189,625
2009		24M15	1		71	2,840	33	85%	200x1000	172	34	206		
2009		24M15	2		54	2,160	25	88%	200x1000	124	28	152		
2009		24M15	3		62	2,480	28	89%	200x1000	140	30	170		
2009		24M15	4		77	3,080	35	87%	200x1000	177	38	215		
													742	$ 114,457
2009		25D14/25D15	1	Part 1						175	40	215		
2009		25D14/25D15	1	Part 2	174	6,960	97	72%	200x1000	219	45	263		
													478	$ 81,282
2009		24N12	1		36	1,440	16	87%	200x1000	159	82	241		
													241	$ 51,364
2009		25C04	1		254	10,160	119	85%	200x1000	611	124	736		
													736	$ 155,690
2009					**1895**	**75,800**	**910**	**83%**		**4,687**	**1,065**		**5,753**	**$ 971,598**
TOTAL						184,014	2,327	79%		15,825	2,653	-	18,478	$ 2,738,227
						ha	*SqKm*			*km*	*km*	*km*	*Total (km)*	*Total C$*

The areas covered flight line orientations, line separation, tie line separation, total line-km of magnetic and radiometric data acquired are summarized in Table 9-1, which also provides data for the subsequent surveys.

The surveys highlighted a series of uranium anomalies (radiometrics) and magnetic anomalies for additional study. Again, the magnetic anomalies correspond with the trace of an iron formation unit and confirm the location of the iron deposits that were the focus of work completed in the area in the 1950s and 1960s.

Invoices for this work completed in 2007 totalled $937,310 for 6,646 line-km covering a survey area of 721 km^2. The portion of the survey area covered by the claims is approximately 82%.

9.1.3 2008 Airborne Geophysical Survey

During 2008, a multiple-discipline geophysical survey was completed on Blocks I and II on map sheets 24M01/24M08/24N05 between September 5 and 25.

The programs consisted of high-resolution, helicopter-airborne magnetic and radiometric surveys. The surveys utilized the same aircraft and equipment as described for the 2006 programs.

Invoices for this work completed in 2008 totalled $430,769 for 2,919 line-km covering a survey area of 351 km^2. The portion of the survey area covered by the claims is approximately 69%.

9.1.4 2009 Airborne Geophysical Survey

In 2009 a series of multiple-discipline geophysical surveys were completed on:

- Blocks I & II on 25D10 - completed on July 6, 2009;
- Block III on 25D10 completed on July 7, 2009;
- Block I on 24N12 and 24N13 – July 7 to 10, 2009;
- Blocks I-II on 25D07/25D08 – July 10 to 15, 2009;
- Blocks I-IV on 24M15 completed on July 27, 2009;
- Block I on 25D14/25D15 completed on August 5, 2009;
- Block I & II Claims on 25C04 – August 1 to 9, 2009;
- Block I Claims on 24N12 completed on August 11, 2009.

The programs consisted of high-resolution, helicopter-airborne magnetic and radiometric surveys. The surveys utilized the same aircraft and equipment as described for the 2006 programs.

Technical specifications for the helicopter-borne magnetic surveys are summarized in Table 9-2.

Table 9-2: Technical specifications of the helicopter-borne magnetic surveys

Area	Survey specifications	Date	NTS Sheets
Hopes Advance	Survey line spacing and direction: 150 m, east-west, north-south. Tie line spacing and direction: 1,000 m or 1,500 m, east-west, north-south. Average magnetic sensor terrain clearance: 70 m.	2006, 2008	24M04, 24M08, 24N04, 24N05

Invoices for this work completed in 2009 totalled $829,318 for 6,079 line-km covering a survey area of 696 km^2. The portion of the survey area covered by the claims is approximately 72%.

9.1.5 Summary of 2007-2009 Geophysical Surveys

The cost of the geophysical surveys for the most recent three years was $2.339 million and the proportion of the 1,982 km^2 of surveyed area that is covered by the property is approximately 80%. Expenditure of approximately $1.88 million can be attributed to the claims for the period 2007 to 2009.

A report was produced for each survey to document the work completed and the geophysical interpretations. The surveys identified numerous radiometric and magnetic targets for additional study and the anomalies are summarized as high, moderate and low priority.

The claims were registered between July 7, 2004 and October 27, 2010. The majority of the claims were registered prior to completing the geophysical surveys. However, some were allowed to lapse or were acquired on the basis of the extents of the geophysical anomalies.

Joel Simard, consulting geophysicist, was contracted by Oceanic in February 2011 to compile, review, and reprocess the heli-borne magnetic surveys carried out between 2006 and 2009 by Voisey Bay Geophysics on the Ungava Bay project. Simard provided Oceanic with total field, vertical gradient, and tilt angle maps for all the parcels comprising the Ungava property (Simard, 2011).

Géophysique TMC of Val-d’Or, Québec, was contracted by Oceanic to conduct ground magnetic surveys on parts of the McOuat areas and an area south of McOuat in May 2011. The ground magnetic surveys were conducted using a GSM-19 proton precession magnetometer on 200-m spaced lines. The ground magnetic data were subsequently processed by Simard. Simard provided Oceanic with total field, vertical gradient, and tilt angle magnetic maps of the areas covered by the ground magnetic surveys. This data was levelled and integrated with the airborne magnetic data filling in gaps in the airborne magnetic surveys (Simard, 2011).

Mira Geoscience Ltd., of Vancouver, BC, has been contracted by Oceanic to generate 2D/3D models using the magnetic data on the Hopes Advance airborne magnetics. The modelling was carried out on the Castle Mountain, West Zone 2, West Zone 4, Iron Valley, West Zone McDonald and Bay Zone (A, B, C, D, E, and F) grids. The 2D/3D models were generated in conjunction with the drill data to better define and project potential mineralized targets for exploration (see Mira, 2012).

Figure 9-1 shows the results of aeromagnetic surveys at Hopes Advance, including the work carried out in 2012 (see below).

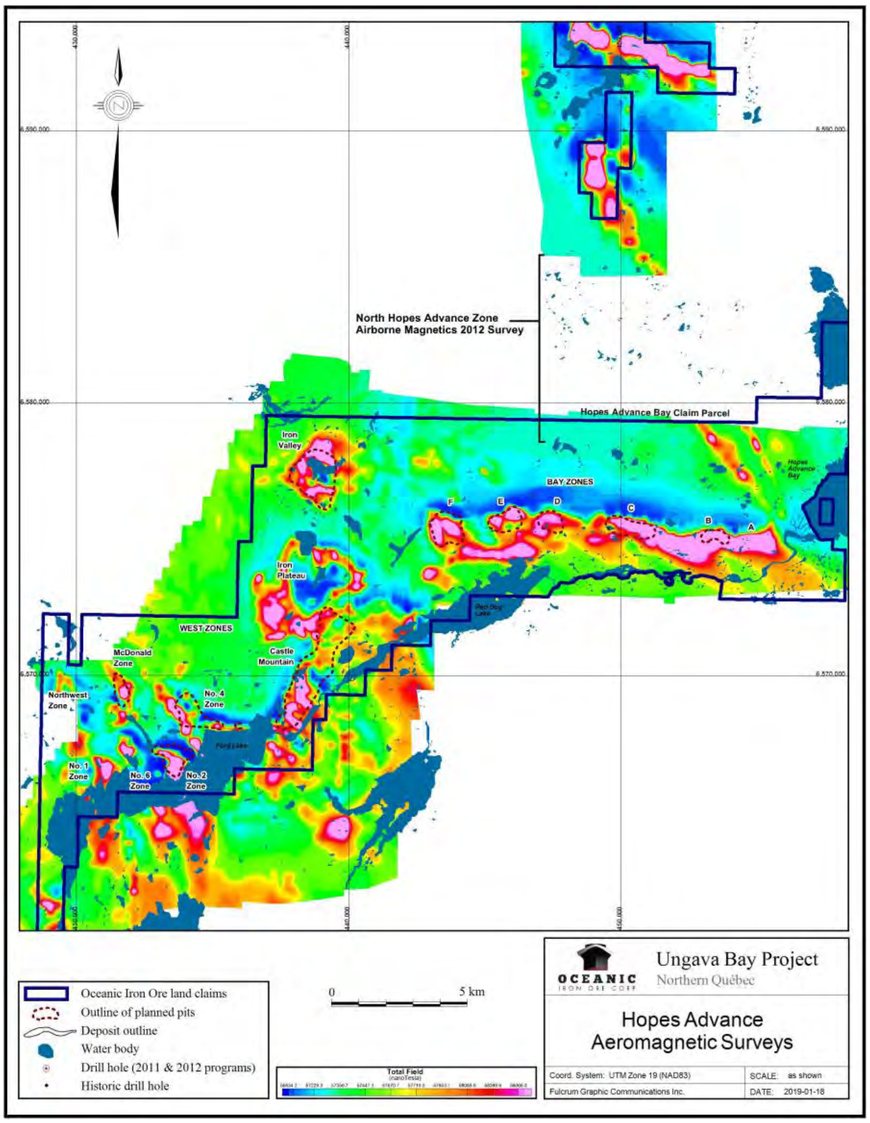


Figure 9-1: Aeromagnetic surveys

9.1.6 2012 Airborne Geophysical Surveys

On July 31, 2012, K8aranda Geophysics of Wendake, Québec, carried out 288 line-km of high resolution heli-borne magnetic and VLF-EM surveys. The surveys on the eastern part of the Hopes Advance area, on NTS 24N05, were carried out to cover gaps between two blocks that were flown in 2006 and 2008 by Voisey Bay Geophysics and consisted of 32 east-west flight lines 8.5 km long separated at 200 m.

The surveys highlighted a magnetic anomaly stretching north-northwest over a distance of 7 km corresponding with the trace of the iron formation units continuing north of the Hopes Advance Bay Zones (see Figure 9-2).

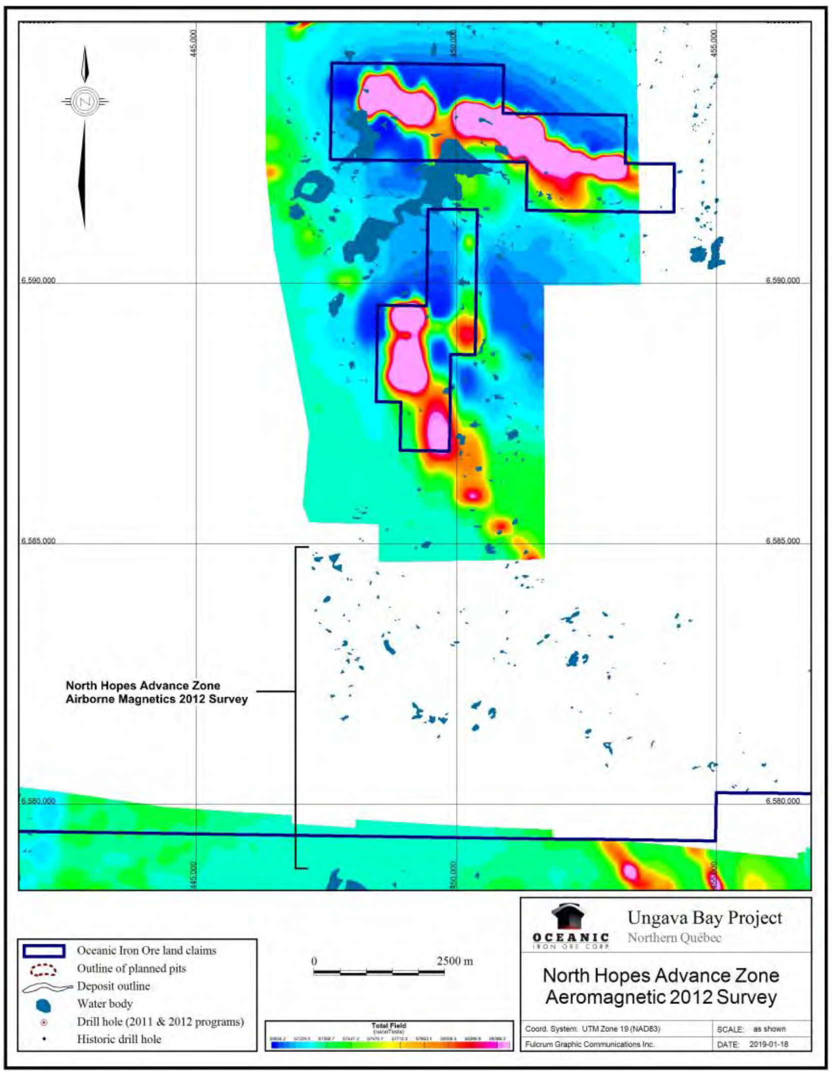


Figure 9-2: Airborne magnetic survey, 2012

9.1.7 2012 Geological Mapping and Sampling

A mapping program was carried out between June 14 and August 1, 2012. The mapping focused on 12 areas in the Hopes Advance project (see Figure 9-3):

- North Hopes Advance (north of the Bay Zone B);
- Bay Zones (Bay Zone B, Bay Zone C, and Bay zone F);
- North side of Iron Valley;
- Iron Plateau;
- West Zones (Zone 2, Zone 4, Northwest Zone, Zone 1 and Zone 6);
- West Ford Lake area.

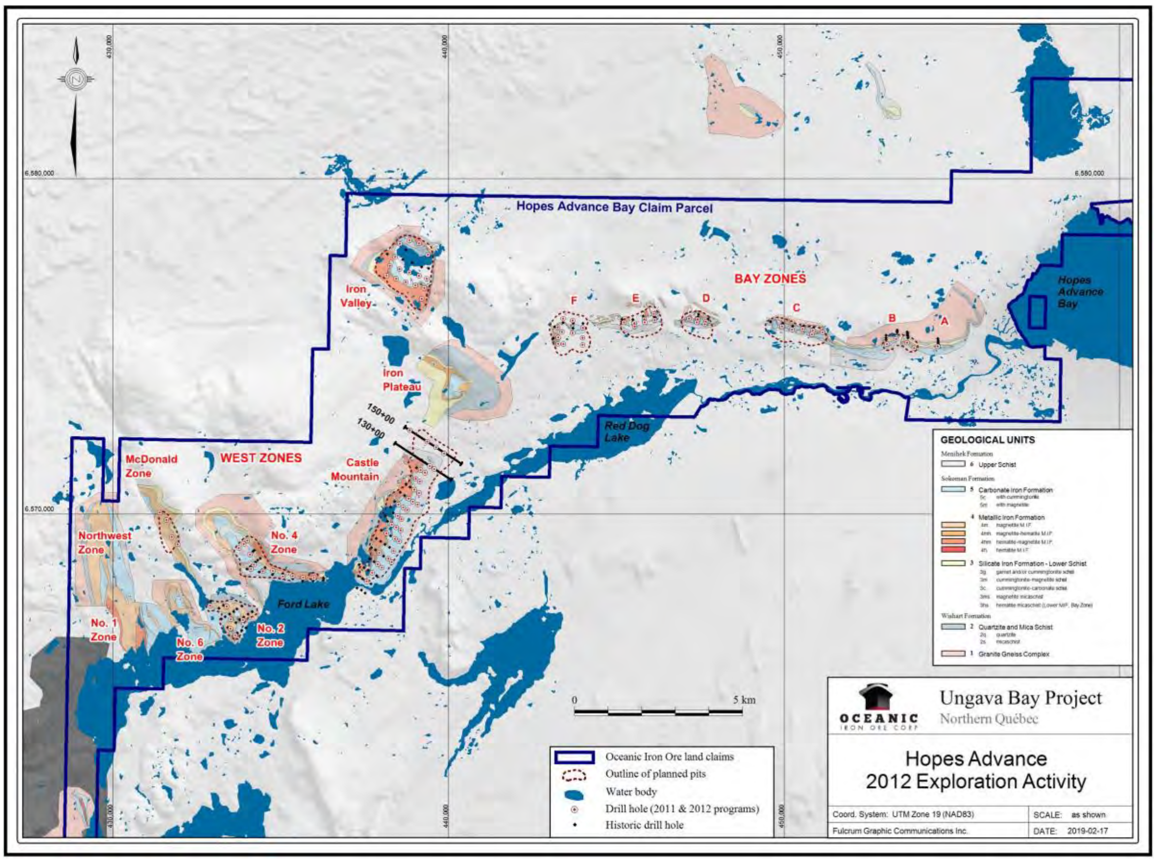


Figure 9-3: 2012 Exploration activity

A total of 151 samples were collected and sent to SGS for analysis of the oxides and total Fe. Five of these were duplicate samples.

The North Hopes Advance area iron formation stretches over a distance of 16.7 km and consists of magnetite, magnetite-hematite and hematite-magnetite iron formation. The units are gently folded as a series of gently southeasterly-plunging synclines and anticlines. Twenty-nine samples were collected (including one duplicate) and 25 returned assays greater than 25% total Fe with an average grade of 36.3% total Fe.

Bay Zones B, C and F were mapped in greater detail to identifying the contacts between the iron formations, the underlying schists and the overlying carbonate-quartz sediments (see Figure 9-3).

The northern contact at Iron Valley was better defined, setting the limits between the iron formations, the underlying schists and quartzites.

Iron Plateau iron formations were identified and mapped on the northeast part of the structure. The iron formations are underlain by schists and overlain by carbonate-quartz sediments. The structure extends to the southwest, confirmed by the airborne magnetic surveys (see Figure 9-2). There is no outcrop and the area is covered by till. Eleven samples were collected; seven from the iron formation with five samples assaying greater than 25% total Fe and averaging 35.6% total Fe.

West Zone 2 was mapped to determine the contacts between the iron formation and the carbonate-quartz sediments. A rolling contact extends west-east with synclines and anticlines plunging south. A number of thrust faults were observed, which have faulted the lower iron formation sequences over the higher sequences.

Mapping on West Zone 4 extended the iron formation by 1.4 km and defining the western limb of the syncline with the iron formations (see Figure 9.4). A total of 30 samples were collected (including one duplicate); 28 samples graded above 25% total Fe and averaged 34.8% total Fe.

The Northwest Zone, Zone 1 and Zone 6 extend 4 km north-south and 2.4 km east-west and consist of gently folded and gently dipping iron formations where hematite-magnetite appears to predominate. A total of 32 samples were collected (including two duplicates); 28 samples grade greater than 25% total Fe and averaged 34.9% total Fe.

The West Ford Lake area is located on the extreme west side of Ford Lake. Iron formations were observed to trend north-south over 1.1 km and dip to the west at 24° to 32°. The width of the mineralized zone is 110 m. This area has magnetite iron formations and hematite iron formations with bands of grey and red chert, a characteristic that has not been seen elsewhere on the Hopes Advance project area. A total of 49 samples were collected (including one duplicate); 28 samples assayed greater than 25% total Fe and averaged 35.1% total Fe.

The results of the 2012 mapping program are considered to add future exploration potential in the Hopes Advance project area. The results of the 2012 mapping and sampling program are provided for information purposes only and do not affect the mineral resource estimate on which this Prefeasibility Study is based.

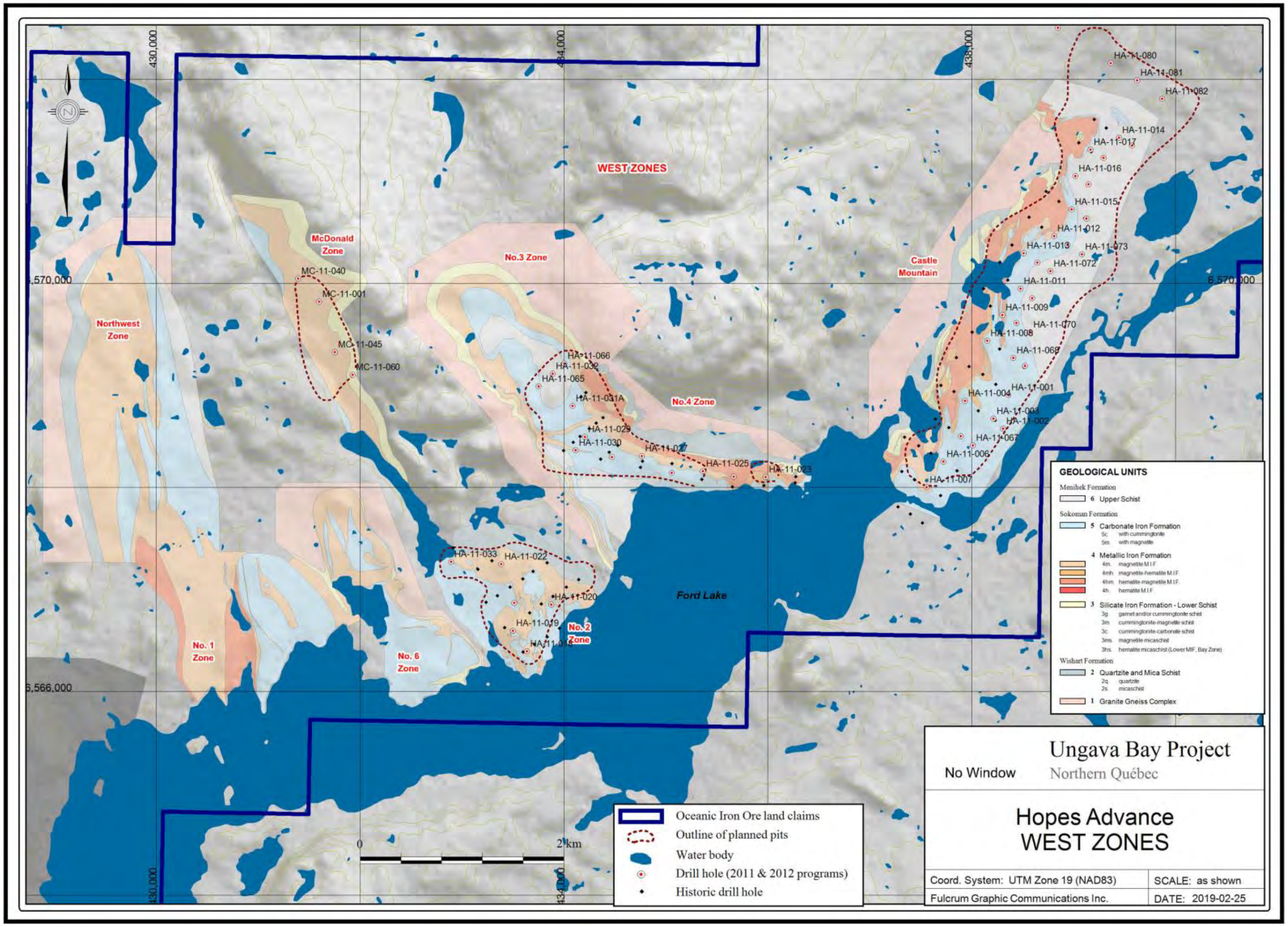


Figure 9-4: Hopes Advance West Zones

10. DRILLING

10.1 Historical Drill Core

All of the historical drilling on the various deposits contained within the Ungava Property was conducted in the 1950s and 1960s. The drilling practices may have been in compliance with industry standards in place at that time but they cannot be validated or compared to current norms. A description of the historical drilling conducted on the property is provided in Chapter 6.

Amongst the remnants of the exploration camp nearest to the Castle Mountain deposit is a rack of diamond drill core boxes. Approximately 70 boxes of core remain in the rack and it may be possible to relog some of the core in those boxes. Unfortunately, most of the core that was stored on site has been disturbed and a further 100 or more boxes have been spilled and emptied of their contents.

Based on the core boxes and core it was possible to determine the following:

- Core was placed in metal trays;
- Drill core diameter was typically small diameter (22 mm; AX or EX diameter);
- Drill hole number and hole depths were marked on the trays;
- Core was split in half for sampling, with one half retained in the core box.

At various locations during Micon's traverses in 2008 and Oceanic's work during the 2011 drilling program it was noted that some collar locations were marked with a piece of drill steel, a metal spike or rebar. Drill pad locations can sometimes be distinguished by the flat platforms that were prepared for the drill rig. The old drill hole sites were surveyed in 2011 in order to incorporate the information from the old drill hole programs and to use it to assist in the geological interpretations.

Based on the reports that describe the drilling programs in the 1950s and 1960s, no downhole surveys were completed. Most holes were relatively short (i.e., average of less than 70 m).

Information on drill hole collar locations, hole orientations, core recoveries, apparent dip of stratigraphy, geological logs, assays, collar maps, and sections are available for several of the programs.

10.2 Drilling Undertaken by Oceanic

In 2011, Oceanic carried out an exploration drilling program on the Hopes Advance project area. The drilling program consisted of 115 NQ diamond drill holes (DDH) for 11,617.9 m and commenced on March 25, 2011 and ended on September 4, 2011. The locations of the Oceanic drill holes, as well as the historic holes, are shown on Figure 10-1. In 2012, five geotechnical drill holes were drilled, totalling 102 m of NQ diamond drilling, drilling east of Iron Valley tests characterizing ground conditions under the proposed tailing dam site and one hole at the proposed concentrator site.

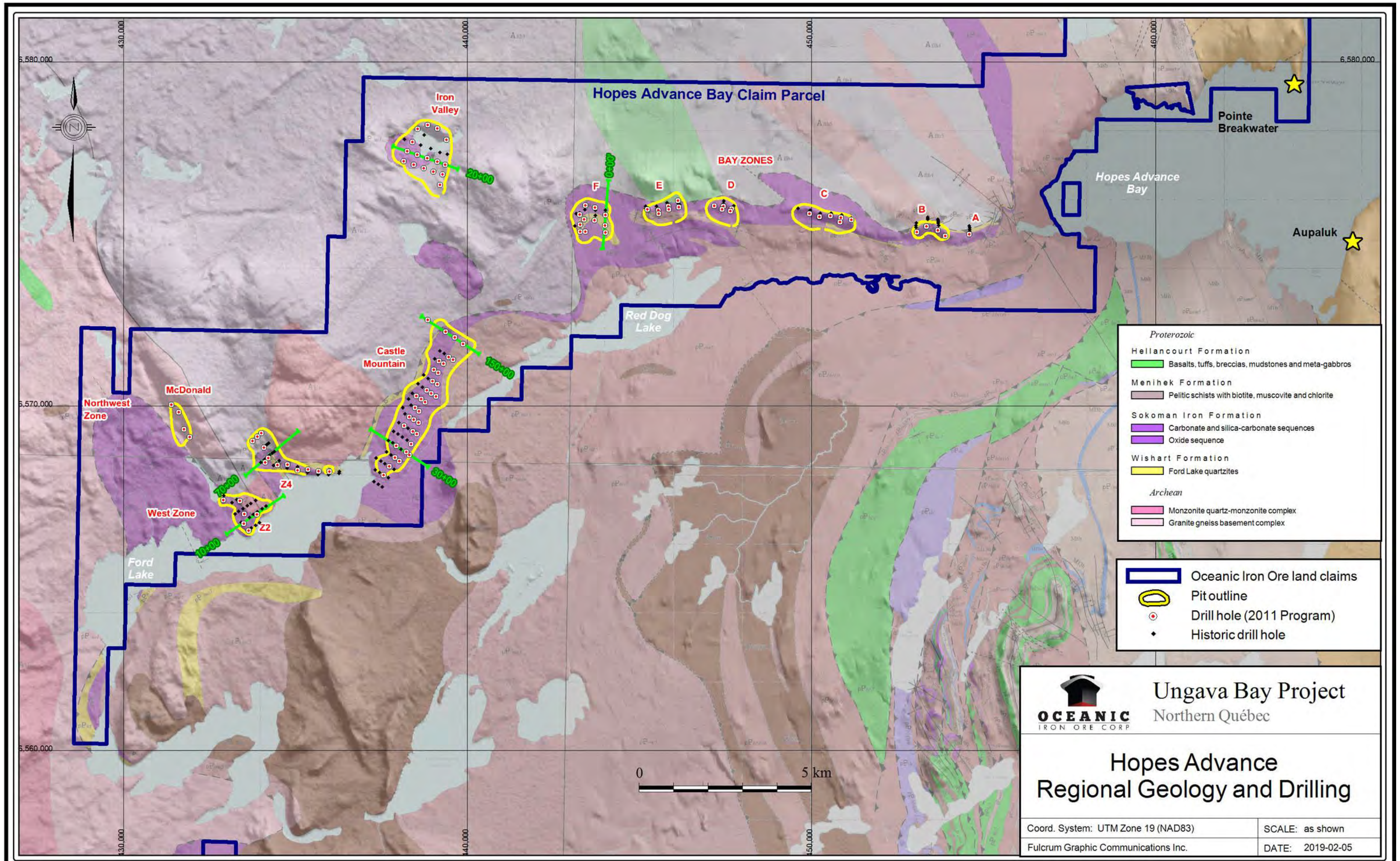


Figure 10-1: Map showing the deposits and locations of 2011 drill holes at Hopes Advance

Since 2011 and 2012, no further exploration drilling or condemnation drilling has been done on the Hopes Advance project area.

A total of 115 holes were drilled on the Hopes Advance project area. The drill holes were designed to penetrate the oxide portion of the iron formation and were completed, in most cases, in the underlying mica schist, quartzite, or granite-gneiss.

The drilling program in 2011 was performed using three heli-portable hydraulic diamond core drill rigs from Forage G4 Drilling of Val-d'Or, Québec. The overburden was drilled with NW rods and the casing was secured in bedrock. Bedrock was drilled with NQ rods and a 3-m core barrel. The core was stored in wooden core boxes with a wooden block inserted at the end of each run or every 3 m. The location of the drill hole collars was surveyed by J. L. Corriveau & Associates Inc. of Val-d'Or, Québec.

The drill program in the Hopes Advance project area is summarized in Table 10-1.

Table 10-1: Hopes Advance area, 2011 drilling statistics

Area	No. of exploration holes	No. of twinned holes	Total No. of holes	Total metres
Castle Mountain	20	18	38	**3,882.4**
Iron Plateau	1	0	1	**57.0**
West Zone 2	0	6	6	**697.3**
West Zone 4	4	9	13	**931.2**
Iron Valley	7	10	17	**1,524.0**
Bay Zone F	6	5	11	**1,669.2**
Bay Zone E	4	4	8	**877.7**
Bay Zone D	2	3	5	**619.1**
Bay Zone C	2	5	7	**638.0**
Bay Zone B	1	3	4	**381.0**
Bay Zone A	0	1	1	**60.0**
West Zone McDonald	1	3	4	**281.0**
Total	**48**	**67**	**115**	**11,617.8**

Data relating to the drilling program are summarized in Table 10-2.

10.2.1 Hopes Advance Project Area

In the Hopes Advance project area, 115 diamond holes were drilled for a total of 11,617.9 m, as shown in Table 10-2. As shown on Figure 10-1, the areas drilled as part of the Hopes Advance drilling program included Castle Mountain, Iron Valley, Bay Zones (A, B, C, D, E and F) and the West Zone which includes the West Zone 2, West Zone 4 and West Zone McDonald areas. Sixty-seven of the drill holes in this program were twins of historical drill holes and 43 holes were exploration holes. Five holes were initially unsuccessful and had to be repeated due to technical drilling difficulties but the results are included in the drill data.

Table 10-2: Summary drill hole data, 2011 drilling program vs. historical

2011 Results							Historic drill hole results (1954 - 1957)					
DDH	From (m)	To (m)	Width (m)	True width (m)	Fe Total (%)	Soluble Fe (%)	DDH	From (m)	To (m)	Width (m)	True width (m)	Zone
HA-11-001B	58.00	121.00	63.00	62.04	31.1							Castle
HA-11-002	30.60	136.00	105.40	103.79	33.4							Castle
HA-11-003	36.85	96.70	59.85	58.94	34.0	35.4	P34	36.58	96.32	59.74	58.83	Castle
HA-11-004	10.67	83.76	73.09	63.13	32.3	34.9	P49	10.67	83.76	73.09	65.98	Castle
HA-11-005	21.65	79.55	57.90	57.02	34.6	34.9	P35	19.81	79.85	60.04	59.14	Castle
HA-11-006	28.30	71.00	42.70	41.05	31.3	30.8	P28	27.43	82.30	54.87	54.04	Castle
HA-11-007	0.20	64.40	64.20	63.22	32.6	34.5	P27	7.92	59.83	67.06	59.14	Castle
HA-11-008	11.70	75.10	63.40	62.44	32.6	33.4	P47	10.67	74.68	64.01	63.03	Castle
HA-11-009A	6.00	20.00	14.00	13.79	31.9	35.1	P68	3.51	26.52	23.01	21.62	Castle
HA-11-009A	42.50	78.00	35.50	34.96	32.2	29.7	P68	46.53	99.67	53.04	49.84	Castle
HA-11-010	39.20	128.70	89.50	84.10	31.6	35.5	P70	39.62	89.00	49.38	48.63	Castle
HA-11-011	48.43	119.00	70.57	69.86	32.4	34.4	P67	45.72	93.27	47.55	46.83	Castle
HA-11-012	4.40	70.00	65.60	63.65	29.2	29.2	P90	4.97	79.25	74.28	73.15	Castle
HA-11-013	6.25	76.60	70.35	67.28	31.0	31.2	P69	6.10	77.72	71.62	68.49	Castle
HA-11-014	32.10	73.00	40.90	40.28	34.2	32.6	P94	33.53	91.44	57.91	57.03	Castle
HA-11-015	9.40	39.40	30.00	29.54	29.6	31.2	P79	9.14	38.10	28.96	28.52	Castle
HA-11-016	20.80	44.00	23.20	22.85	33.4	34.6	P75	22.86	44.20	21.34	21.02	Castle
HA-11-017	14.20	46.10	31.90	31.42	31.4	32.4	P78	15.24	50.29	35.05	34.52	Castle
HA-11-067	32.80	94.60	61.80	59.67	36.3							Castle
HA-11-068	30.20	45.80	15.60	14.92	32.8							Castle
HA-11-068	51.30	56.30	5.00	4.78	34.9	36.9	P97	47.24	53.34	6.10	5.83	Castle
HA-11-068	79.60	121.00	41.40	39.59	33.9							Castle
HA-11-069	57.60	84.00	26.40	25.25	34.8							Castle

2011 Results							Historic drill hole results (1954 - 1957)					
DDH	From (m)	To (m)	Width (m)	True width (m)	Fe Total (%)	Soluble Fe (%)	DDH	From (m)	To (m)	Width (m)	True width (m)	Zone
HA-11-069	114.00	140.00	26.00	24.86	33.5							Castle
HA-11-070	73.50	124.00	50.50	48.03	37.3							Castle
HA-11-070	151.40	164.50	13.10	12.46	25.7							Castle
HA-11-071	69.40	108.20	38.80	37.81	34.8							Castle
HA-11-072	59.00	127.00	68.00	66.26	33.7							Castle
HA-11-073	74.65	101.00	26.35	25.95	31.8							Castle
HA-11-074A	52.40	111.00	58.60	58.03	31.5	33.7	P96	51.82	87.66	35.84	35.49	Castle
HA-11-075	36.00	68.00	32.00	31.69	32.4	32.2	P95	36.58	65.53	28.92	28.64	Castle
HA-11-076	48.60	54.30	5.70	5.64	31.9							Castle
HA-11-076	62.60	104.00	41.40	41.00	33.3							Castle
HA-11-077	30.70	33.90	3.20	3.14	28.6							Castle
HA-11-077	41.70	79.00	37.30	36.61	32.1							Castle
HA-11-078	47.40	61.40	14.00	13.39	30.2							Castle
HA-11-079	56.00	89.00	33.00	32.92	29.7							Castle
HA-11-080	39.20	90.80	51.60	50.82	28.4							Castle
HA-11-081	45.70	55.73	10.03	9.88	27.0							Castle
HA-11-082	41.30	85.94	44.64	44.61	31.3							Castle
HA-11-018	39.60	76.00	36.40	35.85	34.9	33.4	E-136	10.67	59.44	48.77	47.11	West Zone 2
HA-11-018	100.70	165.40	64.70	63.72	33.6							West Zone 2
HA-11-019	13.30	44.00	30.70	30.66	32.3	29.8	E-153	16.76	96.13	79.37	79.26	West Zone 2
HA-11-019	63.90	115.20	51.30	46.49	29.9							West Zone 2
HA-11-020	14.50	91.00	76.50	75.34	36.3	36.2	E-150	15.24	83.21	67.97	65.95	West Zone 2
HA-11-021	33.00	138.00	105.00	103.41	32.0	35.7	E-158	30.48	107.90	77.42	76.25	West Zone 2
HA-11-022	2.00	56.27	54.27	53.45	33.2	33.6	E-159	0	57.91	57.91	54.42	West Zone 2
HA-11-033	2.57	25.00	22.43	22.09	30.6	31.2	E-164	13.72	18.29	4.57	4.29	West Zone 2

2011 Results							Historic drill hole results (1954 - 1957)					
DDH	From (m)	To (m)	Width (m)	True width (m)	Fe Total (%)	Soluble Fe (%)	DDH	From (m)	To (m)	Width (m)	True width (m)	Zone
HA-11-023	1.25	48.15	46.90	46.19	39.4	36.6	R-101	1.22	45.72	44.50	43.82	West Zone 4
HA-11-024	2.00	35.10	33.10	31.82	30.9	30.6	R-102	0.91	35.05	34.14	32.82	West Zone 4
HA-11-025	1.00	48.90	47.90	45.81	37.4	36.6	R-104	1.52	48.77	47.25	45.19	West Zone 4
HA-11-026	24.45	75.20	50.75	50.74	34.4	35.3	R-120	27.43	68.58	41.15	41.15	West Zone 4
HA-11-027	4.70	38.00	33.30	31.29	36.7	34.3	R-122	8.84	39.62	30.78	28.92	West Zone 4
HA-11-028	39.10	67.00	27.90	25.87	36.3	33.1	R-123	27.43	53.34	25.91	24.02	West Zone 4
HA-11-029	27.30	62.00	34.70	34.36	29.2	28.9	R-131	4.57	70.10	65.53	64.89	West Zone 4
HA-11-030	7.70	94.20	86.50	85.19	32.7	35.0	R-132	15.24	71.63	56.39	54.47	West Zone 4
HA-11-031B	30.60	60.00	29.40	29.11	32.3	35.3	R-130	18.90	48.77	29.87	29.58	West Zone 4
HA-11-065	48.50	85.00	36.50	31.61	33.2							West Zone 4
HA-11-032	51.00	77.90	26.90	23.30	32.8							West Zone 4
HA-11-066	24.90	55.60	30.70	30.03	35.5							West Zone 4
IV-11-001	15.10	30.00	14.90	13.50	37.2							Iron Valley
IV-11-002	34.40	91.60	57.20	56.33	30.4							Iron Valley
IV-11-003	7.20	58.85	51.65	50.86	32.6							Iron Valley
IV-11-004A	16.37	81.5	65.13	64.97	31.9							Iron Valley
IV-11-005	8.90	55.40	46.50	45.79	32.6							Iron Valley
IV-11-006	3.40	32.24	28.84	28.80	32.1							Iron Valley
IV-11-007	59.60	92.10	32.50	32.01	31.9							Iron Valley
IV-11-008	39.00	46.90	7.90	7.42	34.1							Iron Valley
IV-11-009	64.25	75.53	11.28	9.87	26.1							Iron Valley
IV-11-010	12.30	45.70	33.40	28.93	26.1							Iron Valley
IV-11-011	17.73	135.19	117.46	110.38	32.9							Iron Valley
IV-11-012	95.51	107.33	11.82	11.18	26.6							Iron Valley
HA-11-034	28.50	86.40	57.90	55.93	32.2							Iron Valley

2011 Results						Historic drill hole results (1954 - 1957)						
DDH	From (m)	To (m)	Width (m)	True width (m)	Fe Total (%)	Soluble Fe (%)	DDH	From (m)	To (m)	Width (m)	True width (m)	Zone
HA-11-035	22.75	80.40	57.65	55.68	32.8							Iron Valley
HA-11-036	9.50	74.50	65.00	62.78	31.7							Iron Valley
HA-11-037	2.30	30.00	27.70	27.28	29.7							Iron Valley
HA-11-038	1.56	105.84	104.28	99.18	34.4	34.8	H-148	0.00	86.56	82.32	77.12	Bay Zone F
HA-11-039	8.00	26.70	18.70	18.06	31.4	32.9	H-145	7.62	25.91	18.29	14.01	Bay Zone F
HA-11-039	37.00	96.00	59.00	56.97	32.3	34.7	H-145	36.58	91.44	54.86	42.02	Bay Zone F
HA-11-040	5.70	102.25	96.55	93.23	34.7	35.7	H-144	5.06	91.44	86.38	83.41	Bay Zone F
HA-11-041	50.70	174.50	123.80	107.21	33.2							Bay Zone F
HA-11-042	3.30	10.70	7.40	6.41	37.9							Bay Zone F
HA-11-042	28.40	134.30	105.90	91.71	36.1	31.8	H-142	1.52	90.98	89.46	77.47	Bay Zone F
HA-11-043	13.70	23.40	9.70	9.55	34.0	33.6	H-118	30.48	39.62	9.14	9.00	Bay Zone F
HA-11-043	28.70	101.20	72.50	71.40	28.2	29.8	H-118	44.20	91.44	47.24	46.52	Bay Zone F
BF-11-001	6.50	28.05	21.55	19.53	26.3							Bay Zone F
BF-11-001	42.10	56.80	14.70	13.32	33.8							Bay Zone F
BF-11-002	88.10	126.00	37.90	34.35	33.4							Bay Zone F
BF-11-002	72.56	127.80	55.24	50.06	29.0							Bay Zone F
BF-11-004	54.80	145.20	90.40	78.29	34.2							Bay Zone F
BF-11-005	61.30	207.90	146.60	132.86	30.5							Bay Zone F
BF-11-006	143.70	147.25	3.55	3.07	29.3							Bay Zone F
BE-11-001A	61.30	132.10	70.80	66.53	32.8							Bay Zone E
HA-11-044	7.90	63.00	55.10	51.78	31.7	31.9	H-116	9.14	53.34	44.20	41.53	Bay Zone E
HA-11-045	8.00	69.00	61.00	57.32	32.2	32.0	H-114	6.10	65.53	59.43	55.85	Bay Zone E
HA-11-046	37.20	77.50	40.30	39.69	30.5							Bay Zone E
HA-11-047	19.30	75.40	56.10	45.95	32.5	32.4	H-113	19.81	82.30	62.49	51.19	Bay Zone E
HA-11-048	4.30	114.80	110.50	84.65	31.5	34.1	H-89	0.00	91.44	91.44	70.05	Bay Zone E

2011 Results							Historic drill hole results (1954 - 1957)					
DDH	From (m)	To (m)	Width (m)	True width (m)	Fe Total (%)	Soluble Fe (%)	DDH	From (m)	To (m)	Width (m)	True width (m)	Zone
HA-11-049	48.40	184.40	136.00	127.80	32.0							Bay Zone E
HA-11-050	19.90	85.40	65.50	59.36	30.8	31.5	H-87	21.34	82.30	60.96	55.25	Bay Zone D
HA-11-051	13.40	88.70	75.30	69.82	32.2	32.1	H-84	15.24	88.39	73.15	67.82	Bay Zone D
HA-11-052	25.20	98.00	72.80	70.30	32.3							Bay Zone D
HA-11-053	24.40	66.20	41.80	34.24	34.3	32.9	H-83	16.76	74.68	57.92	47.45	Bay Zone D
HA-11-054	40.30	106.80	66.50	65.05	32.8							Bay Zone D
HA-11-055	31.00	95.00	64.00	57.02	36.0	27.4	H-58	35.05	88.48	53.43	47.61	Bay Zone C
HA-11-056A	37.70	142.00	106.30	106.15	32.2	33.2	H-57	36.58	66.48	29.90	29.86	Bay Zone C
HA-11-057	13.45	66.00	52.55	49.98	32.3	32.3	H-55	15.24	59.44	44.20	42.04	Bay Zone C
HA-11-058	1.50	30.00	28.50	28.22	29.8	27.0	H-53	62.48	76.20	13.72	13.59	Bay Zone C
HA-11-059	56.00	97.58	41.58	40.51	33.2							Bay Zone C
HA-11-060	2.50	44.00	41.50	40.59	33.1	31.8	H-51	25.91	74.68	48.77	47.70	Bay Zone C
HA-11-061	22.40	67.00	44.60	43.46	35.5	31.0	H-21	19.81	70.10	50.29	49.00	Bay Zone B
HA-11-062	2.50	34.00	31.50	30.43	35.2	34.0	H-17	6.10	33.53	27.43	26.49	Bay Zone B
HA-11-063	11.80	124.00	112.20	99.07	35.9	34.0	H-12	48.77	83.82	35.05	30.95	Bay Zone B
BB-11-001	13.05	106.00	92.95	91.54	35.8							Bay Zone B
TR-H12AB1	0.00	125.00	125.00	107.15	34.9							Bay Zone B
HA-11-064	15.90	41.00	25.10	24.24	36.6	38.5	H-7	15.24	30.48	15.24	14.72	Bay Zone A
MC-11-040	3.40	22.00	18.60	18.37	27.6	28.6	C-40	1.89	10.67	8.78	8.67	West McDonald
MC-11-001	23.70	47.00	23.30	21.90	30.4							West McDonald
MC-11-045	4.40	56.00	51.60	48.49	32.6	36.5	C-45	1.52	54.86	53.34	50.12	West McDonald
MC-11-060	22.43	26.45	4.02	3.78	25.4	21.3	C-64	15.24	25.91	10.67	10.03	West McDonald

10.2.1.1 Castle Mountain

Thirty-eight holes were drilled at Castle Mountain for a total of 3,882.4 m. Eighteen of the drill holes were twins of historical drill holes. At least one twin of an historical drill hole was drilled on each section except for section 40+00 which had one exploration hole, HA-11-001b (31.1% total Fe over 62.04 m). In most cases, the drill holes were completed below the iron formation. The drill holes that were twins of historic drill holes demonstrated good agreement with the historic geology. The total iron assays from the 2011 drilling program correlated well with the soluble iron assays from the historic drilling programs and with the total iron assay composites compared with the historical composites.

Exploration drill holes confirmed that the oxide portion of the iron formation continued shallowly dipping to the southeast with thicknesses between 40 m and 91.8 m (Figure 10-2).

Exploration drilling also indicated that the oxide portion of the iron formation continued to the northeast of Castle Mountain. Drill holes HA-11-003 (34.0% total Fe over 58.94 m) and HA-11-004 (32.3% total Fe over 63.13 m) are twins of historic drill holes P-34 and P-49, respectively. Drill hole HA-11-002 (33.4% total Fe over 103.79 m) is an exploration drill hole that confirmed the southeastern continuation of the oxide portion of the iron formation.

The oxide portion of the iron formation at Castle Mountain is composed of a succession of higher grade magnetite-hematite and hematite-magnetite iron formation overlying lower grade magnetite-hematite and hematite iron formation. The higher grade portions of the iron formation contained between 28 and 42% total iron. The lower grade portion of the iron formation contained between 18 and 28% total iron. The oxide portion of the iron formation lacks the conspicuous lean chert beds typical of most Lake Superior type iron formations.

The drilling confirmed a high degree of continuity of rock types and iron grade between drill holes and sections. North-northwest striking thrust faults thickened and repeated all or portions of the iron formation.

The exploration drilling, with drill holes HA-11-001b (31.1% total Fe over 62.04 m), HA-11-002 (33.4% total Fe over 103.79 m), HA-11-067 (36.3% total Fe over 59.67 m) to HA-11-073 (31.8% total Fe over 25.95 m), HA-11-076 (33.3% total Fe over 41.00 m) to HA-11-082 (31.3% total Fe over 44.61 m), extended the mineralization eastward and northeastward along most of the sections for a distance of 4.57 km.

Sections 130+00 (Figure 10-3) and 150+00 (Figure 10-4) demonstrate the continuity of the mineralization northeast of drill hole HA-11-082. This is also supported by the airborne magnetics that demonstrate potential continuity of iron formation to the east-northeast over a distance of 1,500 m.

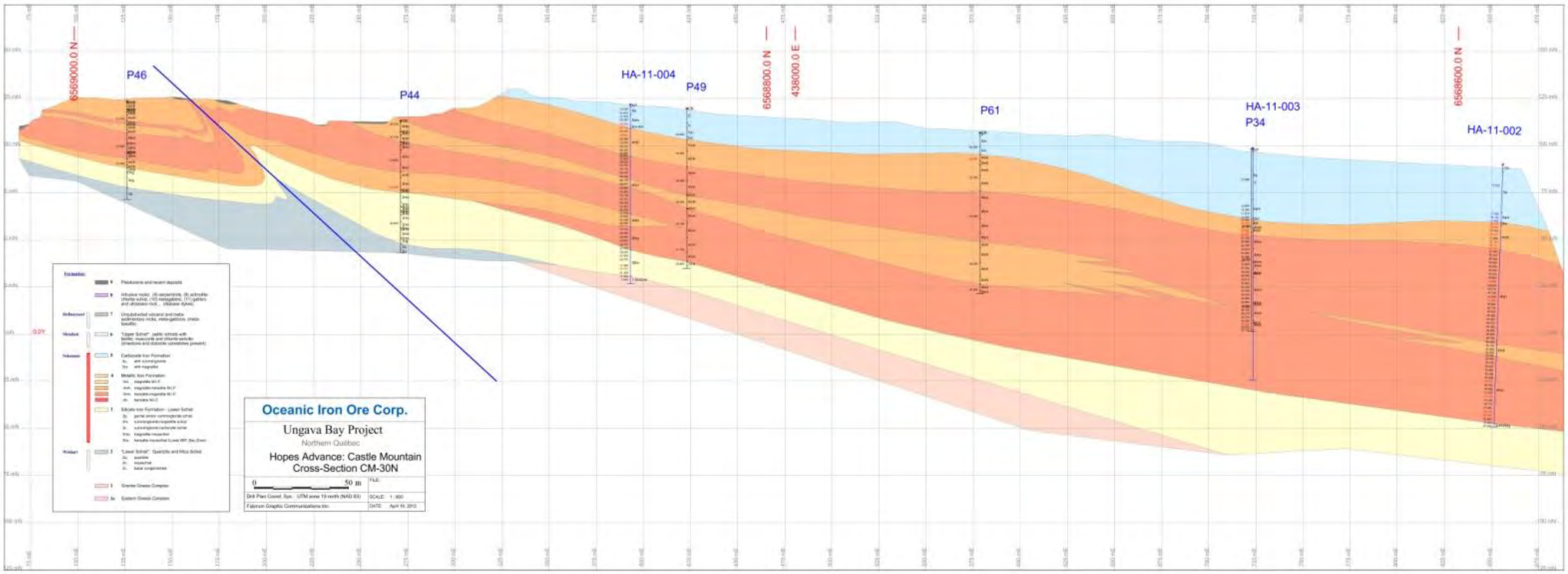


Figure 10-2: Castle Mountain, cross-section CM 30+00N

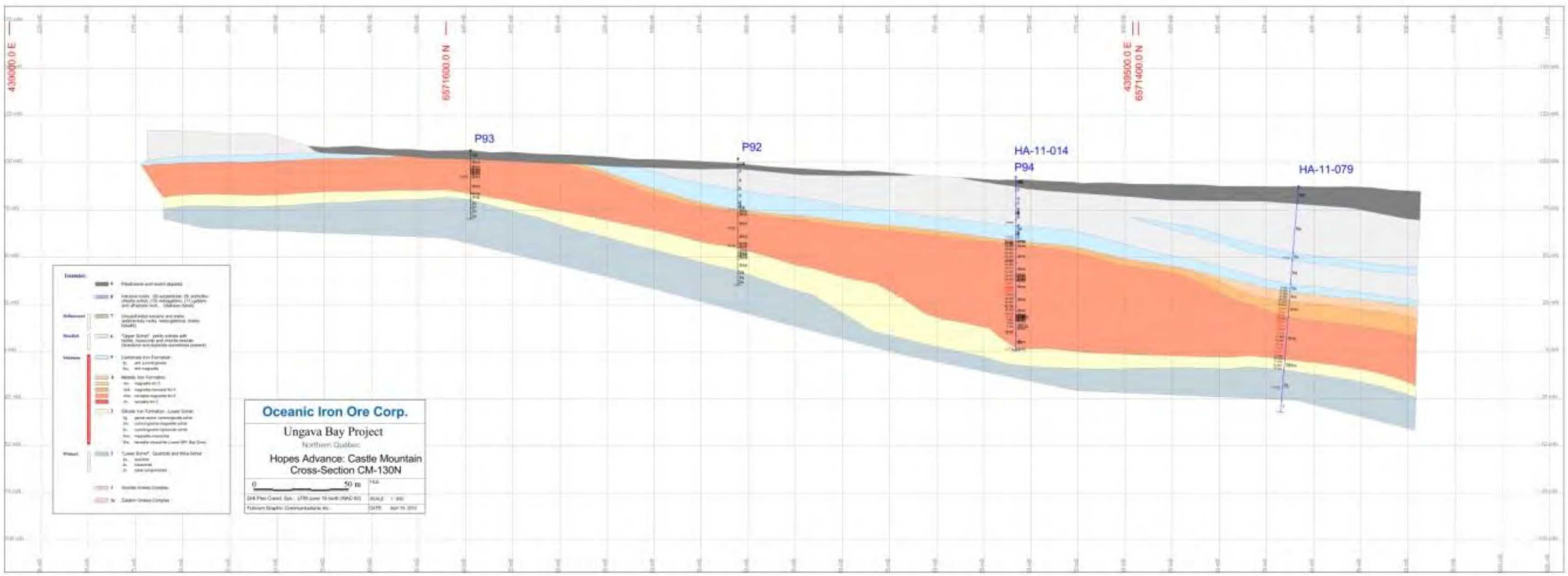


Figure 10-3: Castle Mountain, cross-section on CM 130+00N

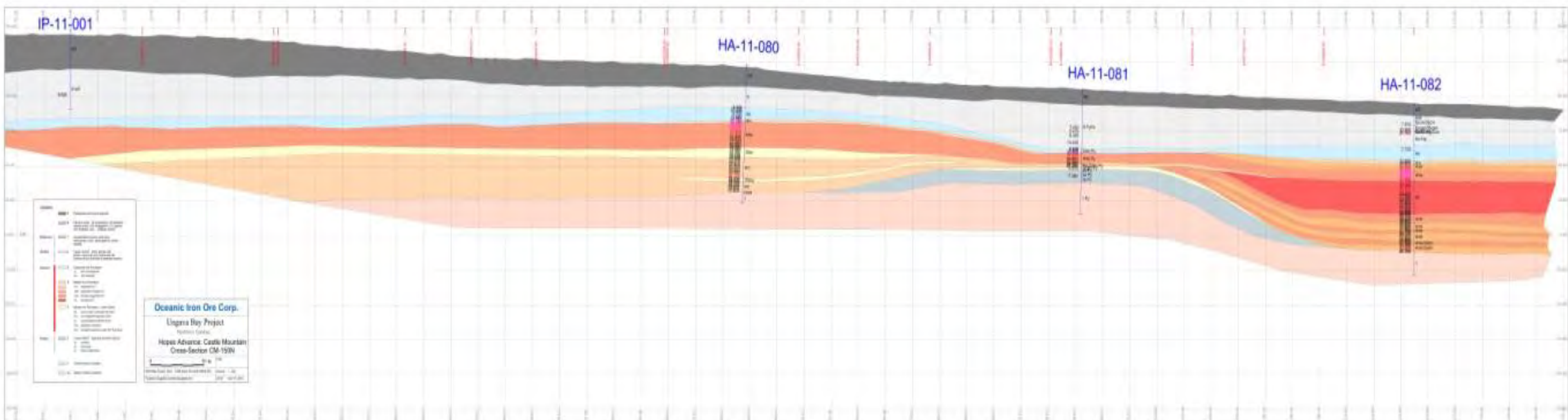


Figure 10-4: Castle Mountain, cross-section on CM 150+00N

Drill holes HA-11-080 (28.4% total Fe over 50.82 m) on section 150+00 and P-93 (historical hole grading 30% soluble Fe over 17.71 m) on section 130+00 occur on the eastern margin of the Iron Plateau zone that is outlined by the airborne magnetics (Figure 9-1). The airborne magnetics show that the Iron Plateau zone is a bowl-like iron formation feature similar to that of Iron Valley, with a diameter of 3.0 km to 3.5 km.

10.2.1.2 West Zone 4 Drilling

West Zone 4 is located 1.1 km to the west of Castle Mountain. Thirteen holes were drilled for a total of 931.15 m. Nine of the drill holes were twins of historical drill holes. The oxide portion of the iron formation varies from 25 m to 86 m (see Figure 10-5). The thicker intercepts of oxide iron formation are probably due to repetition of parts of the iron formation by thrust faulting.

Historic drill holes R-129 and R-132 were twinned by drill holes HA-11-029 (29.2% total Fe over 34.36 m) and HA-11-030 (32.7% total Fe over 85.19 m), respectively. These two holes were slightly removed by 46 m east and 72 m south-southeast from the respective historical holes.

The oxide portion of the iron formation is composed of a succession of higher grade magnetite-hematite and hematite-magnetite iron formation overlying lower grade magnetite-hematite and hematite iron formation. The higher grade portions of the iron formation contain up to 45.7% total iron. While the lower grade portions of the iron formation contain down to 21.0% total iron. The drilling confirmed a high degree of continuity of rock types and iron grade between drill holes and sections.

The recent drilling confirms the historical drilling and reported grades with the recent drill holes grading 29.2% total Fe over 34.36 m to 39.4% total Fe over 46.19 m. The West Zone 4 has been extended to the north-northwest by 300 m (30 m thickness) with section 90+00 and drill holes HA-11-032 (32.8% total Fe over 23.30 m), HA-11-065 (33.2% total Fe over 31.61 m) and HA-11-066 (35.5% total Fe over 30.03 m). The mineralization is open to the northwest.

10.2.1.3 West Zone 2 Drilling

West Zone 2 is located 3.7 km to the southwest of the Castle Mountain. Six holes were drilled for a total of 697.3 m and all holes were twins of historical drill holes. The oxide portion of the iron formation varies from 82 m to 108 m (Figure 10-6). The thicker intercepts of oxide iron formation are probably due to repetition of parts of the iron formation by thrust faulting. Historic drill holes R-150 and R-153 were twinned by drill holes HA-11-020 (36.3% total Fe over 75.34 m) and HA-11-019 (32.3% total Fe over 30.66 m and 29.9% total Fe over 46.49 m), respectively. Note the repetition of the iron formation by thrust faulting at the southwest end of the section.

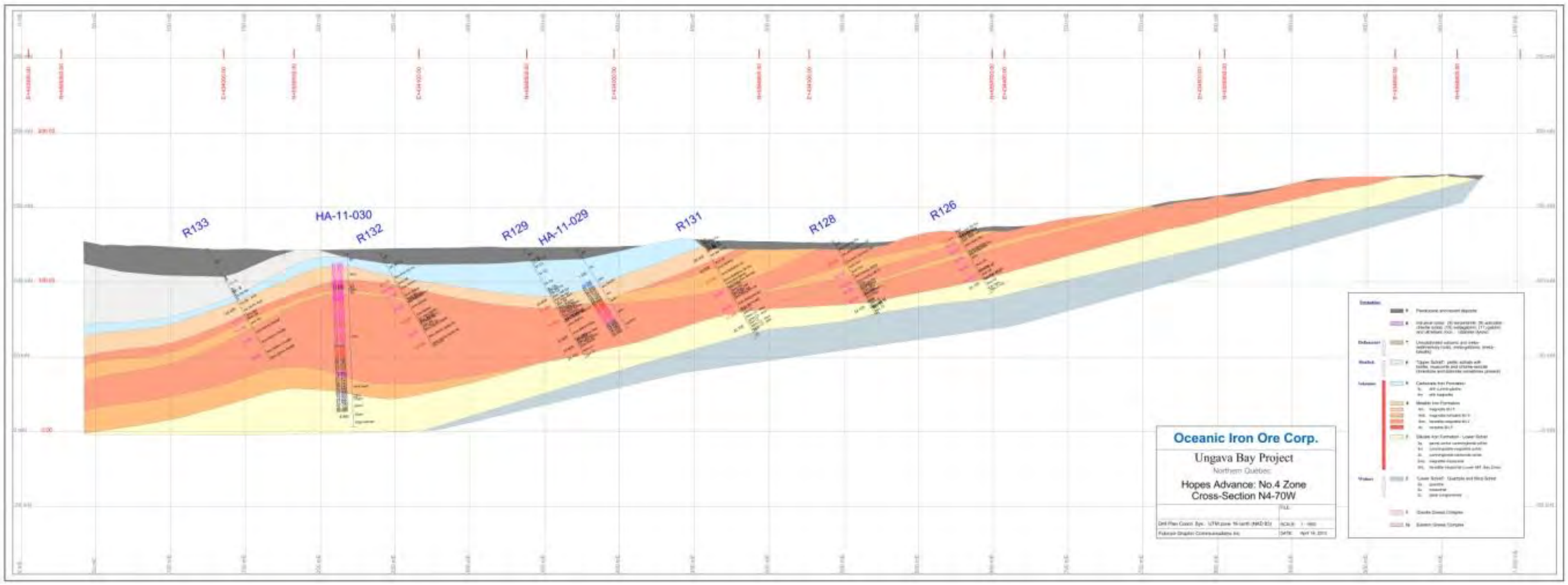


Figure 10-5: West Zone 4, cross-section on Z4 70+00W

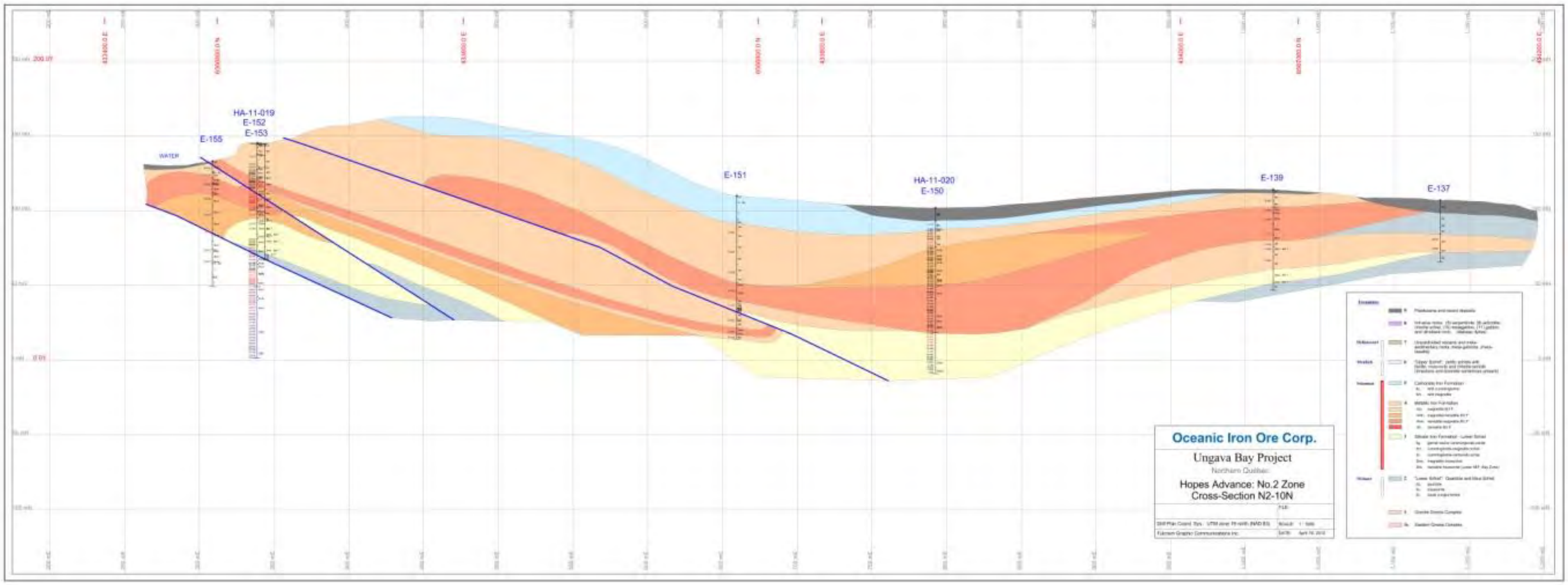


Figure 10-6: West Zone 2, cross-section on Z2 10+00N

The oxide portion of the iron formation is composed of a succession of higher grade magnetite-hematite and hematite-magnetite iron formation overlying lower grade magnetite-hematite and hematite iron formation.

The higher grade portions of the iron formation contain up to 47.0% total iron while the lower grade portions of the iron formation contain a minimum of 22.1% total iron. The continuity of the iron formation is good between drill holes, but in some cases lacks continuity between sections because of intervening thrust faults, such as drill hole HA-11-018 (34.9% total Fe over 35.85 m and 33.6% total Fe over 63.72 m). The recent drilling confirms the historical drilling and reported grades. In some cases, the exploration drill holes intercepted thicker iron oxide portions of the iron formation and higher total iron than were intercepted in the historic drilling, as is demonstrated by HA-11-021 grading 32% total Fe over 103.41 m. West Zone 2 is limited to the extent identified in the 1950s and is not expected to extend further than the presently identified limit.

10.2.1.4 Iron Valley Drilling

Iron Valley is located 5.3 km north of Castle Mountain. Seventeen holes were drilled for a total of 1,524 m. Ten of the 17 holes were twins of historical drill holes. The iron formation is bowl-shaped with the unit cropping out along the edge of the valley (see Figure 10-7).

The oxide portion of the iron formation varies from 11.20 m to 35.04 m thick near the edges and 50.90 m to 68.20 m in the centre of the valley. On the north side of Iron Valley, hole IV-11-011 intercepted 113.61 m of iron formation. Hole IV-11-010 intercepted 33.4 m of iron formation (26.1% total Fe over 28.93 m) and ended in iron formation. The thicker intercepts of oxide iron formation are probably due to repetition of parts of the iron formation by thrust faulting. The drill holes demonstrate iron formation richer in hematite and the metallurgical work also tends to show higher hematite contents than magnetite.

Historic drill holes M-173, M-175, and M-180 were twinned by holes IV-11-004A (31.87% total Fe over 64.97 m), HA-11-035 (32.8% total Fe over 55.68 m) and IV-11-005 (32.6% total Fe over 45.79 m), respectively. Drill holes IV-11-007 (31.9% total Fe over 32.01 m) and IV-11-008 (34.1% total Fe over 7.42 m) are exploration drill holes.

The oxide portion of the iron formation is composed of a succession of magnetite, magnetite-hematite and hematite-magnetite iron formation. The higher-grade portions of the iron formation contain up to 47.1% total iron. In the central and southern portions of the Iron Valley deposit, grades vary from 30.4% total Fe over 56.33 m to 37.2% total Fe over 13.50 m. While the lower grade portions of the iron formation contain down to 20.6% total iron. The drilling confirmed a high degree of continuity of rock types and iron grade between drill holes and sections. The recent drilling confirms the historical drilling and reported grades. On the northern side of Iron Valley, drill hole IV-11-011 intersected 110.38 m of iron formation grading 32.9% total Fe, hence improving the thickness of iron formation at this end of Iron Valley. Drill hole IV-11-010, 300 m west of IV-11-011, intersected 28.93 m of iron grading 26.1% total Fe. Drill hole IV-11-010 terminated in the iron formation unit (4 m) and, as a result, the hole will have to be extended past its termination depth of 57 m. Results from drill hole IV-11-011 and the airborne magnetic survey indicate that the iron formation continues to the north and northeast.

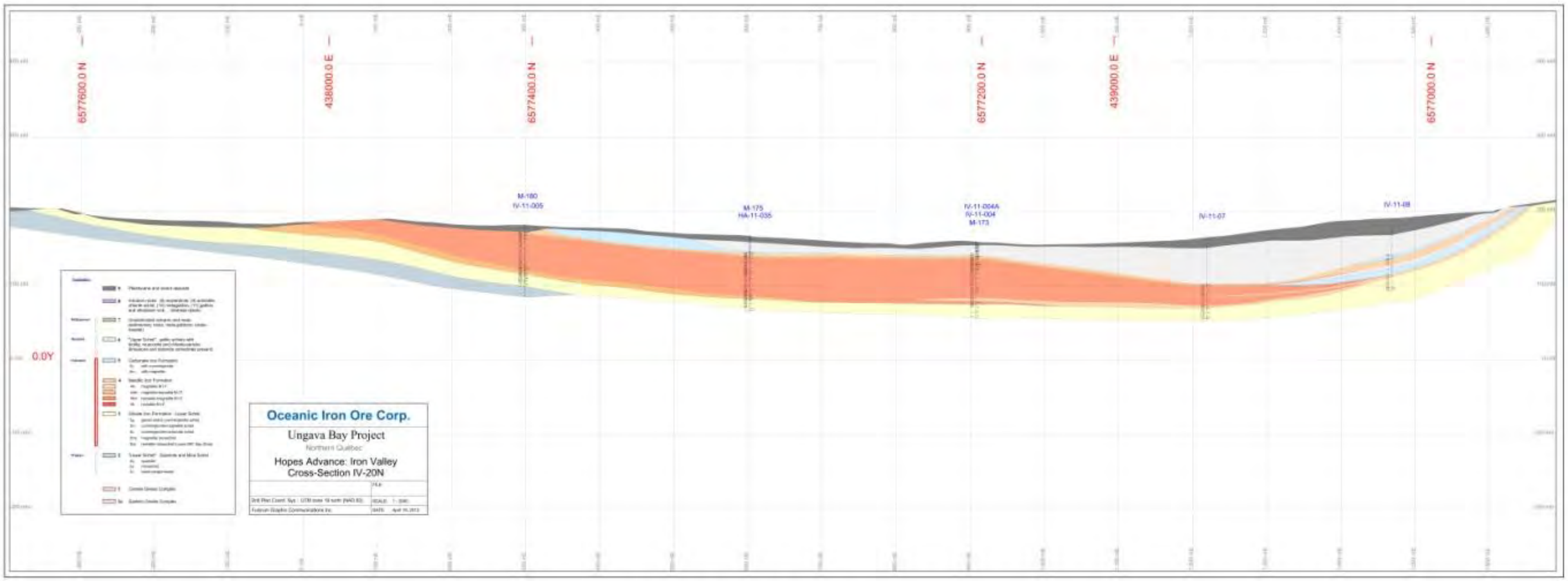


Figure 10-7: Iron Valley cross-section 20+00N

10.2.1.5 Bay Zone Drilling

The Bay Zone is composed of deposits A, B, C, D, E and F and is located from 5.6 km (F) to 15.7 km (A) northeast of Castle Mountain. Thirty-six holes were drilled on the Bay Zones for a total of 4,244.95 m. Twenty-one of holes were twins of historic drill holes. The drilling on the Bay Zone deposits is summarized below, going from west to east progressing away from the Castle Mountain deposit. The deposits Bay Zone A to F extend over a distance of 11.49 km as six separate deposits.

Eleven holes were drilled at Bay Zone F for a total of 1,669.2 m. Five of the 11 holes were twins of historical drill holes and six were exploration holes. The thickness of oxide iron formation intercepted varied from 80.95 m to 132.86 m (Figure 10-8). Historic drill holes H-118, H-142, H-144, H-145 and H-148 were twinned by drill holes HA-11-043 (28.2% total Fe over 71.4 m), HA-11-042 (36.1% total Fe over 91.71 m), HA-11-040 (34.7% total Fe over 93.23 m), HA-11-039 (32.3% total Fe over 56.97 m) and HA-11-038 (34.4% total Fe over 99.18 m), respectively. Drill holes HA-11-041, BF-11-001, BF-11-002, BF-11-004, BF-11-005 and BF-11-006 are 2011 exploration drill holes. Holes BF-11-001 (19.53 m grading 26.3% total Fe and 13.32 m grading 33.8% total Fe), BF-11-002 (34.35 m grading 33.4% total Fe), HA-11-041 (107.21 m grading 33.2% total Fe), BF-11-004 (78.29 m grading 34.2% total Fe) and BF-11-005 (132.86 m grading 30.5% total Fe) helped to tighten the interpretation and extend the mineralization by 300 m further south and 735 m across the syncline. The structure is a south-southeast plunging synclinal half-cone. Hole BF-11-006 appears to indicate that the iron formations terminate at this point and may down-throw the iron formation along a fault.

Eight holes were drilled at Bay Zone E for a total of 877.7 m. Four of the eight holes twinned historical drill holes. The thickness of oxide iron formation intercepted varied from 39.69 m to 127.8 m. On the east side of Bay Zone E, holes HA-11-048 (31.5% total Fe over 84.65 m) and HA-11-049 (32.0% total Fe over 127.80 m) intersected thicker iron formation sequences and demonstrate a thickening of the iron formation sequence eastward. The zone also demonstrates thickening to the east and plunges to the southeast. The twinned holes have comparable grades but with improved thicknesses (see Table 10-2). The average grade varies between 30.5% total Fe and 32.8% total Fe.

Five holes were drilled at Bay Zone D for a total of 619.1 m; three of them were twins of historical drill holes. The thickness of oxide iron formation intercepted varied from 34.24 m to 70.30 m. The iron formation in Bay Zone D dips gently to the south and maintains a consistent thickness down-dip. The grades vary from 30.8% total Fe to 34.3% total Fe (see Table 10-2). The thickest intersection is in hole HA-11-052 which grades 32.3% total Fe over 70.30 m.

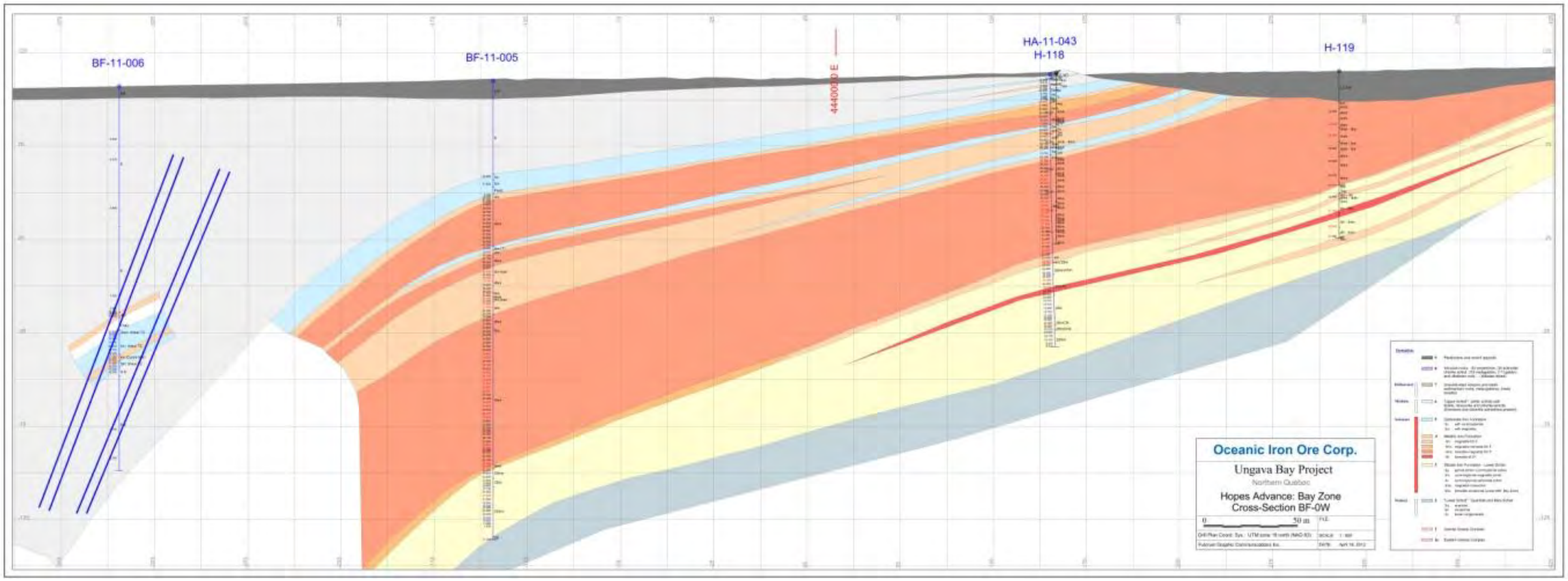


Figure 10-8: Bay Zone F cross-section on 0+00W

Six holes were drilled at Bay Zone C for a total of 638 m; five of them were twins of historical drill holes. The thickness of oxide iron formation intercepted varied from 28.22 m to 106.15 m. The grades of the five twinned holes improved upon the historical drill holes, grading from 29.8% total Fe to 36.0% total Fe. The iron formation in Bay Zone C is thickest on the west side of the zone and maintains a consistent thickness in each section, dipping to the south. The thickest intersection is in hole HA-11-056A grading 32.2% total Fe over 106.15 m.

Four holes were drilled at Bay Zone B for a total of 381 m. Three holes were twins of historical drill holes. The thickness of oxide iron formation intercepted varied from 30.43 m to 99.07 m. The thickest intersection is in hole HA-11-063 grading 35.9% total Fe over 99.07 m. Trench TR-H12AB1 was excavated near drill holes HA-11-063 and BB-11-001 which grades 35.8% total Fe over 91.54 m. Sampling of the trench returned a grade of 34.9% total Fe over 107.15 m on the surface. The thickest intercepted iron formation is on the east side of the zone in drill holes HA-11-063 and BB-11-001, and trench TR-H12AB1. The zone dips south-southeast.

One hole was drilled at Bay Zone A. The drill hole was 60-m deep and intercepted 24.24 m of iron oxide iron formation grading 36.6% total Fe. There is a flexure in the trend of the iron formation between Bay Zone B and Bay Zone A and a rapid thinning of the iron formation at Bay Zone A.

The iron formation along the Bay Zone tends to carry both magnetite and hematite with successions of magnetite, magnetite-hematite and hematite-magnetite. The total iron assays vary between 29.0% and 37.9% with weight recoveries of 40.08% and iron recoveries of 81.01% at 4.5% SiO_2.

10.2.1.6 West Zone McDonald Drilling

The West Zone McDonald area is located 6.1 km west of Castle Mountain. Four holes were drilled, MC-11-040, MC-11-045, MC-11-060 and MC-11-001, for a total of 281 m. Three of the four holes were twins of historical drill holes. The thickness of the oxide portion of the iron formation varies from 3.78 m to 48.49 m with grades varying from 25.4% total Fe (MC-11-060) to 32.6% total Fe (MC-11-045).

The oxide portion of the iron formation is composed of hematite-magnetite, hematite and magnetite. The West Zone McDonald carries both magnetite and hematite and the recoveries are slightly lower than in the other zones. The hematite appears as specularite and is medium-grained and often friable.

10.2.1.7 Iron Plateau Drilling

A large circular magnetic anomaly north of Castle Mountain is referred to as Iron Plateau. Most of the iron formation in this area is covered by glacial deposits. Outcrops of flat-lying, magnetite-rich iron formation were identified on the northern margin of the magnetic anomaly. Iron Plateau had not been identified in the 1950s. One hole, HA-11-080, intercepted iron formation at a depth of 39.2 m on the east side of Iron Plateau, with a grade of 28.4% total Fe over 50.82 m (see Figure 10-4). Hole IP-11-001, 631.9 m west of HA-11-080, was drilled to a depth of 57 m and did not penetrate the iron formations which may be deeper. On section 130+00 (Figure 10-3), the historical hole P-93 demonstrated an intersection of 177.71 m grading 30% soluble iron and continuity to the west. The airborne magnetic survey shows that the Iron Plateau zone is a bowl-shaped iron formation feature similar to that at Iron Valley, with a diameter of 3.0 km to 3.5 km.

Several drill holes will be planned on Iron Plateau: approximately 2,060 m in 20 holes.

10.3 Geotechnical Drilling

A geotechnical drilling investigation program was carried out in 2012 with a total drilled depth of 102 m.

Four geotechnical holes (BH-12-01 to BH-12-04) were drilled east of the Iron Valley pit to characterize ground conditions under the proposed tailings management facility and one hole (BH-12-05) was located at the proposed concentrator site. Adjacent boreholes were drilled at some locations to penetrate difficult ground conditions (e.g., boulders).

The drill holes were 8.8 m to 18.3 m in depth and overburden varied from 3.0 m to 13.7 m in depth. The underlying bedrock in holes BH-12-01 to BH-12-04 is Archean basement rock with granitic gneisses and gabbro. Hole BH-12-05 is underlain by quartzites with a quartz vein.

None of the geotechnical drill holes were located on areas of iron formation.

11. SAMPLE PREPARATION, ANALYSES AND SECURITY

The core sampling protocol for the 2011 drilling program was established under the supervision of Mr. Eddy Canova, P. Geo., OGQ, Director of Exploration for Oceanic.

The core and core boxes from the historical drilling of 1957 was not salvaged as the boxes and core racks were all damaged with time and no core was available for verification.

The core boxes were covered with wooden lids that were secured with wire ties at the drill site. The wooden core boxes were transported by helicopter from the drill site to the village of Aupaluk in sling nets. The boxes were then brought to the core shack, the covers removed, and the boxes placed onto logging tables for logging.

The placement of measuring blocks and core recovery were verified by measuring the entire core and determining the core recovery every 3 m and recording the measured recovery in a recovery table. The RQD (rock quality designation) is measured every 3 m and recorded in the physical property table.

The lithology and fabrics were described in detail. Rock types were assigned codes to assure consistent core logging and sampling. The rock codes used are those that were used in the 1950s (6, 5, 5a, 5am, 4m, 4mh, 4hm, 4h, 3sm, 3smh, 3sc, 3sg, 2, 2b, and 1). The rock types were fully described, colour of the unit, grain size, main oxides observed, textures, fabrics were measured relative to the core axis and recorded, alteration, main minerals in percentages, and a detailed description of the unit. Narrower units, veins or dikes are entered into the secondary geology table, and the same information is entered as the main units. The magnetic susceptibility of the core was recorded for the entire length of each drill hole. The data for each drill hole is entered in a spreadsheet, with separate worksheets for collar, survey, geology, assay, metallurgical, RQD and magnetic susceptibility data.

After the core was measured, fitted together and described, digital images were acquired of consecutive core boxes in groups of four. Each image acquired includes a card indicating the hole identification numbers, box numbers, and depth identification. Digital records of all the images are stored with the data for each drill hole.

Samples of mineralized material and waste were collected and submitted for chemical analysis. Both types of samples were collected with a minimum length of 30 cm, a maximum length of 2 m, and honoured geological contacts. A sample tag was inserted at the start of the core sample and stapled to the core box with a sample number and two stubs. The sample number, sample interval, width of samples along the drill length, comments about the sample collected, are entered in the drill hole log. The sample booklets were supplied by ALS Chemex from Val-d'Or and contain tags with unique numbers.

The core was split with a hydraulic splitter and half of the core was retained in the core box and the remaining half put into doubled plastic sample bags. The sample number was written on the plastic bag and a sample tag with a bar code was placed inside the sample bag. A sample tag for a duplicate analysis was inserted every 25th sample. Five or six bags of consecutive samples were put into rice bags, placed on pallets, and stored in a secure area at the airport in Aupaluk. The accumulated samples were inventoried and a manifest was created with details of the shipment. The samples were flown weekly from Aupaluk to Val-d'Or.

The majority of samples were sent to ALS Chemex in Val-d'Or for sample preparation and chemical analysis. Some samples were sent to AGAT Laboratories for sample crushing and pulverizing and then shipped to SGS Mineral Services (SGS) in Lakefield, Ontario, for chemical analysis. A rotary splitter was used to create splits for shipment to SGS for metallurgical analysis. Every 25th sample had an additional split collected for duplicate analysis. Every drill hole at Hopes Advance had composite samples sent to SGS for metallurgical analysis and characterization. At Hopes Advance, 611 composite samples were produced. Each hole had composite samples selected and samples were regrouped assay samples within a geological unit to form a composite of one sample, or as much as 10 samples, within the same geological unit and composite sample.

All samples were pulverized to 90% passing 100 mesh and split using a rotary splitter at ALS Chemex in Val-d'Or, or by AGAT Laboratories in Sudbury, Ontario. One split was used for chemical analysis and another split was retained for metallurgical analysis. All mineralized material and waste samples were analyzed with the same analytical suite that included: whole rock XRF, loss on ignition, C and S (by LECO combustion analyzer), and ferrous Fe. Specific gravity was determined on every fifth sample on pulverized core samples measuring the bulk density on pulps by pycnometer. Most of the chemical analyses were determined by ALS Chemex in Val-d'Or. The XRF whole rock analysis included the following elements reported as oxides or elements: Al_2O_3, As, Ba, CaO, Cl, Co, Cr_2O_3, Cu, Fe, K_2O, MgO, Mn, Na_2O, Ni, P, Pb, S, SiO_2, Sn, Sr, TiO_2, V, Zn, and Zr. Ferrous iron was determined by titration. A suite of characterization samples that were selected as being representative of each rock type were collected from each drill hole. The characterization samples, in addition to the analyses just described, included inductively coupled plasma (ICP) analyses (34 elements) and samples submitted for mineralogy and petrography.

The analytical results in combination with rock descriptions were used to identify intervals to be composited for metallurgical testwork at SGS.

Each of ALS Chemex, AGAT Laboratories and SGS are independent of Oceanic.

The ALS Chemex laboratory in Val-d'Or (1324 rue Turcotte, Val-d'Or, QC, J9P 3X6) is certified to standards within ISO 9001:2008. AGAT Laboratories (2054 Kingsway, Sudbury, ON, P3B 4J8) is certified under ISO 9001:2008. SGS (185 Concession Road, Lakefield ON, K0L 2H0) is certified under ISO/IEC 17025.

It is the opinion of the Qualified Person that the sample preparation, security, QA/QC results, and analytical procedures used in the Oceanic drill program demonstrate that the Hopes Advance project assay database is sufficiently accurate, precise and suitable for its use in the mineral resource estimate and the disclosure of the exploration results.

12. DATA VERIFICATION

The casings, holes, and stakes with tags of several drill holes from the 1950s drilling program were identified and located with GPS and all identified by the QP onsite. Core logging procedures, data entry, and core sampling procedures were established for the drilling program and were all verified and validated by the QP. The recently recovered drill sections from the 1950s drilling program were reviewed by the QP.

The criteria for the identification of rock types were reviewed onsite by the QP to assure consistent identification of rock types during core logging. Three trenches from the 1950s work at Castle Mountain were identified onsite by the QP and located with hand-held GPS.

12.1 Verification of the Historic Exploration Drilling Results

In order to verify the historic drilling results, Oceanic twinned one to two drill holes per cross-section at all of the historically identified iron deposits at Hopes Advance. All of the historically drilled exploration holes were located on the surface and surveyed. One to two historic holes per cross-section were then selected and twinned. A total of 67 drill holes were twinned totalling 6,400 m of drilling. These 67 holes were compared to the historic logged geology and found to closely match the modern results. The result of geological logging was, for all practical purposes, identical to the twinned historic drill holes. The composites from the 67 twinned holes were compared to the modern drill holes and covered 2,015 m of composite sample intervals totalling 1,721 m. A comparison of these twinned assay results is shown below in Figure 12-1.

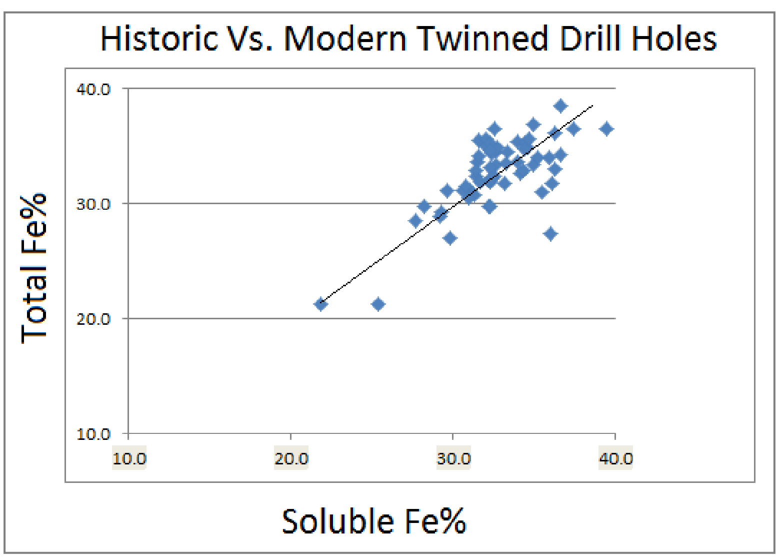


Figure 12-1: Comparison between historic and Oceanic drilling results at Hopes Advance

Other than a few outliers, the vast majority of the modern results fall within the normal assay ranges expected for iron assays. For all of the twinned assays results to date, the average weighted iron assay is 33.2% versus the modern assay of 33.0%. This close relationship, along with the consistency between the historic and modern geologic logging, validates the historic geologic and assay results. Because of this, the historic data were used without modification in the resource estimation described below.

The presence of extensive iron formation in outcrop at Hopes Advance is obvious from the visual examination completed by the Qualified Person.

It is the opinion of the Qualified Person that the data have been verified and are suitable for use in the mineral resource estimate.

13. MINERAL PROCESSING AND METALLURGICAL TESTING

13.1 Introduction

This chapter provides an overview of the metallurgical testwork performed on the Project to date. Since the 2012 PFS, no new testwork has been performed. For this PEA, the testwork results herewith are used to support the conceptual process and plant design proposed by BBA.

Two metallurgical testwork programs were designed to assess the resource at Hopes Advance.

The first program carried out by SGS in Lakefield, Ontario, provided weight recovery and concentrate quality data on composites from drill holes. The results from this metallurgical test program were used to further define the mineral resource. Approximately 611 composite samples from Hopes Advance were analyzed in this program.

The second program, a pilot plant program designed to characterize the mineralization and to produce a flowsheet that would maximize weight recovery and produce an iron ore concentrate assaying greater than 66.6% Fe and less than 4.5% SiO_2 was completed at the facilities of SGS.

13.2 Historical Testwork Summary

Considerable metallurgical work was done on Hopes Advance in the late 1950s. This metallurgical work was used to design a flowsheet using spirals followed by LIMS. Most of the historic resource estimate was based on soluble iron assays supplemented with metallurgical work on a few drill holes, and the results of metallurgical testing on a bulk sample from Castle Mountain. A summary report by Lone Star Mining and Exploration (1973) demonstrates that concentrate weight recoveries of 40% at 5% SiO_2 were achieved with the spirals and magnetic separation alone. The results from the current metallurgical testwork confirm the historic metallurgical work. The iron in both the hematite and magnetite mineralization is largely recovered by gravity due to the apparent inter-grown magnetite with the hematite and the aggregation of magnetite grains.

13.3 SGS Initial Testwork Program and Results

Testwork carried out by SGS (April 2012) on behalf of Oceanic prior to the pilot plant program is summarized below.

As part of the characterization program, SGS determined weight recovery and concentrate grade data on composites from Hopes Advance. Since the Castle Mountain deposit contains both hematite and magnetite (hematite >magnetite), a program was designed to simulate recoveries that could be expected in a concentrating plant using gravity separation followed by regrinding and low intensity magnetic separation (LIMS). A series of grind grade tests were first conducted to determine an appropriate grinding method and grinding time to achieve good liberation of hematite. Stage pulverizing, dry rod mill and wet rod mill grinding methods and grinding times were compared. The gravity circuit is simulated by a single stage of dry rod mill grinding to 80% passing 150 mesh (106 µ) followed by gravity recovery using a Mozley table. This stage recovers relatively coarse grained hematite and aggregates of magnetite and magnetite and hematite. After regrinding the magnetic circuit was simulated using Davis tube testing. Davis tube tests were run on Mozley table tails when normalized iron recovery (normalized to 4.5% SiO_2) was less than 70% and the magnetite content of a sample (analyzed using a Satmagan analyser) was greater than 15%. The Satmagan analyser is designed to measure the magnetite content of a sample. The tailings were then ground to 100% passing 400 mesh and passed through a Davis tube to recover the magnetite. The concentrate from the Mozley table test and the Davis tube test were combined to produce a total concentrate weight recovery and concentrate grade. The composite intervals selected from samples within geologic units are continuous, and have similar chemical characteristics.

The characterization program determined that concentrate with good chemical characteristics can be produced using gravity separation and that recoveries can be improved by additional grinding of gravity tails followed by LIMS. The characterization program also indicated that concentrate of good quality; weight and iron recovery may be achievable with gravity separation alone.

SGS analyzed approximately 611 composite samples from Hopes Advance. This included duplicate samples (QA/QC) and a few samples of underlying mica schists that contained magnetite and hematite. Results from the duplicate analyses and the mica schists are not included in the following discussion.

In order to ensure that the results of the metallurgical analysis are representative of the material included in the resource estimate, a total of 507 composites with head grade greater than 25% Fe were considered in the overall analysis. The distribution of the composites across the Hopes Advance project area is summarized in Table 13-1.

Table 13-1: Summary of distribution of 507 composites with head grade greater than 25% Fe

Deposit	No. of composites	Total length (m)	Average composite length (m)
Castle Mountain	150	1,533	10.22
Iron Valley	60	570	9.50
Bay Zone	206	2,119	10.29
West Zone	91	882	9.69

Table 13-2 shows the overall recovery achieved by combining the gravity concentrate and the magnetic concentrate while maintaining approximately 4.5% SiO_2.

Table 13-2: Summary of overall concentrate grade and grade at approximately 4.5% SiO_2

Deposit	Overall concentrate grade				Overall recovery				
	Fe (%)	SiO_2 (%)	Al_2O_3 (%)	Satmagan[(1)] (%)	MnO (%)	Wt (%)	Fe (%)	SiO_2 (%)	Satmagan (%)
Castle Mountain	65.87	4.42	0.02	30.8	0.33	39.3	78.6	4.34	74.0
Iron Valley	65.97	4.64	0.04	25.5	0.33	40.5	80.6	4.76	62.9
Bay Zone	66.96	4.46	0.03	59.2	0.28	40.1	81.0	4.38	81.1
West Zone	65.81	4.34	0.03	41.3	0.73	38.8	74.6	4.40	72.5

(1) Magnetite content using a Satmagan analyzer.

Combined recovery methods at the high gravity recovery deposits (Bay Zone, Iron Valley and Castle Mountain) achieved weight recoveries and iron recoveries above or approaching 40% and 80%, respectively.

13.4 Pilot Plant Testwork

A pilot plant program was completed at the facilities of SGS in Lakefield, Ontario to characterize the mineralization and to produce a flowsheet that would maximize weight recovery and produce an iron ore concentrate assaying greater than 66.6% Fe and less than 4.5% SiO_2. This work is described in SGS (October 2012) and SGS (September 2012). Additional testwork was also conducted at the facilities of FLSmidth.

Table 13-3 lists the laboratories and suppliers that were involved with the testwork as well as the specific techniques or equipment tested.

Table 13-3: Summary of metallurgical testwork

Type of test	SGS	FLSmidth
Mineralogy	✓	
Comminution	✓	✓
Classification		
Gravity Separation	✓	✓
LIMS - Magnetic Separation	✓	
Pipeline Transportation		
Hydraulic Separation	✓	
WHIMS - Magnetic Separation	✓	
Pilot Plant Testwork	✓	
Dewatering	✓	

In September and October 2011, a 250-t bulk sample was collected from four zones, Castle Mountain, West Zone 2, West Zone 4 and Bay Zone F. This bulk sample was collected by Oceanic and shipped from the site for a pilot plant test program conducted at the facilities of SGS.

During pilot plant testing, the Castle Mountain material was tested separately while the four zones were blended to represent a blended life-of-mine material (LOM material).

The initial five pilot plant tests (PP-01 to PP-05) were conducted on the LOM material. PP-06 introduced Castle Mountain material and this continued until PP-12. PP-13 and PP-14 were vendor sample production runs using Castle Mountain material. PP-15 was the production run test and used LOM material. Table 13-4 lists the standard pilot plant set-up conditions.

Table 13-4: Summary of pilot plant runs

Test run	Date	Purpose	Bulk sample	Time total	Total ind.	Feed cum.	Circuit config.	Thrg. dry	SAG Mill screen		Primary screen		Regrind screen	
				h	t	t		kg/h	mesh	µ	mesh	µ	mesh	µ
PP-01	19-Apr-12	Grinding/Gravity Commissioning	LOM Composite	2.6	4.4	4.4	FAB	1,021	6	3,350	80	180	-	-
PP-02	23-Apr-12	Grind/Grav Optimization and LIMS Comm	LOM Composite	8.1	7.1	11.6	FAB	790	6	3,350	80	180	400	38
PP-03	24-Apr-12	Optimise recleaner spiral	LOM Composite	7.5	5.5	17.1	FAB	728	6	3,350	80	180	400	38
PP-04	26-Apr-12	SAG run plus optimization	LOM Composite	7.2	13.4	30.5	SAB	1,514	6	3,350	80	180	-	
PP-05	30-Apr-12	Optimize at target silica grade	LOM Composite	2.3	3.3	33.8	SAB	-	-	-	-	-	-	-
PP-06	1-May-12	New composite with single stage grind	CM Composite	-	2.2	2.2	SAG	-	-	-	-	-	-	-
PP-07	2-May-12	CM with single stage grinding	CM Composite	7.3	10.6	12.8	SAG	1,497	6	3,350	60	250	-	-
PP-08	4-May-12	CM with single stage grinding	CM Composite	7.7	12.3	25.2	SAG	1,426	6	3,350	60	250	-	-
PP-09	7-May-12	CM with 1 cleaner spiral	CM Composite	8.7	10.4	35.6	SAG	1,450	6	3,350	60	250	-	-
PP-10	8-May-12	CM as PP-07 & PP-08 but with DF-400	CM Composite	9.2	12.0	47.6	SAG	1,503	6	3,350	60	250	-	-
PP-11	9-May-12	CM with new spiral recycle and no scav.	CM Composite	7.6	11.4	59.0	SAG	1,412	6	3,350	60	250	-	-
PP-12	10-May-12	CM as PP-11 but with coarser screen	CM Composite	6.8	8.9	68.0	SAG	1,328	6	3,350	50	300	-	-
PP-13	15-May-12	CM production runs	CM Composite	8.9	11.9	79.9	SAG	1,363	6	3,350	50	300	-	-
PP-14	16-May-12	CM production runs	CM Composite	5.5	7.2	87.1	SAG	1,244	6	3,350	50	300	-	-
PP-15	17-May-12	LOM as PP-13 & PP-14	LOM Composite	7.2	11.0	44.8	SAG	1,368	6	3,350	50	300	-	-

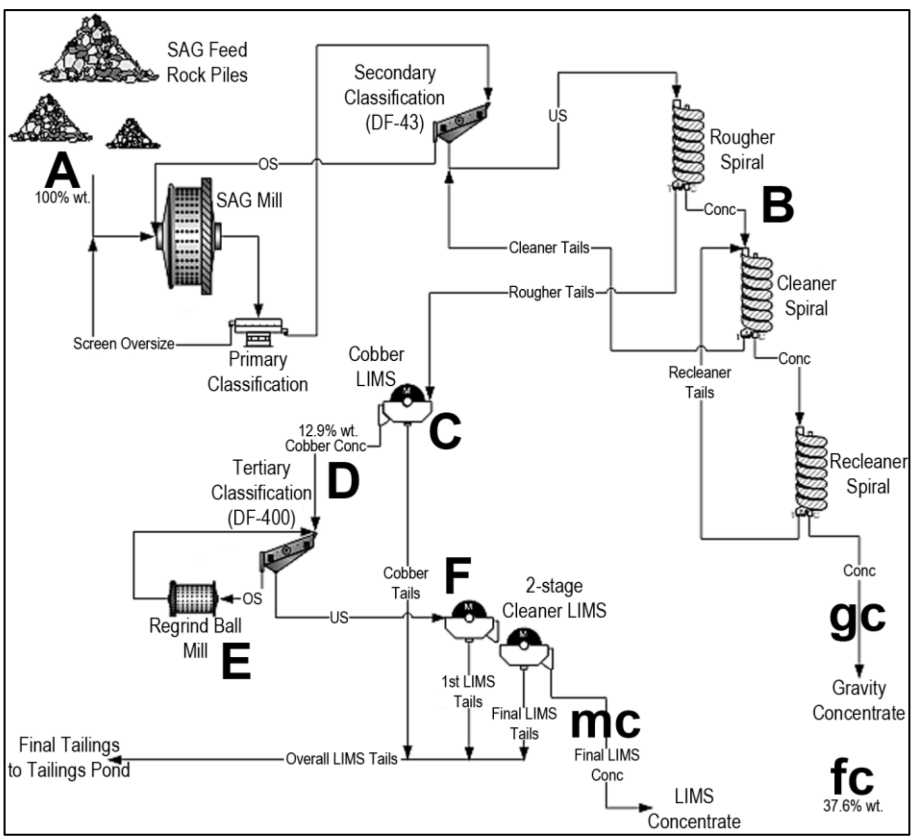
Figure 13-1 shows the flowsheet used for tests PP-11 and PP-12.

The pilot plant testwork program comprised the following:

- Comminution;
- Bench-scale beneficiation;
- Heavy liquid separation;
- Gravity separation;
- Magnetic separation;
- Hydraulic separation;
- Dewatering.

13.4.1 Comminution

Initial bench-scale testwork used rod mill grinding to determine the optimal liberation size for gravity separation. Later, a variety of grindability tests were conducted on pilot plant samples.



Source: SGS Final Report 13169-002 Revision 1, dated October 16, 2012

Figure 13-1: Pilot plant flowsheet for tests PP-11 and PP-12

Pilot plant samples from the four deposit zones were separately tested using:

- JKTech drop-weight tests;
- Semi-autogenous grinding (SAG) mill comminution (SMC) tests;
- MacPherson autogenous grindability tests;
- Bond grindability tests;
- High pressure grinding roll (HPGR) tests (conducted on composite samples only).

The grindability test results indicate that the test material, when coarse, is of medium hardness, but once broken to ball mill size it is significantly softer. This makes the test material quite amenable for SAG mill grinding as there will not be a build-up of a critical size within the SAG mill.

Table 13-5 lists the JKTech drop weight and the SMC test results.

Table 13-5: JKTech drop-weight and SMC test results

Sample name	Parameter										
	A	b	Axb	Hardness Percentile	t_a	Hardness Percentile	DWI	M_{ia}	M_{ih}	M_{ic}	Relative Density
Castle Mountain PP Feed	84.0	0.62	52.1	43	0.50	45	-	-	-	-	3.42
Life-of-mine PP Feed	84.1	0.77	64.8	29	0.47	49	-	-	-	-	3.47
Castle Mountain	75.4	0.69	52.0	43	0.39	-	6.6	15.1	11.2	5.8	3.43
West Zone 2	80.2	0.65	52.1	43	0.39	-	6.6	15.0	11.1	5.7	3.46
West Zone 4	80.1	0.59	47.3	50	0.39	-	7.3	16.2	12.2	6.3	3.48
Bay Zone F	72.0	0.93	67.0	27	0.39	-	5.3	12.4	8.7	4.5	3.49

A – impact breakage parameter
b – impact breakage parameter
Axb – value which has been found to have the best correlation with rock resistance to impact breakage
t_a – the abrasion characteristic of the sample which is estimated using a tumbling test
DWI – drop weight index
M_{ia} – grinding of coarse sizes in tumbling mills work index
M_{ih} – HPGR work index
M_{ic} – crushing work index

During the pilot plant testwork, it was determined that the autogenous grinding mill throughput would be low, and the discharge would be too fine for gravity separation. The SAG mill grinding demonstrated increased throughput rate and weight recovery. For the pilot plant primary SAG mill grinding circuit, SGS estimated an average power requirement of 6.6 kWh/t. The testwork resulted in a SAG mill circuit design F_{80} = 155 mm, and P_{80} = 140 µm.

The LIMS mill is referred to by SGS as the regrind mill (see Figure 13-1). This LIMS mill regrinds the cobber LIMS concentrate, prior to the cleaner LIMS. SGS estimates the LIMS mill power requirement as 21 kWh/t. This calculation is based on a re-grind mill feed size F_{80} of 188 µm, and a product size P_{80} of 27 µm. For Castle Mountain material, the cobber LIMS concentrate could be ground coarser. The design criteria used a P_{80} of 29 µm.

HPGR testing conducted by SGS determined that an HPGR-ball mill circuit has a significantly lower power requirement compared with a rod mill-ball mill set-up. The power reduction was 37% for Castle Mountain material and 45% for LOM material. The Castle Mountain HPGR locked-cycle testwork yielded an average of 2.45 kWh/t and 2.05 kWh/t for the gross and net specific energy requirements respectively. Likewise, the LOM samples yielded gross and net specific energy requirements of 2.11 kWh/t and 1.75 kWh/t. The HPGR tests were performed using a LABWAL bench-scale unit. Specific energy requirements of industrial sized units will be lower than bench-scale testwork suggests since bench-scale units are more susceptible to the grinding roll edge effect.

13.4.2 Bench-scale Beneficiation on Pilot Plant Samples

SGS completed flowsheet simulations using Mozley table gravity separation and Davis tube magnetic separation tests. The flowsheet was based on the drill core sample test results. The bench-scale tests yielded improved results obtained over the earlier drill cores test results, see Table 13-6.

Table 13-6: Summary of bench-scale beneficiation separation results on pilot plant samples

Test	Sample	Final Concentrate Grade					Final Recovery			
		Fe[(1)] (%)	SiO_2 (%)	Al_2O_3 (%)	Sat (%)	MnO (%)	Wt (%)	Fe (%)	SiO_2 (%)	Sat (%)
M-9 & DT-17	Castle Mountain PP	66.4	4.94	-	32.7	0.24	46.3	87.5	5.07	97.6
M-10 & DT-18	Life-of-mine PP	66.3	5.27	-	36.1	0.26	46.3	87.8	5.44	97.5
M-1	Castle Mountain	66.4	4.5	-	19.6	0.28	39.4	78.3	4.01	72.3
M-2 & DT-2	West Zone 4	68.1	3.88	-	55.5	0.2	44.3	80.3	3.8	98.4
M-3 & DT-3	West Zone 2	67.1	5.67	-	86.9	0.77	49.6	88.7	6.78	98.7
M-4	Bay Zone F	67.5	4.5	0.06	18.6	0.3	45.2	80.9	4.63	68.6

(1) Fe grade calculated from the Fe_2O_3 WRA result.

However, the West Zone 2 pilot plant samples seem to contain substantially higher amounts of magnetite than West Zone 2 drill core samples. It was concluded that the West Zone 2 sample was not representative due to the variances in feed characteristics observed in the bulk sample when compared to those observed in drill core samples.

13.4.3 Heavy Liquid Separation

Heavy liquid separation using liquids with densities 2.96 kg/L and 3.30 kg/L were not successful as the silica grade in the iron concentrate remained above 4.5% silica for all tests.

13.4.4 Magnetic Separation

The use of magnetic separation alone did yield good quality iron concentrates, but the weight recoveries were low, with a maximum of 25% except for West Zone 2. West Zone 2 demonstrated nearly 50% magnetic weight recovery. However, this result is questionable as it is significantly different from the results obtained from the drill core material. Thus, its influence has been discarded in specifying the process flowsheet and results.

13.4.4.1 Low Intensity Magnetic Separation Tests

Low intensity magnetic separation (LIMS) tests were conducted using Davis tube tests on Mozley table tailings. These tests were conducted to study the potential of the magnetic separators to recover additional magnetic iron minerals from the spirals tailings. The spirals tailings were ground to less than 53 µm to ensure liberation of locked iron minerals. Good results were obtained. In general, magnetic separation delivered higher iron concentrate grades than the gravity concentrates. The amount of iron recovered using magnetic separation is significant and established the necessity for this process in the concentrator.

13.4.4.2 Wet High Intensity Magnetic Separation Tests

The objective of the wet high intensity magnetic separation (WHIMS) tests was to increase weight recovery to the concentrate, by recovering fine hematite that was lost by the gravity spiral concentrators. The WHIMS was applied to the final tailings stream to induce a high intensity magnetic field thereby attracting weakly magnetic minerals such as hematite and other iron containing minerals. The testwork results indicated that WHIMS does not provide a clear net benefit to the Project.

13.4.5 Gravity Separation

Mozley table testwork demonstrated that the Oceanic zones are very amenable to gravity separation techniques. More than 94% of Mozley testwork products were greater or equal to 66% Fe, while averaging 2.2% SiO_2. Table 13-7 summarizes the gravity table results.

Table 13-7: Summary of Mozley table separation results from drill core samples

Deposit	Head grade		Concentrate grade			Table recovery		Table tailings grade	
	Fe (%)	Sat (%)	Fe (%)	SiO2 (%)	Sat (%)	Wt (%)	Fe (%)	Fe (%)	Sat (%)
Castle Mountain	31.7	14.7	68.0	2.46	31.9	33.3	70.7	13.6	6.83
West Zone 2	31.4	16.1	66.5	2.66	34.0	25.3	52.4	19.3	11.8
West Zone 4	34.0	22.7	68.1	2.49	44.3	33.4	66.3	16.9	12.8
Bay Zone F	32.1	24.8	68.6	2.59	52.3	29.7	62.5	16.5	15.6

13.4.6 Hydraulic Separation Tests

The hydraulic separation test samples were collected from pilot plant streams. The objective was to evaluate the removal of fine silica from rougher gravity concentrates. An early test indicated that hydraulic separation may be used to improve cleaner gravity concentrate. However, subsequent testwork did not significantly decrease the silica contents using hydraulic separation in comparison with gravity separation.

13.4.7 Dewatering Testwork

SGS completed static testing on several pilot plant concentrator products. The Castle Mountain LIMS concentrate (P_{80} of 33 µm) is most indicative of the final plant concentrate. The LIMS concentrate settled fast and required 3 g/t of flocculant producing a maximum thickener underflow of 79% solids. It should be noted that the gravity concentrate was not ground to the OSD recommended P_{80} of 45 µm since the SGS tests were in progress prior to the release of the OSD pipeline report. This testwork is not relevant for the present PEA as concentrate is not pumped to the port but trucked.

The Castle Mountain tailings required 25 g/t flocculant producing a maximum of 71% solids. Settling tests on product from LOM material yielded similar results as Castle Mountain.

Vacuum filtration tests were performed on pilot plant concentrates. The Castle Mountain unground gravity concentrate produced a filter cake moisture content of 8.1% at 26.6 in Hg of vacuum. LIMS concentrate yielded a moisture content of 10.8% at 26.6 in Hg of vacuum. The combined LIMS concentrate and unground gravity concentrate produced a filter cake of 8.4% moisture at 20.7 in Hg of vacuum. The improved result is due to the finer particles creating a better vacuum seal. The combined LOM concentrate produced similar results as the Caste Mountain concentrate.

Pressure filtration tests on Castle Mountain gravity concentrate produced a filter cake moisture content of 4.6%, while LIMS concentrate produced a filter cake of 6.8% moisture (both at 100 psi air pressure). The combined LIMS concentrate and unground gravity concentrate produced a filter cake of 4.4% moisture at 100 psi air pressure. The improved result is due to the finer particles creating a better seal. As with vacuum filtration, the combined LOM concentrate produced similar results as the Castle Mountain concentrate.

Based on results of this study, vacuum filtration was selected for concentrate dewatering requirements.

13.4.8 Pilot Plant Testwork Results

The mineralization itself does not require complex treatment for successful beneficiation. Most of the silica and fine iron silicates are eliminated by spiral concentration. The magnetic separation process will maximise weight recovery to the final concentrate.

The pilot plant results shown in Table 13-8 were used to develop the processing plant design criteria. The figures in Table 13-8 may be considered conservative estimates as the results indicate progressive improvements in pilot plant operation. Therefore, the target concentrate grade of 66.6% Fe and 4.5% SiO_2 can be achieved using the PP-14 flowsheet.

Table 13-8: Summary of final flowsheet pilot plant results

Castle Mountain test	Head grade	Final gravity concentrate			Cleaner LIMS concentrate			Combined concentrate		
	Fe %	Wt %	Fe %	SiO_2 %	Wt %	Fe %	SiO_2 %	Wt %	Fe %	SiO_2 %
PP-11	34.9	35.7	63.5	6.45	5.5	66.7	5.60	41.2	63.9	6.34
PP-12	34.0	30.0	66.0	5.15	6.4	68.4	3.96	36.4	66.4	4.94
PP-13	33.8	29.5	66.5	4.75	6.1	69.3	3.61	35.6	67.0	4.56
PP-14	34.2	31.5	65.9	4.79	6.1	70.0	2.99	37.6	66.6	4.49
Average	34.2	31.6	65.5	5.2	6.0	68.6	3.9	37.6	66.0	5.0

Note: Used geometric mean to calculated averages.

The major potential deleterious elements in steelmaking (SiO_2, Al_2O_3 and P) were evaluated during the pilot plant campaign. Both the alumina and phosphorus levels are benchmarked to be at the lower end of industrial standards for iron ore concentrate.

13.5 Derrick Testwork

As a leader in wet fine screening, Derrick was selected to perform testwork on secondary classification. The Derrick Stack-Sizer™ is a high-capacity, small-profile screening system. Fine screening requires more surface area than coarse screening. Also, screening is more efficient than other methods of classification such as cyclone and spiral classification.

The testwork was carried out at the Derrick test facility in Buffalo, New York on a large secondary classification sample from the pilot plant testwork. The testwork results were used to select the number of screens for the process.

It was determined that one Derrick Stack-Sizer™ can handle a throughput of 180 t/h of pre-screened Castle Mountain SAG mill discharge at 20% solids by volume.

In the flowsheet proposed for the current PEA, fine screening is not the primary classification equipment used.

13.6 FLSmidth Testwork

Bond Ball Work Index (BWi) tests were conducted by FLSmidth to determine the amount of energy required for secondary grinding. BWi averaged 5.79 kWh/t, which is extremely low. FLSmidth also conducted gravity separation tests on sized fractions of a composite sample. Each size fraction underwent gravity separation and the concentrates, middlings and tailings were each assayed. The subsequent analyses determined that mill feed should be ground to 106 µm to produce iron concentrate assaying 65.9% iron, and 4.5% silica.

14. MINERAL RESOURCE ESTIMATES

14.1 Historic Mineral Resource Estimate

The historic mineral resource estimate was completed during the late 1950s and is not considered NI 43-101 compliant. It is discussed in Section 6.2 of this Report.

14.2 Mineral Resource Estimation Procedure

For the Hopes Advance project area, the mineral resource estimation procedure included developing mineralized domains, a block model constrained by those mineralized domains, development of variography in each domain, and grade estimation for the same. The mineralized domains included various individual iron deposits in a shallow dipping bedded iron formation. Only assay information contained within each individual domain was allowed to be used to estimate the grade into the same domain within the block model.

14.2.1 Topography

Topography for the Hopes Advance project was provided by Oceanic and is based on a detailed aerial survey completed during the summer of 2011. This topography covers a significantly larger area than for the ten individual iron deposits modelled in the mineral resource estimate. The topographic surface is shown below in Figure 14-1.

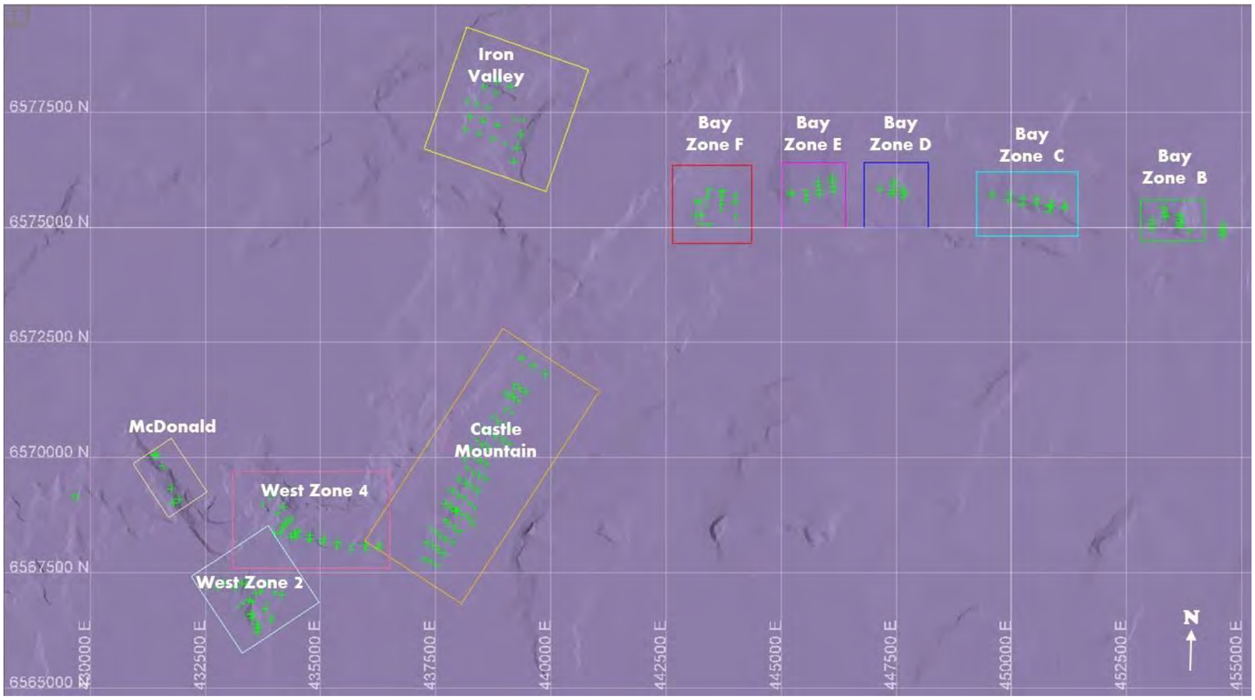


Figure 14-1: Plan view showing the topography of the Hopes Advance area iron deposit, drill hole collar locations and block model extents

14.2.2 Drill Hole Database

All drilling data on the Hopes Advance project were stored in the form of a Microsoft Excel spreadsheet file. A total of 285 drill holes were contained within this database. This data was used to develop various drill cross-sections within each of the individual mineralized domains. These drill cross-sections were used to develop the mineralized domain interpretations used in this mineral resource estimate. Locations of drill hole collars are shown in Figure 14-1. Using the drill hole information, a Vulcan ISIS database was constructed for use in statistics, geostatistics, compositing, and grade estimation.

The Vulcan ISIS database was validated and minor corrections applied. The assay table of the database contains 5,437 assay intervals for Fe. All location data are expressed in metric units and grid coordinates are in a NAD83 UTM system. The survey table of the database contains 1,986 records, while the geology table contains 4,715 records.

14.2.3 Mineralized Domain Interpretation

For each of the drill hole cross-sections, geology and iron assays were plotted. Only areas within identified Unit 4 (iron formation) lithology were used to determine mineralized boundaries. All other areas were only considered as waste regardless of the iron assay. In some cases, internal waste (non-Unit 4) was included within the identified mineralized domain.

The Hopes Advance resource estimate is broken into ten different mineralized domains (shown above in Figure 14-1).

These are all part of the same Labrador Trough iron formation. At Hopes Advance this lithological member is called Unit 4 and is made up of massive hematite and magnetite mineralization. The areas between the various mineralized domains continue to contain Unit 4 iron formation. These areas have limited exploration or are covered, and the composition and structure of the Unit 4 member are unknown. As a result, these areas are always considered as waste in this resource estimate until further exploration is carried out.

From east to west, the mineralized domains are:

- **Bay Zone B** – A relatively high grade zone which outcrops at surface and dips towards the south.
- **Bay Zone C** – A lower grade zone made up mostly of higher magnetite materials and outcrops at the surface and dips towards the south.
- **Bay Zone D** – Just west of Bay Zone C, similar in character to that zone, outcrops at the surface, and dips towards the south.
- **Bay Zone E** – Just west of Bay Zone D, slightly higher grade than Bay Zones C and D. This zone outcrops at the surface and dips towards the south.
- **Bay Zone F** – Located just west of Bay Zone E. This area of Unit 4 contains significantly higher grade iron formation than the other Bay Zone areas. It is made up of a mix of hematite and magnetite. This zone outcrops at the surface and dips towards the south and southeast.
- **Iron Valley** – Located northwest of Bay Zone F. This area of Unit 4 is made up of iron formation with significantly high percentages of hematite. This zone has very minor outcrops and is flat lying.
- **Castle Mountain** – Located southwest of Bay Zone F. Castle Mountain is the largest individual mineralized domain identified at Hopes Advance to date. It is made up of about 1/3 magnetite to 2/3 hematite. The Unit 4 in this area dips at a very shallow angle to the southeast, averages nearly 100 m thick and has significant outcrop at the surface.
- **West Zone 4** – Located just west of Castle Mountain, this Unit 4 area dips to the south and has about the same composition as Castle Mountain with higher iron grades. It also outcrops and has a strike that varies from due west to northwest as the deposit follows the Unit 4 trend.

- **West Zone 2** – Located just south and west of Zone 4, this structurally complex Unit 4 area has very high grades of iron. This deposit has extensive outcrops with almost no cover. Because of extensive thrust faulting, the deposit appears to be relatively flat lying when, in fact, it is made up of a sequence of moderately dipping zones that have been faulted in ways to produce a deposit that is flat lying.
- **West Zone McDonald** – Located just over 6 km west of Castle Mountain and to the northwest of West Zones 2 and 4, grades are generally lower than in West Zone 2.

All of the drilling used in the generation of the mineralized domains contained geologic logs that were used to develop the boundaries of the Unit 4 iron formation for each individual domain.

On each individual drill hole section, polygons were digitized to generate the Unit 4 boundary on that section. Using these digitized polygons, each mineralized domain was connected to form a geologic solid. The mineralized domain solids created were then checked on every drill hole cross-section to ensure that the solids were accurate to the exploration drilling and had been correctly interpreted. A typical cross-section is shown in Figure 14-2 while the overall mineralized domains are shown in Figure 14-3 through Figure 14-12.

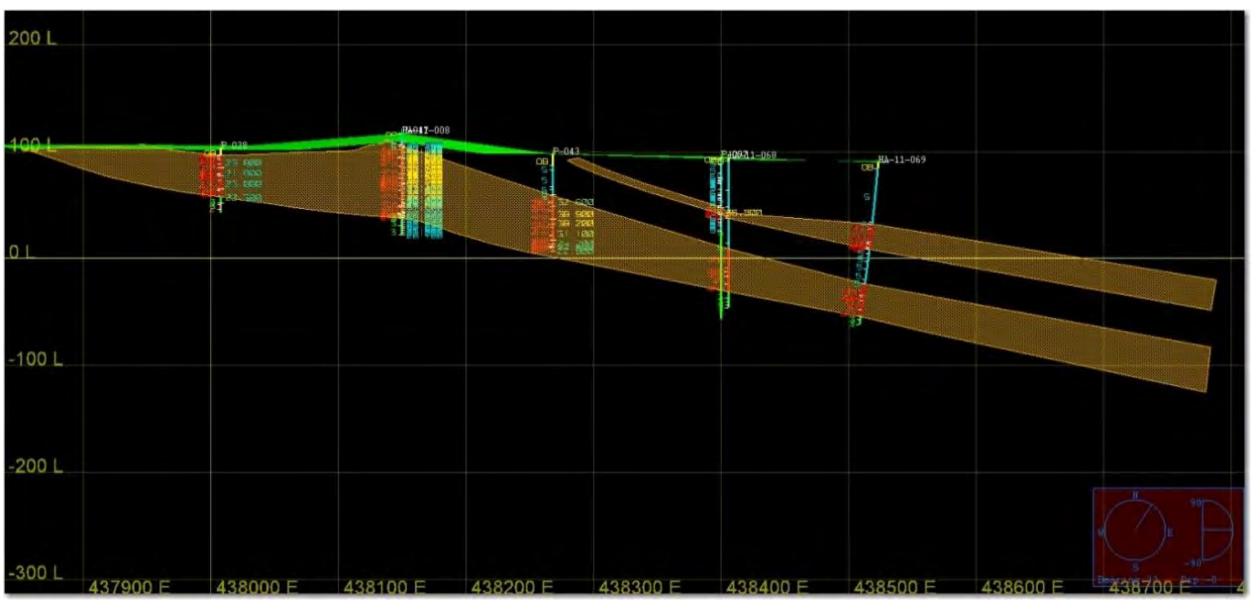


Figure 14-2: Typical geologic cross-section - Castle Mountain section 50+00 (View looking N33E)

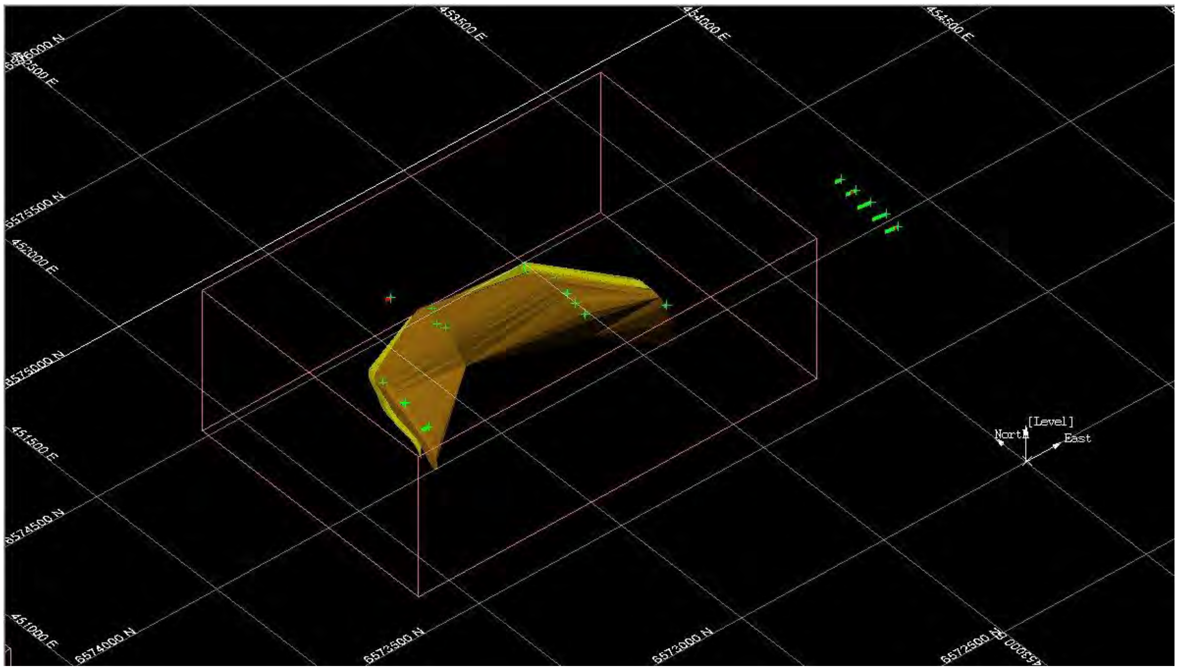


Figure 14-3: Isometric view of Bay Zone B
(View looking northeast)

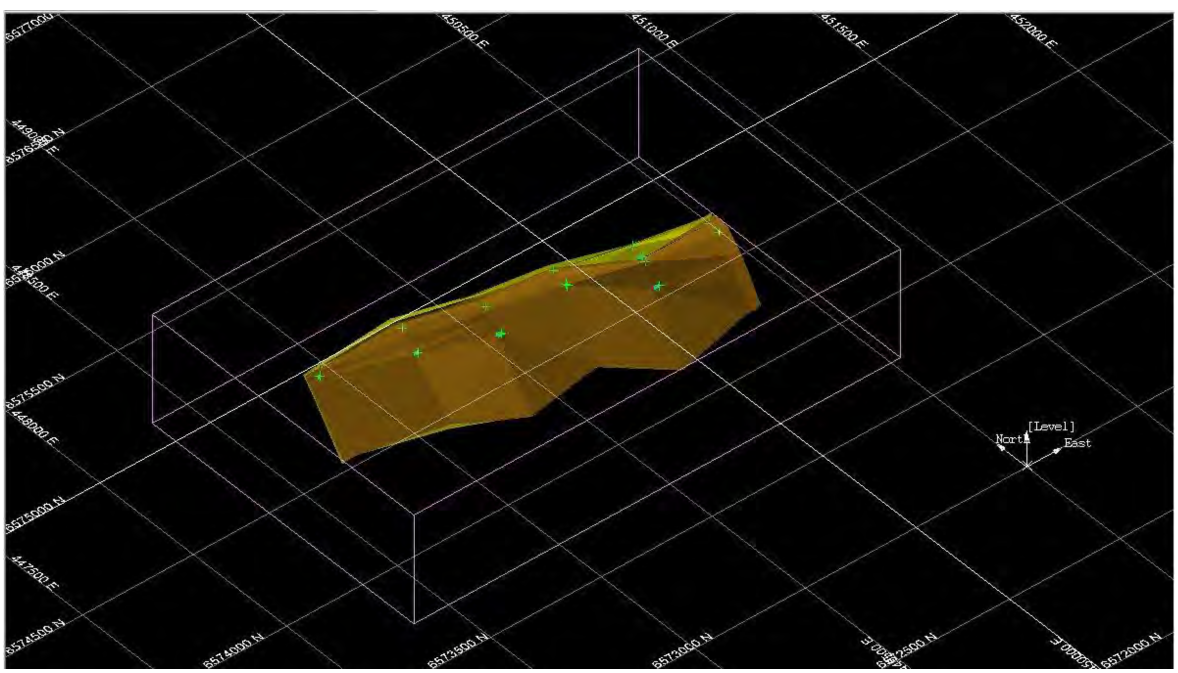


Figure 14-4: Isometric view of Bay Zone C
(View looking northeast)

Figure 14-5: Isometric view of Bay Zone D
(View looking northeast)

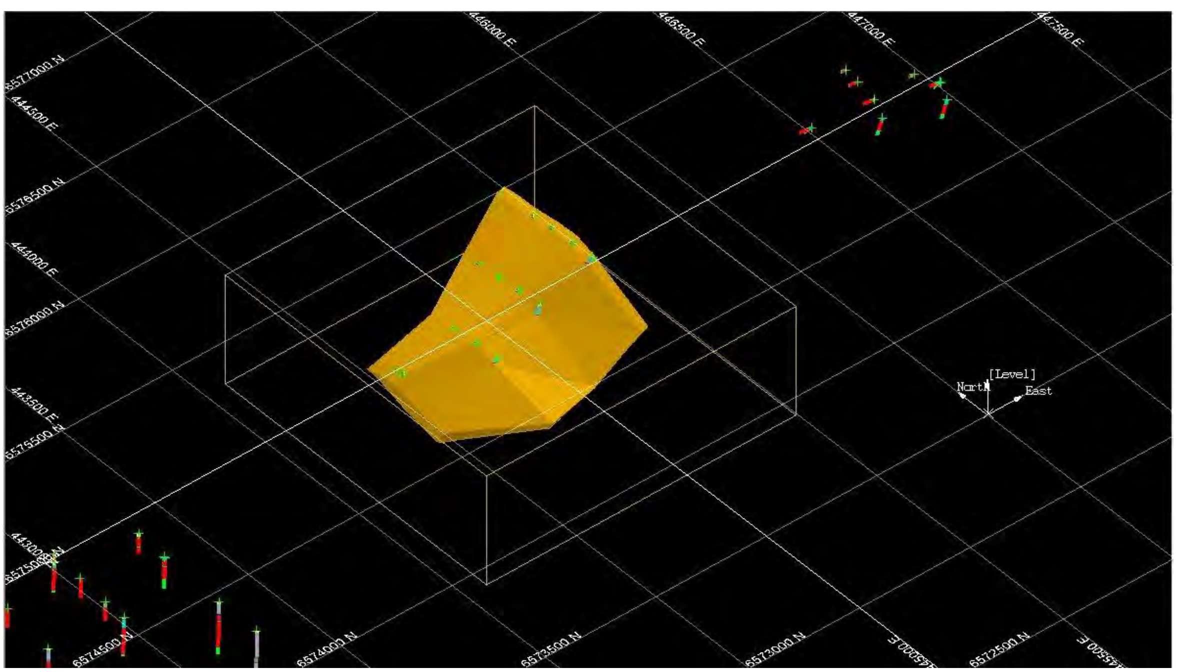


Figure 14-6: Isometric view of Bay Zone E
(View looking northeast)

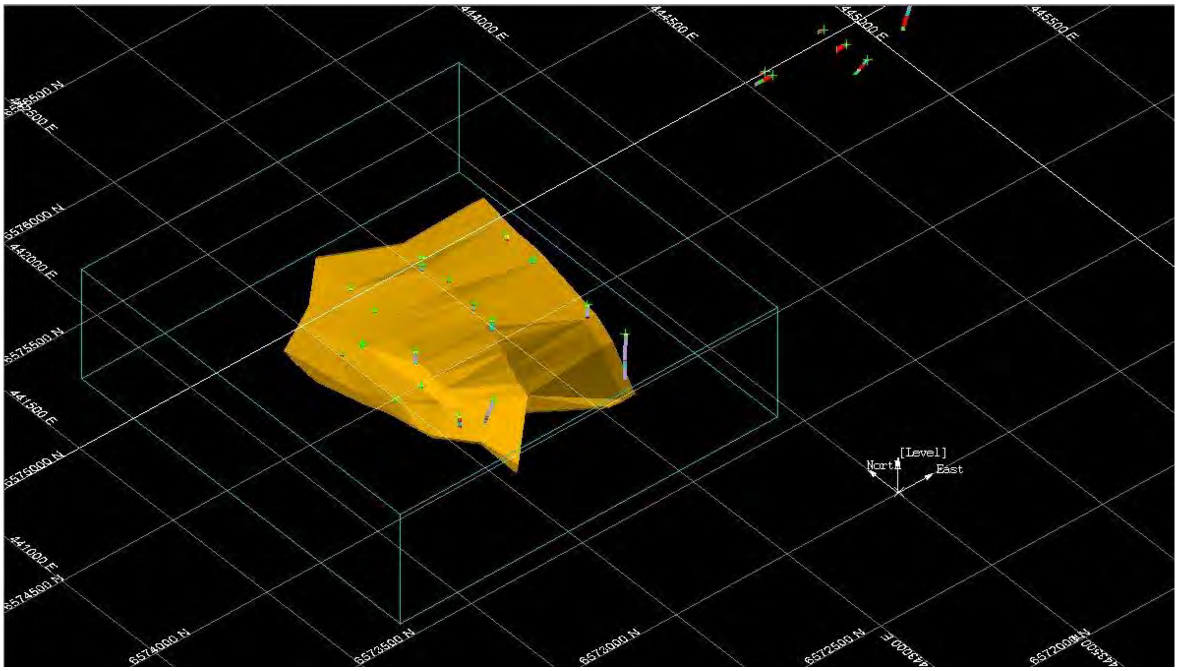


Figure 14-7: Isometric view of Bay Zone F
(View looking northeast)

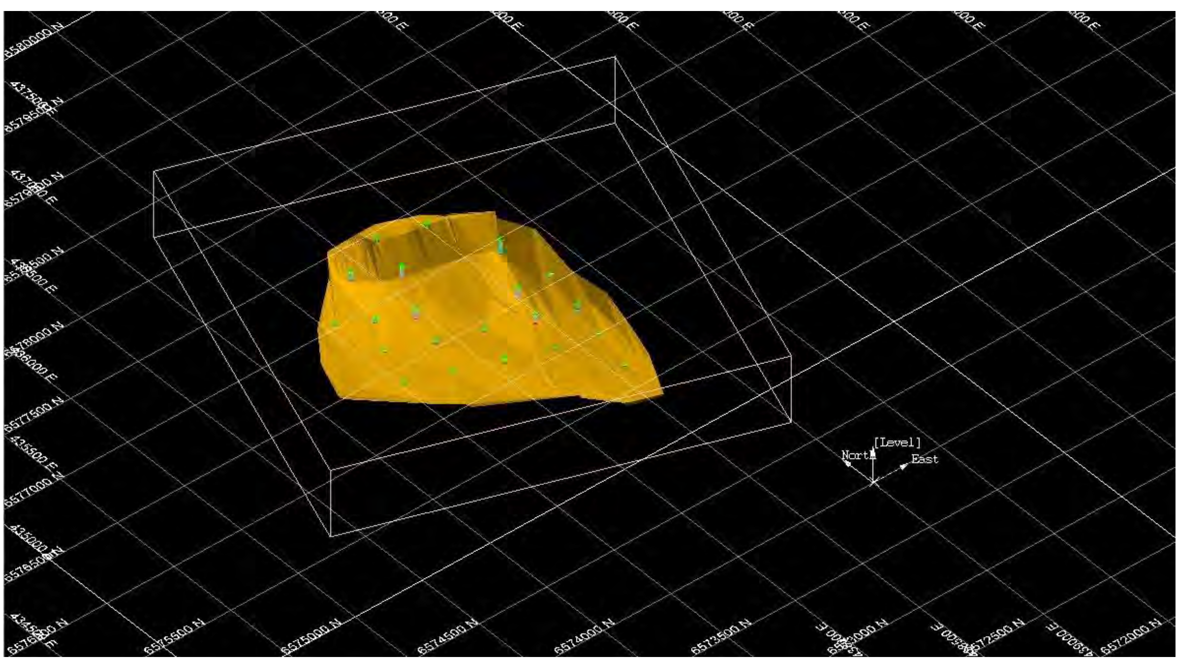


Figure 14-8: Isometric view of the Iron Valley Zone
(View looking northeast)

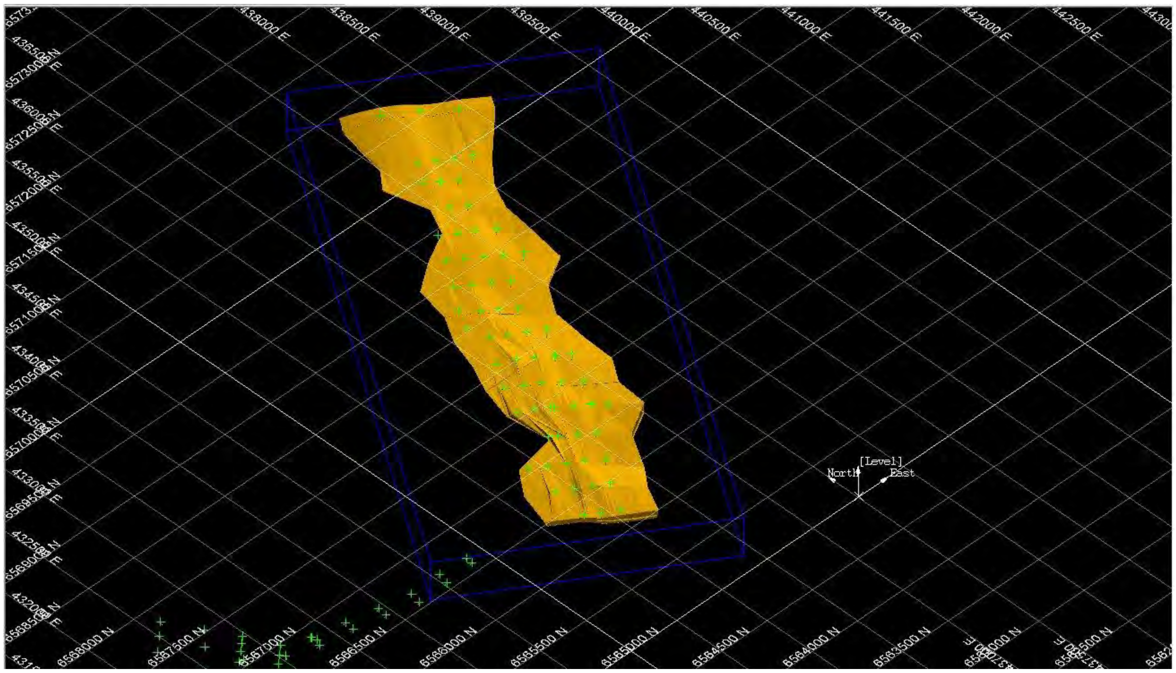


Figure 14-9: Isometric view of the Castle Mountain Zone
(View looking northeast)

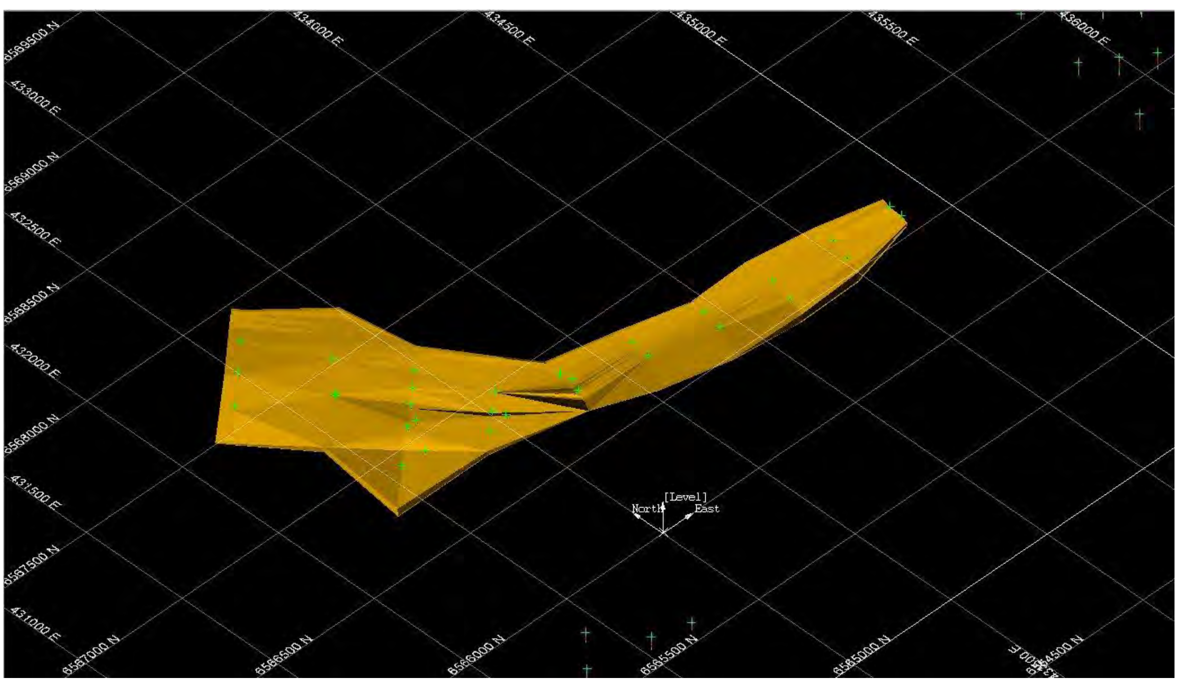


Figure 14-10: Isometric view of West Zone 4
(View looking northeast)

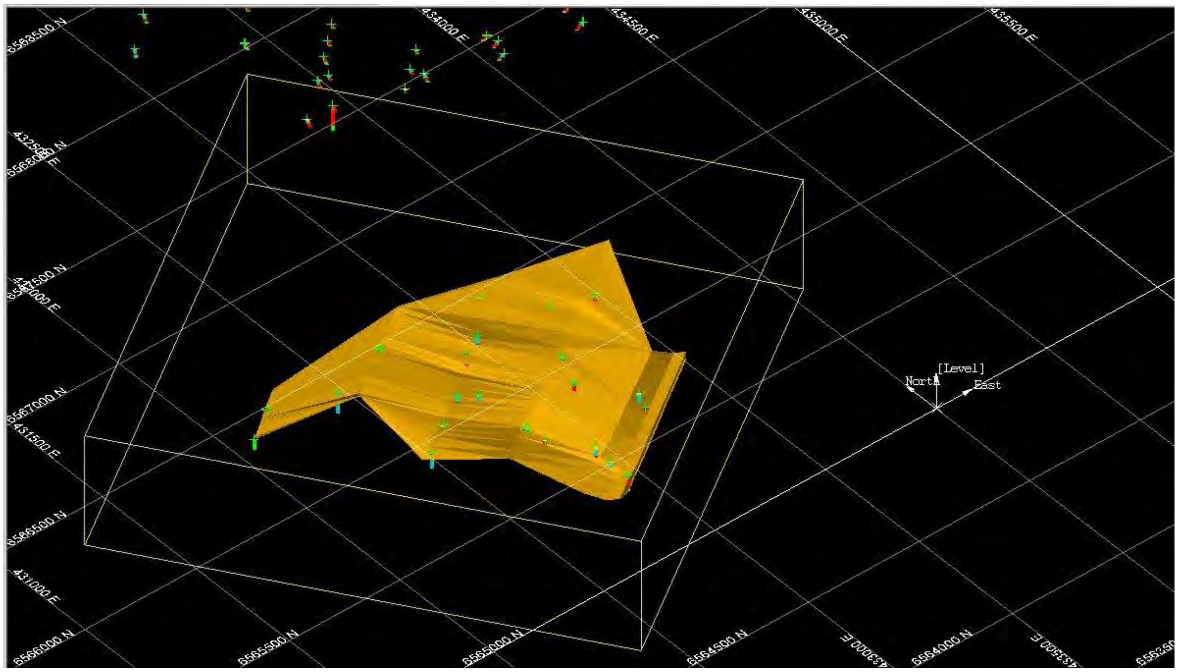


Figure 14-11: Isometric view of West Zone 2
(View looking northeast)

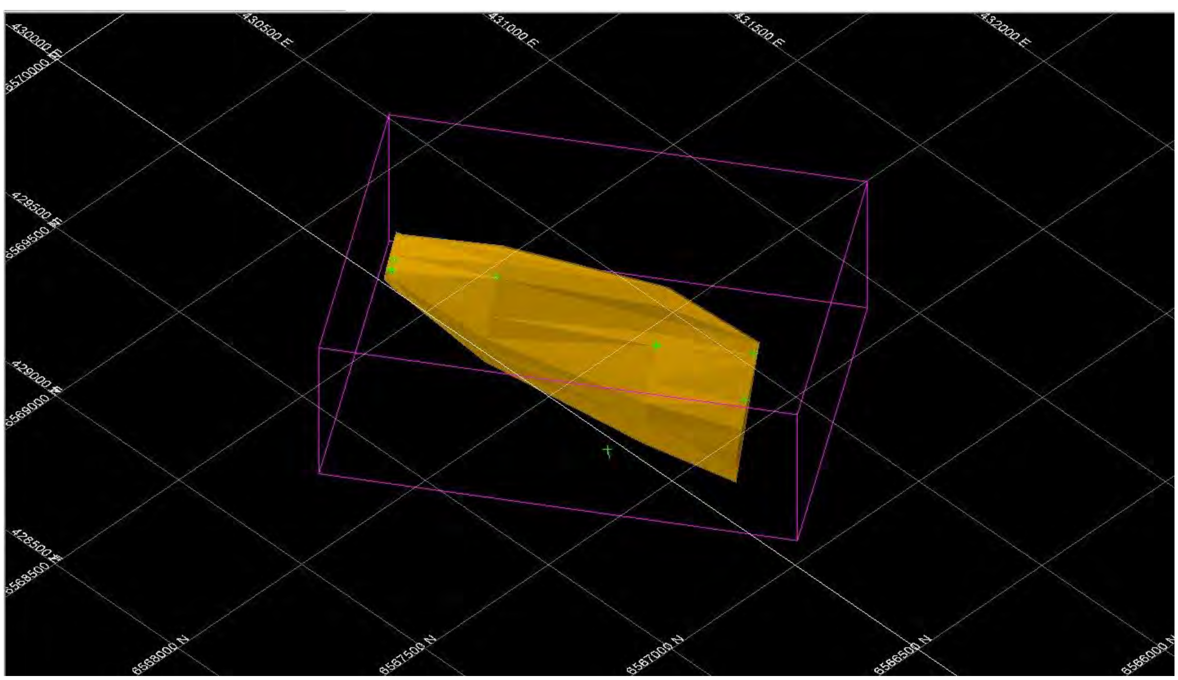


Figure 14-12: Isometric view of West Zone McDonald
(View looking northeast)

14.2.4 Vulcan Block Model Domain Code Determination

The Vulcan block model domain codes used for the resource model were derived from the mineralized domain solids. The list of Vulcan block model domain codes used is shown in Table 14-1 below.

Table 14-1: Vulcan block model domain codes

Vulcan Model Code	Domain
Air	Air
Unit 4	Unit 4 Iron Formation
Waste	Waste (mine) Rock

These codes were flagged in the block model during construction as well as into the composite database during compositing runs.

14.2.5 Mineralized Domain Block Models

Each of the mineralized domain solids were used to construct individual block models. The block models were flagged according to the domain codes listed in Table 14-1 above. The extents for each block model are shown in Table 14-2 through Table 14-11.

Table 14-2: Bay Zone B block model extents

Item	X	Y	Z
Origin	452,800.00	6,574,700.00	-200.00
Offset from Origin (to maximum extents)	1,400.00	900.00	495.00
Parent Block Size	50.00	50.00	15.00
Child Block Size	25.00	25.00	1.00
Orientation (absolute bearing of X axis around Z axis)			90.00

Table 14-3: Bay Zone C block model extents

Item	X	Y	Z
Origin	449,250.00	6,574,800.00	-200.00
Offset from Origin (to maximum extents)	2,200.00	1,400.00	495.00
Parent Block Size	50.00	50.00	15.00
Child Block Size	25.00	25.00	1.00
Orientation (absolute bearing of X axis around Z axis)			90.00

Table 14-4: Bay Zone D block model extents

Item	X	Y	Z
Origin	446,800.00	6,575,000.00	-200.00
Offset from Origin (to maximum extents)	1,400.00	1,400.00	495.00
Parent Block Size	50.00	50.00	15.00
Child Block Size	25.00	25.00	1.00
Orientation (absolute bearing of X axis around Z axis)			90.00

Table 14-5: Bay Zone E block model extents

Item	X	Y	Z
Origin	445,000.00	6,574,800.00	-200.00
Offset from Origin (to maximum extents)	1,400.00	1,400.00	495.00
Parent Block Size	50.00	50.00	15.00
Child Block Size	25.00	25.00	1.00
Orientation (absolute bearing of X axis around Z axis)			90.00

Table 14-6: Bay Zone F block model extents

Item	X	Y	Z
Origin	442,650.00	6,574,650.00	-200.00
Offset from Origin (to maximum extents)	1,700.00	1,700.00	495.00
Parent Block Size	50.00	50.00	15.00
Child Block Size	25.00	25.00	1.00
Orientation (absolute bearing of X axis around Z axis)			90.00

Table 14-7: Iron Valley block model extents

Item	X	Y	Z
Origin	437,250.00	6,576,700.00	-200.00
Offset from Origin (to maximum extents)	2,800.00	2,800.00	495.00
Parent Block Size	50.00	50.00	15.00
Child Block Size	25.00	25.00	1.00
Orientation (absolute bearing of X axis around Z axis)			109.25

Table 14-8: Castle Mountain block model extents

Item	X	Y	Z
Origin	438,058.204	6,566,826.385	-200.00
Offset from Origin (to maximum extents)	5,500.00	2,500.00	495.00
Parent Block Size	50.00	50.00	15.00
Child Block Size	25.00	25.00	1.00
Orientation (absolute bearing of X axis around Z axis)			33.00

Table 14-9: West Zone 4 block model extents

Item	X	Y	Z
Origin	433,100.00	6,567,600.00	-200.00
Offset from Origin (to maximum extents)	3,400.00	2,100.00	495.00
Parent Block Size	50.00	50.00	15.00
Child Block Size	25.00	25.00	1.00
Orientation (absolute bearing of X axis around Z axis)			90.00

Table 14-10: West Zone 2 block model extents

Item	X	Y	Z
Origin	433,300.00	6,565,750.00	-200.00
Offset from Origin (to maximum extents)	2,000.00	2,000.00	495.00
Parent Block Size	50.00	50.00	15.00
Child Block Size	25.00	25.00	1.00
Orientation (absolute bearing of X axis around Z axis)			56.446

Table 14-11: West Zone McDonald block model extents

Item	X	Y	Z
Origin	431,700.00	6,568,700.00	-150.00
Offset from Origin (to maximum extents)	1,000.00	1,400.00	495.00
Parent Block Size	50.00	50.00	15.00
Child Block Size	25.00	25.00	1.00
Orientation (absolute bearing of X axis around Z axis)			56.446

14.2.6 Composites

Compositing was completed using Vulcan software and a composite database was constructed for each mineralized domain as a Vulcan ISIS file. Length-weighted composites were generated for the drill hole data that fell within the constraints of the above-mentioned domains. These composites were calculated for Fe (%) over 15.0-m lengths starting at the first point of intersection between assay data from the drill hole and the solid representing the wall of the 3D zonal constraint or mineralized domain. Compositing continued until the lower contact of the mineralized domain was reached. Composites outside of known mineralized domains were also composited and flagged in the waste domain. Un-assayed intervals were considered as having an iron value of nil. Any composites calculated that were less than 0.5 m in length were discarded so as to not introduce a short sample bias in the interpolation process. The composites were stored in a Vulcan ISIS database as points and included the composite assay and mineral domain name. Composite runs were completed for each mineralized domain and the results stored for each domain individually such that a separate composite file was created for the Bay Zone B, C, D, E, F, Iron Valley, Castle Mountain, West Zone 4, West Zone 2 and West Zone McDonald mineralized domains.

14.2.7 Vulcan Tetra Modeling

The Unit 4 iron formation has a varying dip and strike that makes a conventional fixed search ellipsoid not representative of the actual deposit. In order to correct this, an unfolding method needed to be applied to the search ellipsoid during statistical analysis, variography and resource estimation. A tool within the Vulcan mine planning software called Tetra Modeling was used to accomplish this.

According to Maptek (vendor of the Vulcan software), Tetra Modeling is described as:

> "Tetra modeling is used in the grade estimation and variography of deformed strata bound deposits. Tetra modeling can be applied to deposits where mineralization is controlled by a structural surface that can be modeled. In Tetra modeling the grade estimation search ellipse or variography search ellipse is distorted from the usual "football" shaped ellipse to follow nominated surfaces.
>
> "The great benefit of using distorted search ellipses is that the block model stays in the position that it was created and the samples stay in their true position. The difference between a normal estimation and tetra estimation is that the search ellipse is molded to follow the surfaces used to bound the deposit.
>
> "A tetra model is created from two triangulated surfaces (the hanging and floor surfaces). These surfaces are the two "nearest" surfaces to the block cell. A line is calculated that passes through the centroid of the block cell with one end point touching the hanging surface and the other end point touching the floor surface. The line of minimum distance is then used to define a "mid-surface" between the hanging surface and the floor surface.

> "A line of minimum distance is calculated for each block cell. Tetrahedra are then constructed from the end points of the lines, alternating in direction. A tetra model is made up of these tetrahedral that are used to calculate the minimum distance between the two surfaces at any given point in the model."

For the Hopes Advance deposits, all of the mineralized domains used Tetra Modeling for ellipsoid unfolding. Because areas of these two domains are partially overturned, a true three-dimensional variation of Tetra Modeling called Bend modeling was applied. In Bend modeling, instead of a grid surface being used for the lower and upper surfaces of the mineralized domain, a triangulation surface is used instead. According to Maptek:

> "The Bend Model option allows you to locate samples near a point in space and to establish the relative position of the samples to that point as well as to each other. The relative positions are not the standard Euclidean coordinates but are instead based on distances between the surfaces that define a seam or ore body."

The Hopes Advance iron deposits are a true stratigraphic type deposit and thus a Tetra model can be constructed and used to unfold the search ellipsoid. To accomplish this, a line was digitized at the footwall and hanging wall contacts of each mineralized domain on every cross-section. These lines were then used to create a triangulation surface (both upper and lower surfaces) that would act as boundaries for the Tetra Bend model. The resulting Tetra Bend model was used to unfold the ellipsoid and better approximate the nature of the deposit.

14.2.8 General Statistics and Grade Capping

Basic statistics were run on the raw assay database. The histogram of this data set is shown below in Figure 14-13 while Table 14-12 shows the basic statistics. A review of this data indicates a range of iron assays ranging between 20% to 60% iron with the largest number of assays around the 28% iron value. No significant outliers were encountered and as a result no grade capping was required.

Table 14-12: Hopes Advance raw DDH - Fe basic statistics

Number of samples	5,437
Minimum	0.70
Maximum	60.6
Range	59.9
Average	28.85
Standard deviation	8.95
Variance	80.16

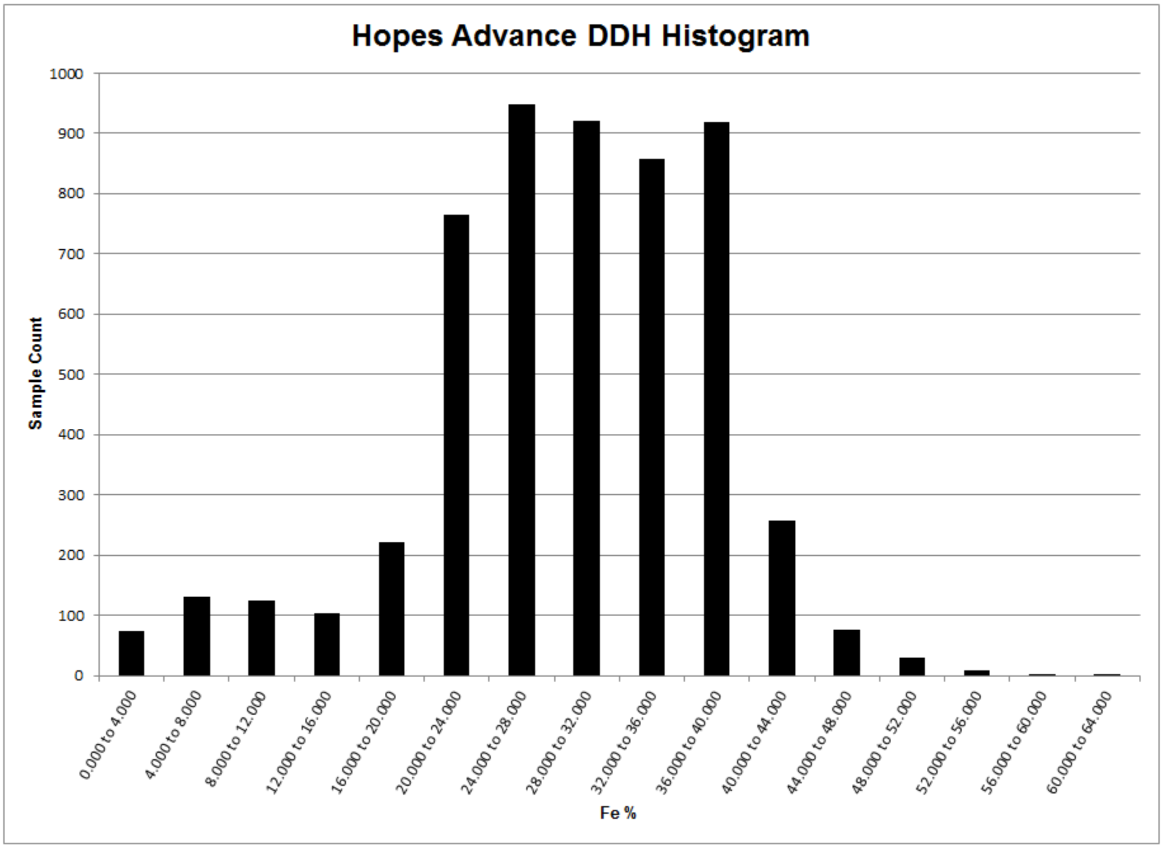


Figure 14-13: Hopes Advance raw drill hole data set log histogram

Basic statistics were also run on each mineralized domain composite file as well. The log normal probability results of these runs are shown below in Figure 14-14 through Figure 14-23. Basic statistics are shown in Table 14-13 through Table 14-22. None of the mineralized domains had any grade cap applied.

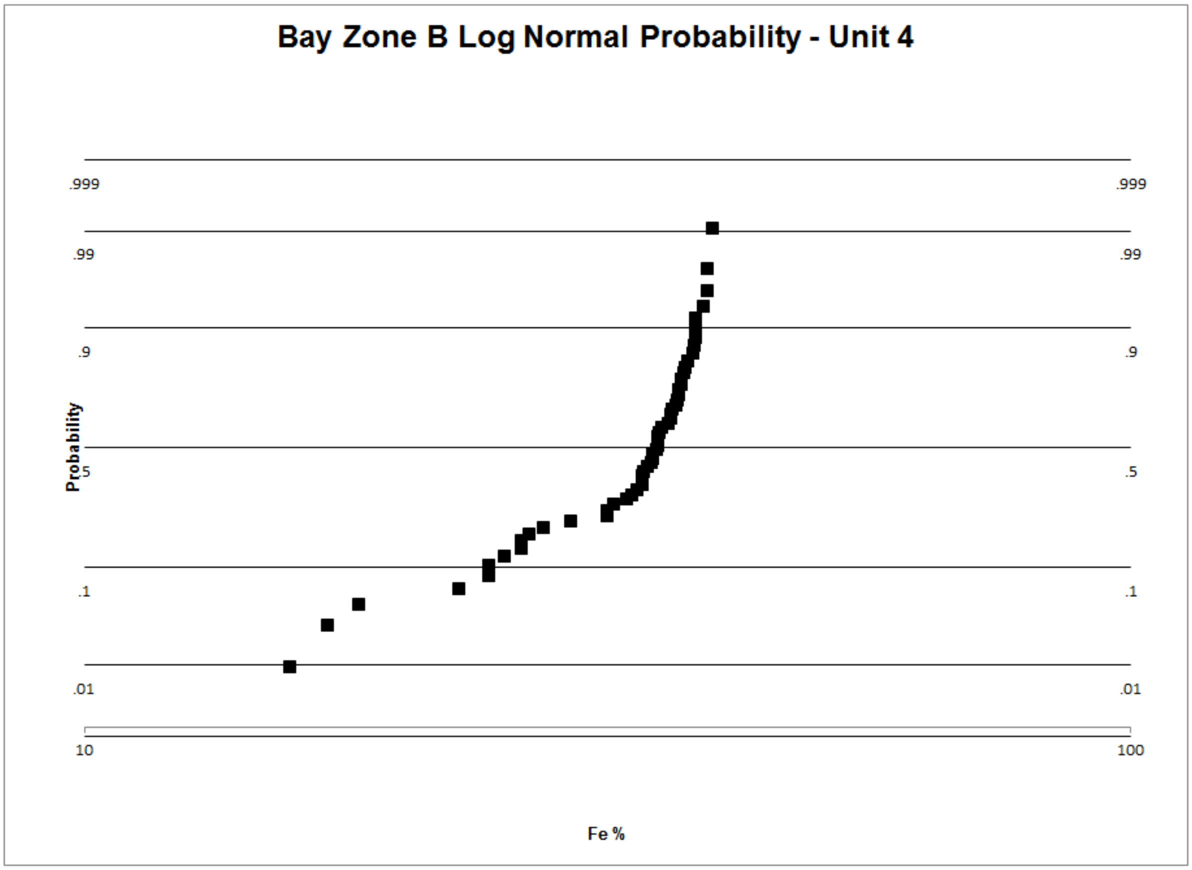


Figure 14-14: Bay Zone B mineralized domain - Fe log normal probability graph

Table 14-13: Bay Zone B mineralized domain - Fe basic statistics

Number of samples	54
Minimum	15.76
Maximum	39.88
Range	24.13
Average	33.32
Standard deviation	5.83
Variance	33.95

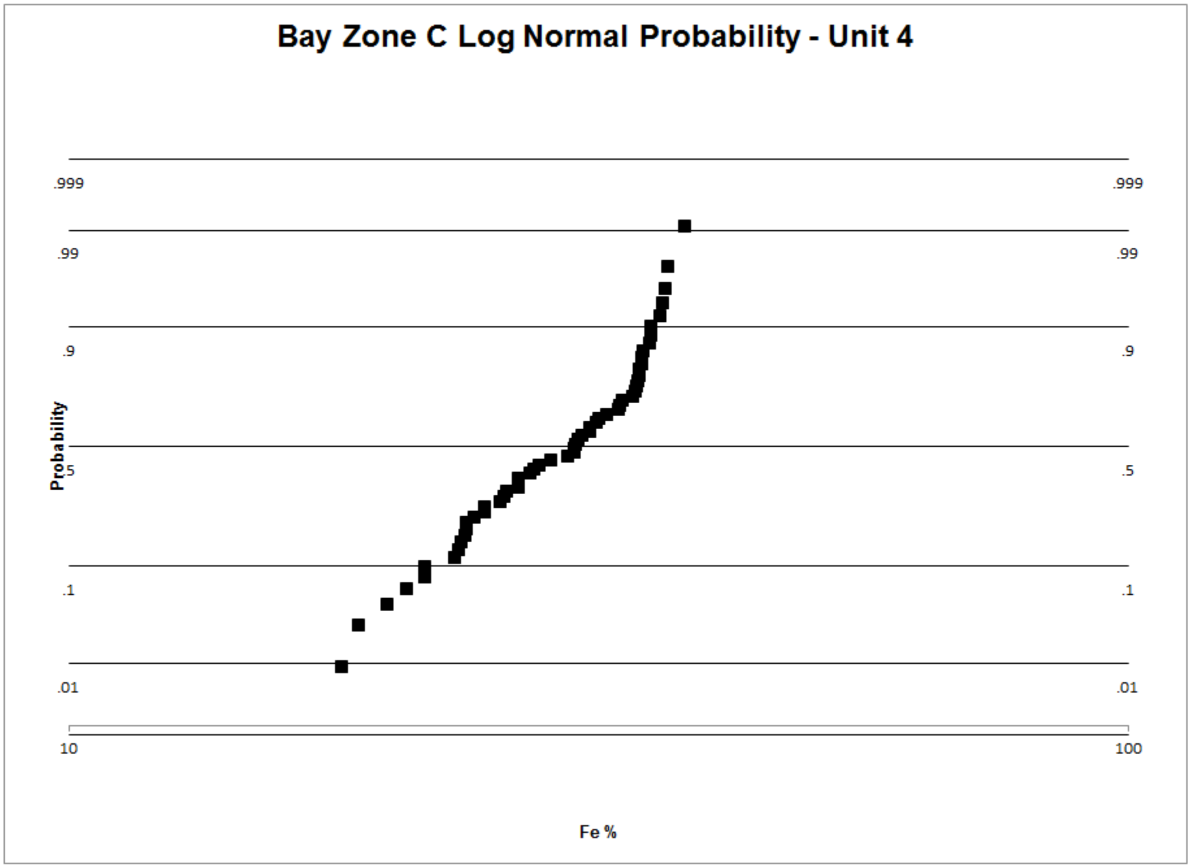


Figure 14-15: Bay Zone C mineralized domain - Fe log normal probability graph

Table 14-14: Bay Zone C mineralized domain - Fe basic statistics

Number of samples	56
Minimum	18.10
Maximum	38.16
Range	20.06
Average	29.36
Standard deviation	5.30
Variance	28.07

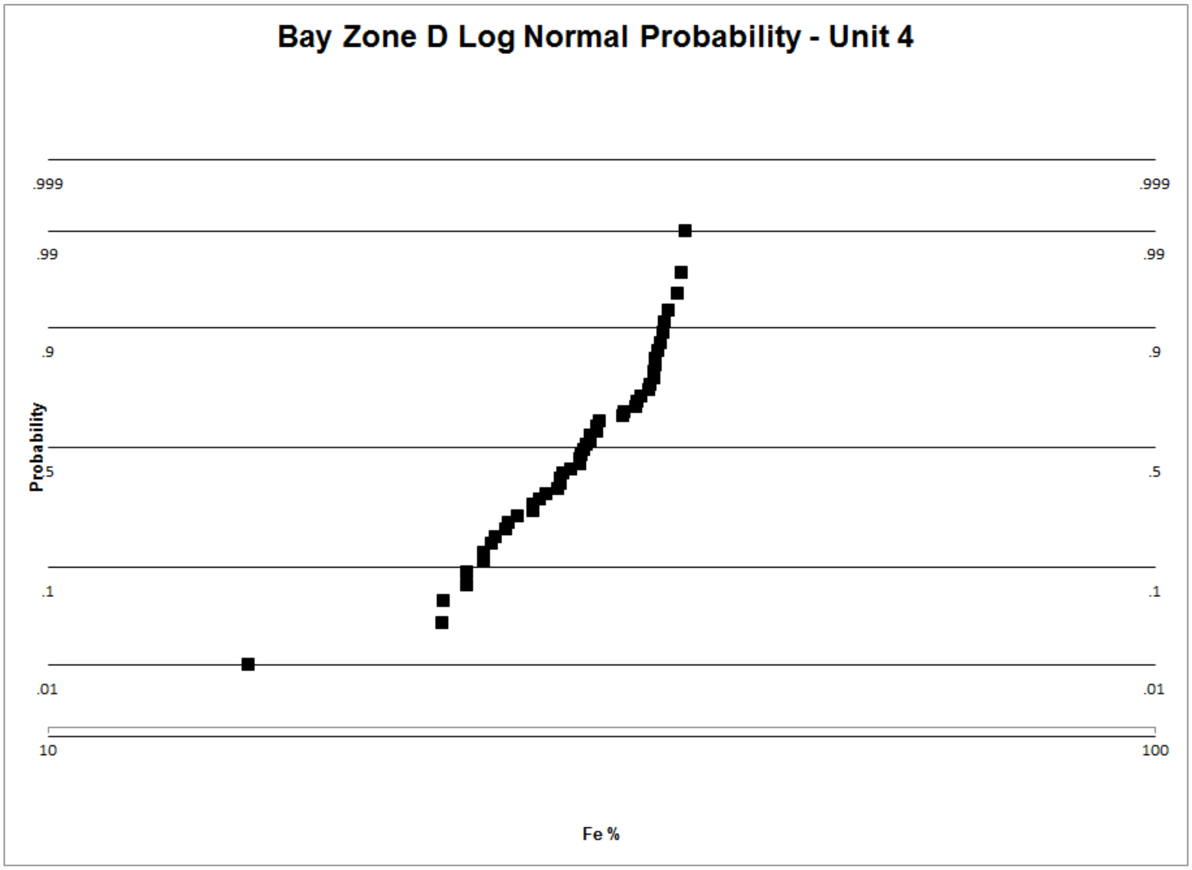


Figure 14-16: Bay Zone D mineralized domain - Fe log normal probability graph

Table 14-15: Bay Zone D mineralized domain - Fe basic statistics

Number of samples	50
Minimum	15.20
Maximum	37.70
Range	22.50
Average	30.50
Standard deviation	4.77
Variance	22.76

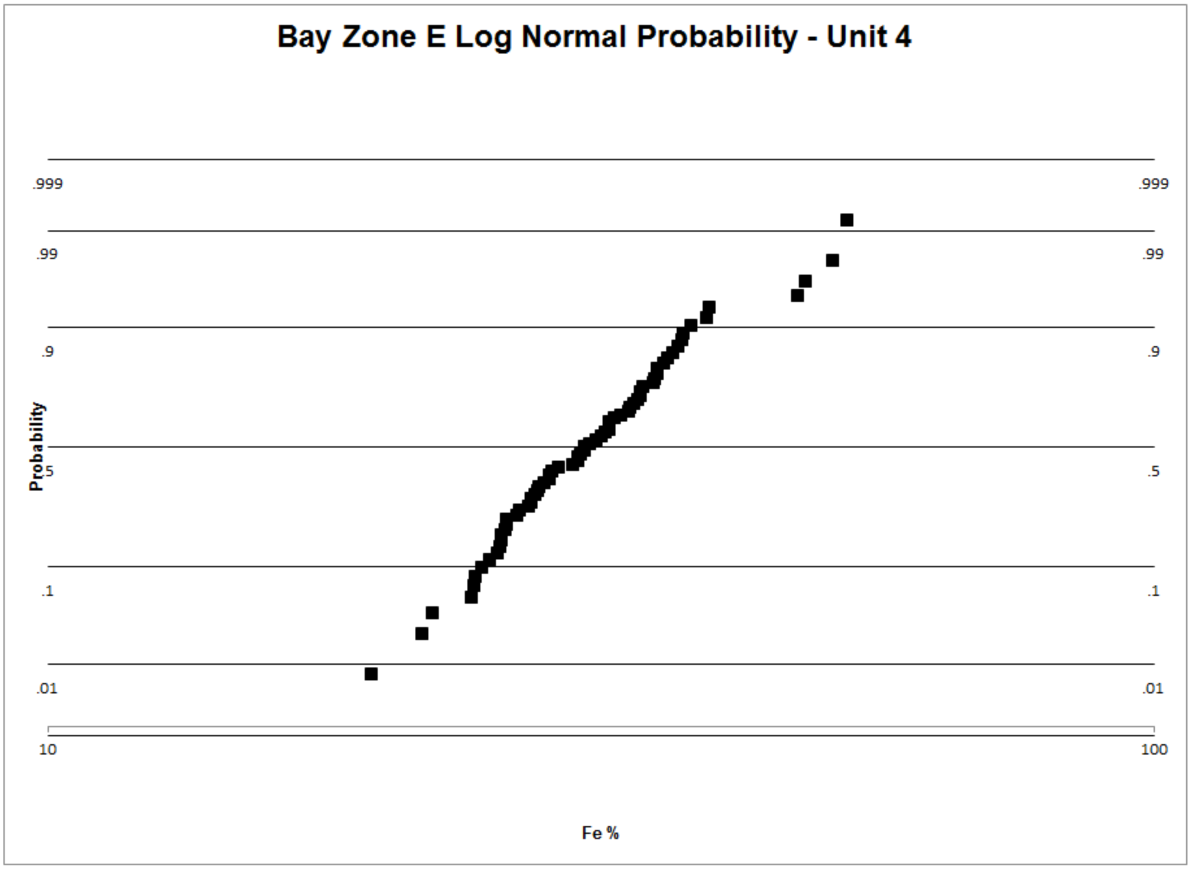


Figure 14-17: Bay Zone E mineralized domain - Fe log normal probability graph

Table 14-16: Bay Zone E mineralized domain - Fe basic statistics

Number of samples	67
Minimum	19.62
Maximum	52.82
Range	33.21
Average	31.62
Standard deviation	6.53
Variance	42.62

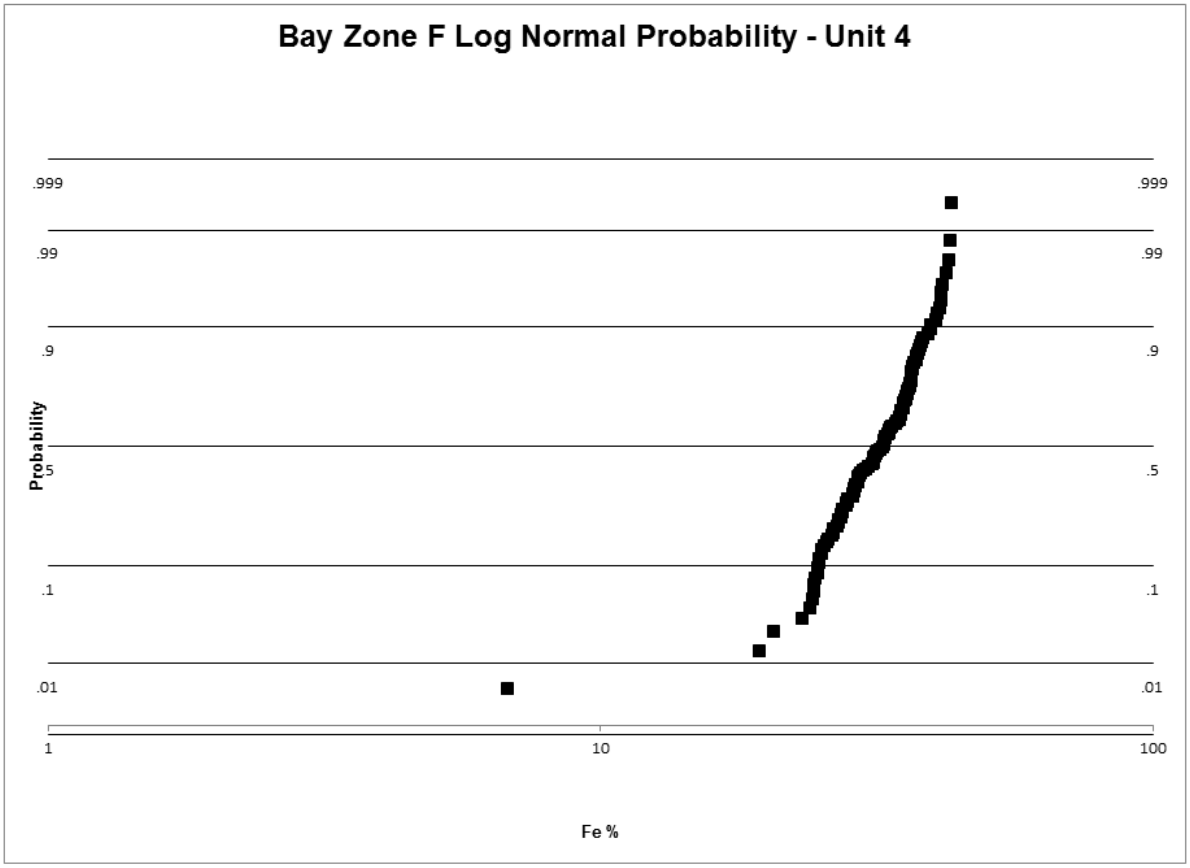


Figure 14-18: Bay Zone F mineralized domain - Fe log normal probability graph

Table 14-17: Bay Zone F mineralized domain - Fe basic statistics

Number of samples	110
Minimum	6.8
Maximum	43.27
Range	36.47
Average	32.06
Standard deviation	5.96
Variance	35.56

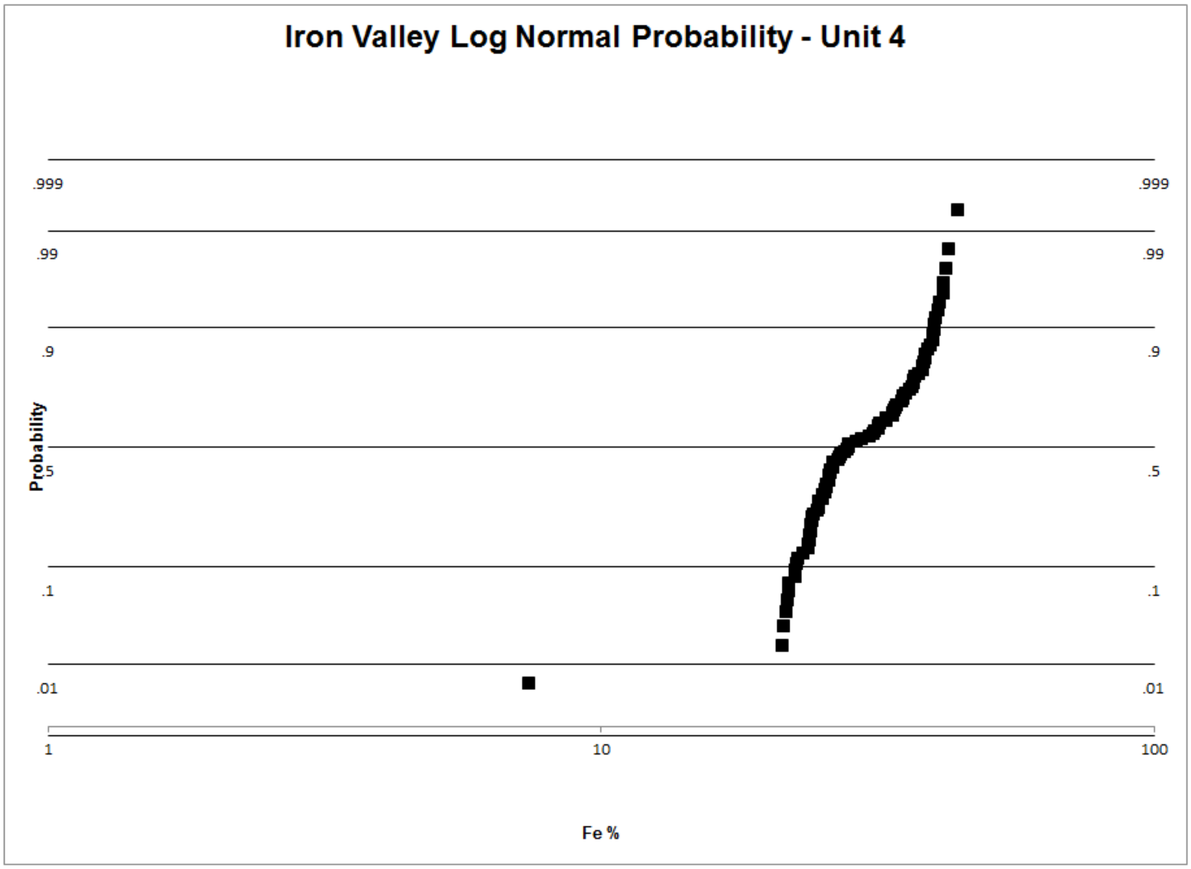


Figure 14-19: Iron Valley mineralized domain - Fe log normal probability graph

Table 14-18: Iron Valley mineralized domain - Fe basic statistics

Number of samples	91
Minimum	7.43
Maximum	44.19
Range	36.76
Average	30.28
Standard deviation	7.04
Variance	49.61

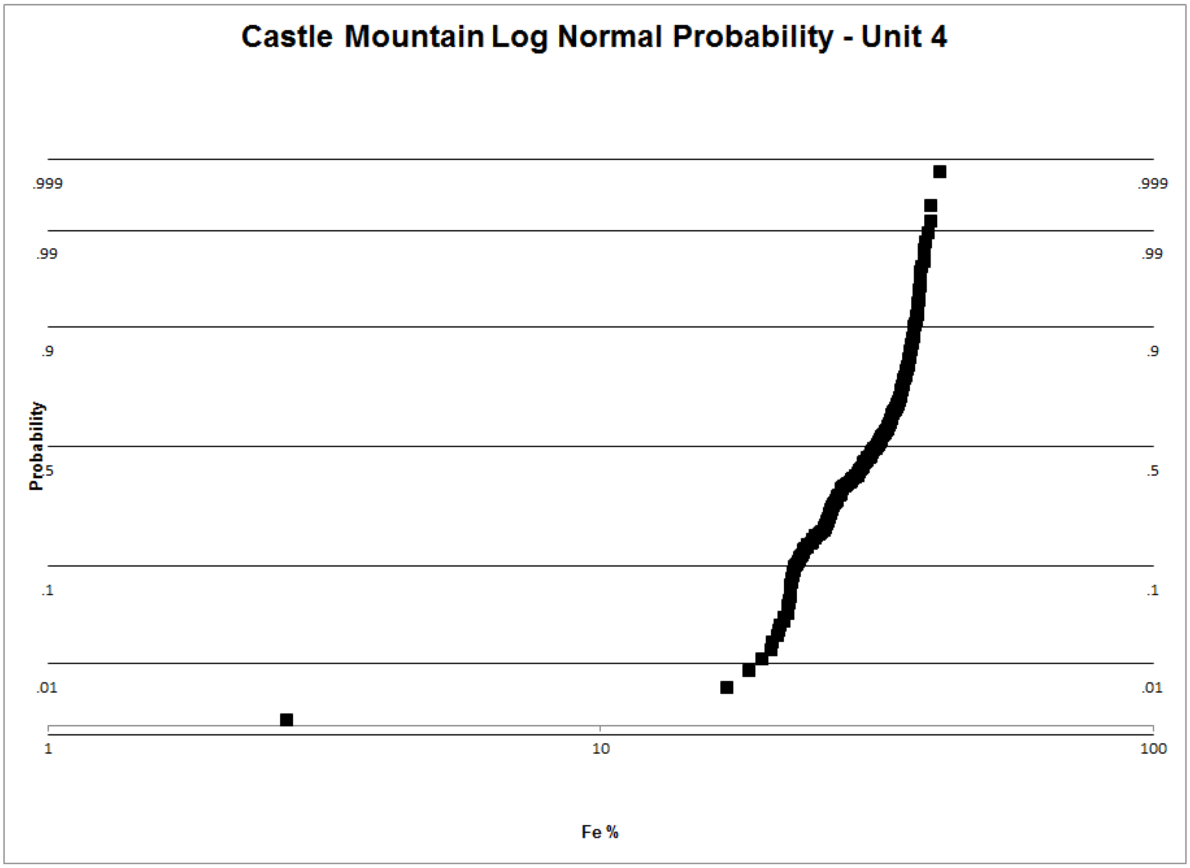


Figure 14-20: Castle Mountain mineralized domain - Fe log normal probability graph

Table 14-19: Castle Mountain mineralized domain - Fe basic statistics

Number of samples	315
Minimum	2.72
Maximum	41.20
Range	38.48
Average	30.76
Standard deviation	5.54
Variance	30.64

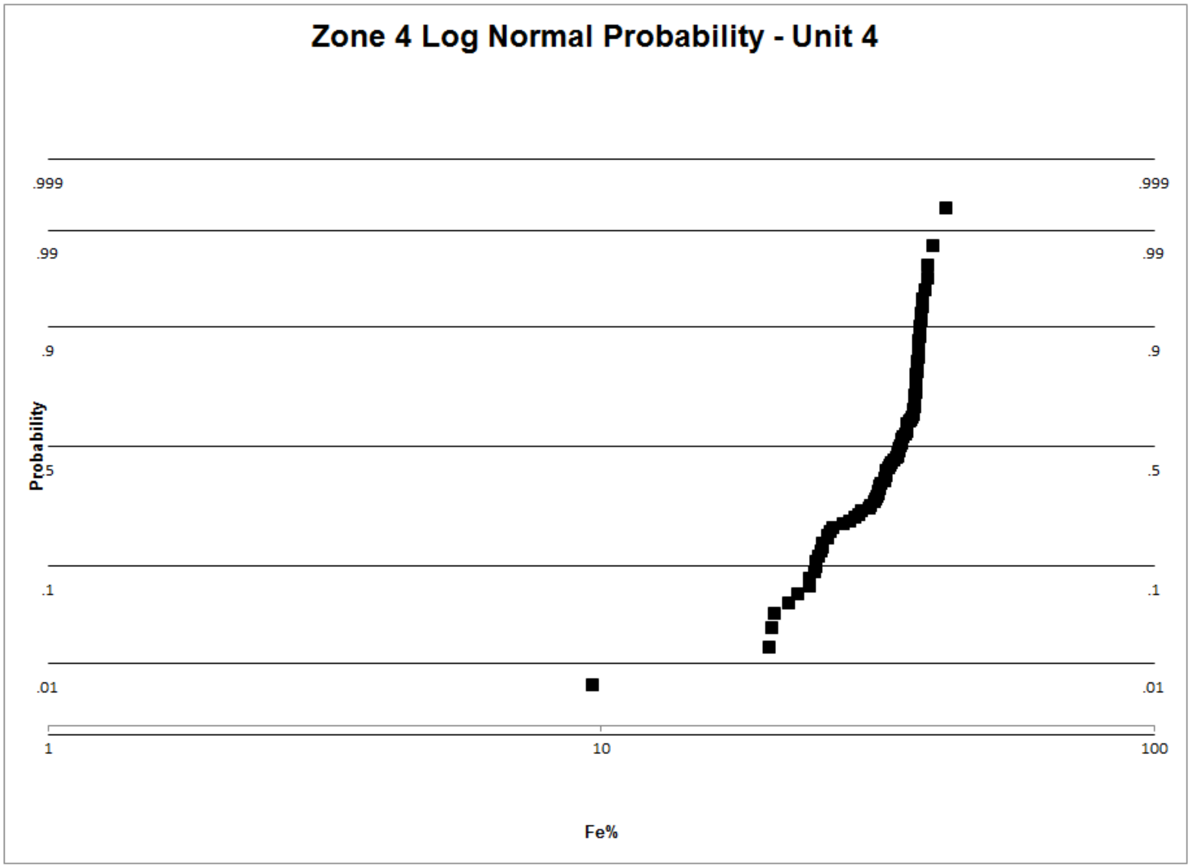


Figure 14-21: Zone 4 mineralized domain - Fe log normal probability graph

Table 14-20: West Zone 4 mineralized domain - Fe basic statistics

Number of samples	97
Minimum	9.70
Maximum	42.15
Range	32.45
Average	32.94
Standard deviation	5.70
Variance	32.52

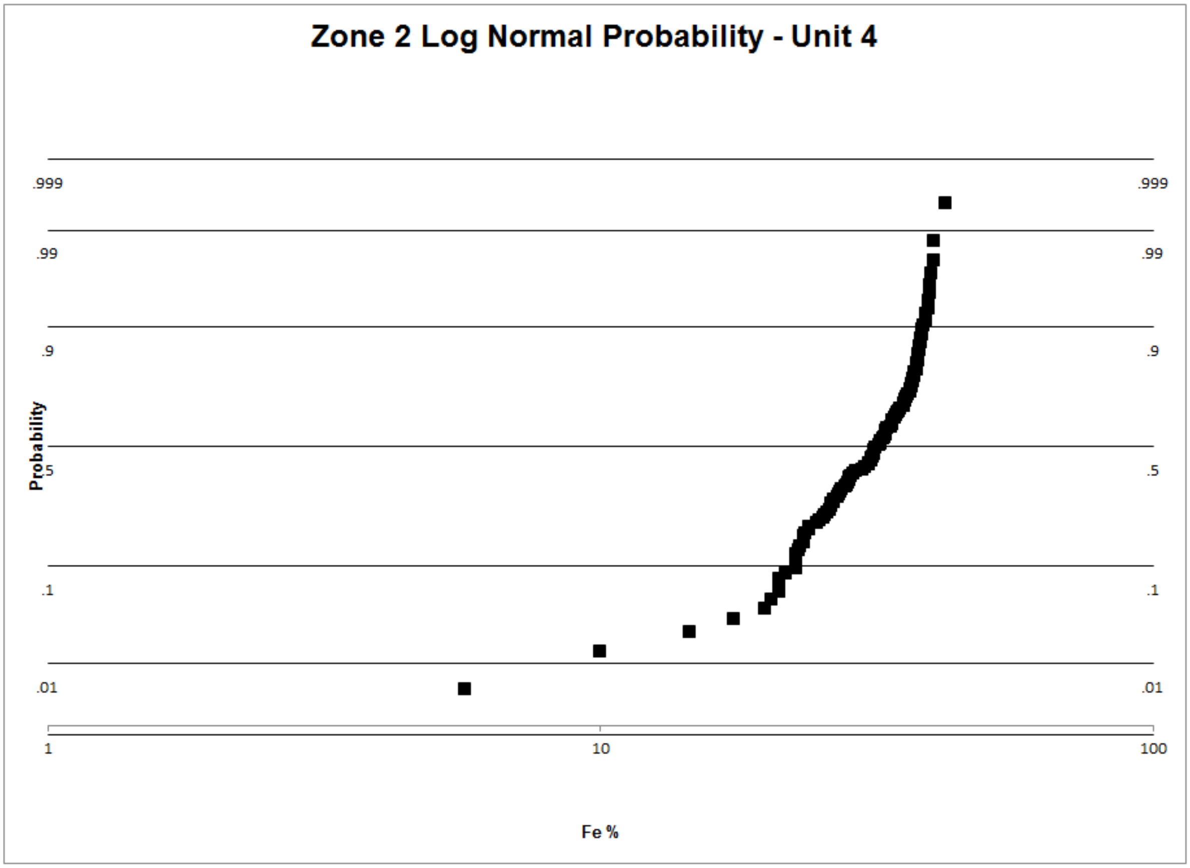


Figure 14-22: West Zone 2 mineralized domain - Fe log normal probability graph

Table 14-21: West Zone 2 mineralized domain - Fe basic statistics

Number of samples	110
Minimum	5.70
Maximum	42.12
Range	36.42
Average	30.74
Standard deviation	6.86
Variance	47.08

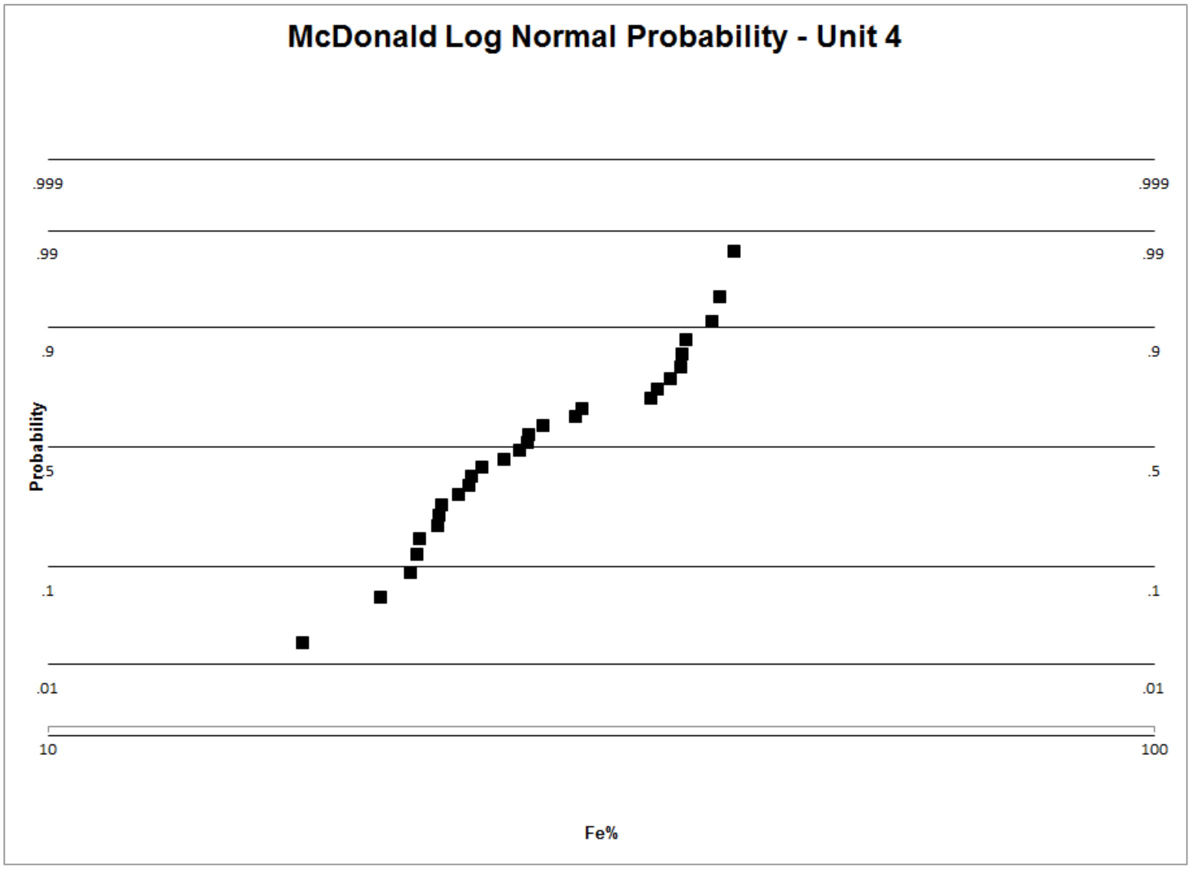


Figure 14-23: West Zone McDonald mineralized domain - Fe log normal probability graph

Table 14-22: West Zone McDonald mineralized domain - Fe basic statistics

Number of samples	28
Minimum	17.01
Maximum	41.73
Range	24.72
Average	28.72
Standard deviation	7.09
Variance	50.27

14.2.9 Variography

Omni-directional variography was completed for the Fe samples contained within each individual mineralized domain. The variogram for each mineralized domain was plotted and an autofit routine was run to determine an approximate curve fit. The results of the variography in the unfolded X-Y plane, shown in Table 14-23, were used to determine the search parameters for grade estimation. As additional drilling is completed, more robust directional variography should be utilized in future modelling efforts.

14.2.10 Bulk Density

A bulk density of 2.70 t/m^3 was assumed for all materials other than Unit 4. For Unit 4 materials, a bulk density formula was applied on a block-by-block basis. The formula is a function of the interpolated head iron grade, as shown below:

Density = Head Fe*0.0253+2.6178

14.2.11 Block Model

A 3D block model was constructed in the Vulcan mine planning software that was constrained by the various mineralizing domain solids. The block model is sub-blocked with the minimum block size being 25 m by 25 m by 1 m (X, Y, Z) to a maximum block size of 50 m by 50 m by 15 m (X, Y, Z). Ten block models were constructed as described in Section 14.2.5. A typical cross-section through the block model is shown in Figure 14-24 below.

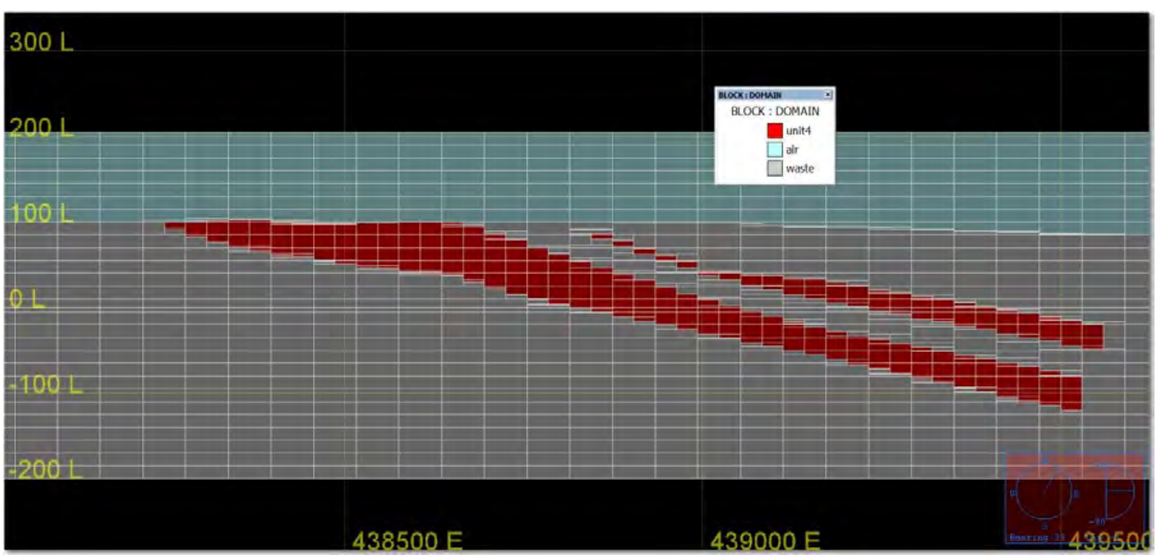


Figure 14-24: Typical block model cross-section - Castle Mountain section 50+00 (View looking N33E)

No attempt was made to apply a block percentage (percent of the block that is mineralized material and waste), instead sub-blocking along the mineralized domain boundaries was used. This creates a cleaner model for later resource estimation runs. Grade interpolation runs for head iron were set up for each domain.

14.2.12 Grade Estimation

Using the Vulcan ISIS composite file (described above), interpolations were run in each mineralized domain for Fe. Runs were completed in all domains for iron using ordinary kriging (OK), inverse distance squared (ID^2), inverse distance cubed (ID^3) and inverse distance to the fifth power (ID^5, roughly a polygonal estimate). All of these estimates are used to check the resulting values relative to each other. The block model interpolation parameters are shown in Table 14-23.

14.2.13 Mineral Resource Classification

For the purposes of this mineral resource estimate, classifications of all interpolated grade blocks were determined from the ID^3 Fe interpolations for Measured, Indicated and Inferred. The mineral resource classification logic is shown below in Table 14-24.

As part of the mineral resource classification, the concentrate weight recovery was estimated on a block-by-block basis using the following formulas, derived from the metallurgical testwork, for each of the respective deposits:

- Castle Mountain/Iron Valley: Dry wt Rec = (1.3383* Head Fe) - 4.3905;
- Zone 2, Zone 4: Dry wt Rec = (1.4358* Head Fe) - 8.7213;
- MacDonald: Dry wt Rec = (1.3847*Head Fe) - 10.574;
- All Bay Zones: Dry wt Rec = (1.2935*Head Fe) - 2.8375.

These formulae were used to calculate the estimated weight recovery crude to concentrate on every block where an iron grade was estimated. This value multiplied by the block tonnes generates the estimated block concentrate tonnes produced if the block is processed to concentrate. The geological interpretations for two zones (Bay Zone B and West Zone 2) are too speculative in nature to warrant classification of any resources in the indicated or measured resource categories. These may be upgraded provided that additional drilling is performed.

14.2.14 Block Model Checks

Following grade estimation, the model was checked to ensure that the resource estimation procedure correctly populated the various block models. These checks included an overall review and comparison of the various estimated iron values to each other, a section by section comparison between the selected ID^3 iron values and the underlying composites and, lastly, a Q-Q plot of the block iron values versus the composite iron values.

The overall block iron grades were examined at the cut-off grade of 25.0% total Fe. The results are shown below in Table 14-23 and the comparison shows very close agreement between all resource estimation methods. Each of the drill hole cross-sections were also reviewed and the underlying composites agree closely with the overlying estimated block model iron grade. Lastly, the Q-Q plots for each of the 10-block models are shown below in Figure 14-25 through Figure 14-34.

Table 14-23: Block model interpolation parameters

Item	Block Models									
	Bay Zone B	Bay Zone C	Bay Zone D	Bay Zone E	Bay Zone F	Castle Mtn.	Iron Valley	West Zone McDonald	West Zone 4	West Zone 2
Geostatistical Parameters										
Nugget (C_0)	25.5000	6.5800	8.6700	31.1000	17.3000	23.5000	28.9000	0.0123	13.5000	31.4000
Sill Difference (C_1)	8.4466	21.4870	14.1000	11.5161	12.6763	4.7283	20.7110	50.2571	13.7000	10.1128
Major Range (m)	1,500	1,000	2,000	2,300	800	1,200	1,400	2,000	1,500	1,200
Semi-Major Range (m)	1,500	1,000	2,000	2,300	800	1,200	1,400	2,000	1,500	1,200
Minor Range (Tetra %)[1]	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Azimuth (°)	0	0	0	0	0	0	0	0	0	0
Plunge (°)	0	0	0	0	0	0	0	0	0	0
Dip (°)	0	0	0	0	0	0	0	0	0	0
Search Ellipsoid										
Azimuth (°)	0	0	0	0	0	0	0	0	0	0
Plunge (°)	0	0	0	0	0	0	0	0	0	0
Dip (°)	0	0	0	0	0	0	0	0	0	0
Major (m)	1,500	1,000	2,000	2,300	800	1,200	1,400	2,000	1,500	1,200
Semi-Major (m)	1,500	1,000	2,000	2,300	800	1,200	1,400	2,000	1,500	1,200
Minor (m)[1]	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Estimation Parameters										
Minimum Number of Composites	1	1	1	1	1	1	1	1	1	1
Maximum Number of Composites	15	15	15	15	15	15	15	15	15	15
Maximum Composites Per Drill Hole	2	2	2	2	2	2	2	2	2	2

[1] The minor search axis in Tetra modeling uses a maximum search distance that is a percentage of the distance in that direction between the upper and lower Tetra surfaces. If that distance were 100 m, then a 0.04 search distance would be 4 m on either side of the point being estimated.

Table 14-24: Hopes Advance resource classification logic

Domain	Bay Zone B	Bay Zone C	Bay Zone D	Bay Zone E	Bay Zone F	Castle Mtn.	Iron Valley	West Zone McDonald	West Zone 4	West Zone 2
Criteria for Measured Resources										
Maximum Search Distance (m)		200	400	460	160	240	280	400	300	
Minimum Number of Composites		7	7	7	7	7	7	7	7	
Criteria for Indicated Resources										
Maximum Search Distance (m)		400	800	920	320	480	560	800	600	
Minimum Number of Composites		5	5	5	5	5	5	5	5	
Criteria for Inferred Resources										
Maximum Search Distance (m)	1,500	1,000	2,000	2,300	800	1,200	1,400	2,000	1,500	1,200
Minimum Number of Composites	2	2	2	2	2	2	2	2	2	2

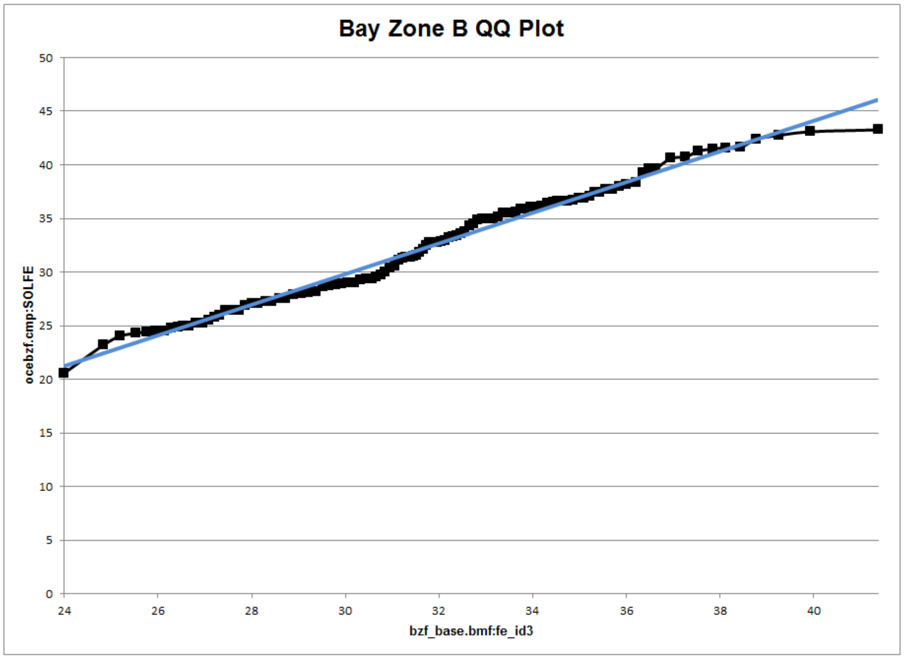


Figure 14-25: Q-Q Plot for Bay Zone B

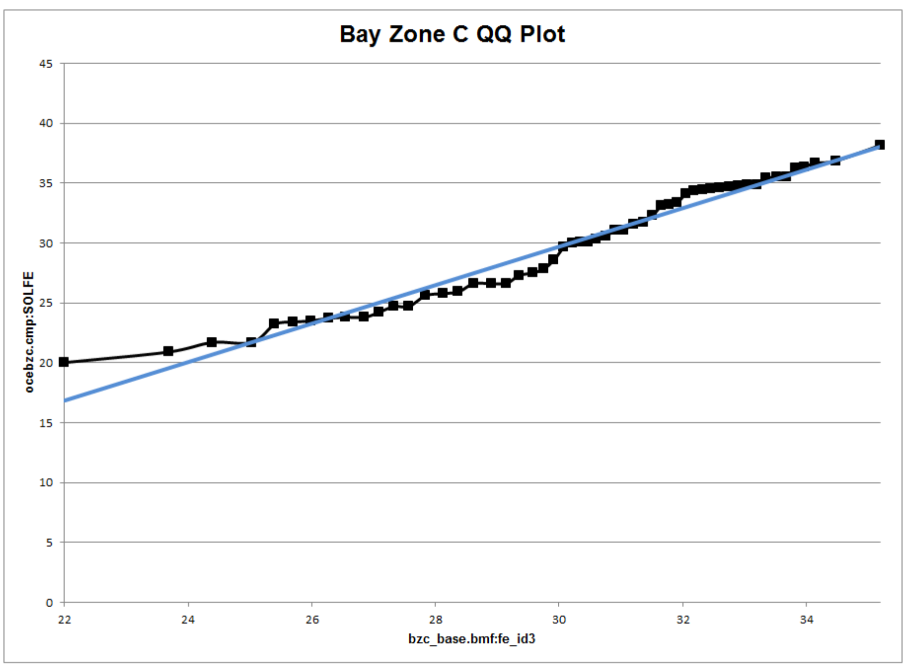


Figure 14-26: Q-Q Plot for Bay Zone C

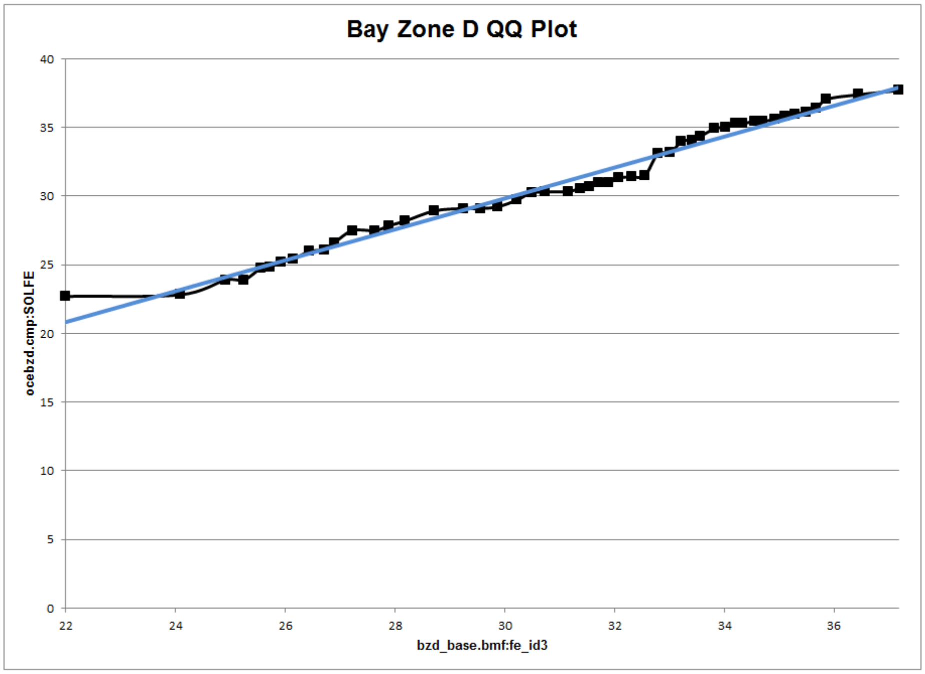


Figure 14-27: Q-Q Plot for Bay Zone D

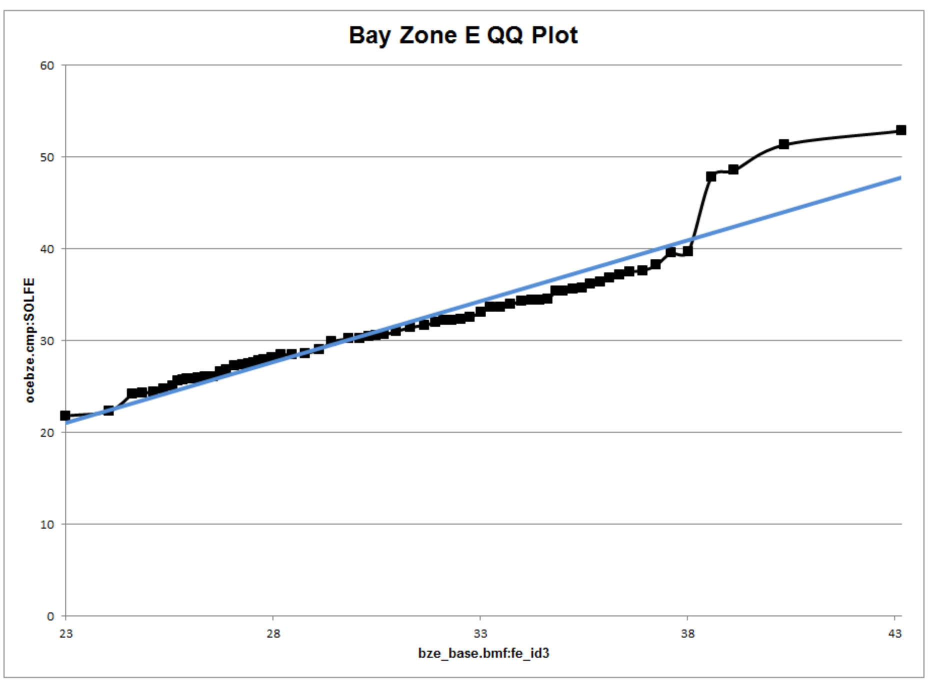


Figure 14-28: Q-Q Plot for Bay Zone E

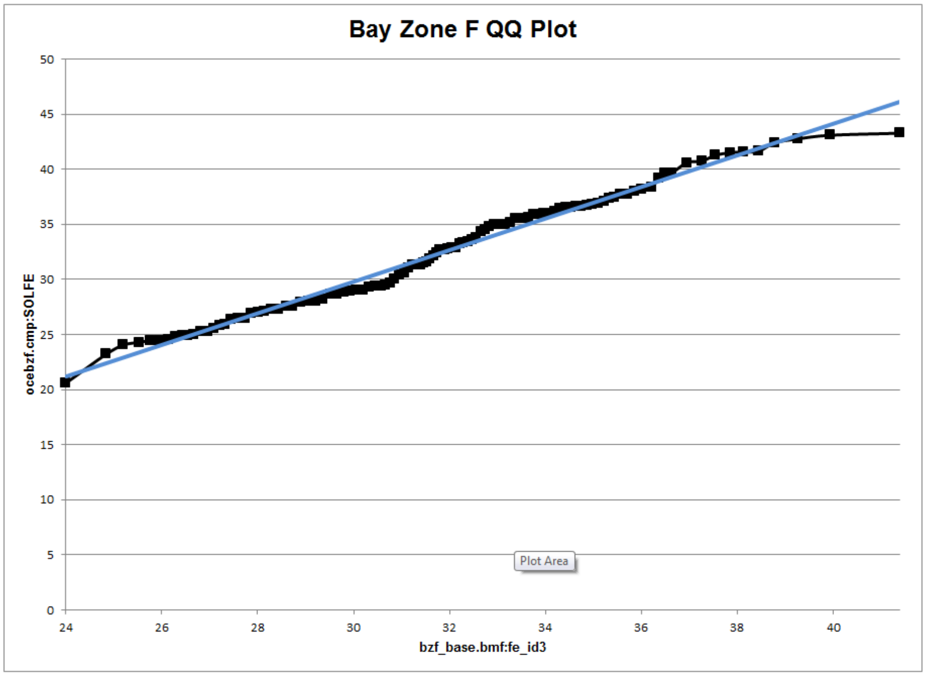


Figure 14-29: Q-Q Plot for Bay Zone F

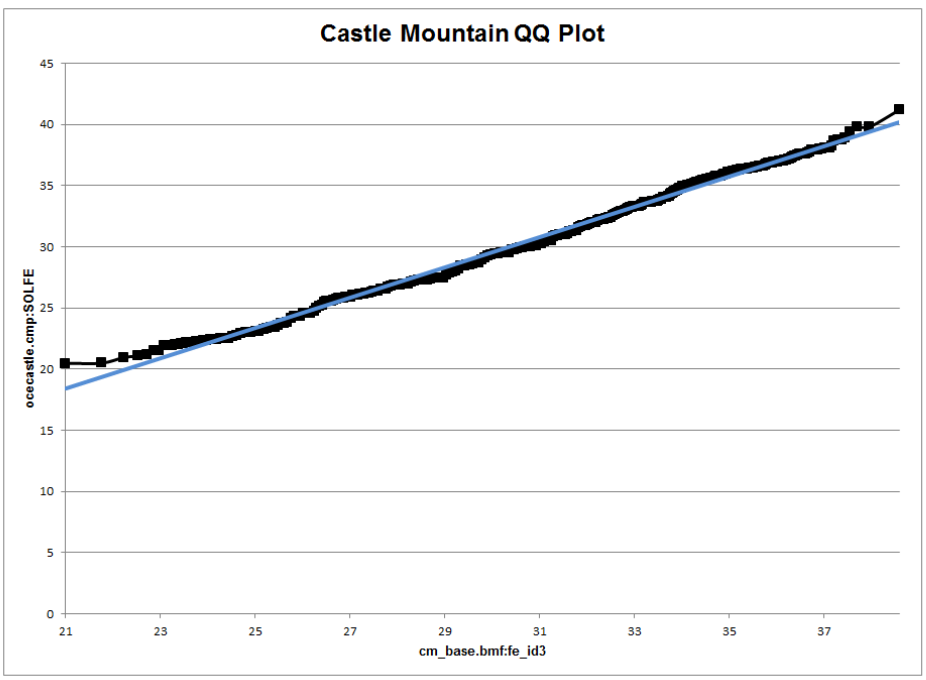


Figure 14-30: Q-Q Plot for Castle Mountain

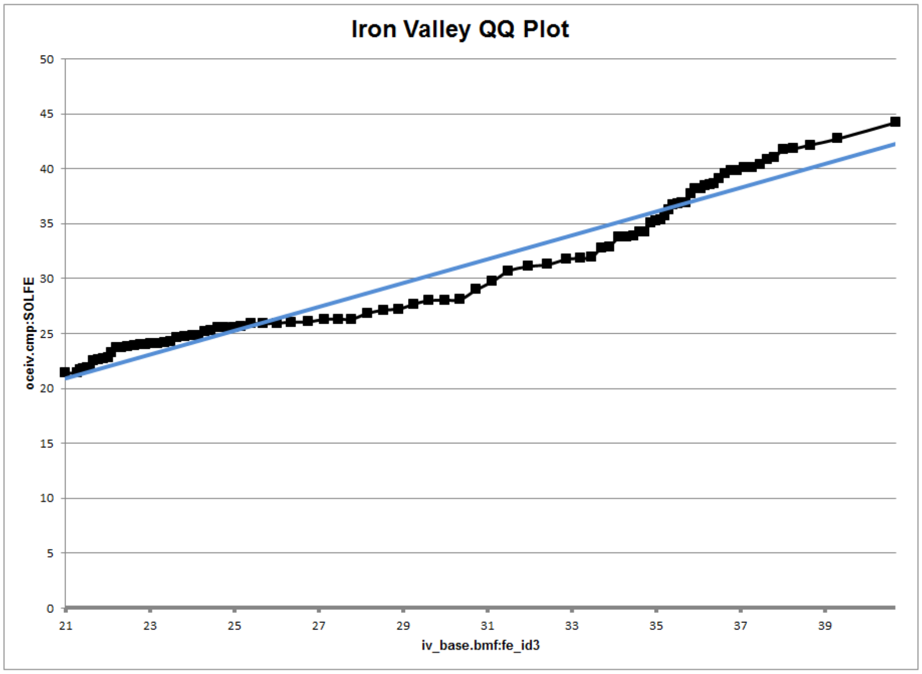


Figure 14-31: Q-Q Plot for Iron Valley

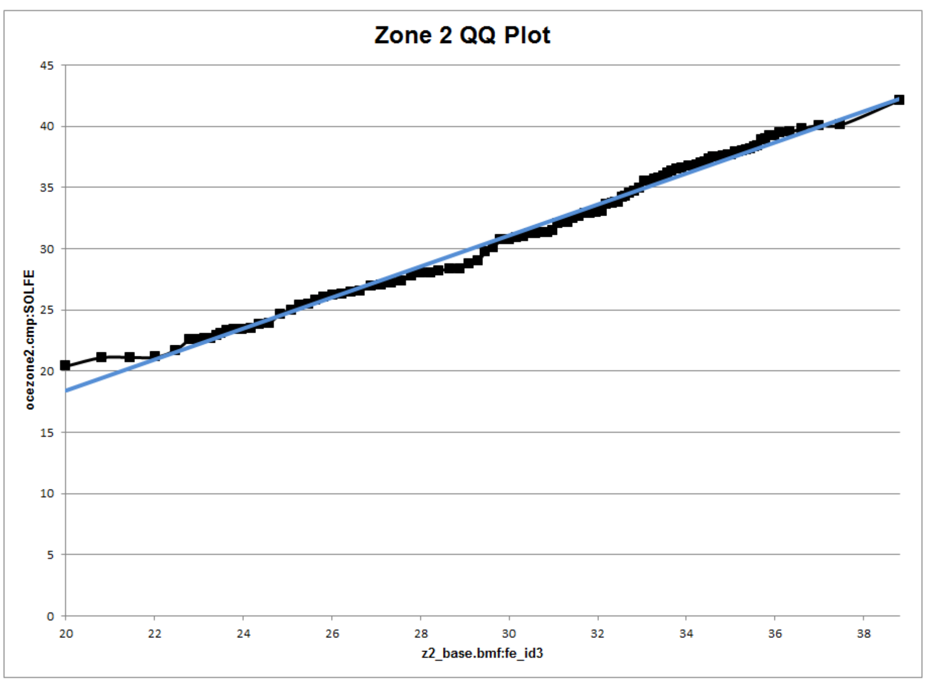


Figure 14-32: Q-Q Plot for West Zone 2

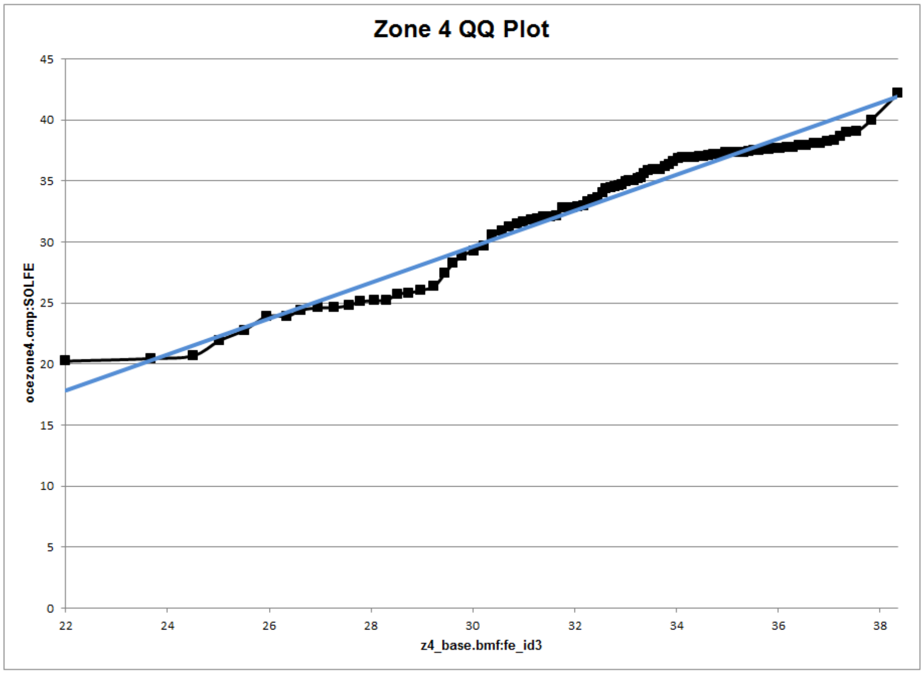


Figure 14-33: Q-Q Plot for West Zone 4

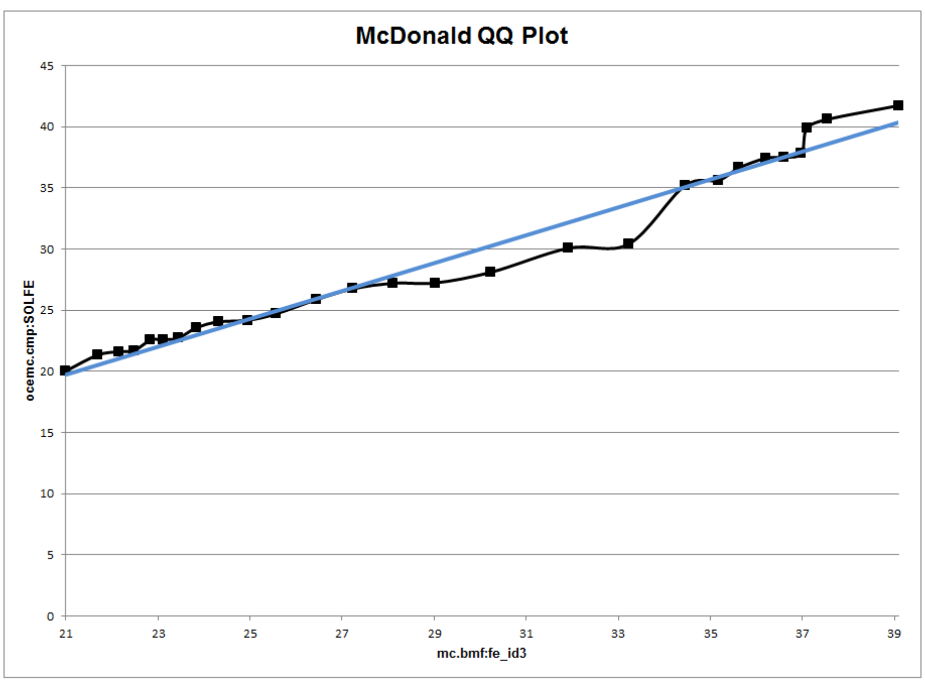


Figure 14-34: Q-Q Plot for West Zone McDonald

14.3 Mineral Resource Estimate

The mineral resource estimates in this report used the Canadian Institute of Mining, Metallurgy and Petroleum (CIM), Standards on Mineral Resources and Reserves, Definitions and Guidelines prepared by CIM Standing Committee on Reserve Definitions and adopted by CIM Council in 2014. The mineral resource estimates provided in this report are classified as "Measured", "Indicated", or "Inferred" as defined by CIM.

According to the CIM definitions, a Mineral Resource must be potentially economic in that it must be "in such form and quantity and of such grade or quality that it has reasonable prospects for economic extraction". For the Hopes Advance iron deposits, an iron cut-off grade of 25% total Fe was assigned based on metallurgical and economic assumptions and was used in the resource estimates. The cut-off grade is higher than the economics warrant but represents the best estimate of a minimum recoverable iron grade given the metallurgical knowledge base at the time of estimation.

14.3.1 Consideration of Reasonable Prospects of Eventual Economic Extraction

In order to confirm "reasonable prospects of eventual economic extraction", a Whittle pit optimization analysis was carried out by Micon in 2012. The pit optimization was done by running the Lerchs-Grossman (LG) algorithm in the MineSight software package using the previously described block models. For this PEA, Mr. Canova has reviewed this work and determined that the estimates and inputs are still valid and remain current as of the effective date of November 20, 2019, which is the date the reviews were completed. Mr. Canova's review was based on the 2014 edition of the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves. Mr. Canova, P. Geo – GCC, is the QP for this section of the Report.

Table 14-25 and Table 14-26: present the input parameters that were used for the pit optimization analysis. Fixed mining costs of $2.00/t for drilling, blasting, loading, pit support and G&A were estimated, and this was applied to all mineralized material and waste rock types. A cost of $7.32 was applied to each tonne of mill feed. The value of the concentrate at the mine was calculated to be $115.92/t and is based on a concentrate sales price of US$115/t FOB port and a CAN$/$ exchange rate of 0.97.

Table 14-25: Concentrator and site costs used for pit optimization

Item	Units	Value
Concentrator	$/t Con	16.07
Heating (HVAC)	$/t Con	0.15
Camp & Infrastructure	$/t Con	1.73
G&A (Site Only)	$/t Con	1.65
Total	$/t Con	19.60
Average Mass Recovery	%	37.4
Total Cost	**$/t Feed**	**7.32**

Table 14-26: Concentrate value at mine

Item	Units	Value
Concentrate Revenue FOB Port	$/t Con	115.00
Exchange Rate	$CAN/$	0.97
Concentrate Revenue FOB Port	$/t Con	118.56
Royalty	%	1.00
	$/t Con	1.19
Port Costs	$/t Con	1.45
Total	**$/t Con**	**115.92**

These input parameters were reviewed in 2019 to determine if they were still current. These reviews included checks on the confidence classification assignments based on changes to defined terms between the 2010 and 2014 editions of the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Definition Standards for Mineral Resources and Mineral Reserves, inputs into the Whittle optimization shells that constrain the estimate, and commodity price assumptions as a result of the 2019 VIU Study.

Mr. Canova, P. Geo., from GCC, concluded that the estimates remain current and have an effective date of November 20, 2019, which is the date the reviews were completed.

14.3.2 Mineral Resources Statement

Table 14-27 presents the mineral resource estimate for the Hopes Advance project by area, including the Bay Zones B, C, D, E, F, Castle Mountain, Iron Valley, West Zone 2, West Zone 4 and West Macdonald deposits. The resources presented in the table reported within conceptual pit shells and are above an Fe cut-off grade of 25%.

Table 14-27: Mineral resource estimate for the Hopes Advance project effective date Nov. 20, 2019 (Cut-off grade 25% total Fe)

Zone	Classification	Fe (%)	WRCP (%)	Resource tonnes (t 000)	Concentrate tonnes (t 000)
Bay Zone B	Measured	-	-	-	-
Bay Zone B	Indicated	-	-	-	-
Bay Zone B	M+I	-	-	-	-
Bay Zone B	Inferred	34.0	39.9	22,367	8,915
Bay Zone C	Measured	31.1	36.2	28,295	10,228
Bay Zone C	Indicated	30.7	35.6	58,100	20,695
Bay Zone C	M+I	30.8	35.8	86,395	30,924
Bay Zone C	Inferred	30.5	35.4	9,558	3,386
Bay Zone D	Measured	31.4	36.6	37,953	13,876
Bay Zone D	Indicated	31.4	36.6	16,738	6,123
Bay Zone D	M+I	31.4	36.6	54,692	19,999
Bay Zone D	Inferred	31.2	36.3	3,464	1,256
Bay Zone E	Measured	32.4	37.8	88,407	33,436
Bay Zone E	Indicated	32.5	38.0	23,202	8,824
Bay Zone E	M+I	32.4	37.9	111,609	42,259
Bay Zone E	Inferred	31.0	36.1	3,963	1,430
Bay Zone F	Measured	32.7	38.3	115,150	44,056
Bay Zone F	Indicated	32.4	37.8	129,771	49,041
Bay Zone F	M+I	32.5	38.0	244,921	93,097
Bay Zone F	Inferred	33.5	39.3	9,424	3,701
Castle Mountain	Measured	31.8	37.0	354,138	131,031
Castle Mountain	Indicated	31.3	36.3	194,977	70,679
Castle Mountain	M+I	31.6	36.7	549,115	201,710
Castle Mountain	Inferred	31.9	37.0	8,850	3,276
Iron Valley	Measured	33.2	38.8	73,408	28,475
Iron Valley	Indicated	32.8	38.2	140,703	53,791
Iron Valley	M+I	32.9	38.4	214,110	82,265
Iron Valley	Inferred	33.0	38.6	41,703	16,077
West Zone 2	Measured	-	-	-	-
West Zone 2	Indicated	-	-	-	-
West Zone 2	M+I	-	-	-	-
West Zone 2	Inferred	32.2	36.3	114,169	41,455
West Zone 4	Measured	32.8	37.1	57,211	21,237
West Zone 4	Indicated	32.4	36.6	27,731	10,155
West Zone 4	M+I	32.7	37.0	84,942	31,392
West Zone 4	Inferred	33.0	37.5	1,099	412
West McDonald	Measured	32.9	33.7	19,679	6,632
West McDonald	Indicated	32.8	33.6	22,575	7,594
West McDonald	M+I	32.8	33.7	42,253	14,226
West McDonald	Inferred	33.0	33.8	7,589	2,567

Zone	Classification	Fe (%)	WRCP (%)	Resource tonnes (t 000)	Concentrate tonnes (t 000)
All Zones	**Measured**	**32.2**	**37.3**	**774,241**	**288,971**
All Zones	**Indicated**	**32.0**	**37.0**	**613,796**	**226,901**
All Zones	**M+I**	**32.1**	**37.2**	**1,388,037**	**515,872**
All Zones	**Inferred**	**32.5**	**37.1**	**222,188**	**82,475**

Notes to Table 14-27:

1) The Qualified Person responsible for the estimates (including the current Mineral Resource Estimates) is Mr. Eddy Canova, P. Geo. from GeoConsul Canova Inc., a consultant to the Company.
2) Mineral Resources are reported assuming open pit mining methods. Mineral Resources were initially reported with an effective date of September 19, 2012, on block models that had an effective date of April 2, 2012. A review was undertaken in 2019, which concluded that the estimate and its inputs were current, and the effective date for the reviewed Mineral Resources is now November 20, 2019.
3) Mineral Resources are classified using the 2014 CIM Definition Standards. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4) The Mineral Resources were estimated using a block model with parent blocks of 50 m by 50 m by 15 m sub-blocked to a minimum size of 25 m by 25 m by 1 m and using inverse distance weighting to the third power (ID^3) methods for grade estimation. A total of ten individual mineralized domains were identified and each estimated into a separate block model. Given the continuity of the iron assay values, no top cuts were applied. All resources are reported using an iron cut-off grade of 25% within conceptual Whittle pit shells and a mining recovery of 100%. The Whittle shells used the following input parameters, commodity price of US$115/dmt of concentrate; CA$:US$ exchange rate of 0.97; assumed overall pit slope angle of 50º; 1% royalty; mining cost of $2.00/t material moved; process cost of CA$16.22/t of concentrate; port costs of CA$1.45/t of concentrate; and general and administrative costs of CA$3.38/t of concentrate.
5) Estimates have been rounded and may result in summation differences.

Table 14-28 provides a summary of the mineral resources reported in Table 14-27. The tables are not additive.

Table 14-28: Hopes Advance summary of mineral resource estimate, effective date Nov. 20, 2019 (Cut-off grade 25% total Fe)

Classification	Tonnes (t 000)	Fe (%)	Concentrate Tonnes (t 000)
Measured	774,241	32.2	288,971
Indicated	613,796	32.0	226,901
Measured and Indicated	**1,388,037**	**32.1**	**515,872**
Inferred	222,188	32.5	82,475

Notes to Table 14-28:

1) Footnotes provided to Table 14-27 apply to this table.
2) This table is not additive to Table 14-27.

15. MINERAL RESERVE ESTIMATES

Since this Report summarizes the results of a Preliminary Economic Assessment (PEA), no Mineral Reserves have been estimated for the Hopes Advance Project as per NI 43-101 guidelines.

16. MINING METHODS

The PEA mine design and mine plan are based on Measured and Indicated Mineral Resources. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.

The mining method selected for the Project consists of a conventional open pit, truck and shovel, drill and blast operation. Vegetation and topsoil will be stripped and stockpiled for future reclamation use. Overburden will then be stripped and hauled to the waste dumps. The mineralized material and waste rock will be mined with 10 m high benches, drilled, blasted and loaded into a fleet of haul trucks using diesel hydraulic shovels. The mineralized material will be hauled to the primary crushing facility and the waste rock will be hauled to either the waste dumps or to the tailings facility to be used as construction material.

Even though the Hopes Advance mineral resources are contained within ten distinct deposits, it was decided that the PEA would be limited to the Castle Mountain, Iron Valley and Bay Zone F deposits. Each of these deposits has favourable economic effects (higher grade and lower stripping ratios than the other deposits) and they are also the three largest resource bases of the ten deposits. Figure 16-1 presents a general layout of the mining area. The Castle Mountain deposit is located to the southwest of the plant site, Iron Valley to northwest and Bay Zone F to the east, just south of the road that connects the plant to the port facilities.

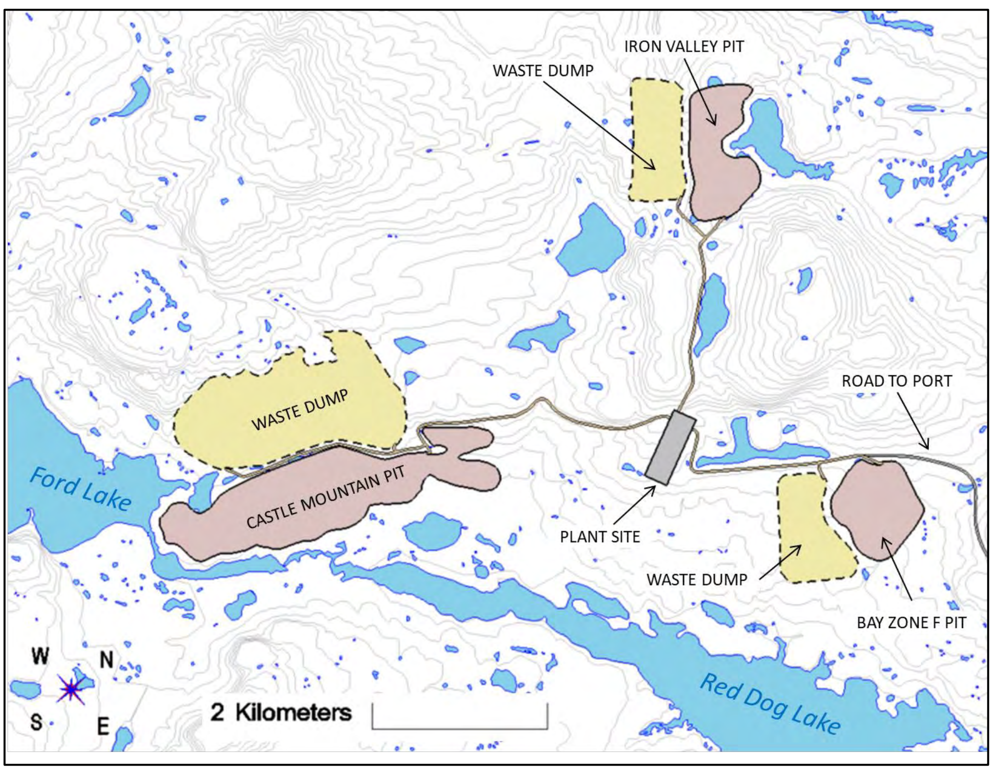


Figure 16-1: Mine general layout

16.1 Resource Block Models

The mine design for the PEA is based on the Mineral Resource block models that were prepared by Oceanic Iron Ore in 2012 and reviewed in November 2019, as presented in Chapter 14 of this Report. The 3D block models were prepared as sub-blocked models with a minimum block size of 25 m x 25 m x 1 m high and a maximum block size of 50 m x 50 m x 15 m high.

BBA imported each of the block models for the three deposits considered in this PEA into Hexagon's Mine Plan software and re-blocked them to 25 m x 25 m x 5 m high. The block size for the mining models considers the bench height of 10 m and the fact that the shovels will be able to mine 5 m high flitches at the mineralization contacts.

It is important to note that although the deposits at the Hopes Advance project were geologically interpreted on cross-sections according to their distinct lithological units (magnetite and hematite zones), this information was not included in the block modelling process. The information in the block models was limited to the total Fe Head Grade, the Resource Classification (Measured, Indicated and Inferred) and the Density.

It is also important to note that the overburden material was not coded in the block models nor was a contact surface provided to BBA for this study. Although there is not too much overburden present at the Hopes Advance project area, it will be important for this material to be distinguished from the waste rock for future studies for the following reasons: overburden has a lower density than rock, overburden material will be required for certain infrastructure construction requirements, overburden material does not require drilling and blasting (therefore has a lower mining cost per tonne), and shallower pit slopes are typically used in overburden material. For mine planning and fleet calculation purposes, BBA considered that overburden material represents 7.5% of the total waste rock.

16.2 Mining Dilution and Losses

Since the blocks in the mining model will be mined as "whole blocks", i.e., a block is either 100% mineralization or 100% waste, the re-blocking process therefore incorporates mining dilution and losses. In order to quantify the amount of mining dilution and loss that are generated from the re-blocking process, the following three calculations have been done for each deposit:

- A grade shell (solid) was generated around all of the blocks from the re-blocked model that are either Measured or Indicated, and whose grade is above the resource cut-off of 25% Fe;
- The original sub-blocked model was interrogated to determine the quantity of resources within the re-blocked grade shell as well as the amount of waste rock that has been added;
- The percentage of mining dilution that has been added is the waste tonnage within the grade shell divided by the total tonnage within the grade shell;
- The percentage of resources that have been lost is the original resource tonnage from the sub-blocked model minus the new resources in the re-blocked model divided by the original resource tonnage from the sub-blocked model.

Table 16-1 presents the mining dilution and loss that resulted for each deposit following the re-blocking process.

Table 16-1: Mining dilution and loss

Description	Mining dilution	Mineralization losses
Castle Mountain	0.4%	5.3%
Iron Valley	0.6%	7.2%
Bay Zone F	3.6%	3.3%

16.3 Material Properties

The material properties for the different rock types are presented in the following paragraphs. These properties are important in estimating the In-pit mineral resources and the equipment fleet requirements, as well as the dump and stockpile design capacities.

16.3.1 Density

The density for each block in the model was recalculated using the following formula that was presented in Section 14.3.10 of this Report. The reason for this recalculation is because the original Fe grades have changed as a result of the re-blocking process.

$$Density = Head\ Fe * 0.0253 + 2.6178$$

A density of 2.75 t/m^3 was used for all waste blocks, consistent with previous studies for the deposits.

16.3.2 Swell Factor

The swell factor reflects the increase in volume of material from its in situ state to after it is blasted and loaded into the haul trucks. The swell factor is an important parameter that is used to determine the loading and hauling equipment requirements as well as the dump and stockpile designs. A swell factor of 40% was used for the PEA, which is a typical value used for open pit hard rock mines. Once the rock is placed in the waste dump, the swell factor is reduced to 30% due to compaction.

16.3.3 Moisture Content

The moisture content reflects the amount of water that is present within the rock formation. It affects the estimation of haul truck requirements and must be considered during the payload calculations. The moisture content is also a contributing factor for the process water balance. A moisture content of 2% was used for mineralized material and waste rock.

16.3.4 Weight Recovery

The weight recoveries for the mineralized blocks in the mining models were calculated using the following formulas that were presented in Section 14.3.13 of this Report.

Castle Mountain and Iron Valley:

*Dry Weight Recovery = (1.3383 * Head Fe) – 4.3905*

Bay Zone:

*Dry Weight Recovery = (1.2935 * Head Fe) – 2.8375*

In addition to applying these formulas to calculate the weight recovery for each block, the weight recoveries were also reduced by an absolute value of 1.23%, the same value used in previous studies for the deposits. This scaling factor reflects the difference between the bench tests (Mozley table and Davis tube) that are performed under controlled conditions and what can be expected in a full-scale plant.

16.3.5 Cut-off Grade

The mineral resources for the Hopes Advance project consider a cut-off grade of 25% Fe, as presented in Chapter 14 of this Report. Even though the actual breakeven economic cut-off is 12.6% (using the economic parameters presented in Section 16.4 of this Report), BBA chose to retain the higher value for this Study. BBA agrees with the following statement from Section 14.4 of this Report; "The cut-off grade is higher than potential economics warrant but represents the best estimate of a minimum recoverable iron grade given the metallurgical knowledge base at the time of estimation".

The pit shells that were selected from the pit optimization analysis to be used as a guide for the detailed pit designs, which are presented in Section 16.5 of this Report, contain the following quantities of materials having Fe grades between 12.6% and 25% Fe:

- Castle Mountain – 15.2 Mt (4.2% of the mineral resources);
- Iron Valley – 2.1 Mt (2.4% of the mineral resources);
- Bay Zone F – 6.6 Mt (2.9% of the mineral resources).

As can be seen, these quantities are relatively small and are considered as waste. As this material has a relatively low Fe head grade, it would only serve to reduce weight recoveries.

16.4 Pit Optimization Analysis

The 1.3 billion tonnes of Mineral Resources available at the Hopes Advance project area can potentially support a very long-life mining operation. At the start of the PEA it was decided that the study and its financial analysis would be limited to approximately a 30-year horizon since cash flows generated beyond this time frame have little impact on the net present value (NPV) of a project. The objective of the pit optimization analysis for the PEA was therefore to identify the mineral resources that could potentially provide the best economics for the Project and which should therefore be mined in the first 30 years.

The pit optimization was done using the Economic Planner module of Hexagon's Mine Plan software. The optimizer uses the pseudoflow algorithm to determine the economic pit limits based on input of mining and processing costs, revenue per block and operational and technical parameters such as the weight recovery, pit slopes and other imposed constraints. The pseudoflow algorithm provides similar results as the Lerchs-Grossman algorithm with the benefit of shorter computing times.

Even though Inferred Mineral Resources are allowed to be used in a PEA study per NI 43-101 guidelines, BBA opted to limit the optimization to the Measured and Indicated Mineral Resources. This decision was taken based on the fact that Oceanic is currently not planning additional infill drilling prior to the next phase of study. As a result, the Inferred Resources in the current Mineral Resource Estimate will be considered as waste rock should the next study phase be at a higher level of accuracy. It should also be noted that the quantities of Inferred Resources in the three deposits are relatively small.

Table 16-2 presents the parameters that were used for the pit optimization analysis with all dollar amounts being expressed in Canadian Dollars. Iron ore concentrate selling price was converted from US dollars at an exchange rate of 1.00 CND = 0.75 USD. The costs indicated are based on the best available information including some costs from the 2012 PFS (with adjustments made based on the new process flowsheet considered in this PEA), on benchmarking of similar mining operations and on BBA's experience.

The pit optimization uses the activity-based costing methodology that distinguishes fixed costs from variable costs. Fixed costs are time related with no direct production drivers while variable costs are directly related to a production driver in the system. The total fixed costs per year are then allocated to the system bottleneck, which for the Hopes Advance project is the HPGR's nominal design capacity of 26.5 Mtpa, which corresponds to a 10 Mtpa concentrate production rate.

The fixed mining cost of $25 M/y considers a mining operation moving roughly 50 Mt of material per year. The fixed processing cost of $16 M/y considers an operation processing roughly 26.5 Mt of mill feed per year. The fixed general and administration cost of $55 M/y considers an operation producing roughly 10 Mt of concentrate per year.

An overall pit slope of 45 degrees was used in the pit optimization. This slope is considered conservative since the pit and phase designs will incorporate access ramps that will shallow the slopes. The Castle Mountain pit optimization considers a 100-m offset from the Red Dog and Ford Lakes and the pit optimization for Iron Valley considers the same offset from the lake that covers part of the Iron Valley deposit.

Table 16-2: Pit optimization parameters (in Canadian Dollars)

Description	Unit	Castle Mountain	Iron Valley	Bay Zone F
Variable Costs				
Mining cost	$/t mined	2.00		
Incremental haulage cost for mill feed	$/t-km	0.12		
Distance from pit exit to mill	km	4.50	3.50	3.00
Incremental mill feed haulage cost	$/t mined	0.54	0.42	0.36
Processing cost	$/t milled	10.51		
Port cost	$/t conc.	1.90		
Fixed Costs				
Mining	$/y	25,000,000		
Processing	$/y	16,000,000		
General & Administration	$/y	55,000,000		
Bottleneck capacity	Mtpa	26,500,000		
Bottleneck cost	$/t milled	3.62		
Selling price (FOB Port of Ungava)	$/t conc.	120.00		

Using the cost, revenue, pit slope, operating parameters and surface constraints, a series of 25 pit shells were generated for each of the three deposits by varying the selling price (revenue factor) from $40/t to $140/t of concentrate.

Once the series of pit shells were generated, the economic parameters were applied to each shell and the incremental NPV per tonne of mineralization was calculated. An incremental analysis was then done in order to select the best pit shell for each deposit, which provides a combined in-pit resource that maximizes the NPV for the 30-year mine life. This evaluation was done using a discount rate of 10% and considered Phase 1 (5 Mtpa of concentrate) for the first 4 years of operation and Phase 2 (10 Mtpa of concentrate) from Years 5 to 30.

The three pit shells that were selected to be used as the basis for the pit designs are: Castle Mountain Pit Shell #15 (Revenue Factor 0.47), Iron Valley Pit Shell #16 (Revenue Factor 0.48), and Bay Zone F Pit Shell #19 (Revenue Factor 0.58). Table 16-3 presents the sub-set of mineral resources contained within each of the selected pit shells.

Table 16-3: Sub-set of the Measured and Indicated Mineral Resource estimates contained within the selected pit shells

Description	Resources (kt)	Fe Grade (%)	Weight recovery (%)	Waste rock (kt)	Strip ratio
Castle Mountain	361	32.8	38.3	249	0.69
Iron Valley	89	34.5	40.5	47	0.53
Bay Zone F	229	32.6	38.1	147	0.64
Total (1)	**679**	**33.0**	**38.5**	**443**	**0.65**

(1) Numbers may not add up due to rounding

16.5 Open Pit Design

The following section presents the design criteria and results of the in-pit resources that were used as a basis for the mine production plan. The pit designs use the optimized pit shells as guidelines and include smoothing the pit walls, adding ramps to access the pit bottom and ensures that the pit can be mined safely and efficiently using the selected equipment.

16.5.1 Geotechnical Pit Slope Parameters

No geotechnical pit slope stability has yet to be done for the Hopes Advance project, which is recommended by BBA for the following phase of study. For the pit designs, BBA considered an inter-ramp angle of 50 degrees. This slope is achieved with 10 m high benches, a bench face angle of 70 degrees and a berm width of 9.5 m, which is placed every 2 benches.

16.5.2 Haul Road Design

The ramps and haul roads were designed for haulage with 292 tonne rigid frame mining trucks, with an overall width of 34 m. For double lane traffic, industry practice indicates the minimum running surface width to be a minimum of three times the width of the largest truck. The overall width of a 292 t haul truck is 9.1 m which results in a running surface of 27.5 m. The allowance for berms and ditches increases the overall haul road width to 34 m. A maximum ramp grade of 10% was used. Figure 16-2 presents a typical section of the in-pit ramp design.

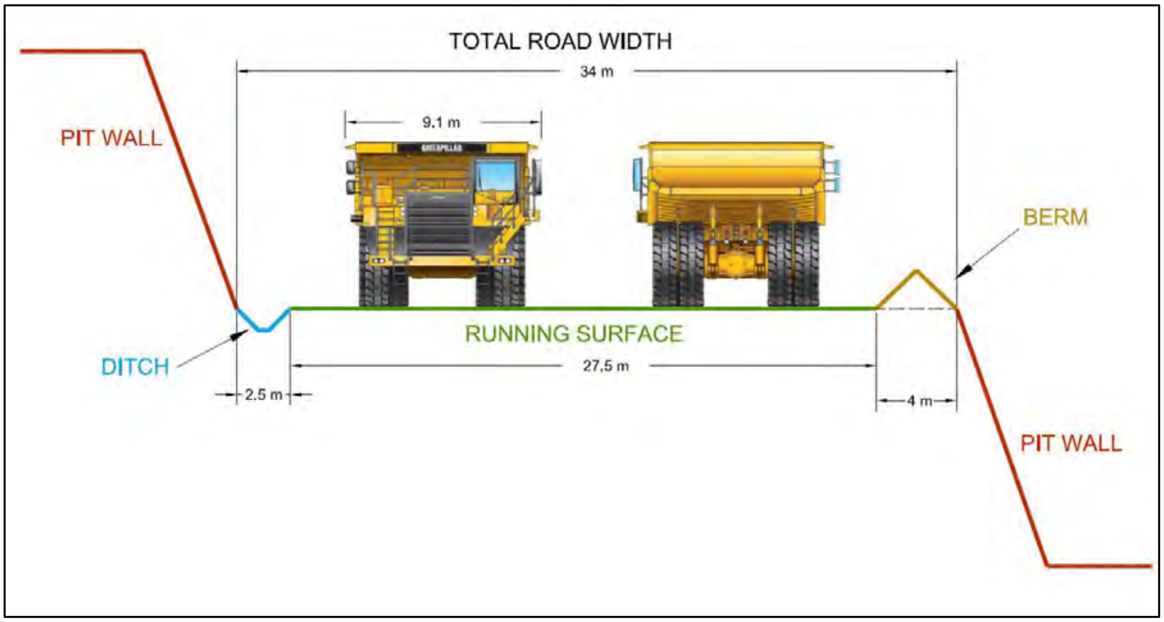


Figure 16-2: Ramp design

16.5.3 Pit Design Results

The pit that has been designed for the Castle Mountain deposit is approximately 4,600 m long and 1,100 m wide at surface. The mineralization outcrops on the west side of the pit and dips roughly 12 degrees towards the east. Along the eastern final pit, the mineralization has a thickness of approximately 80 m with a waste rock covering of 110 m. Most of the eastern edge of the pit is limited by Red Dog Lake. The total surface area of the pit is roughly 3,600,000 m^2.

Accounting for mining dilution and loss, the open pit design for the Castle Mountain deposit includes 372 Mt of Measured and Indicated Mineral Resources at an average grade of 32.6% Fe and an average weight recovery of 38.0%. In order to access these in-pit resources, 317 Mt of waste rock must be mined, resulting in a strip ratio of 0.85:1.

The pit that has been designed for the Iron Valley deposit is approximately 1,800 m long and 800 m wide at surface. The mineralization outcrops on the southwest side of the pit and dips towards the northeast at a slope between 5 and 9 degrees. Along the final pit wall on the northeast side, the mineralization has a thickness of 30 m with a waste rock covering of 60 m.

The pit ramp enters at the southeast corner of the pit at the 180 m elevation. The total surface area of the pit is roughly 1,300,000 m^2.

Accounting for mining dilution and loss, the open pit design for the Iron Valley deposit includes 91 Mt of Measured and Indicated Mineral Resources at an average grade of 34.0% Fe and an average weight recovery of 40.0%. In order to access these in-pit resources, 62 Mt of waste rock must be mined, resulting in a strip ratio of 0.68:1.

The pit that has been designed for the Bay Zone F deposit is approximately 1,100 m long and 1,100 m wide at surface. The mineralization outcrops on the north side of the pit and dips towards the south at roughly 20 degrees. Along the final pit wall on the south side, the mineralization has a thickness of 80 m with a waste rock covering of 200 m.

The pit ramp enters at the northwest corner of the pit at the 145 m elevation. The total surface area of the pit is roughly 1,200,000 m^2.

Accounting for mining dilution and loss, the open pit design for the Bay Zone F deposit includes 221 Mt of Measured and Indicated Mineral Resources at an average grade of 32.8% Fe and an average weight recovery of 38.5%. In order to access these in-pit resources, 178 Mt of waste rock must be mined, resulting in a strip ratio of 0.80:1.

Table 16-4 presents the subset of mineral resources for the Hopes Advance project. Figure 16-3, Figure 16-4 and Figure 16-5 present plan views of the open pit designs.

Table 16-4: Subset of mineral resources within the PEA pit designs (above 25% Fe cut-off)

Deposit	Measured Resources			Indicated Resources			Total Resources			Waste	Strip Ratio
	Tonne (Mt)	Fe (%)	WR (%)	Tonne (Mt)	Fe (%)	WR (%)	Tonne (Mt)	Fe (%)	WR (%)	Tonne (Mt)	
Castle Mountain	266	32.6	38.0	107	32.6	38.0	**372**	**32.6**	**38.0**	**317**	**0.85**
Iron Valley	34	34.1	40.0	57	33.9	40.0	**91**	**34.0**	**40.0**	**62**	**0.68**
Bay Zone F	107	33.0	39.0	114	32.7	38.0	**221**	**32.8**	**38.5**	**178**	**0.80**
Total (1)	**406**	**32.8**	**38.4**	**278**	**32.9**	**38.4**	**684**	**32.9**	**38.4**	**557**	**0.81**

(1) Numbers may not add up due to rounding

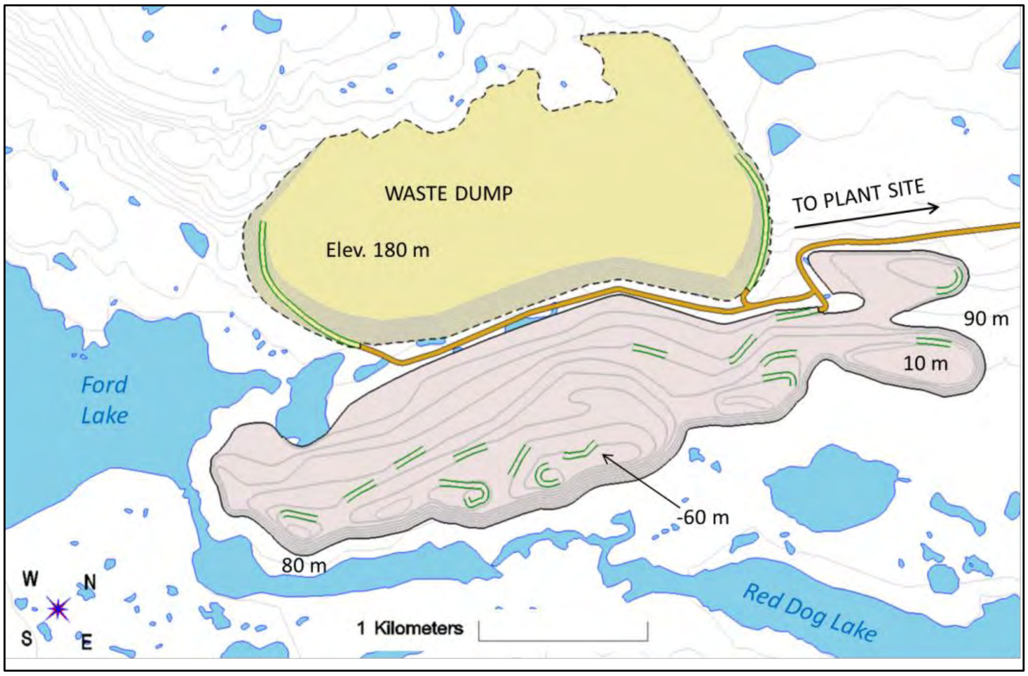


Figure 16-3: Ultimate pit design (Castle Mountain)

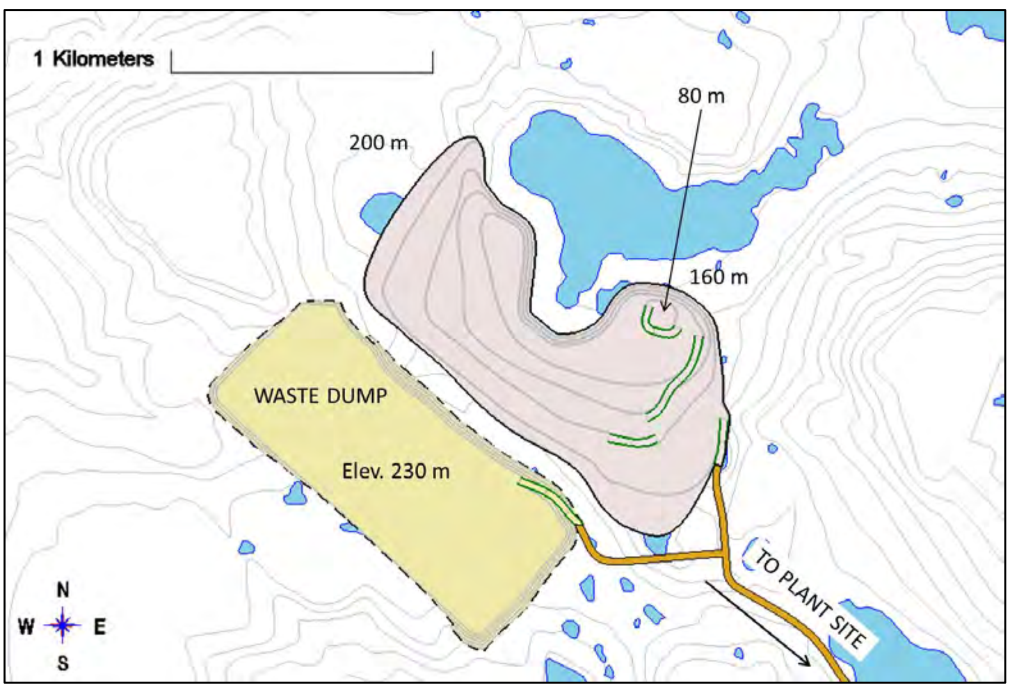


Figure 16-4: Ultimate pit design (Iron Valley)

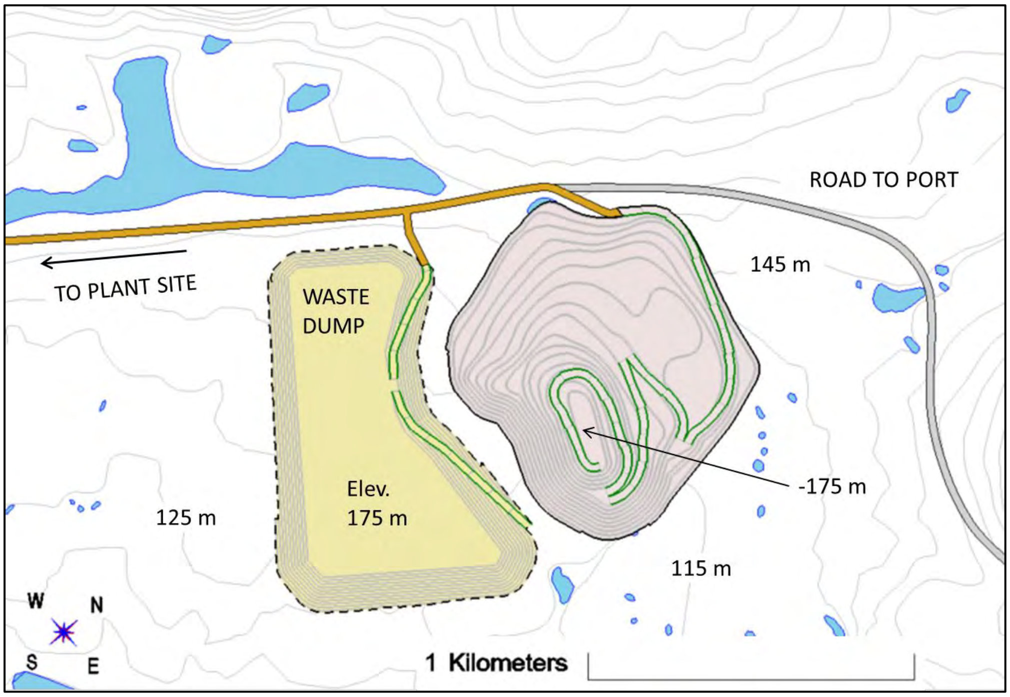


Figure 16-5: Ultimate pit design (Bay Zone F)

16.5.4 Phase Designs

Phases (pushbacks) have been designed for each of the deposits in order access higher grade material earlier and to defer waste stripping thereby maximizing the NPV of the Project. A total of three internal phases have been designed for Castle Mountain, one for Iron Valley, and two for Bay Zone F. Table 16-5 presents the grades, tonnages and strip ratios associated with each phase and Figure 16-11 presents a typical section showing how the three phases interact. Figure 16-6 and Figure 16-7 present plan views of the Castle Mountain phase designs.

Figure 16-10 presents a plan view of the Iron Valley phase design and Figure 16-8 and Figure 16-9 present plan views of the Bay Zone F phase designs. Figure 16-11 presents a typical section through the Bay Zone F deposit showing the three phases.

Table 16-5: Phase designs

Deposit	Total Resources			Waste	Strip ratio
	Tonne (Mt)	Fe (%)	WR (%)	Tonne (Mt)	
CAM - Phase 1	78	33.8	39.8	37	0.47
CAM - Phase 2	163	32.7	38.2	99	0.60
CAM - Phase 3	131	31.8	37.0	182	1.39
IRV - Phase 1	37	35.4	41.6	27	0.72
IRV - Phase 2	54	33.0	38.0	35	0.65
BZF - Phase 1	73	33.9	39.6	25	0.34
BZF - Phase 2	76	33.3	39.0	43	0.57
BZF - Phase 3	72	31.2	35.9	109	1.52
Total (1)	**684**	**32.9**	**38.4**	**557**	**0.81**

(1) Numbers may not add up due to rounding

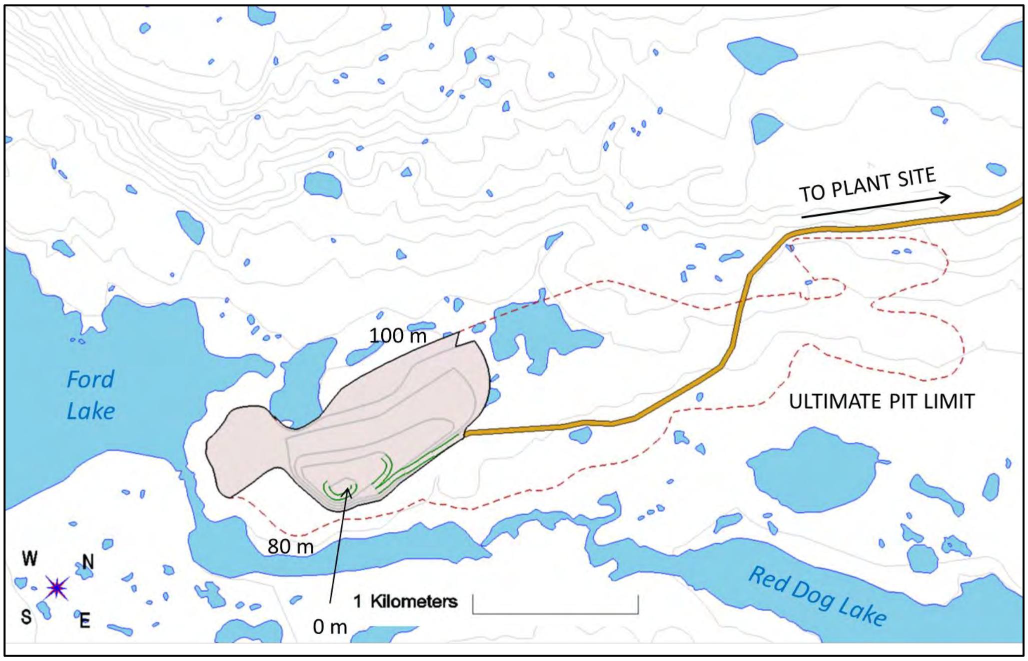


Figure 16-6: Castle Mountain Phase 1

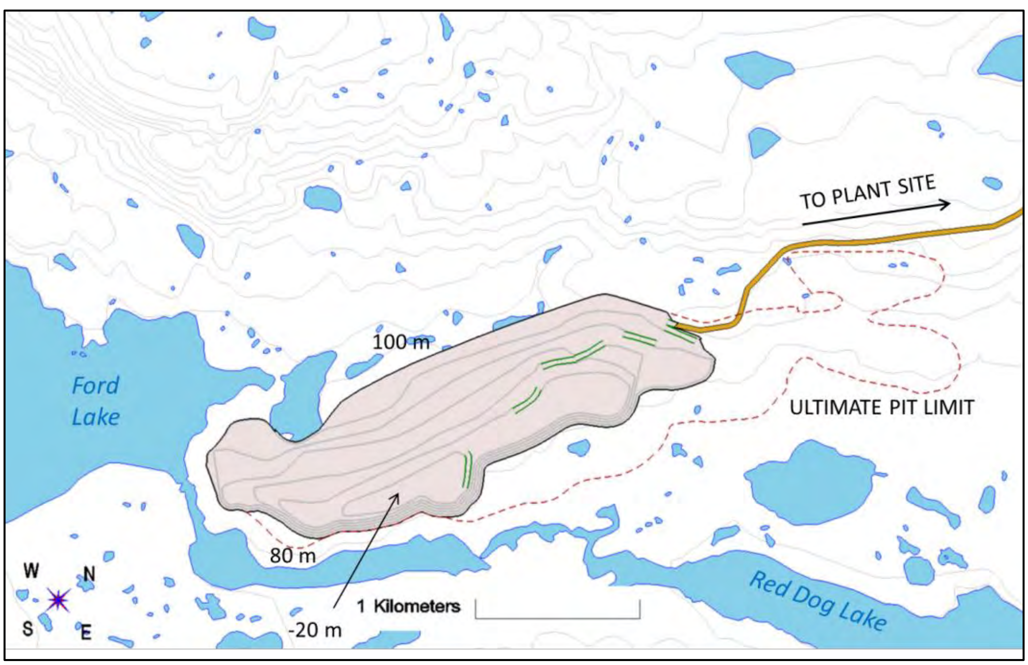


Figure 16-7: Castle Mountain Phase 2

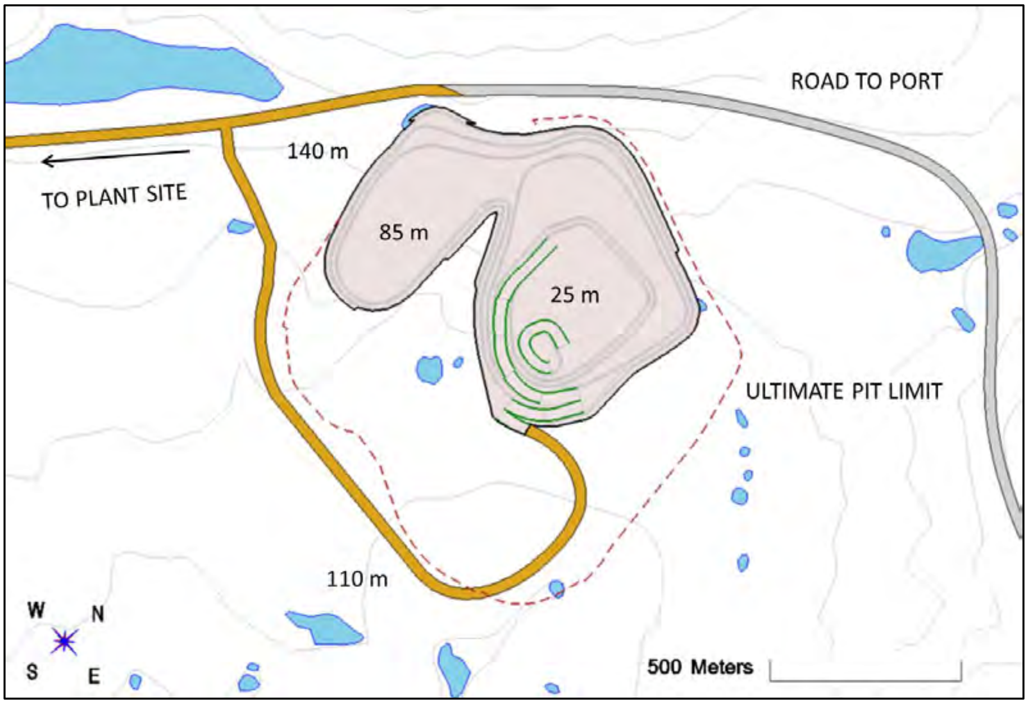


Figure 16-8: Bay Zone F Phase 1

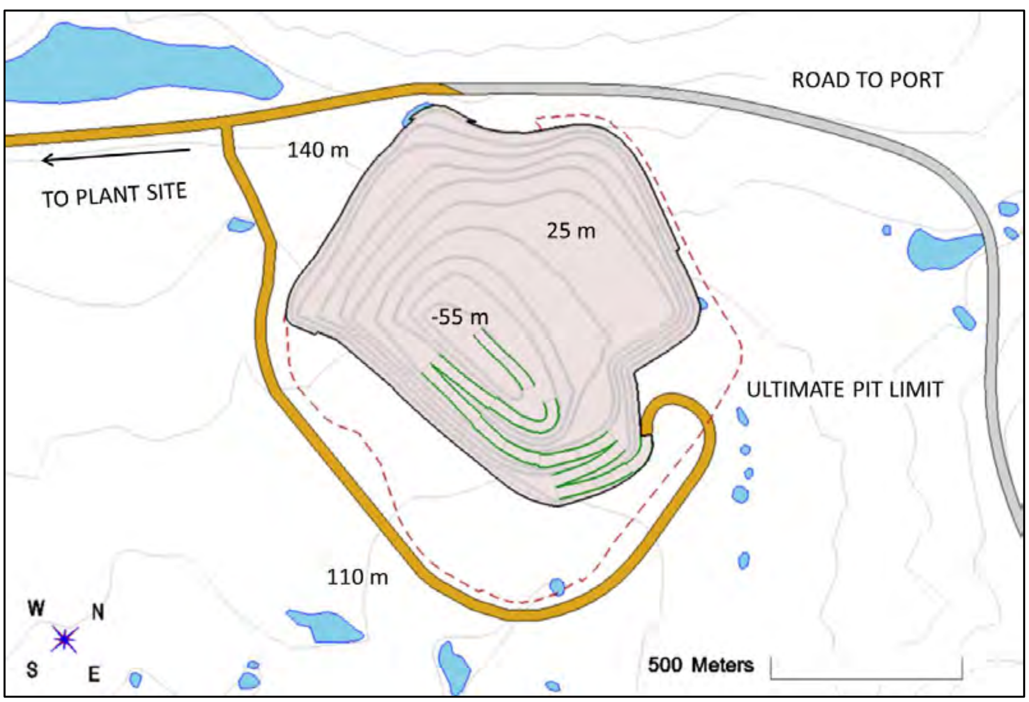


Figure 16-9: Bay Zone F Phase 2

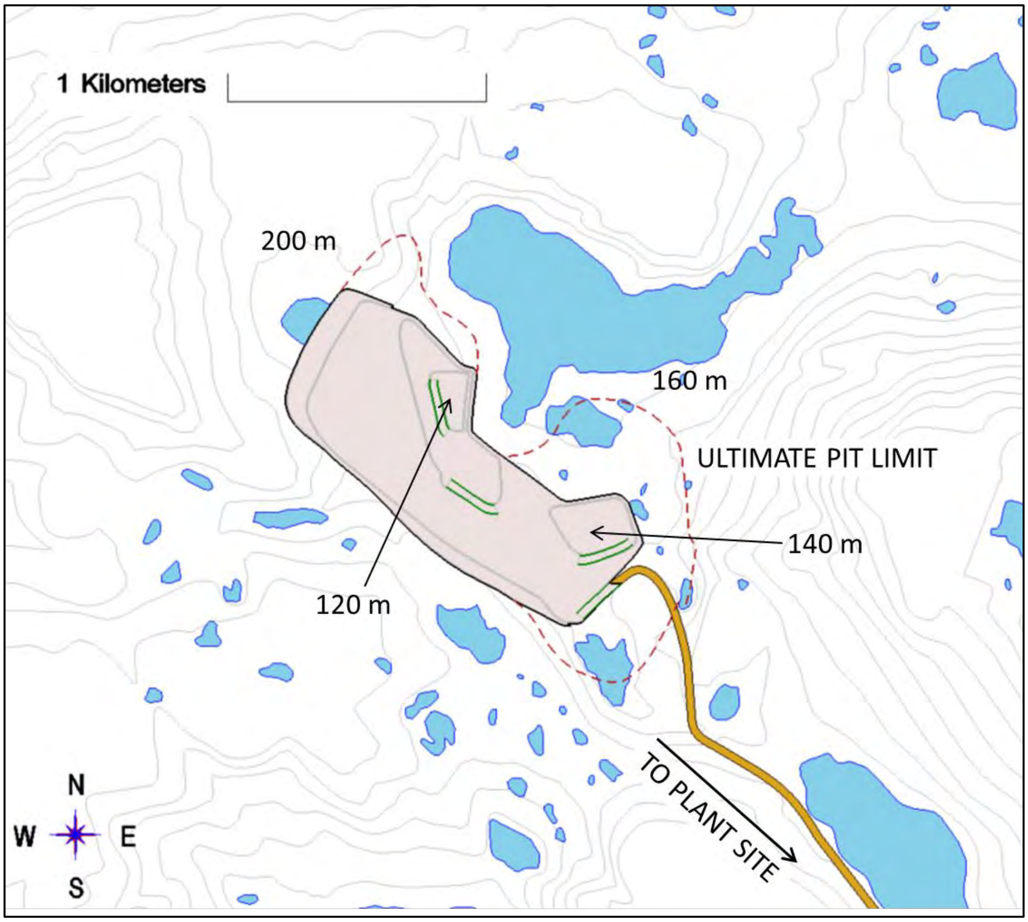


Figure 16-10: Iron Valley Phase 1

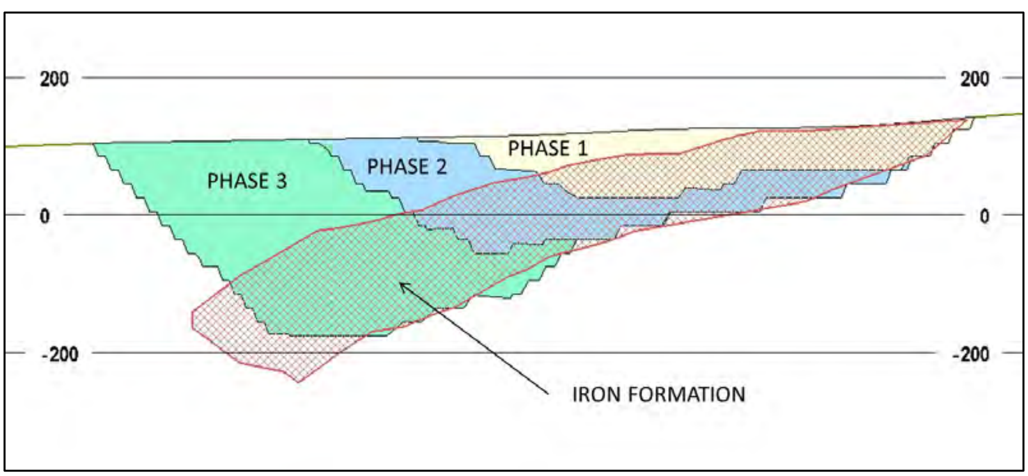


Figure 16-11: Phase Design Typical Section

16.5.5 Waste Dump Design

A waste rock pile was designed for each of the three open pits with adequate capacity to contain the quantities of waste rock that will be generated during the life of the mine. The waste rock piles have been located close to the open pits, to minimize the haulage distances, and away from areas that contain potential mineralization. The waste dumps also avoid major lakes and water features.

The waste dumps were designed according to the geotechnical specifications presented in Table 16-6 and their locations are presented in Figure 16-1.

Key design aspects of the waste rock piles

- Castle Mountain:
  - Capacity: 134 Mm^3;
  - Footprint area: 370 ha;
  - Elevation: 180 m;
  - Maximum height of the waste rock pile: 75 m.
- Iron Valley:
  - Capacity: 15 Mm^3;
  - Footprint area: 110 ha;
  - Elevation: 230 m;
  - Maximum height of the waste rock pile: 40 m.
- Bay Zone F:
  - Capacity: 63 Mm^3,
  - Footprint area: 110 ha,
  - Elevation: 195 m;
  - Maximum height of the waste rock pile: 95 m.

It should be noted that throughout the mine life, 36.4 Mm^3 of waste rock will be used for the construction of the tailings' dikes and other infrastructure. Most of this material will be sourced from the Iron Valley and Bay Zone F deposits to minimize the haulage distances. The mine trucks will haul the waste rock to a pre-determined location where it will be crushed by a contractor and loaded into a secondary fleet of haul trucks for haulage and placement on the TMF dike.

Table 16-6: Waste dump design parameters

Description	Unit	Value
Lift Height	m	20
Bench Face Angle	deg	37.6
Berm Width	m	14
Overall Slope	deg	26.6

16.6 Mine Production Schedule

This section discusses the mine production plan that was prepared for the PEA and which was used as the basis for the mine capital and operating cost estimate presented in Chapter 21. The mine plan was done in Hexagon's Mine Plan Schedule Optimizer software and was established annually for the life-of-mine.

The mine plan was established to maximize the feed to the HPGR's and considers a production ramp up of 80% capacity in Year 1. The Phase 2 capacity comes on-line in Year 5 with the same 80% ramp up. By Year 6, the mine plan feeds the concentrator at its full nominal capacity of 26.5 Mtpa.

The mine plan considers a vertical advance rate of no more than seven, 10 m high benches per year for each phase. The mine plan also considers a maximum stockpile capacity of 5 Mt during Phase 1 and 10 Mt during Phase 2.

The mine plan includes a pre-production phase of 2 years, which is required to provide 7.5 Mt of waste rock for the construction of the tailings' starter dike and general infrastructure requirements. During the pre-production phase, a total of 0.2 Mt of mill feed will be stockpiled close to the primary crusher. Throughout the mine life, a total of 32 Mt of material will be stockpiled and re-handled as mill feed, representing 5% of the total mill feed. Table 16-7 presents the mine production schedule.

The total run of mine material mined throughout the mine life averages 19 Mt during Years 1 to 4, reaches 42 Mt in Year 6 and gradually ramps up to a peak of just over 65 Mt per year between Years 20 to 23. The average weight recovery averages 40.4% during the first 7 years and 37.9% during the final 21 years.

Mine development will begin at the Bay Zone F deposit, where Phase 1 will be mined until Year 6. Mining at Iron Valley will begin in Year 4 and both Iron Valley phases will be finished by Year 10. Mining at Castle Mountain will begin in Year 8 and will operate continuously until the end of the mine life. Mining at Bay Zone F will recommence in Year 16.

Figure 16-12 to Figure 16-18 present various charts that display the mine production schedule.

Table 16-7: Mine production schedule

Description	Units	PP	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16-20	Year 21-25	Year 26-28	Total
Total Mill Feed	Mt	0.0	10.6	13.3	13.3	13.3	23.9	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	132.5	132.5	79.8	684.0
Grade Milled (Fe%)	%	0.0	33.2	32.8	33.7	33.6	35.2	35.0	35.0	33.5	32.6	33.5	34.1	32.7	31.7	31.6	32.8	33.2	32.2	31.1	32.9
Weight Recovery	%	0.0	38.8	38.3	39.5	39.4	41.4	41.2	41.3	39.2	38.1	39.2	40.0	38.2	36.8	36.7	38.3	38.8	37.5	36.1	38.4
Concentrate Produced	**Mt**	**0.0**	**4.1**	**5.1**	**5.2**	**5.2**	**9.9**	**10.9**	**10.9**	**10.4**	**10.1**	**10.4**	**10.6**	**10.1**	**9.7**	**9.7**	**10.1**	**51.4**	**49.7**	**28.8**	**262.4**
ROM to Mill	Mt	0.0	10.6	13.1	13.2	13.3	22.8	24.8	24.6	26.5	26.5	26.5	26.5	25.9	25.0	26.4	26.5	125.9	124.4	69.7	652.1
ROM to Mill (Fe%)	%	0.0	33.2	32.9	33.7	33.6	35.4	35.3	35.2	33.5	32.6	33.5	34.1	32.9	32.0	31.6	32.8	33.3	32.5	31.7	33.1
ROM to Stockpile	Mt	0.2	0.1	0.0	2.4	2.3	0.0	0.0	0.0	0.0	0.0	2.0	0.1	0.0	0.0	0.0	0.4	16.2	6.4	1.8	31.9
ROM to Stockpile (Fe%)	%	28.5	27.8	0.0	30.3	33.1	0.0	0.0	0.0	0.0	0.0	25.7	28.4	0.0	0.0	0.0	27.1	29.6	27.1	26.7	29.0
Stockpile to Mill	Mt	0.0	0.0	0.2	0.0	0.0	1.1	1.7	1.9	0.0	0.0	0.0	0.0	0.6	1.5	0.1	0.0	6.6	8.1	10.1	31.9
Stockpile to Mill (Fe%)	%	0.0	28.8	28.3	27.8	0.0	30.8	30.3	33.2	0.0	0.0	0.0	0.0	25.9	25.7	28.2	0.0	31.1	28.9	27.0	29.0
Waste Rock & Overburden	Mt	7.5	6.4	6.7	4.0	4.5	7.7	16.9	17.1	14.8	13.5	14.5	13.0	17.2	22.2	21.8	22.8	132.9	171.2	42.2	556.8
Total Material Moved	**Mt**	**7.7**	**17.1**	**19.9**	**19.6**	**20.0**	**31.5**	**43.4**	**43.6**	**41.3**	**40.0**	**43.0**	**39.6**	**43.7**	**48.7**	**48.3**	**49.7**	**281.6**	**310.1**	**123.8**	**1,273**
Total Run of Mine	Mt	7.7	17.0	19.8	19.6	20.0	30.5	41.6	41.7	41.3	40.0	43.0	39.6	43.1	47.2	48.2	49.7	275.0	302.0	113.7	1,241
Stripping Ratio		41.8	0.6	0.5	0.3	0.3	0.3	0.7	0.7	0.6	0.5	0.5	0.5	0.7	0.9	0.8	0.8	0.9	1.3	0.6	0.8

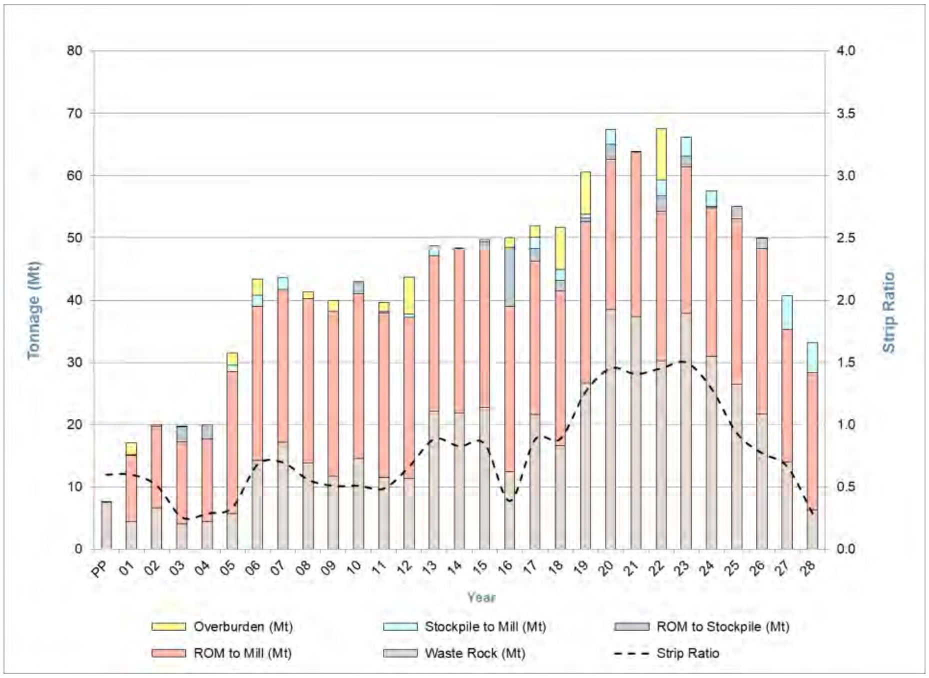


Figure 16-12: Mine production schedule (total material mined)

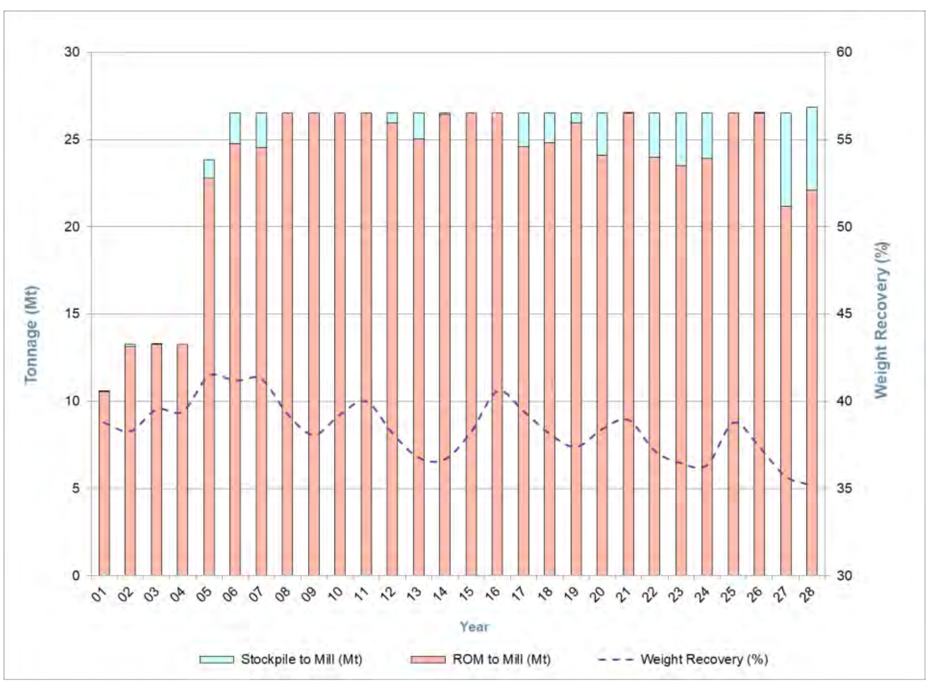


Figure 16-13: Mine production schedule (mill feed)

Figure 16-14: Mine production schedule (concentrate production)

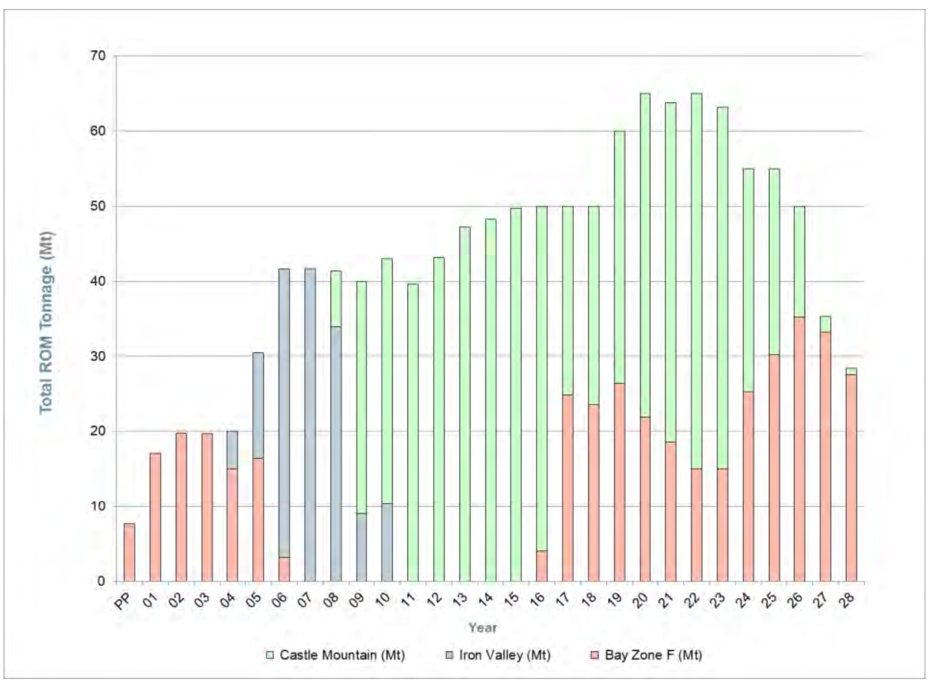


Figure 16-15: Mine production schedule (by deposit)

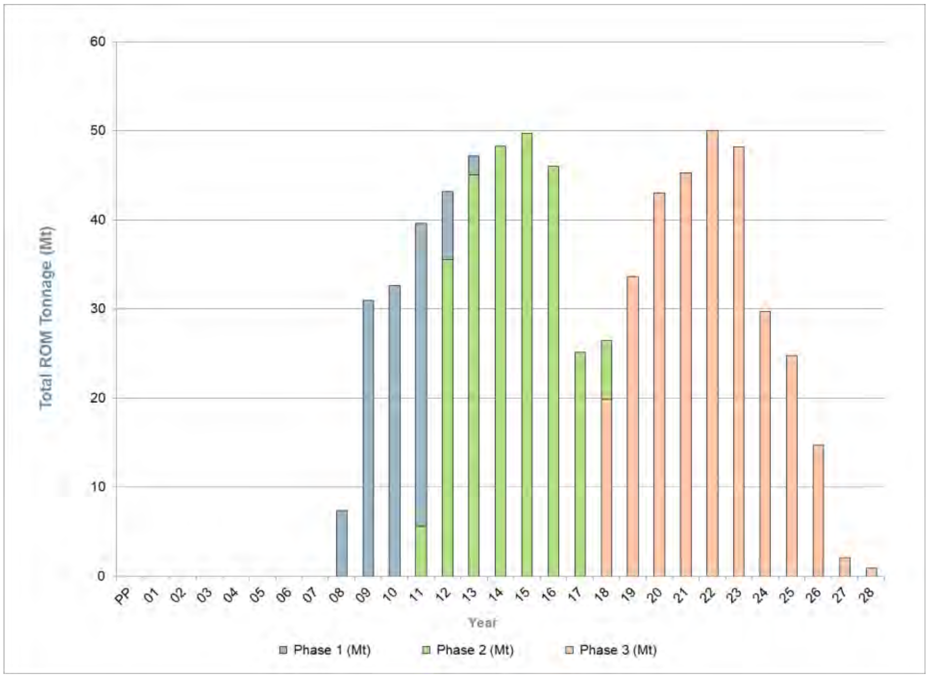


Figure 16-16: Mine production schedule (Castle Mountain)

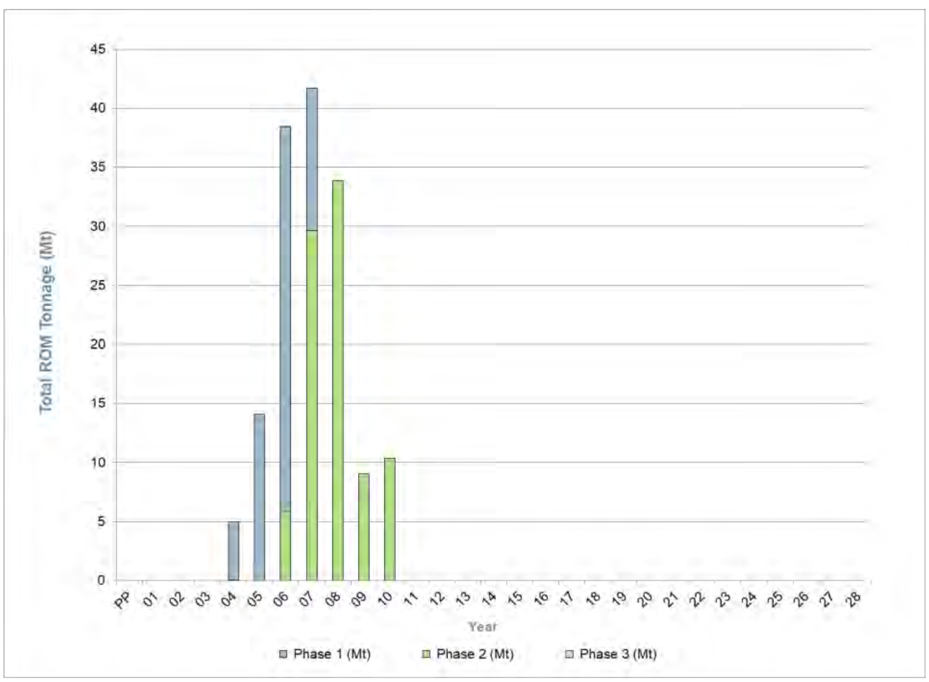


Figure 16-17: Mine production schedule (Iron Valley)

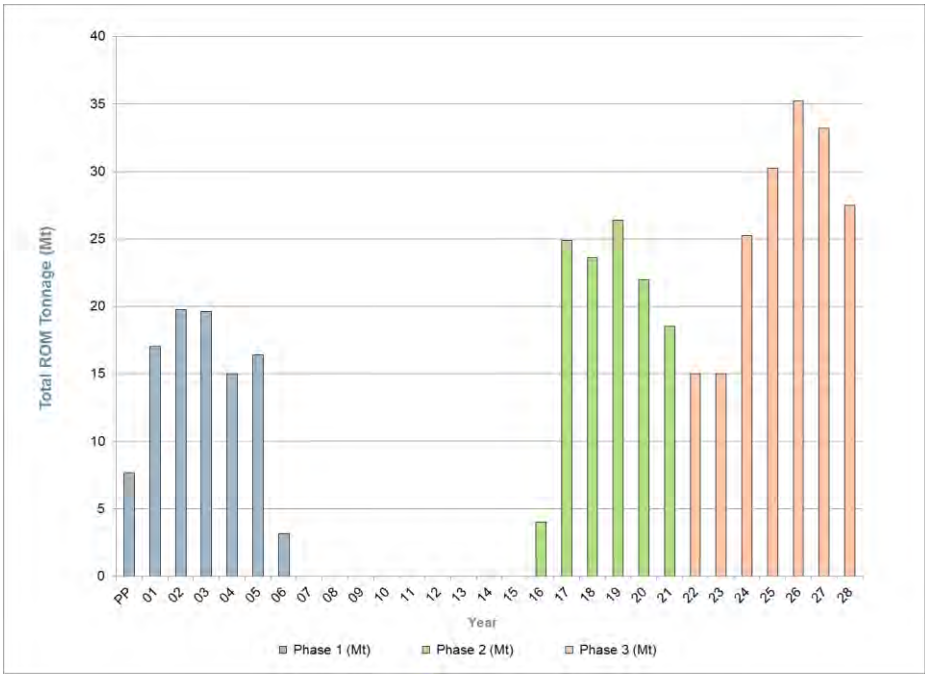


Figure 16-18: Mine production schedule (Bay Zone F)

16.7 Mine Equipment

The following section discusses equipment selection and fleet requirements in order to carry out the mine plan. Table 16-8 presents the list of major and support equipment required during the peak production in both phases of operation. The table identifies the Komatsu trucks and shovels as well as the Epiroc drill since this was the best quality costing data that was provided for the PEA. For the support equipment, the Caterpillar equivalent has been presented to give the reader an appreciation for the size of each machine. It is important to note that the specific equipment selection will be done during the procurement phase of the Project.

Table 16-8: Mining equipment fleet

Equipment	Typical model	Description	Phase 1	Phase 2
Haul Truck	Komatsu 930E	Payload – 292 t	6	22
Hydraulic Shovel	Komatsu PC 5000	Bucket Payload – 50 t	1	3
Wheel Loader	CAT 994	Net Power – 1,297 kW	1	1
Production Drill	Epiroc PV-351	318 mm hole (12.5”)	2	4
Track Dozer	CAT D10T	Net Power – 447 kW	3	5
Road Grader	CAT 16M3	Net Power – 216 kW	3	4
Utility Excavator – 1	CAT 349	Net Power – 311 kW	1	2
Utility Excavator – 2	CAT 390	Net Power – 391 kW	1	2
Water / Sand Truck	CAT 777	100,000 Litre Capacity	1	2
Backhoe Loader	CAT 430	Net Power – 71 kW	1	1
Secondary Drill	Epiroc D65	n/a	1	1
Lighting Plant	n/a	n/a	10	20
Fuel & Lube Truck	n/a	n/a	2	3
Mechanic Service Truck	n/a	n/a	3	6
Lowboy	n/a	n/a	1	1
Tire Handler	n/a	n/a	1	1
Mobile Crane	n/a	n/a	1	2
Boom Truck	n/a	n/a	1	2
Transport Bus	n/a	n/a	3	5
Pickup Truck	n/a	n/a	8	16
Dewatering Pump	n/a	n/a	4	8

16.7.1 Equipment Utilization Model

The proposed schedule for the open-pit operations is based on two 12-hour shifts per day, 7 days per week and 365 days per year. The fleet calculations consider 20 days of lost mine production due to inclement weather. Figure 16-19 presents the equipment hour utilization model that was used for the Project.

<table>
<tr><td></td><td colspan="7">Scheduled Time</td></tr>
<tr><td></td><td colspan="5">Available Time</td><td colspan="2">Down Time</td></tr>
<tr><td></td><td colspan="4">Utilized Time (GOH)</td><td rowspan="2">Standby Time</td><td rowspan="2">Planned Loss</td><td rowspan="2">Breakdown Loss</td></tr>
<tr><td></td><td colspan="2">Operating Time (NOH)</td><td colspan="2">Operating Delay</td></tr>
<tr><td rowspan="7">Examples for Trucks & Shovels</td><td>Shovels</td><td>Trucks</td><td>Shovels</td><td>Trucks</td><td>Shovels & Trucks</td><td>Shovels & Trucks</td><td>Shovels & Trucks</td></tr>
<tr><td>Spot</td><td>Travel empty</td><td>Wait onTruck</td><td>Wait on Shovel</td><td>Shift Change</td><td>Scheduled Maint.</td><td>Breakdown</td></tr>
<tr><td>Fill</td><td>Spot @ Shovel</td><td>Relocating</td><td>Positioning</td><td>Lunch & Coffee</td><td>Inspections / PM's</td><td>Wait for Parts</td></tr>
<tr><td>Swing</td><td>Loading</td><td>Face Prep.</td><td>Crusher Down</td><td>Refueling</td><td></td><td>Repair Time</td></tr>
<tr><td>Dump</td><td>Travel Full</td><td>Highwall Scaling</td><td>Loader Moving</td><td>Pre-start Check</td><td></td><td></td></tr>
<tr><td>Return</td><td>Spot @ Dump</td><td>Positioning</td><td>Queuing</td><td>No Operator</td><td></td><td></td></tr>
<tr><td></td><td>Dumping</td><td></td><td></td><td>Weather Delays</td><td></td><td></td></tr>
</table>

Figure 16-19: Equipment hour utilization model

The following definitions are used for each time component in the utilization model:

- Scheduled Time – Full calendar year less unplanned shutdowns;
- Down Time – The unit is inoperable due to either a scheduled maintenance or an unplanned breakdown;
- Available Time – Scheduled time less down time;
- Standby Time – The unit is available mechanically but not being used (the engine will typically be shut off while the unit is on standby;
- Utilized Time – Available time less standby time. This time is also referred to as the Gross Operating Hours (GOH);
- Operating Delays – The unit is available and not on standby but not effectively producing (the engine will be running during the operating delays);
- Operating Time – Utilized time less operating delays. This time is also referred to as the Net Operating Hours (NOH).

The following Key Performance Indicators (KPI) can be calculated from the different time components:

- Availability – (NOH + Op. Delays + Standby) / (NOH + Op. Delays + Standby + Down);
- Use of Availability – (NOH + Op. Delays) / (NOH + Op. Delays + Standby);
- Machine Utilization – (NOH + Op. Delays) / (Calendar Time);
- Operating Efficiency – (NOH) / (NOH + Op. Delays);
- Effective Utilization – (NOH) / (Calendar Time).

The KPI's and time assumptions that were used for the fleet of shovels, trucks and drills are presented in Table 16-9.

Table 16-9: Equipment utilization assumptions

Description	Unit	Truck	Shovel	Drill
Availability	%	85.0	80.0	80.0
Use of Availability	%	81.9	76.3	81.5
Machine Utilization	%	69.6	61.1	65.2
Operating Efficiency	%	85.5	73.3	83.2
Effective Utilization	%	59.5	44.7	54.2
Scheduled Time	h/y	8,760	8,760	8,760
Down Time	h/y	1,314	1,752	1,752
Standby Time	h/y	1,351	1,659	1,296
Operating Delays	h/y	884	1,430	962
Utilized Time (GOH)	h/y	6,095	5,349	5,712
Operating Time (NOH)	h/y	5,211	3,920	4,750

16.7.2 Haul Trucks

The haul truck selected for the Project is a rigid frame mining truck with a payload of nominal 292 tonnes. This payload has been downgraded to 284 tonnes to account for truck box liners. A fleet of four trucks is required during pre-production, ramping up to six in Year 1, nine in Year 5 and reaches a peak of 22 in Year 21.

Haul routes were generated for each period of the mine plan to calculate the truck requirements. These haul routes were imported in Talpac©, a commercially available truck simulation software package that BBA has validated with mining operations. Talpac© calculated the travel time required for a 292-tonne haul truck to complete each route. The travel times consider a maximum speed of 50 km/h and a rolling resistance of 2%. Table 16-10 shows the various components of a truck's cycle time. The load time is calculated using a hydraulic shovel with a 29 m^3 (50-tonne) bucket as the loading unit. This size shovel, which is discussed in the following section, loads mineralized material and waste rock in a 292-tonne haul truck in six passes.

Table 16-10: Truck cycle time

Description	Hour
Spot @ Shovel	42
Load Time [(1)]	200
Travel Time	Calculated by Talpac©
Spot at Dump	30
Dump Time	42

[(1)] Five passes at 40 sec/pass.

Haul productivities were calculated for each haul route using the truck payload and cycle time. Truck hour requirements were then calculated by applying the tonnages hauled to the productivity for each haul route.

The average one-way haul distance for the life-of-mine is 6.1 km, which is broken out into the following distances for each type of material: 6.9 km for mineralized material to the crusher; 3.7 km for overburden to the dump; 4.4 km for waste rock to the dump; and 8.3 km for waste rock to the TMF.

16.7.3 Hydraulic Shovels

The loading machines selected for the Project are diesel hydraulic shovels with bucket payloads of 50 tonnes. A total of one shovel is required for Phase 1, a second shovel is added in Year 5 for Phase 2, and a third shovel is added in Year 13 as the stripping ratio increases. A large front end wheel loader has been included in the fleet for stockpile re-handling and also to assist with loading in the pits.

16.7.4 Drilling and Blasting

Production drilling for mineralized material and waste rock will be carried out with diesel powered rotary drills that will drill 311 mm (12.25”) holes. Using a pure penetration rate of 17 m/h, it will take an average of 50 minutes to drill each hole; this includes the time for manipulating the drill and rods. Considering these drilling productivities times and a re-drill factor of 5%, it was estimated that two drills will be required in Phase 1, an additional unit will be required in Year 5, and a fourth drill in Year 13. As a result of permafrost conditions, it has also been assumed that the overburden will require drilling and blasting.

Bulk emulsion will be used for blasting and the calculations have been done assuming an explosive density of 1.20 g/cm^3. The explosives will be supplied by one of the major explosives companies who will be responsible for the supply and storage of the explosives and accessories as well as the loading of the blast holes.

Table 16-11 presents the drilling and blasting parameters that have been designed for the PEA.

Table 16-11: Drilling and blasting parameters

Description	Unit	Mineralization	Waste
Bench Height	m	10	10
Blasthole Diameter	mm	311	311
Burden	m	7.0	8.5
Spacing	m	7.0	8.5
Sub-drilling	m	1.2	1.2
Stemming	m	4.0	4.0
Powder Factor	kg/t	0.39	0.33

16.7.5 Auxiliary Equipment

A fleet of support equipment including track dozers, wheel loaders, road graders, utility excavators, and water/sand trucks has been included. The fleet of mining equipment also includes fuel and lube trucks, mechanic service trucks, mobile cranes, a tire handler, transport busses, light plants and pick-up trucks.

16.8 Mine Manpower Requirements

The mine workforce will reach a peak of 135 employees during Phase 1 and 246 employees during Phase 2. The Phase 1 workforce is composed of 99 employees in Mine Operations, 23 employees in Mine Maintenance, and 13 employees in Mine Technical Services. The Phase 2 workforce is composed of 198 employees in Mine Operations, 35 employees in Mine Maintenance, and 13 employees in Mine Technical Services. The explosives supplier will have 7 employees on site at all times. The mine operations will be composed of four crews in order to provide a 24 h/d continuous operation.

17. RECOVERY METHODS

The testwork performed for the Hopes Advance project are described in Chapter 13 of this Report. The testwork showed that a final concentrate grade of 66.6% Fe and 4.5% SiO_2 could be achieved via milling, gravity recovery and magnetic recovery. To obtain the aforementioned grade, the ROM material needs to be ground to a P_{80} of at least 140 µm for hematite liberation and a P_{80} of 29 µm for magnetite liberation.

It was estimated that, based on the average LOM head grade of 32.3% Fe, the gravity concentration spiral circuit would have a weight recovery of 31.6% or 84% of total concentrate produced. The gravity concentration circuit tails were then fed to the Cobber Magnetic Separator circuit. The product from the Cobber circuit, which represents only 13.0% of mill feed, was ground to a P_{80} of approximately 29 µm. The material was then fed to the Low Intensity Magnetic Separation (LIMS) circuit to recover the liberated magnetite. The LIMS circuit produced a further 6.0% of weight recovery (in relation to plant feed) or 16% of total concentrate produced. Thus, in the pilot campaign, the total weight recovery to the final concentrate was 37.6% of mill feed.

From the testwork performed, recovery equations were developed for each deposit using results from the bench-scale tests. The resulting equations are as follows:

- Castle Mountain / Iron Valley: Dry wt Rec = (1.3383*Head Fe) - 4.3905 - 1.23;
- All Bay Zones: Dry wt Rec = (1.2935*Head Fe) - 2.8375 - 1.23.

These equations provide a general correlation between the dry concentrate weight recovery and the head grade based on testwork results. The average weight recovery of the concentrate from the bench tests has been reduced by 1.23% to represent the recovery to be expected when scaling from bench-scale tests to industrial scale processing.

In Chapter 10 and Chapter 11 of this Report, it has been shown that each deposit can contain up to four different lithologies of mineralized, iron oxide bearing materials. These are referred to as: 4m, 4mh, 4hm and 4h, where 'm' represents magnetite and 'h' represents hematite. Each has varying amounts of magnetite to hematite, 4m being the highest in magnetite content and the lowest in hematite while 4h is the highest in hematite content and the lowest in magnetite. Each deposit can have varying amounts, thicknesses or proportions of the above-mentioned lithologies, as shown in the numerous figures in the sections presented in Chapter 10. As a result, the mine plan will deliver these lithologies at different rates and proportions depending on the deposit and the area of the pit being mined.

BBA's experience with similar deposits in the Labrador Trough shows that the different lithologies, even between adjacent deposits, can vary in hardness (hence grindability), in weight recovery between gravity and magnetic separation, and at times in liberation size. For this reason, in the next study phases of the Hopes Advance project, it will be important to analyze the testwork, not only by deposit, but also by lithology. In other words, weight recovery equations should be developed by deposit and lithology for each deposit. The equations should take into account the potential variability in recovery based not only on the total iron head grade but also in the recovery per unit of Satmagan in the magnetic circuit. Furthermore, the geological interpretation clearly shows how the various lithologies manifest themselves within each deposit; however, the lithologies are not coded into the block model used for mine planning. This should also be done for the next study phase.

The current PEA is based on a project with an initial phase having a capacity to produce a nominal 5 Mtpa followed by an expansion to 10 Mtpa of dry concentrate. Electric power for both phases will be self-generated using diesel power generation, thus optimizing energy efficiency, which is an important design consideration. Filtered concentrate from the concentrator will be trucked year-round to the port stockyard, therefore avoiding the need to regrind gravity concentrate and pump by pipeline to the port. Concentrate from the port stockpile will be loaded in ships and transported to clients only during the summer months, thus avoiding environmental impacts, marine infrastructure and costs for transhipment that would be associated with year-round shipping.

The current PEA is based on primary and secondary crushing with screening, stockpiling, HPGR crushing with screening and ball milling to mill a constant ROM throughput. This uses the installed capacity of the comminution circuit to produce varying annual amounts of concentrate based on the head grade and weight recovery from the mine plan.

Although there are some disadvantages to HPGR based comminution circuits, with the scale of the Project and the high cost for producing self-generated electric power it is worth considering, especially since the testwork demonstrated that significant energy savings can be achieved on grinding (excluding added energy requirements for conveying and screening). Furthermore, during scale-up from bench-scale to industrial scale units, HPGR specific energy is reduced due to the roll edge effect having less of an impact.

One of the arguments against using HPGR technology was that the process would generate more fines, thus resulting in more hematite losses in the gravity circuit (negligible impact on magnetite losses as these would be recovered in the magnetic separation plant). To minimize excessive fines generation, proper equipment and circuit design will need to be incorporated in the next study phase. Also, technologies such as hindered settlers and Reflux Classifiers® can be used to replace or complement spirals in the gravity circuit to improve fine iron recovery. In this study, the HPGR and ball mill circuits were designed as to minimize fines creation in order to mitigate potential hematite losses.

Concerning the notion of the high abrasive index of the mineral resulting in faster HPGR roll wear, there would also be higher grinding media and liner consumption in the SAG mill circuit due to the high abrasiveness of the mineral. This may offset the higher costs in the HPGR circuit. The impact of higher wear on roller life has been taken into consideration by assuming a conservative roller life. Mill availability had been assumed to be 90% to account for any additional downtime for roller changes. The HPGR based circuit will require more material handling infrastructure and some added labour, which will be part of the overall project design.

17.1 Process Design Basis

Design of the concentrator and concentrate stockpiling at the port will be based on operations at 24 h/d, 7 d/w and 52 w/y. Most equipment incorporates a design factor of 20% above nominal to account for operational variability; crushing equipment was sized using a design factor of 15% above nominal. The first year of operation is assumed to be a ramp-up year with mill throughput at 80% of nominal. The initial Project phase will last from Years 1 to 4, and in Year 5 a parallel production line will be added to double the capacity. The concentrator's yearly throughput will be held constant at 13.25 Mtpa in Phase 1. The concentrate production will vary as determined by the weight recovery equations for the deposits given the varying %Fe head grade, as per the yearly mine plan. The mine plan incorporates stockpiling of low grade material that is extracted early in the mine life and is processed later.

Table 17-1 presents the general design basis for the initial and expansion phases of the Project, excluding the first year and the ramp-up year. As the port area only involves material handling and has no processing, this area is discussed in Chapter 18.

Table 17-1: Process design basis

Parameter	Unit**	Initial Phase*	Expansion Phase*
Total feed processing rate	Mtpa	13.25	26.50
Weight recovery for period	%	39.1	38.2
Weight recovery (LOM)	%	38.4	
Concentrate produced (Total)	Mtpa	5.18	10.13
Concentrate produced (gravity ~ 84%)	Mtpa	4.35	8.51
Concentrate produced (magnetic ~ 16%)	Mtpa	0.83	1.62
Final Concentrate Grade (%Fe, % SiO_2)	%	66.6% Fe, 4.50% SiO_2	
Crushing			
Crushing (1^{ary} and 2^{ary}) operating time	%	70	70
Nominal crushing rate	t/h	2,161	4,322
Design crushing rate	t/h	2,485	4,970
Concentrator (incl. HPGR)			
Concentrator operating time	%	90	90
Nominal concentrator fresh feed rate	t/h	1,681	3,361
Design concentrator fresh feed rate	t/h	2,017	4,033
Nominal concentrate production rate	t/h	682	1,274

* Initial Phase from Yr 1 to Yr 4. Expansion Phase from Yr 5 to Yr 28. Excludes ramp-up years Yr 1 & Yr 5.
** All tonnages are in dry metric tonnes. Final concentrate is at a nominal 8% moisture.

17.2 Flowsheets and Process Description

The flowsheet and plant design proposed in this PEA study are based on the following:

- Testwork performed by SGS (SGS 2012);
- A comminution circuit based on HPGR grinding technology;
- The use of a three-stage spiral circuit for gravity concentration;
- Substituting the ball mill by tower mills in the magnetic recovery circuit;
- Flowsheet improvements, plant design and general layouts based on BBA experience on other similar projects in the Labrador Trough using gravity and/or magnetic concentration to produce high grade concentrates like at Hopes Advance;
- Concentrate trucking to the port thus removing the requirement of regrinding the hematite concentrate and construction of a pipeline.

A simplified mineral processing flowsheet is shown in Figure 17-1 and Figure 17-2.

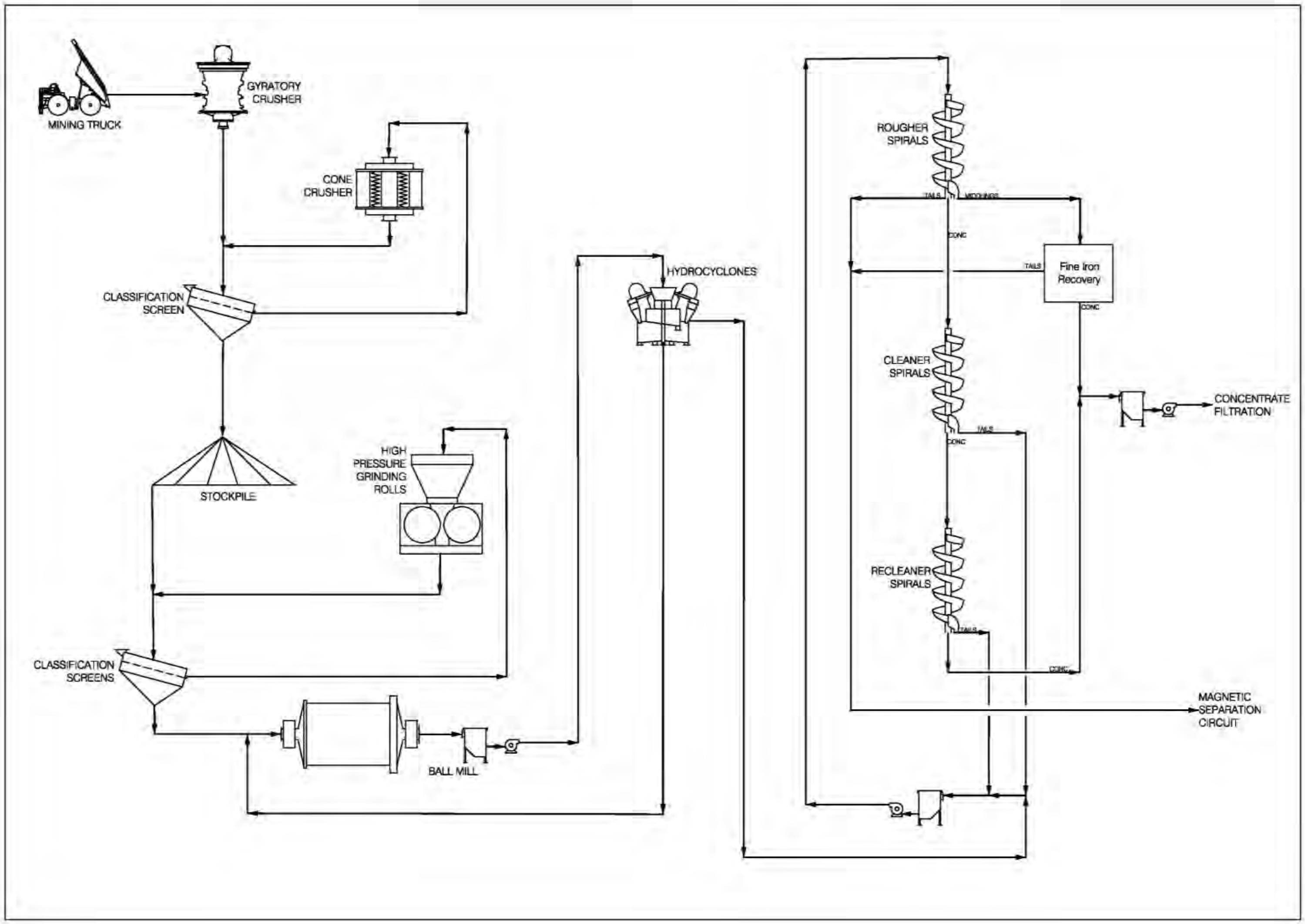


Figure 17-1: Simplified flowsheet for comminution and spiral circuit

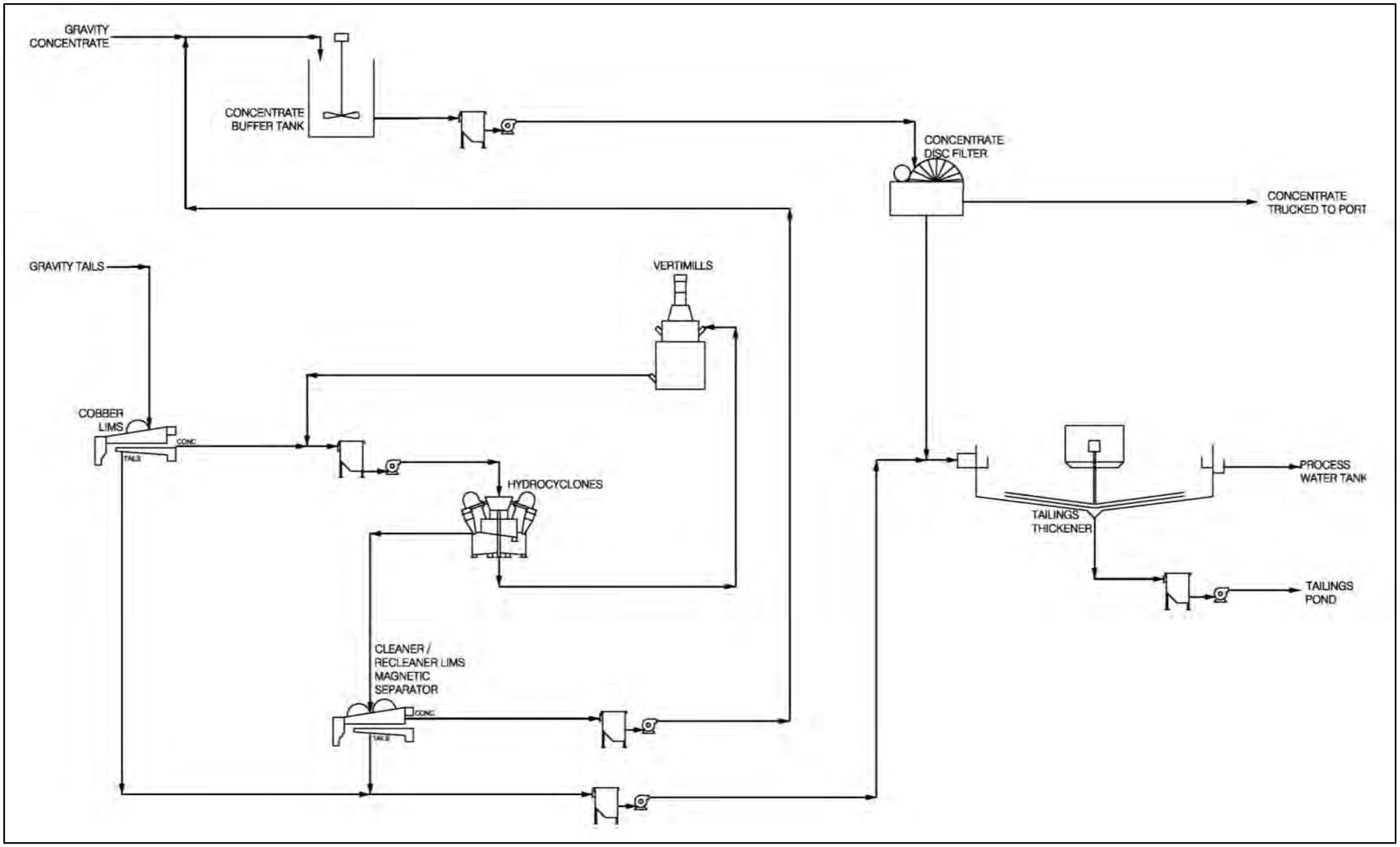


Figure 17-2: Simplified flowsheet for magnetic plant, concentrate handling and tailings handling

17.2.1 Crushing Circuit

Run-of-mine (ROM) feed will be dumped directly into a 62-75, 560 kW primary gyratory crusher by the mine haul trucks. An apron feeder will carry crushed ore from the crusher discharge pocket to a sacrificial conveyor. The sacrificial conveyor will transfer material onto another conveyor that will feed the secondary crushing circuit.

The conveyor discharge will be screened on a double-deck classification screen in reverse closed circuit with a 970 kW (1,300 HP) cone crusher. The screen oversize material will be fed to the cone crusher that will discharge onto a recycle conveyor. This conveyor will return the crushed material to the secondary crushing circuit feed conveyor so that the material may be screened again. The screen undersize material, with a P_{100} of approximately 55 mm, will be conveyed to a crushed ore reserve stockpile with 12 hours of live capacity and 37 hours of total capacity at the nominal feed rate.

17.2.2 HPGR

Crushed material will be reclaimed onto a conveyor within a tunnel underneath the stockpile where three apron feeders will carry material to a reclaim conveyor. Each apron feeder has the capacity to handle 50% of the maximum design tonnage of the concentrator. The reclaim conveyor will bring crushed material to a screen located in a dedicated screenhouse. The screened oversized material will be conveyed to an HPGR with 2.0 m diameter rolls operating at a grinding pressure of approximately 3.5 N/mm^2, equipped with two 1,900 kW motors. The HPGR will recirculate the crushed material via a conveyor back to the screen feed. The recirculating load of the HPGR circuit is estimated at 122% of the circuit feed. The undersize from the classification screen, at a P_{80} of 4.5-5 mm, will feed the primary grinding circuit. Designing the HPGR in reversed closed circuit (pre-screening prior to HPGR) will aid in minimizing the creation of fines that could potentially be lost in the downstream gravity recovery circuit.

17.2.3 Primary Grinding

The undersized material from the HPGR classification screen will be conveyed to the feed chute of a 6.86 m Ø x 7.92 m (22.5' x 26') single pinion ball mill with an installed power of 7,500 kW. The ball mill aspect ratio (D/L) was selected to be higher than usual (shorter mill) in order to minimize the creation of fines that may be more difficult to recover in the gravity spiral circuit. The discharge will be pumped to the ball mill classification hydrocyclones where the underflow will be recirculated to the ball mill feed chute, and the overflow will be pumped to the gravity separation circuit. The grinding circuit will produce a cyclone overflow at a P_{80} of 140 µm.

17.2.4 Gravity Separation Circuit

The gravity separation circuit comprises three stages of spiral gravity separators: rougher, cleaner and re-cleaner. The hydrocyclone overflow from the ball mill circuit will be combined with the spiral circuit recirculating load and pumped to the 12 banks of 16 high-capacity triple-start rougher spirals. The rougher spiral middlings will report to fine iron recovery where fine iron will be separated from coarser middlings and silica. The rougher spiral concentrate stream will flow by gravity to 24 banks of 12 double-start cleaner spirals. The cleaner concentrate will flow by gravity to 24 banks of 12 double-start re-cleaner spirals. The re-cleaner concentrate, at final grade, will be directed to the concentrate buffer tank and pumped to concentrate filtration. The cleaner and re-cleaner spiral tailings will be combined and recycled back to the rougher spiral feed distributors. The rougher tailings will report to the magnetic separation circuit.

17.2.5 Fine Iron Recovery Circuit

BBA incorporated a provision for treating rougher spiral middlings in a separate circuit in order to recover fine hematite lost to middlings that will not be recovered in the rougher spirals. As this was not covered by testwork, it is not detailed in this PEA. This circuit will likely comprise of spirals, hydraulic classifiers and/or Reflux Classifiers®.

17.2.6 Magnetic Separation Circuit

The magnetic separation circuit will consist of LIMS, LIMS concentrate grinding followed by a cleaner/re-cleaner stage of LIMS. The 1,219 mm diameter by 3,810 mm width cobber LIMS will be fed with the rougher spiral tails stream, which will be pumped to the magnetic circuit to pick-up magnetic minerals. In order to liberate the magnetic iron particles in close association with silica, the cobber concentrate will be grind in two 2,237 kW tower mills in closed circuit with cyclones to produce an overflow of P_{80} of 29 µm. The cyclone underflow will return to the tower mills for additional grinding. The fine cyclone overflow will be pumped to the 1,219 mm diameter, 3,810 mm width double drum cleaning (cleaner/re-cleaner) magnetic separators. The cleaner/re-cleaner magnetic concentrate will be pumped to the concentrate buffer tank and join the spiral concentrate. Both the cobber and the cleaner/re-cleaner tailings will flow by gravity to the final tailings' thickener.

In this PEA, the regrind circuit has implemented tower mill technology instead of ball milling. This will provide a more efficient grinding system considering that the final grind size (P_{80} of 29 µm) will be relatively fine.

17.2.7 Concentrate Filtering

The gravity and magnetic circuit concentrates will be combined in a concentrate buffer tank that will be pumped to three 3.8 m diameter, 8-disc concentrate disc filters. The filtrate water extracted from the concentrate disc filter will be pumped to the tailings' thickener feedbox. The mixed concentrate will be dewatered to a nominal 8% moisture and conveyed to an outdoor surge stockpile. Trucks, filled using loaders, will transport the concentrate to the port concentrate handling facilities (stockyard). Testwork, as described in Chapter 13 of this Report, indicates that a nominal moisture of 8% is achievable with disc filters and an assumed design moisture of 10%. Should lower moisture levels be required, press filters can be considered.

17.2.8 Final Tailings Dewatering and Pumping

The final tailings will be dewatered in a 45 m thickener to 55% solids and pumped to the tailings management facility (TMF). A portion of the water in the thickened tailings slurry will return as reclaim water. The thickener overflow will flow by gravity into the adjacent process water tank.

17.3 Utilities

17.3.1 Concentrator Water Services

The estimated water consumption is based on the nominal concentrator plant mass and water balance. Much of the water used in the concentrator will be recycled primarily from the thickener and from the water reclaimed from the TMF. Fresh water make-up will be sourced from Ford Lake.

- **Fresh water**: Ford Lake will be the main water source of fresh water near the concentrator. This water will be used for reagent preparation, potable water (after treatment), fire water and for pump gland seal water. The nominal make-up fresh water requirement for process use is 134 m^3/h.
- **Process water**: The majority of process water will come from the tailings' thickener overflow. Additional reclaim water will be recycled back at a nominal rate of 653 m^3/h, from the TMF, using a vertical pump on a barge.

17.3.2 Water Balance

Table 17-2 presents a simplified conceptual water balance for the initial Project phase. It should be noted that this water balance does not take into account seasonal water availability at the TMF reclaim system.

Table 17-2: Concentrator simplified water balance for initial Project phase

Stream description	In/Out	Nominal m^3/h
Plant feed (moisture in ROM)	In	88
Fresh water (make-up)	In	134
Reclaim water from TMF	In	653
Final tails	Out	817
Final concentrate	Out	59

17.3.3 Concentrator Compressed Air

A compressor will supply concentrator plant with 600 Nm^3/h of compressed air. An air dryer will be used for instrument air only. The crusher complex will have its own compressed air system. Separate low-pressure air compressors will be required to provide blow-back air to the disc filters.

17.3.4 Power Requirements

The peak power requirement for mineral processing only, based on operating power motor list, for the initial 5 Mtpa capacity process plant is estimated at 26.5 MW. The crushing equipment (gyratory crusher, cone crusher and HPGR) accounts for approximately 18% of the total operating power. The grinding equipment (ball mill and tower mills) accounts for approximately 43% of the total operating power. Pumping accounts for 16% of the total operating power. Power requirements for building services are included with infrastructure, discussed in Chapter 18 of this Report.

17.4 Reagents and consumables

Major reagents and consumables required for the Hopes Advance project are as follows:

- Process consumables (mantles, tires, liners);
- Grinding media for ball mill and tower mills;
- Flocculant and coagulant for use in thickeners;
- Filter cloths, screen panels and other replacement parts.

17.5 Expansion to 10 Mtpa Concentrate

All design aspects of the 5 Mtpa concentrator are designed solely for the initial phase of operations. To allow for doubling the capacity in Year 5, a duplicate "mirror line" of crushing, stockpiling and mineral processing will be required. The second concentrator line will be installed as a stand-alone building in close proximity adjacent to the first line. In the next study phase, design should be optimized so that the two concentrator buildings can be connected to allow for sharing of manpower and services. The two plants will share a common concentrate yard and loadout facilities and will require additional concentrate transport trucks as well as a second stockyard for the concentrate at the port.

18. PROJECT INFRASTRUCTURE

18.1 General Site Plot Plan

This chapter describes the major infrastructure required to support the Hopes Advance project, as developed in this PEA. A general plot plan is presented in Figure 18-1. The design is based on the following:

- Mining of the Castle Mountain, Iron Valley and Bay Zone F deposits only are considered for this PEA. The other mineralized areas are left unencumbered in consideration of future mining.
- The crusher/concentrator area is maintained in the same general area identified in the 2012 PFS. The required footprint is adjusted to the 5 Mtpa initial plant and the room is provided for a parallel line for expansion to 10 Mtpa.
- Waste dumps, as described in Chapter 16 of this Report, have been designed to store waste materials generated during the 28 years of mining operations at the prescribed mining rate of this PEA.
- Tailings are pumped into the designated TSF, as initiated on the site plan (Golder, 2012). Construction of the initial dikes, as well as the dikes that are progressively being constructed, have been adjusted to the estimated annual tailings volumes generated by the re-scoped project at 5 Mtpa followed by an expansion to 10 Mtpa. Material for dike construction will be supplied by the mine.
- Filtered concentrate from the concentrator is discharged onto a stockpile where it is loaded into haul trucks using loaders. The trucks transport the concentrate to the port area concentrate stockpile year-round.
- An access road connecting the port to the mine is provided.
- At the port, concentrate is stacked and reclaimed using a common conveyor belt that discharges onto the ship loading conveyor. Stacking is performed year-round, whereas reclaiming is seasonal. During the summer shipping season, concentrate is reclaimed using a bucket reclaimer. A location for an identical stockpile and conveying system is proposed for the expansion to 10 Mtpa.
- The Project marine facilities are planned to be fully developed for the initial phase in order to handle the ultimate concentrate production rate of 10 Mtpa (dry basis). The marine facilities include a secondary wharf to accommodate shipments of various cargoes, including fuel and diesel, as required for the mine and the concentrator operation.
- The Hopes Advance Bay project requires the iron ore berth to be designed for bulk carriers ranging from 70,000 DWT to 240,000 DWT. For general cargo shipment, vessels ranging from 10,000 DWT to 45,000 DWT were assumed for the purpose of the wharf design.
- The power plant is a prefabricated, barge system that is beached and bermed at the port.

The main Project infrastructure at the mine and concentrator site as well as at the port site are described in more details in this Chapter.

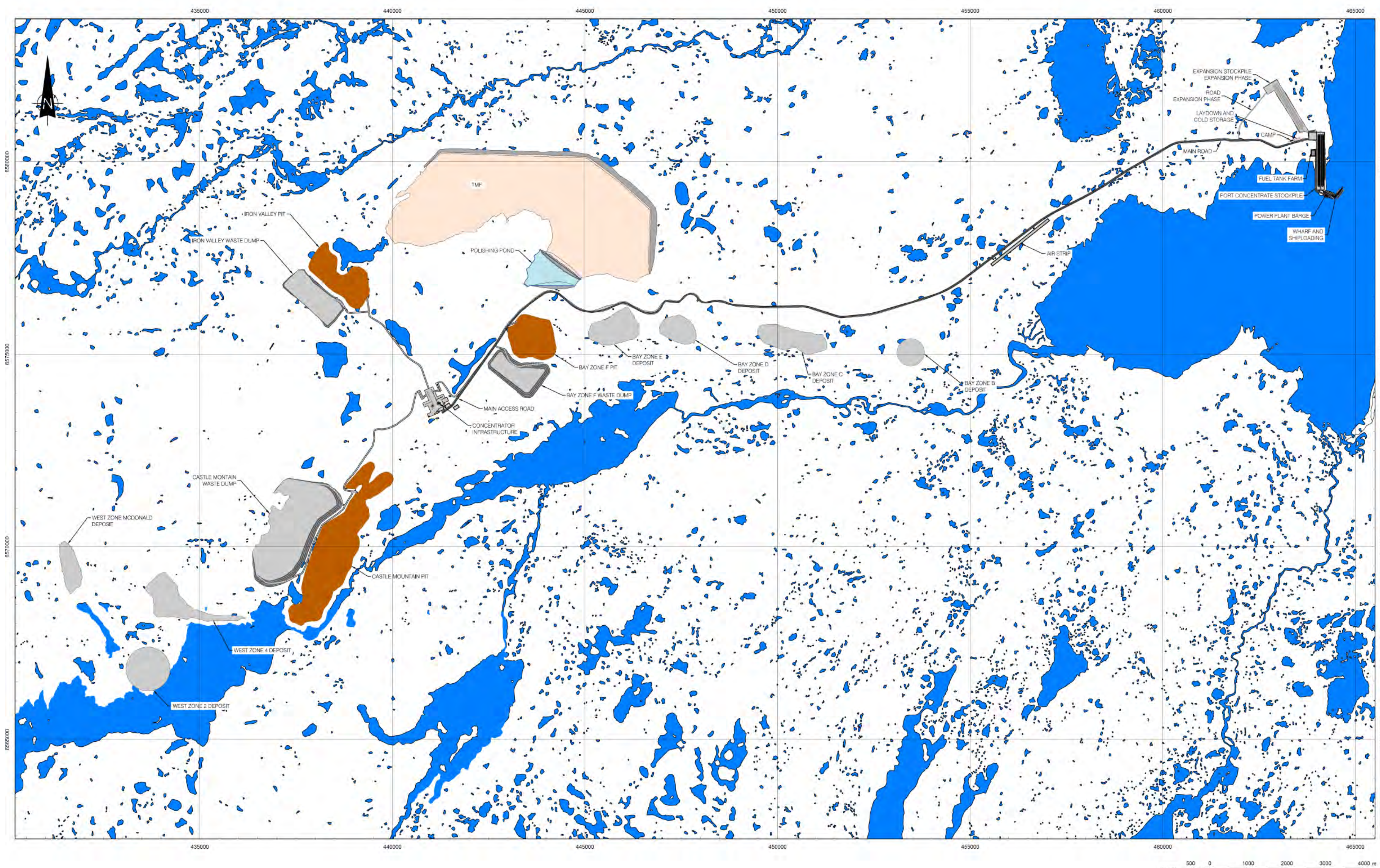


Figure 18-1: General site plan

18.2 Mine and Concentrator Area

The open pits planned to be mined as well as the other deposits containing mineralization have been described and presented previously and have been identified on the general site plan. For the present PEA, the general location of the crushers and concentrator facilities for the initial Project phase as well as for the expansion phase is assumed to be within the same footprint as in the 2012 PFS. The proposed process flowsheet and design for this PEA will be located within this footprint. Other infrastructure and site roads at the mine site are assumed to be in the same general areas as in the 2012 PFS. A plan of the mine and concentrator area is presented in Figure 18-2.

18.2.1 Mineral Processing Area

Primary and secondary crushing and screening product will be discharged onto a crushed product stockpile. The crushed ore will be reclaimed from the bottom of the stockpile and conveyed to the High Pressure Grinding Roll (HPGR) and screenhouse circuit located adjacent to the concentrator building. The product from this circuit feeds the grinding mill, followed by gravity and magnetic separation areas within the main concentrator building. The final concentrate is filtered and discharged onto a surge stockpile. Tailings are directed to the plant thickener where they are dewatered and subsequently pumped to the Tailings Management Facility (TMF). A central assay laboratory will be housed in the initial concentrator building and will serve both project phases.

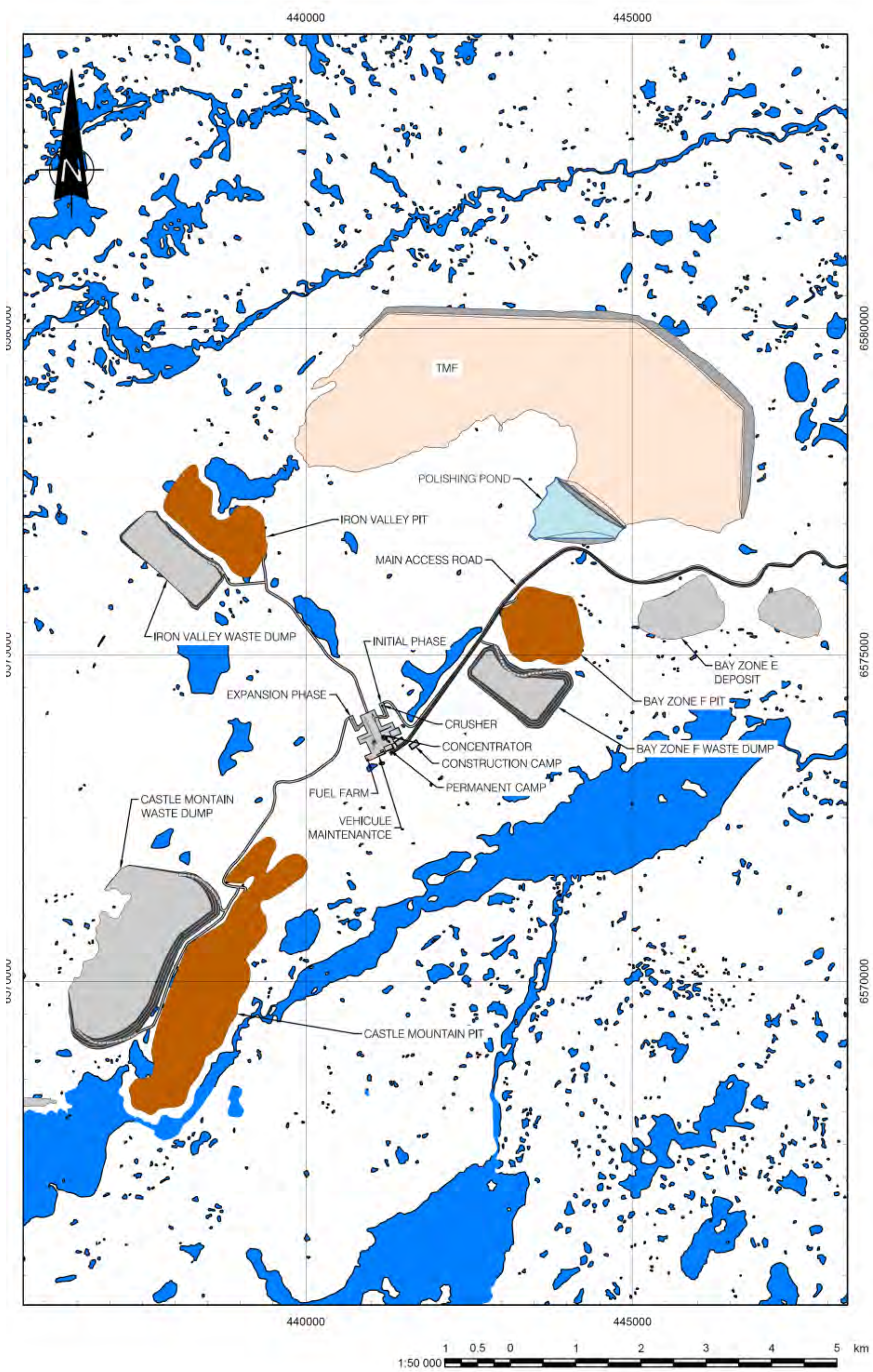


Figure 18-2: Mine and concentrator site plan

18.2.2 Tailings Management Facility

In the 2012 PFS, a tailings deposition plan for the tailings generated by the Project was developed by Golder. An area for storing the tailings was also identified immediately to the east of the Iron Valley deposit and north of the Bay Zone F deposit. Tailings containment dams are constructed in stages by the downstream method with non-acid generating waste rock from the mine. The starter dams incorporate a water-retaining barrier in the early years to retain water for reclaim to the mill. As the tailings beach develops, the reclaim pond is pushed away from the dams and up against the natural topography. The TMF was designed with enough storage capacity to contain tailings for the 31 year mine life at an initial concentrate production rate of 10 Mtpa with an expansion to 20 Mtpa starting in Year 11 of the Project. Figure 18-3 illustrates the proposed tailings deposition plan and dam construction staging at the end of each stage in the 2012 PFS (Golder 2012).

The progressive construction of the dikes was adjusted based on an initial concentrate production plan of 5 Mtpa with an expansion to 10 Mtpa starting in Year 5. Technical design parameters for the PEA were not reviewed or revised from those used in the 2012 PFS. With the revised production plan, the containment volume requirement is significantly reduced (roughly by half). In fact, the required containment volume will be met at about half way into Stage 4, indicated in Figure 18-3. The total LOM volume of tailings generated is estimated at 266 Mm^3.

Annual estimated mine waste requirements for the progressive construction of the dikes are incorporated into the PEA mine plan presented in Chapter 16 of this Report. The mining operation will haul the ROM waste material to designated points at the TMF area. The initial and sustaining capital cost estimates, as presented in Chapter 21 of this Report, were adjusted according to the annual TMF construction requirements to extend/raise the dikes.

Water management will be an important aspect of the TMF design. Water is reclaimed from the TMF and recycled back to the concentrator. Winter conditions will be such that insufficient reclaim water will be available due to freezing. During the spring thaw, excess water will need to be managed. This will need to be studied in more detail during the next project study phases.

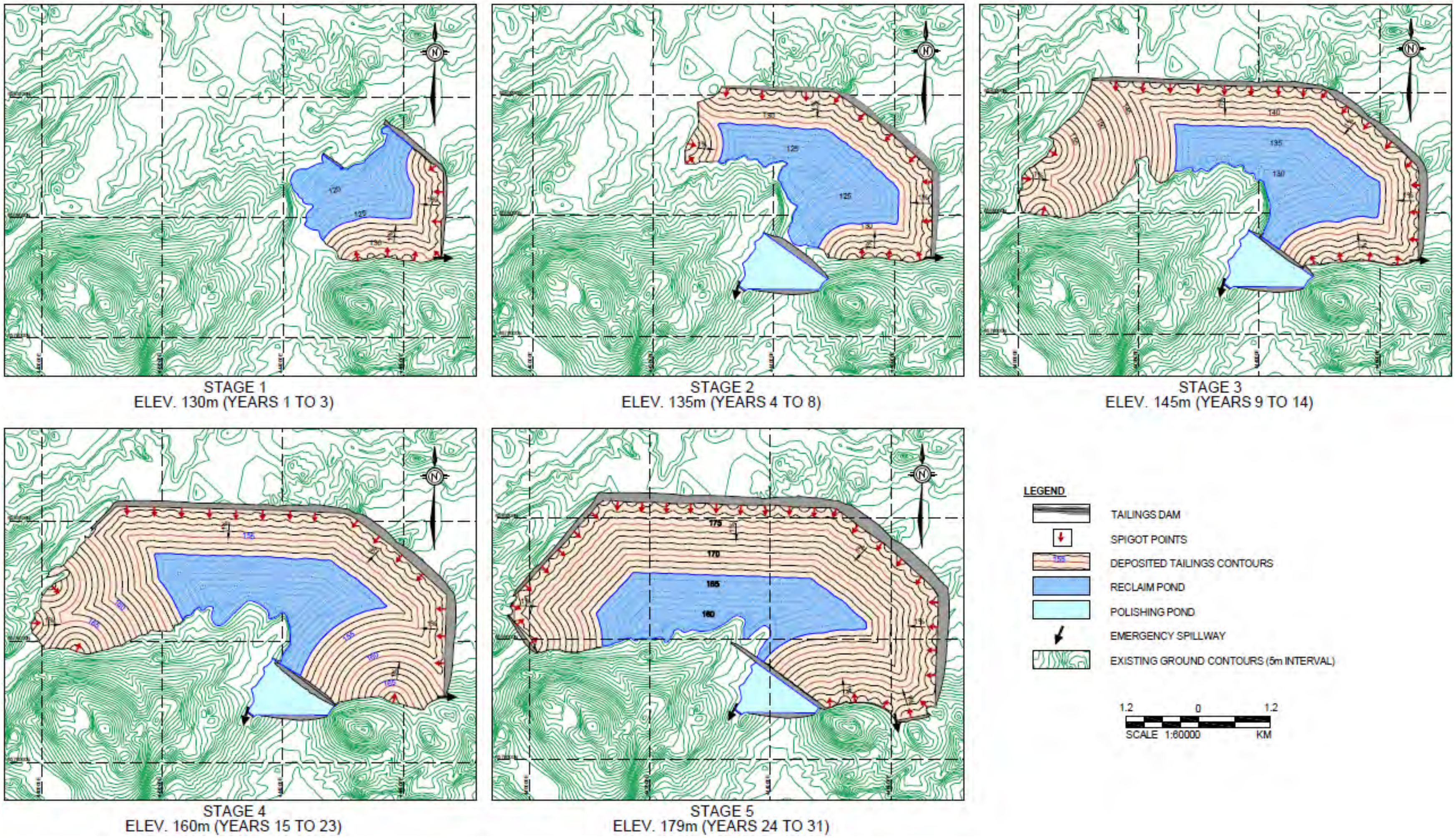


Figure 18-3: Proposed tailings deposition plan and dam construction staging

18.2.3 Concentrate Transport to Port

BBA, in collaboration with a haul truck vendor with experience in arctic applications, performed a cycle time analysis for several tractor/trailer configurations. The selected configuration carried forward for this PEA is based on a twin trailer (bi-train), side dump system with a capacity of 125 t per load. For the Initial Phase, a cycle time analysis was performed and it was determined that a total of 12 units will be required. Assumptions include: trucks operating 320 days/year, 20 hours out of 24 hours per day, 85-minute cycle times and a truck availability of 85%. For truck loading at the concentrator, one loader having a bucket capacity of 21 t will be required.

After expansion, a total of 23 trucks will be required based on the same criteria, as well as two loaders.

18.3 Port Concentrate Handling, Ship Loading and Marine Infrastructure

Concentrate handling facilities at the port consist of the following sub-areas:

- Haul truck dumping and concentrate stacking (year-round);
- Concentrate reclaiming and ship loading (seasonal).

For this PEA, the conceptual design for the haul truck dumping, concentrate stockpile and stacker reclaimer was performed by BBA. For the marine facilities and ship loading system and the conveyor connecting to the reclaim conveyor, Oceanic retained Wood Plc. (Wood) to develop the conceptual design. A plan of the port area is presented in Figure 18-4.

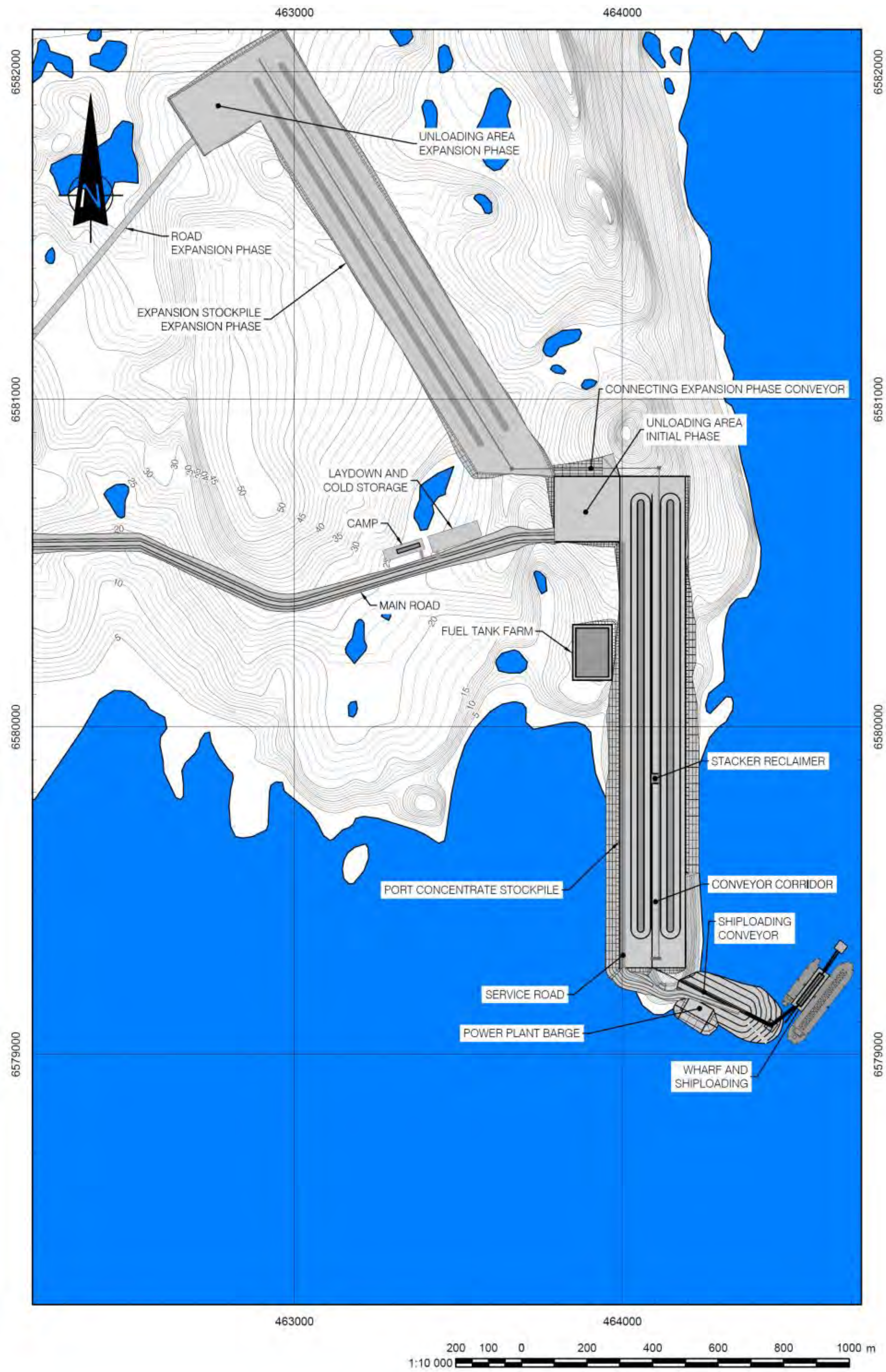


Figure 18-4: Port area site plan

18.3.1 Port Concentrate Handling

For the initial phase of the Project, haul trucks are received in an enclosed, non-heated dumping station. Concentrate is dumped into a hopper and fed by an apron feeder and conveyor onto the main stacking/reclaiming conveyor. Considering that concentrate production is year-round and ship loading is seasonal (110 days), the concentrate stockpiles have a capacity to store 3.6 Mt in two piles on each side of the conveyor. Each of the two stockpiles measures 60 m wide by 1.3 km in length and 20 m in height. For the expansion phase, additional concentrate transport trucks will be deployed in order to transport concentrate to a second dumping station. The expansion phase dumping station feeds to the expansion phase dedicated stockpile. An additional stacker-reclaimer will be installed for manipulations of the expansion stockpile. Concentrate reclaimed from this stockpile will be conveyed and transported to the ship loading facility.

It should be noted that the proposed conceptual layout of the concentrate stockpile lies directly on Breakwater Point. This location minimizes conveyor length connecting to the ship loading facility. This area contains a number of archeological sites that need to be considered in the next study and design phase. As such, the location of the stockpile can be further optimized and mitigation for some of the archeological sites can be developed.

18.3.2 Ship Loading and Marine Infrastructure

18.3.2.1 General

The Project marine facilities are planned to be fully developed for the initial phase in order to handle the ultimate concentrate production rate of 10 Mtpa (dry basis).

Mine and processing facilities will operate all year-round, whereas concentrate shipment will operate during the ice free shipping season only. In addition to iron ore concentrate shipment, the marine facilities are required to accommodate shipment of various cargoes as required for the mine and the concentrator operation.

The Hopes Advance Bay project requires the iron ore berth to be designed for bulk carriers ranging from 70,000 DWT to 240,000 DWT. For general cargo shipment, vessels ranging from 10,000 DWT to 45,000 DWT were assumed for the purpose of the wharf design.

18.3.2.2 Site Conditions

Based on the site publicly available for environmental data, the ice free season varies but, on average, it starts in late July and it may continue until the first week of December. For this Project phase, we assumed 110 days for the ice free shipping season.

Site geotechnical investigations have not been executed and as a result, assumptions for the site soil conditions were made to prepare a conceptual marine facilities arrangement and cost. We have assumed that the site seabed consists of rock; therefore, the structure selected for the wharf is concrete caissons. If the geotechnical investigation indicates the presence of softer soil, dredging and alternative construction methods, such as sheet piling, may be a preferable option. Once geotechnical site conditions become available, assumptions for seabed soil conditions will need to be validated and the wharf structure and location will need to be reassessed.

18.3.2.3 Shipping Capacities

The terminal achievable shipping tonnage is governed by key parameters as listed here:

- Bulk carriers' size and availability;
- Stockyard reclaiming system and ship loader capabilities and reliabilities;
- Overall terminal and tug boats performance;
- Weather conditions.

The berth occupancy is defined by the time from the ship approach to berth to the ship departure. The berth occupancy is mainly governed by the stockyard reclaiming system and the ship loader loading capacity. The stockyard reclaiming system will be developed in two phases. Based on similar iron ore stockyard and ship loading operations, it is assumed that an average ship loading rate will be 3,500 t/h for the initial phase and 7,000 t/h for the expansion phase. This average ship loading rate will include delays to ship cargo hold changes and other operational delays. The listed berth occupancy in Table 18-1 is based on the ship loader abilities to access any ship cargo hold without the need to reposition the ship along the berth.

The size of the vessels calling the terminal will also have impact on the annual achievable shipping tonnage during ice free season. It is assumed that an average shipping concentrate parcel size will be 160,000 tonne and bulk carriers will be scheduled in timely manners without major delays. As per Table 18-1, it is assumed that an average time for ship approach and departure is 20 hours.

Based on listed assumptions, the required number of shipping days for the initial phase and expansion phase are as per Table 18-1. It should be noted, that this does not include any delays due to poor weather conditions or vessels availability for ore concentrate shipment.

Table 18-1: Iron ore berth occupancy

Description	Unit	Value Initial Phase	Value Expansion Phase
Annual production	tonne	5,000,000	10,000,000
Average vessel size	tonne	160,000	160,000
Average number of ships	unit	31	63
Stockyard reclaiming capacity	t/h	3,500	7,000
Average ship loading time	h	46	23
Time allocated for ship approach and departure and other activities	h	20	20
Average berth occupancy per ship	h	66	43
Average annual berth occupancy	h / day	2,054 / 86	2,679 / 112

18.3.2.4 Wharf General Arrangement

Wood has assessed the Hopes Advance Bay marine facilities location and arrangement based on the project requirements and the site characteristics as listed here:

- Permanent wharf structure with design life of 28 years;
- Port operation limited to ice free season only;
- Iron ore shipping volume is 5 Mtpa for the initial phase and 10 Mtpa for the expansion phase;
- Wharf is required to accommodate cargo shipment and consumables for the mine and the concentrator;
- Site topographic and bathymetric characteristics;
- Site geotechnical and environmental conditions.

Based on the above stated project requirements, the proposed project marine facilities consist of:

- Double-sided wharf with two berths;
- Causeway to connect the onshore with the wharf;
- Mooring Dolphins to facilitate ship mooring;
- Trestle to support the ship loader conveyors and the access road.

The proposed 140 m x 40 m wharf consists of two berths. An outer berth is for iron ore vessels and an inner berth is for general cargo vessels. The proposed 140 m long iron ore berth will permit the ship loader to travel along the berth and to access bulk carriers' cargo holds without having to reposition vessels. The ship loader’s travelling operational flexibility will reduce ship loading time by approximately 6 to 12 hours per ship. In addition to the ship loader travelling along the ship, the proposed ship loader will have 315 degree slewing capability. The ship loader slewing feature will allow loading smaller bulk carrier on the berth designated for general cargo shipment.

In order to accommodate 240,000 DWT bulk carriers, the iron ore berth is required to be positioned in water depth of –20 m at CD (Chart Datum). The berth top elevation is required at +19.5 m at CD to account for tidal range variation and the site wave characteristics. Therefore, in order to accommodate 240,000 DWT iron ore vessels and the tidal range for this site, the required berth structure height is 39.5 m.

In terms of the wharf alignment, we considered the ship navigation including the ship approaches and departures and connections with the Breakwater Point onshore topography. The objectives of the wharf alignment analysis were to eliminate dredging and to position the wharf as close as practical to the onshore. In order to eliminate dredging, the iron ore berth is aligned along the seabed contour -20 m CD with allowance for safe ship maneuvering including the ship approaches and departures. The wharf connection with the Breakwater Point onshore is thru a causeway that is positioned in tidal flats area. The causeway will be made up of layers of quarry and armor rock.

Due to the freeze-up of the Hopes Advance Bay during winter, the berth structure will be subjected to large ice formations. To resist large impact loads due to ice, a caisson type structure has been selected for the berth structure as conventional piles are not suitable. The concrete caissons will need to resist load due to ice conditions. Ice field measurements have not been taken, but desk top analysis indicates that due to tidal range and current, loads due to breaking ice will be substantial. Because of ice load and the required caisson height of 39.5 m, the caissons stability is critical. For this phase, the preliminary analysis indicates that a minimum of 40 m wide caisson structure will be required to resist lateral loads. The caisson stability will need to be confirmed once ice loads are established.

The structure for the berth will be made from precast concrete caissons. Due to the site location, construction is limited to the summer season (June-December). One of the options to reduce the time of construction onsite is to precast caissons at dry dock and transport them to the site. The water tight boxed caissons can be floated to the jobsite and sunk into place by a semi-submergible barge. The caissons will be placed on a prepared base on top of the existing bedrock and will be filled with ballast to increase the deadweight and thus stabilize the structure. The boxed caissons will support the ship loader and any other cargo for the mine and plant operation as well as resist lateral forces such as tidal, ice and berthing/mooring.

In addition to caissons structure, three trestle bridges are required to connect the wharf with the causeway and mooring dolphins. Each trestle bridge consists of a 7.19 m wide concrete deck supported by three steel I-girders. The width of the deck will allow for a walkway, conveyor and road. Two standalone 40 m wide by 39.5 m high caissons will be used for mooring as well as providing access to the central berth by 75 m long steel trestles.

18.4 Site-wide General Infrastructure

18.4.1 Main Road from the Concentrator to the Port

A 26-km (12 m wide) main access road connects the port facilities and the concentrator area. This road will serve for transporting filtered concentrate from the concentrator to the port stockpile as well as for transporting equipment and materials to and from the port.

18.4.2 Site Roads

Site roads will provide access to the following areas:

- Camps;
- Fresh water source at Ford Lake;
- Communication towers;
- Explosives plant;
- Fuel tanks;
- Wharf;
- Power plant.

These will be constructed for light to medium traffic.

18.4.3 Maintenance Facilities

The maintenance facilities will be located near the concentrator and will initially include the facilities listed below. Some additions will take place over the life-of-mine based on the mine plan and equipment counts.

- Three bays for mining equipment maintenance;
- Three bays for site-wide light equipment maintenance;
- A vehicle wash bay and oil/water separation area;
- Parking areas;
- Warehouse;
- Offices, lunchroom and restrooms.

There are no maintenance facilities for mobile equipment in the port area.

18.4.4 Camp Accommodations and Offices

The permanent residential camp will be located in proximity of the concentrator building and will have an initial capacity of 400 people. It will comprise single-occupancy bedrooms with individual shower and toilet. Common areas include lounges, recreational areas, a fitness area, a kitchen and lunchrooms. The facility will be of modular design and construction. For the expansion phase, an additional 100 modular rooms will be added at the main camp.

Administration offices and conference rooms will be provided on the second floor, above the kitchen and lunchrooms of the permanent camp at the concentrator site.

A 25-person permanent camp will be installed at the port for seasonal employees assigned to reclaim and ship loading operations. It will include similar sleeping quarters to those in the main camp at the concentrator area, a recreation room, a fitness area, a lunchroom and a kitchen to serve hot meals prepared at the main camp.

During construction of the 5 Mtpa plant, a 500-person construction camp will be rented and installed near the site of the permanent camp. It will be demobilized at the end of the construction period and will be remobilized for the construction of the expansion.

18.4.5 Airstrip

The existing runway can be improved to meet the requirements of a large mining operation. The design criteria were based on the requirements of Boeing 737-C200 aircraft, which can combine freight and passengers.

The runway will be widened from approximately 30 m to 36 m and extended from 1,470 m to 1,900 m and will be equipped with a lighting and visual approach system. A modular air terminal building will be located near the airstrip. The facility will be fenced to prevent wild animals from moving onto the runway.

18.4.6 Warehouses and Storage

A heated and insulated structural steel building (25 m by 50 m) will be located in the concentrator area. No heated warehouse storage space will be provided at the port site. Both sites will each have one cold storage warehouse (25 m by 50 m), of foldaway type. A laydown area for large equipment and material storage will also be provided. Both sites will have laydown areas for large equipment and material storage.

18.4.7 Emergency Vehicle Building and First Aid

An emergency vehicle building (18 m by 36 m) will be located at the concentrator area. A three-door garage will be built for the fire truck, the rescue truck and the ambulance. First aid facilities will be located in the same building.

18.4.8 Site Communications

There will be three communication towers installed on site, one at the concentrator area, one at the port area and one near the airstrip.

The following communication systems are included:

- Telephone network;
- Computer network;
- Automation network (for instrumentation/control);
- Surface radio system;
- Cable television network (camps only).

The communications equipment will be installed during the first phase of mine and camp construction and will serve for both the construction and production phases.

18.4.9 Water and Waste Management and Services

Fresh water will come from Ford Lake, approximately 7 km from the concentrator building. A floating barge will house the pumps and electrical equipment and will be fitted with a de-icing pump system. Water will be distributed to the different buildings and camps and will be treated for potable use.

All sanitary waste water will be collected and directed to sanitary treatment plants. These will be located at the permanent camp, one at the temporary construction camp and one at the port area permanent camp. Smaller units will also be included at the explosive plant and airstrip.

Waste will be separated into four types: kitchen waste, metals, garbage, and wood and other dry construction material and will be disposed of accordingly.

18.4.10 Explosives Plant

A dedicated, fenced area will be prepared and available to the explosives contractor to store and prepare explosives for the mining operation.

18.4.11 Fuel Storage

The fuels stored at site include:

- Diesel for power generation;
- Diesel for mining equipment, mobile equipment and service vehicles as well as for concentrate loading and hauling equipment;
- Jet fuel;
- Gasoline for small tools and equipment, all-terrain vehicles and snowmobiles.

The principal fuel storage facility will be located at the port area, where fuel is unloaded from tanker ships. The design criteria for total storage capacity for each fuel are 9-month storage capacity at the port for all fuels and 5-day capacity for diesel fuel at the concentrator area for mining equipment. All fuel tanks will be installed within a bermed area, lined with geo-membrane.

At the expansion phase, the same storage criteria will be maintained, therefore storage volumes will be increased accordingly.

18.5 Electric Power

18.5.1 Power Requirements

For the initial and expansion phases of the Project, power requirements were estimated by BBA based on the process flowsheet and equipment list developed as well as infrastructure requirements at a conceptual level. Table 18-2 provides the estimated power requirements.

Table 18-2: Estimate electric power requirements

Category	Initial Phase		Post Expansion	
	Operating (MW)	Consumption (GWh)	Operating (kW)	Consumption (kWh)
Mineral processing	25.9	166.7	51.8	333.4
Port	4.4	17.3	7.6	37.4
Site infrastructure and services	11.0	73.5	14.4	100.9
Total	**41.3**	**257.5**	**73.8**	**471.6**

18.5.2 Description of Power Plant

In this PEA Study, three options for diesel power generation were considered:

- Construction of a fixed power plant on land, at the port;
- Construction of a fixed power plant at the concentrator;
- Power plant on a pre-fabricated, beached and bermed barge at the port.

These were compared and the option based on a barge installation was carried forward for this PEA. BBA obtained an EPC budget proposal from a group led by MAN Energy Solutions (MAN), a reputed supplier of diesel engines with significant experience in barge based installations. According to MAN, diesel power plants built on land or on a floating barge can incorporate the same equipment and auxiliary system configurations with relatively similar build costs, operation costs and schedules. However, when faced with developing a large base-load power generation facility in a hostile environmental with limited access and existing infrastructure, a pre-fabricated power barge can offer considerable advantages, including:

- Power barges can be built quicker, more effectively and at lower costs;
- Plants can be constructed in shipyard facilities with high quality control on mechanical and electrical equipment installations. Shipyards are equipped to handle large heavy loads such as diesel engines and associated generators;
- Shop-built in a controlled environment with trained qualified labour workforce reducing onsite construction risks;
- Highly modularized with extensive pre-outfitting and shipyard testing reduces onsite commissioning risks.

For the initial phase of the Hopes Advance project (at 5 Mtpa), power will be generated with a diesel power plant comprising of seven gensets (five operating and two stand-by/maintenance in an N+2 configuration). The five operating units have an output of 48MW at 85% load. The barge will also include the following onboard equipment and features:

- Barge dimensions are 82 m x 28 m plus an extension for receiving additional gensets for expansion;
- A 120 kV substation for full expansion phase (10 Mtpa) capacity;
- Diesel fuel storage capacity of up to 1,200-tonne;
- Rooftop radiator cooling;
- Engine workshop and spare parts storage.

The barge will include an extended deck that can accommodate three more gensets required for the expansion to 10 Mtpa.

Figure 18-5 presents a photo of what such a barge system would look like. In order to operate under harsh arctic conditions, which include high tidal fluctuations, wave action and ice pressure, the barge needs to be beached and bermed. Figure 18-6 presents the conceptual construction strategy of the beached and bermed barge system. Initially, a pad surface for the two barges (initial and expansion) would be constructed and adequately prepared with excavated materials provided by the Project. The barge is delivered to the pad and sheet piling is installed. The bermed area is pumped out and backfilled. Rip rap is used to provide an ice barrier.

Figure 18-5: Conceptual barge mounted power plant system

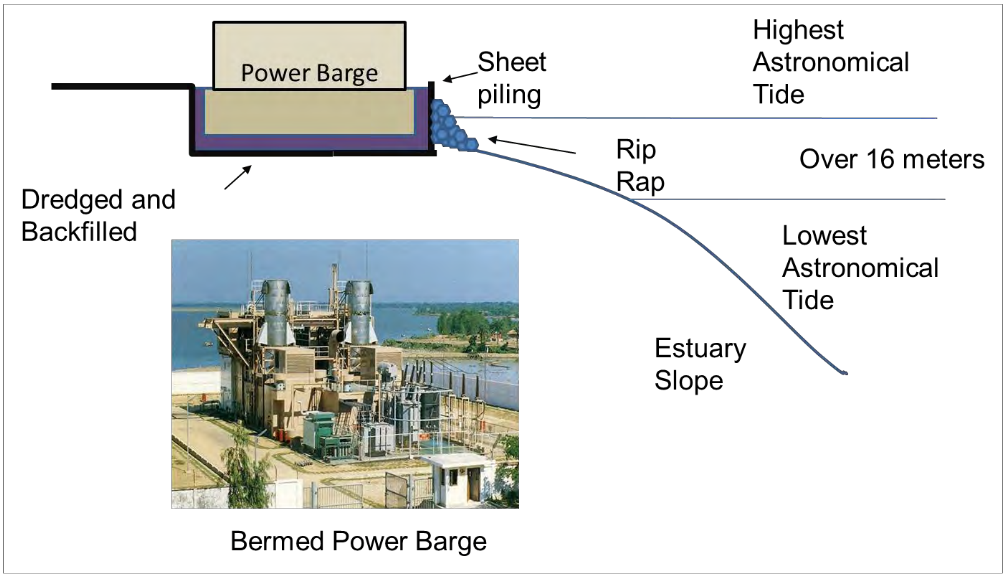


Figure 18-6: Conceptual layout of beached and bermed barge system

The proposed power generation strategy provides a robust approach for electric power supply considering that the Hopes Advance project is a remote site, far from any power grid infrastructure. Other technologies should be evaluated in the next study phase to explore the possibility of complementing diesel generation with wind, tidal or small river hydro power generation.

18.5.3 High Voltage Power Transmission/ Distribution

It is assumed that a power transmission line will be maintained to provide power to the mine and concentrator area. A 26-km long, 120 kV overhead power line will supply the power plant and will follow the alignment of the main access road to the concentrator. Power will be distributed to the port process area at 4.16 kV. At the concentrator main substation, voltage will be stepped-down to 13.8 kV and 4.16 kV for distribution to the concentrator and other mine site infrastructure.

18.5.4 Emergency Power

Four diesel gensets of 4 MW each will be provided for construction, early mining activities and to supply construction camps. After construction, these will be relocated to permanent positions as required.

19. MARKET STUDIES AND CONTRACTS

During the course of this PEA, Oceanic mandated Vulcan Technologies (VT) to perform a market analysis in order to establish the selling price for the Hopes Advance iron ore concentrate to be used for the financial analysis. The study was conducted by Paul Vermeulen, a metallurgical engineer with experience in the iron ore and steelmaking industries. Mr. Vermeulen worked for 11 years with ArcelorMittal South Africa and has since developed several pricing models for Rio Tinto as well as other major and junior mining companies. The report (Vermeulen, 2019), which includes historical pricing, price forecasts and opinions of selected market analysts and industry benchmarking, is summarized herewith.

19.1 Vulcan Technologies Market Analysis

19.1.1 Historical Pricing for Iron Ore Products

As detailed in the Vermeulen (2019) report, the last 10 years have demonstrated significant variation in iron ore pricing. High Chinese demand resulted in a peak of 62% Fe iron ore (also referred to as the Platts62 or IODEX62 benchmark), with a price of USD193/dmt (dry metric ton) in 2011. The price later dropped to USD40/dmt in 2015, mainly driven by supply capacity expansions, and later stabilized to USD60-80/dmt.

From end of 2013 to mid-2016, the Fe premium defined as the price spread between the 65% Fe and the 62% Fe benchmark indices has varied in a narrow band with the premium for 65% Fe being about 5% above the price of the 62% Fe product. Starting about mid-2016, the Fe premium has increased to levels as high as 35%. One key driver to this premium increase has been the environmental restrictions imposed by the Chinese Central and Provincial Governments. In order to accommodate these restrictions and to minimize production cuts, steelmakers have resorted to increasing the quantity of higher grade concentrates used. This increased demand for higher grade concentrates contributed to the increased Fe premiums.

In January 2019, a tailings dam failure at a Vale mine in Brazil led to the curtailment of a significant iron ore tonnage. This market perturbation has resulted in reduced iron ore supply and premiums and discounts relative to the 62% Fe benchmark have largely disappeared. This event is expected to impact the short and medium term but it is, however, postulated that environmental pressures in China will continue to favour a 65% Fe price differential of at least 10% over the 62% Fe benchmark with a seasonal fluctuation of up to 30%, as it has been the case in the past 2 years.

19.1.2 Analyst Forecasts

Vulcan Technologies performed a review of selected analyst forecasts for the 62% Fe fine ore product medium term forecast prices. Based on the iron ore forecast prices published on September 13, 2019 by PCF Capital Group, a concentrate price range between USD61/dmt to USD92/dmt was established with a consensus of USD76/dmt, CFR China, as seen in Figure 19-1. This, according to VT, is deemed to be a reasonable forecast for this benchmark iron ore product.

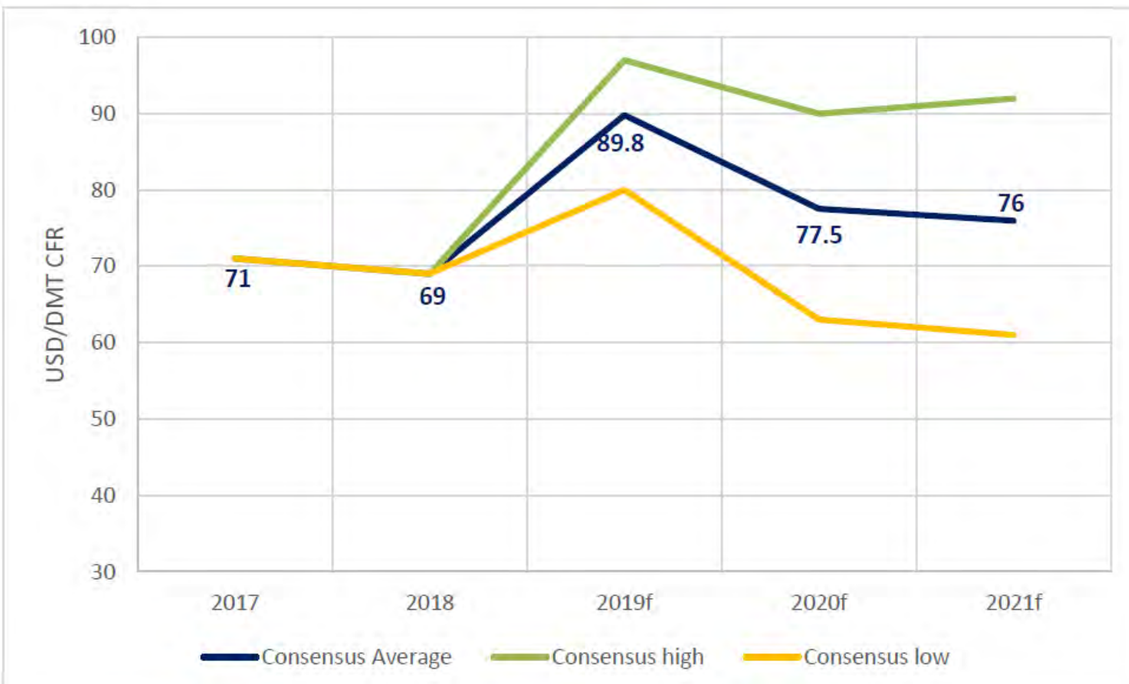


Figure 19-1: Consensus 62% Fe iron ore medium term forecast prices
Source: PCF Capital Group, Macquarie, BAIINFO

Forecasting of the 65% Fe premium over the IODEX62 benchmark is less widely covered; thus, VT relied on recent and historical data in order to reasonably establish the Fe premium for the 65% Fe product. Based on its data analysis, VT determined that a 15-30% premium on a dry metric ton unit (dmtu) basis would be appropriate. This translates to a range of USD92/dmt to USD104/dmt.

19.1.3 Benchmarking

Mr. Vermeulen performed a desktop study reviewing a selection of Chinese domestic ore pricing for high grade traded ores. The variations ranged from 73% to 110% of the Platts65 benchmark price. This suggests that customer segmentation, perhaps on a regional basis, will be required to obtain good price outcomes versus the Platts65 benchmark index. The results of the investigation of higher grade concentrates (66-68% Fe) yielded similar results and conclusions.

As a part of his investigation, Mr. Vermeulen also benchmarked against other projects via publicly available information (recent NI 43-101 reports and other public documents) from projects in the Labrador Trough.

19.1.4 Characteristics of the Hopes Advance Concentrate

Oceanic's iron concentrate is a high grade (66.6% Fe) low impurity (alumina, phosphorus) product. The silica level is slightly higher than that of the Platts65 benchmark, however, the low alumina and phosphorus content makes it a high purity iron concentrate. This should thus attract improved pricing providing that customers that will better benefit from the absence of alumina and phosphorus are targeted. The fine concentrate particle size may result in a customer discount depending on the market, however, the magnetite content (and decreased sintering/pelletizing costs) will partially/completely offset the possible sizing penalty.

19.1.5 Statistical Historical Pricing

Statistical historical pricing data was provided via the spot price of September 24th and the 3 year average as seen in Table 19-1.

Table 19-1: Statistical historical pricing, CFR China (Vermeulen, 2019)

Benchmark index	Spot price (Sep. 24, 2019) USD/dmt	Three year average USD/dmt
Platts62	89.60	76.30
Platts65	95.60	92.50

19.1.6 Vulcan Technologies Price Forecast

VT's price forecast was based on a Platts62 CRF China price of USD76/dmt. Three scenarios are presented in the Vermeulen's (2019) report based on a 15%, 20% and 30% Platts65 Fe premium over the 62% Fe benchmark, on a dmtu basis. A premium for the Hopes Advance Fe grade of 66.6% Fe was applied on a dmtu basis and a quality premium of USD5.00/dmt was assumed for the low alumina and phosphorus content. While Mr. Vermeulen points out the risk that these premiums may not be realized, he believes that this could be mitigated by adopting a good customer selection and market segmentation strategy, including potential customers in Europe, Japan, Korea and Taiwan. The results of this analysis indicate a forecast CFR China selling price for the Hopes Advance concentrate of USD104.96/dmt (LOW), USD111.07/dmt (MID) and USD123.29/dmt (HIGH). Mr. Vermeulen suggests that the middle price of USD111.07/dmt, corresponding to a 20% Fe premium over the 62% Fe benchmark price of USD76.00/dmt, on a dmtu basis, would represent a conservative scenario and if Chinese environmental restrictions increase, the premium can go higher.

19.1.7 Value In Use Analysis

As part of its analysis, VT performed a value in use (VIU) study to verify/challenge the expected commercial price outcomes. The VIU analysis uses an Excel based linear model that performs mass and energy balances to model the ironmaking process. The VIU is calculated based on a lowest cost raw material base case blend that fulfils operational constraints. The Oceanic concentrate is then allowed to change the blend by replacing other concentrates while maintaining operational constraints.

The VIU modelling results of iron ore pricing suggests a break-even value of USD108.40/dmt based on an IODEX62 of USD76.49/dmt.

19.2 BBA's Evaluation the Hopes Advance Selling Price

Method 1A/1B Statistical Historical Pricing

BBA used the statistical historical pricing indicated in Table 19-1 to evaluate the selling price of the Hopes Advance 66.6% Fe concentrate using both the spot price and the 3-year average. The calculation evaluates the difference between the Platts62 and Platts65 to extrapolate a 66.6% Fe product. An additional USD5.00/dmt is assumed and added to the 66.6% price in order to account for the lower alumina and phosphorus content. BBA considers this assumption to be reasonable.

For Method 1A, using the 62% Fe and 65% Fe benchmark spot prices of September 24, 2019 of USD89.60/dmt and USD95.60/dmt respectively, a selling price for the Oceanic concentrate of USD103.80/dmt CFR China has been calculated.

For Method 1B, using the 62% Fe and 65% Fe three-year average prices of USD76.30/dmt and USD92.50/dmt respectively, which are both lower than the corresponding spot price, a selling price for the Oceanic concentrate of USD106.14/dmt CFR China has been calculated.

Method 2 Analyst Forecast

For Method 2, BBA used the underlying analyst data presented by Mr. Vermeulen. Based on the consensus 62% Fe benchmark price of USD76.00/dmtu and applying a 15% premium on a dmtu basis to the 66.6% Fe and using the same extrapolation and premium assumptions as Method 1, a selling price of USD104.96/dmt was obtained. This methodology and its result corresponds to Mr. Vermeulen's methodology presented in Section 19.1.6 of this chapter for the 'LOW' price forecast scenario.

19.3 Alternative Case

Oceanic requested that BBA evaluates the economic results of the Hopes Advance project using a more recent spot price. For this analysis, BBA is using the November 22, 2019 spot price derived from data provided by Oceanic. BBA calculated the selling price in the same manner as that of September 24 described previously: the calculation evaluates the difference between the Platts62 and Platts65 to extrapolate a 66.6% Fe product with premiums/penalties then applied. The price of concentrate loaded in ship (FOB) at Breakwater Port assumed in this case is USD88.83/dmt or USD111.66/dmt CFR China.

The spot price for November 22, 2019 gives a higher result than the other scenarios. Compared to the spot price of September 24, 2019, the Platts62 price dropped marginally while the Fe premium, as reflected by the Platts65 index, rose more substantially. This is most likely due to the winter environmental constraints in effect in China.

Price Comparison and Base Case Pricing

A comparison of the pricing calculations, evaluated by BBA and by Vulcan Technologies, VIU study is presented in Table 19-2.

Table 19-2: Results of various estimated selling prices

Scenario	Hopes Advance Concentrate Selling price USD/dmt, CFR China
1A – Spot price Sep. 24, 2019	103.80
1B – 3-year average	106.14
2 – Analyst forecast	104.96
3 – Value in use	108.40
Study base case	**104.96**
Alternative Case – Spot price Nov. 22, 2019	111.66

As can be seen, the methods used for analyzing the selling price for the 66.6% Fe Hopes Advance concentrate provide very similar results. BBA proposes to use a price of USD104.96/dmt, CFR China, in the financial analysis of this PEA Study. It is BBA's opinion that, since the analyst consensus forecast price falls between the two results from the statistical method, it provides a reasonable assumption for the base case financial analysis. Notwithstanding the risks that Oceanic may not be able to obtain the premiums assumed in the analysis presented, there is also potential upside if Oceanic's marketing strategies can successfully target specific regions/plants. This upside is reflected in the value in use evaluation. The alternative case using the spot price of November 22, 2019 reflects current iron ore pricing that may not necessarily represent sustainable long term pricing. The base case pricing better reflects long term prospects for iron ore concentrate.

19.4 Contracts

In 2013 Oceanic received a Letter of Intent (LOI) originating from the Ministry of Finance and Economy of the Government of Québec with respect to its interest in participating in a minority stake investment in Oceanic's Hopes Advance project. This LOI is subject to additional future approvals of the Government of Québec.

There are no contracts relevant to property development and sales arrangements in place at this time. As the Project progresses, Oceanic will need to engage in off-take agreements, identify an EPCM contractor and make other arrangements consistent with typical mining operations in Québec.

20. ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

Oceanic initiated environmental and social studies for the Hopes Advance project in 2011. Government reports, databases and publications were reviewed to prepare the basis for the Environmental and Social Impact Assessment (ESIA). Field surveys were conducted for fish, hydrology, hydrogeology and water, and sediment quality. Since the publishing of the 2012 PFS, additional surveys have been conducted in 2014 focusing on muskox, and in 2016 focusing on marine environment (migratory bird, mammals, fish, water quality and mollusk habitat).

The Project description was submitted in August 2012 to the Canadian Environmental Assessment Act (CEAA) to initiate the permitting process. The Project description was accepted under the Canadian Environmental Assessment Act (CEAA) and the guidelines for the preparation of the ESIA were received in December 2012.

In January 2013, the Federal Minister of Environment provided a ruling regarding the marine portion of the Hopes Advance project to streamline the environmental review process in that the Company will submit one Environmental Impact Statement, which responds to the CEAA 2012 as well as the Nunavik Marine Region Impact Review Board (NMRIRB) requirements under the Nunavik Inuit Land Claims Agreement. The initial baseline conditions and permitting process are discussed herein.

20.1 Project Overview

The Hopes Advance project is located in the arctic tundra domain, which is associated with cold temperatures and sparse vegetation. Lakes and watercourses are found throughout the region. Migratory birds, terrestrial mammals (e.g., caribou, muskox and polar bear), marine mammals (e.g., beluga whales) and fish (e.g., salmon, trout and arctic char) hold both an ecological significance and social importance to the Inuit population. Some of these species have also been designated as special status species by the provincial law (Act respecting threatened or vulnerable species (ATVS)) and/or the federal law (Species at Risk Act – SARA). The region lies within the zone of continuous permafrost.

Five distinct potential issues will need to be considered throughout the life of the Project with respect to the social and biophysical environment, based on the relatively limited information available at this point in its development:

1. **Close proximity of the Inuit population of Aupaluk:** Inuit have been involved in the Project and Oceanic's intent is to continue to keep the Inuit community completely informed and engaged in the process of the Project development.
2. **Presence of species at risk and valued indigenous species in the region:** This will require special consideration or measures to avoid or minimize the effects of the Project on these populations.

3. **Requirement for new infrastructure facilities:** The construction and operation of a new port may alter the hydrodynamic conditions (currents, waves and ice conditions), particularly in Hopes Advance Bay, and may potentially affect high-profile species, increase shoreline erosion and sediment transport, and modify Inuit hunting and fishing activities. The present PEA is based on shipping of products only during the summer season.
4. **Effects of climate change:** Given the amount of energy that will be required by the Project, the source of energy itself will have potential impacts on the Project's carbon emissions. The Government of Quebec's effort to reduce greenhouse gas (GHG) emissions must also be considered. The present PEA is based on using cleaner burning diesel for power generation. In addition, this PEA proposes to adopt a more energy-efficient process flowsheet and layout to achieve a more optimal power consumption profile. Concentrate transportation to the port is, however, based on trucking, which adds to net fossil fuel consumption. Climate change can also impact the mining project (e.g., permafrost evolution).
5. **Dust generation:** The mining operation, material handling and storage of waste rock, and fine, humid materials (concentrate and tailings) can result in dust dispersion, especially during periods of high winds. This will require further study and appropriate mitigations measures will need to be implemented.

As the Project progresses, it is anticipated that the design will take into account the potential social and environmental issues and, wherever possible, efforts will be made to avoid or reduce potential impacts. Where impacts cannot be avoided, measures will be proposed to mitigate the residual effects.

The Project is located within Inuit territory governed by the James Bay and Northern Québec Agreement (JBNQA), which defines rights related to issues such as resource management, economic development, administration of justice, health and social services and environmental protection. It also defines the management system for wildlife resources, including hunting, fishing and trapping activities.

The land regime defined by the JBNQA divides the area covered by the agreement into three categories:

1. **Category I lands:** Self-administered lands located in and around native community villages, allocated to native peoples for their exclusive use. Owners of mining rights adjacent to Category I lands are able to exercise them within the limits they retain but are obliged to obtain consent from the native community and to compensate the Band whose territory is affected by their operations.
2. **Category II lands:** Public lands owned by the Crown-in-right-of-Québec where native people have exclusive hunting, fishing and trapping rights, but no special rights of occupancy. Mining exploration and technical surveys may be carried out freely on Category II lands but these undertakings must not unfairly interfere with the hunting, fishing and trapping activities of the native people.

3. **Category III lands:** These make up the majority of northern Québec. While exclusive rights or privileges are not granted to native people, they are able to carry out traditional activities year-round without a permit or limit (although conservation principles apply) and certain species are reserved for their use.

The majority of the Hopes Advance project claims are located on Category III lands. One claim area south of Red Dog River is located on Category II lands but no mining activity is planned for this area under the current project design.

Regional and local administration is carried out by the Kativik Regional Government and the Makivik Corporation. The closest community to the Project, Aupaluk, is one of 14 Inuit communities in Nunavik. Some 50 archeological sites have been identified near Aupaluk. The majority are located outside the Project area, but some could be located inside the Project footprint. An archeological management plan will need to be produced and complementary site specific survey will be carried out in due time.

20.2 Initial Data

20.2.1 Vegetation and Wetlands

The Project region is located within the low sub-arctic, shrub arctic tundra bioclimatic domain, which extends from the 58th to the 61st parallels. Willows (*Salix* spp.) and birch (*Betula* spp) grow alongside herbaceous species, mosses and lichens.

20.2.2 Wildlife

No specific studies on terrestrial and avian wildlife populations in the area surrounding Aupaluk appear to have been published to date. However, the information gathered from agencies, databases and general scientific documents consulted has provided a general picture of the wildlife and birds likely to frequent the Project area.

Based on trapping statistics for fur-bearing species, the most common in 2011 were red fox (*Vulpes vulpes*), marten (*Martes americana*), wolf (*Canis lupus*), polar bear (*Ursus maritimus*) and arctic fox (*Alopex lagopus*). Caribou (*Rangifer tarandus*) were also hunted.

20.2.2.1 Birds

Thirty-seven bird species were observed in the Red Dog Lake area. The peregrine falcon (*Falco peregrines*) uses the area for mating and raising young and snow goose (*Chen caerulescens*), Canada goose (*Branta canadensis*), greater scaup (*Aythya marila*), herring gull (*Larus argentatus*), and king eider (*Somateria spectabilis*) may also use the area. Other species observed were thought to be migrants and these include golden eagle (*Aquila chrysaetos*), common eider (*Somateria mollissima*), black guillemot (*Cepphus grylle*), surf scoter (*Melanitta perspicillata*) and several species of seagull.

20.2.2.2 Terrestrial and Marine Mammals

The *Ministère des Ressources naturelles et de la Faune du Québec* (MRNF) indicated that the Project region is frequented by the Leaf River caribou herd (*Rangifer tarandus*) and muskox (*Ovibos moschatus*). According to their general distribution, the following terrestrial mammals, amongst others, may potentially be seen within the project region: polar bear (*Ursus maritimus*), grey wolf (*Canis lupus*), red fox (*Vulpes vulpes*), arctic fox (*Vulpes lagopus*), Canada lynx (*Lynx canadensis*) and wolverine (*Gulo gulo*).

Based on their general distribution, the following marine mammals may frequent Hopes Advance Bay: harbour seal (*Phoca vitulina*), bearded seal (*Erignathus barbatus*), ringed seal (*Pusa hispida*), walrus (*Odobenus rosmarus*), beluga whale (*Delphinapterus leucas*) Sei whale, (*Balaenptera borealis*) and blue whale (*Balaenoptera musculus*).

20.2.2.3 Amphibians and Reptiles

No reptile species distribution in Québec extends as far north as the project region.

20.2.2.4 Fish and Benthos

The following fish species were captured during gillnet and electric fishing surveys performed in September 2011:

- Lake trout (Salvelinus namaycush);
- Arctic char (*Salvelinus alpinus*);
- Brook trout (*Salvelinus fontinalis*);
- Round whitefish (*Prosopium cylindraceum*);
- Mottled sculpin (*Cottus bairdi*);
- Ninespine stickleback (*Pungitius pungitius*);
- Threespines stickleback (*Gasterosteus aculeatus*);
- Burbot (*Lota lota*).

Although not captured during the September 2011 survey, the following fish species, among others, are also likely to frequent the area surrounding the Project, according to their general distribution: northern pike (*Esox lucius*), suckers (*Catostomus* spp.), lake whitefish (*Coregonus clupeaformis*) and some Cyprinid species. Amongst marine and anadromous species, Greenland halibut (*Reinhardtius hippoglossoides*), Atlantic cod (*Gadus morhua*) and Atlantic salmon (*Salmo salar*) inhabit Ungava Bay.

The marine benthic community of the region includes species such as: Iceland scallop (*Chlamys islandica*), blue mussels (*Mytilus edulis*) and clams (*Mya arenaria*), which can be found off the shores of Hopes Advance Bay.

20.2.2.5 Species of Special Concern

Some species or populations in the Project area are protected at the federal level by the SARA and/or at the provincial level by the Act respecting threatened or vulnerable species (ATVS). In addition, migratory bird species are protected by the Migratory Birds Convention Act, 1994, administered by the Canadian Wildlife Service of Environment Canada in collaboration with the Canadian provincial and territorial governments.

According to the *Centre de données sur le patrimoine naturel du Québec* (CDPNQ), no floral species at risk or any important terrestrial habitats have been recorded within the project area. It should be noted, however, that the lack of special status species in the Project area may simply be a result of a lack of field investigations in this remote area of Québec.

The following wildlife species of special concern are present in the Project area:

- Peregrine falcon tundrius (*Falco peregrinus tundrius*): susceptible of being designated threatened or vulnerable according to the ATVS and listed as a special concern species according to the SARA;
- Golden eagle (*Aquila chrysaetos*): listed as not at risk according to the Committee on the Status of Endangered Wildlife in Canada (COSEWIC);
- Polar bear (*Ursus maritimus*): listed as special concern according to the SARA;
- Ungava Bay beluga whale (*Delphinapterus leucas*) population: has been designated endangered by the COSEWIC and is threatened according to the SARA;
- Eastern Arctic population of Bowhead whale (*Balaena mysticetus*): listed in Schedule 2 of the SARA as endangered.

Based on their general distribution, the following species listed as a special status species may possibly be found in the Project area:

- Wolverine (*Gulo gulo*): designated special concern according to the SARA and the COSEWIC;
- Harlequin duck (*Histrionicus histrionicus*): designated as special concern species by the SARA and the COSEWIC;
- Red knot (*Calidris canutus*): susceptible to being designated threatened or vulnerable under the ATVS, threatened according to the SARA and endangered by the COSEWIC;
- Rusty blackbird (*Euphagus carolinus*): susceptible to being designated threatened or vulnerable under the ATVS and considered special concern by the SRA and the COSEWIC;
- Short-eared owl (*Asio flammeus*): susceptible to being designated threatened or vulnerable under the ATVS and considered special concern by the SRA and the COSEWIC;
- Atlantic cod (*Gadus morhua*): designated as special concern species by the ATVS and the SARA;
- Migratory caribou (*Rangifer tarandus*) considered endangered by the CISEWIC.

It should be noted that although the muskox, salmonids, Canada goose, snow goose, seals, and ptarmigan (*Lagopus* spp) are not officially listed as special status species at the provincial or federal levels, they warrant a special mention as they are important to the local Inuit population.

20.3 Protected Areas

The closest protected area, located 15 km south of the proposed mining site, is the *Réserve de parc national du Québec de la Baie-aux-Feuilles*. It is entirely located outside the area of project works and activities. This 3,850 km^2 area, managed by the *Ministère de l'Environnement et de la Lutte contre les changements climatiques du Québec* (MELCC), received special recognition from the Québec Government in 2008, and is awaiting a legally protected status.

20.4 Potential Project-Related Issues

20.4.1 General

Typically, mining projects have the potential to affect the surrounding social and biophysical environments through the wastes generated (including waste rock and tailings) and their management, as well as the management and disposal of water and wastewater. Careful planning of the design and location of infrastructure facilities, such as water storage facilities and the effluent treatment system, are important considerations as they have the potential to affect water quality and environmental habitat, most notably, federally-protected fish habitat. Water from the open pits may also be an issue depending on the intensity of precipitation, extent of permafrost, rock and soil permeability and proximity of water bodies. With careful planning, these potential effects can be mitigated so that the Project is fully acceptable to the regulatory agencies.

20.4.2 Distinct Potential Issues

Potential distinct issues will need to be considered throughout the life of the Project with respect to the social and biophysical environment, based on the limited available information:

- Effect on the Inuit population;
- Presence of species at risk and valued indigenous species in the region;
- Issues related to the need for major new infrastructure for the port and power plant;
- Issues regarding dust generation related to mining operations and materials handling and storage.

As discussed below, the Inuit population will be directly affected by the Project and will closely monitor progress and development. While the Project will provide new sources of income, especially for the village of Aupaluk, it may also introduce economic disparities and result in tension between Inuit and non-Inuit workers. Residents of Aupaluk will need access to the land and its resources throughout the life of the Project.

There are a number of registered archeological sites in the vicinity of Aupaluk. An assessment of archeological potential was carried out.

Special attention will be required to avoid or mitigate impacts on woodland caribou, muskox, polar bear, beluga whale and arctic char populations.

The construction and operation of a new port, which will entail frequent visits by large sea vessels during the summer months, may change hydrodynamic conditions in the Ungava Bay and within Hopes Advance Bay. These changes, in turn, may potentially affect certain species at risk, for example, beluga whales, due to potential interference with echo-location abilities, and polar bears. Shoreline erosion and sediment transport may modify Inuit's hunting and fishing activities.

The area is not currently on the Hydro-Québec grid and a fossil fuel power plant for the Project could be a significant contributor to greenhouse gas emissions within the province. The current PEA study seeks to optimize energy consumption in order to reduce GHG emissions . In the next study phases, alternative energy sources such as hydroelectricity or wind can be studied to reduce production from fossil fuels.

20.5 Waste Rock and Tailings

20.5.1 Mine Waste Geochemistry

A total of 85 waste rock samples, one tailings sample and five process water samples were submitted for static testing to characterize the potential to generate acid rock drainage (ARD) and leach metals (Metal Leaching (ML)) in the receiving environment. Criteria used to determine the ARD potential of the waste rock and tailings material are derived from the provincial guidance document on mine waste characterization (Directive 019, MDDEP, 2012).

The Upper Schist rock type from all deposits tested is classified as potentially acid generating and leachable for copper and zinc on a few samples as per the Toxicity characteristic leaching procedure (TCLP). Moreover, based on neutral (CTEU-9) and acid-rain simulated (SPLP) leach tests, there is potential for low risk waste rock to release metals above provincial groundwater criteria including aluminum, chromium, copper, iron, silver and zinc. Supplemental geochemical testing will need to be carried out in order to further assess ARD and ML potential.

Tailings samples were not ARD or ML. Process water samples report neutral pH values and low metal concentrations.

20.5.2 Tailings Disposal

The tailings deposition plan and the tailings management facility (TMF) design are discussed in Chapter 18 of this Report. A detailed report has been produced by Golder (Golder, 2012). A total of 266 Mm^3 of tailings is estimated to be generated over the LOM based on the production plan proposed in this PEA. As part of the environmental permitting process, it has become a requirement that project proponents perform a tailings management options study. Such a study would assess options regarding the following:

- Site location of the TMF (based on comparison of social, environmental, technological, and economic impacts);
- Technology selection for dewatering and depositing tailings (e.g., conventional slurry deposition, thickened tailings deposition, filtered tailings dry stacking);
- Confinement design.

Tailings deposition planning has always been a sensitive issue with mining projects; more so now after two recent failures of tailings dams in iron ore mines in Brazil that have had a significant impact on human life and the environment. Dam Safety Guidelines, developed by the Canadian Dam Association, provide guidance for proper design of containment structures for tailings.

20.5.3 Waste Rock Disposal

The waste rock (including overburden) to ore ratio estimated in the mine plan presented in Chapter 16 of this Report is 0.81 resulting in 557 Mt of waste rock being generated over the first 28 years of the mine life covered by this PEA study. A portion of the waste rock generated by the mining operation will be used to construct the tailings dikes as well as other infrastructure such as the access road and pads at the concentrator. Overburden is minimal and will be disposed of with waste rock in the waste rock dumps. The waste rock dumps should be designed and managed to control potential metal leaching and generation of total suspended solids (TSS).

20.5.4 Water Management

The TMF will have a reclaim pond to collect tailings water and runoff. A perimeter seepage collection ditch will collect seepage that can be pumped into the reclaim pond as required. Water from the reclaim pond will be recycled to the mill and the excess will be monitored and treated, if needed, before being released to the environment. A polishing pond, adjacent to the TMF, will be available for the settling of suspended solids prior to their release to the environment.

Runoff from the waste rock dumps will be collected in sedimentation ponds where water quality will be monitored prior to being released to the environment.

Groundwater and surface water quality monitoring will be implemented around the waste rock dumps and TMF. Effluent from the water treatment systems, polishing pond and sedimentation ponds will be monitored to verify compliance with applicable discharge criteria.

20.5.5 Rehabilitation

Closure of the TMF will involve revegetation or covering with a layer of sized waste rock from the mine. Pipelines will be decommissioned and water drainage modified for long-term post-closure conditions.

20.6 Project Permitting Requirements

The Hopes Advance project is subject to the Québec environmental and social impact assessment and review procedure as per Chapter 23 of the JBNQA and Chapter II of the Québec Environment Quality Act (EQA). An environmental advisory committee, composed of Inuit, and provincial and federal representatives, serves as the official forum to implement and address environmental protection and management in the region. The Project description was submitted to the committee in January 2012 and specific guidelines for the preparation of the ESIA were issued in September 2012.

In 2005, the Nunavik Inuit Land Claims Agreement was concluded between the Government of Canada and Makivik Corporation, the development company that manages the heritage funds of the Nunavik Inuit as provided for in the JBNQA. The 2005 land claims agreement a) affirms the existing aboriginal and treaty rights as recognized under the Constitution Act of 1982; and b) provides additional certainty regarding land ownership and use of terrestrial and marine resources.

Three new entities, the Nunavik Marine Region Wildlife Board (NMRWB), the Nunavik Marine Region Planning Commission (NMRPC), and the Nunavik Marine Region Impact Review Board (NMRIRB), have been established as a result of the aforementioned land claims agreement. Each board will play a significant role in assessing and approving any development in the Nunavik region.

Federal legislation must also be considered for any development in addition to the Inuit agreements, Nunavik agencies, and the Québec legislation mentioned previously. The Project falls under the Canadian Environmental Assessment Act 2012. The Hopes Advance project description was accepted by the Canadian Environmental Assessment Agency (CEAA) in August 2012 and ESIA Guidelines were issued in December 2012.

However, the Canadian Impact Assessment Act (IAA) came into effect on August 29, 2019. As per section 181 of this Act, projects subject to the IAA that have received a Notice of Commencement under the CEAA 2012 on or before August 28, 2019 may proceed under the CEAA 2012 but must submit all information requested by the Agency no later than August 28, 2022, otherwise the assessment will be terminated. Proponent may also request transition to the IAA; however, request must be made by October 25, 2019.

It should be noted that the description of the re-scoped project is significantly different compared to the description of the initial project submitted to federal and provincial authorities. This may require amendments or a new project description submission to the federal and provincial authorities.

A number of other Acts and Regulations could apply to the mining project including these listed below:

- Fisheries Act (R.S.C., 1985, c. F-14) amended August 28, 2019
  - Metal and Diamond Mining Effluent Regulations (SOR/2002-222)
  - Authorizations Concerning Fish and Fish Habitat Protection Regulations (SOR/2019-286)
- Canadian Environmental Assessment Act, 2012 (S.C. 2012, c. 19, s. 52)
- Canadian Impact Assessment Act (S.C. 2019, c.28, s.1)
  - Information and Time Limits Regulations (SOR/2019-283)
  - Physical Activities Regulations (SOR/2019-285)
- Canadian Environmental Protection Act (S.C. 1999, c. 33)
  - PCB Regulations (SOR/2008-273)
  - Environmental Emergency Regulations (SOR/2019-51)
  - Federal Halocarbon Regulations (SOR/2003-289)
  - National Pollutant Release Inventory
- Arctic Waters Pollution Prevention Act (R.S.C., 1985, c. A-12)
- Canadian Navigable Waters Act (R.S.C., 1985, c. N-22) amended October 4, 2019
- Species at Risk Act (S.C. 2002, c. 29) amended August 28, 2019
- Canada Wildlife Act (R.S.C., 1985, c. W-9)
  - Wildlife Area Regulations (C.R.C., c. 1609)
- Migratory Birds Convention Act, 1994 (S.C. 1994)
- Nuclear Safety and Control Act (S.C. 1997, c. 9)
  - Radiation Devices Regulations (SOR/2000-207)
- Hazardous Products Act (R.S.C., 1985, c. H-3)
- Explosives Act (R.S.C., 1985, c. E-17)
- Transportation of Dangerous Goods Act (1992)
  - Transportation of Dangerous Goods Regulations (SOR/2001-286).

Tailings disposal in a natural water body should be avoided in the Project planning as legislated under the Metal and Diamond Mining Effluent Regulations. In addition, exploration and potential development needs to consider species of special status that include caribou, beluga whale, and muskox.

Provincial Acts and Regulations potentially applicable to the Project include:

- Environmental Quality Act (c. Q-2)
  - Regulation respecting the environmental and social impact assessment and review procedure applicable to the territory of James Bay and Northern Québec (Q-2, r.25)
  - Regulation respecting certain bodies for the protection of the environment and social milieu of the territory of James Bay and Northern Québec (Q-1, r.34)
  - Regulation respecting the application of the Environment Quality Act (Q-2, r. 3)
  - Clean Air Regulation (Q-2, r. 4.1)
  - Regulation respecting industrial depollution attestations (Q-2, r. 5)
  - Regulation respecting pits and quarries (Q-2, r. 7)
  - Regulation respecting the declaration of water withdrawals (Q-2, r. 14)
  - Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere (Q-2, r. 15)
  - Regulation Respecting Halocarbons (Q-2, r. 29)
  - Regulation Respecting Hazardous Materials (Q-2, r. 32)
  - Protection Policy for Lakeshores, Riverbanks, Littoral Zones and Floodplains (Q-2, r. 35)
  - Water Withdrawal and Protection Regulation (Q-2, r. 35.2)
  - Land Protection and Rehabilitation Regulation (Q-2, r. 37)
  - Regulation respecting the charges payable for the use of water (Q-2, r. 42.1)
- Directive 019 sur l'industrie minière (2012)
- Protection and Rehabilitation of Contaminated Sites Policy (1998)
- Threatened or Vulnerable Species Act (c. E-12.01)
  - Regulation Respecting Threatened or Vulnerable Wildlife Species and their Habitats (E-12.01,r.2)
  - Regulation Respecting Threatened or Vulnerable Plant Species and their Habitats (E-12.01,r.3)
- Compensation Measures for the Carrying out of Projects Affecting Wetlands or Bodies of Water Act (M-11.4)
- Watercourses Act (c. R-13)
  - Regulation Respecting the Water Property in the Domain of the State (R-13, r. 1)
- Conservation and Development of Wildlife Act (c. C-61.1)
  - Regulation Respecting Wildlife Habitats (C-61.1, r. 18)
- Building Act (c. B-1.1)
  - Safety Code (B-1.1, r. 3)
  - Construction Code (B-1.1, r. 2)

- Explosives Act (c. E-22)
  - Regulation under the Act Respecting Explosives (E-22, r. 1)
- Cultural Heritage Act (c. P-9.002)
- Occupational Health and Safety Act (c. S-2.1)
  - Regulation Respecting Occupational Health and Safety in Mines (S-2.1, r. 14).

20.7 Closure

The Québec Mining Act (c. M-13.1) and the Regulation respecting mineral resources other than petroleum, natural gas and brine (M-13.1, r. 2) contain requirements for mine development, operation and closure.

A closure and restoration plan must be prepared and approved by the Ministry of Energy and Natural Resources (MERN) before the mining lease can be issued. The mining lease is required before the Certificate of Authorization (CoA) to operate the mine can be issued by the MDDELCC. Requirements for content of the Rehabilitation plan are presented in a document entitled "*Guide de préparation du plan de réaménagement et de restauration des sites miniers au Québec*" (MERN, November 2016).

An amendment to Article 111 of the Regulation respecting mineral substances other than petroleum, natural gas and brine has been adopted on July 23, 2013 (Decree 838-2013). This requires that a financial guarantee whose amount corresponds to the total anticipated cost of completing all the work set forth in its rehabilitation and restoration plan be posted. The payment is to be made in three installments representing 50%, 25% and 25% of the total restoration costs. The first payment must be made within 90 days of receiving the approval of the restoration plan. The second and third installments (25% each) are due on the anniversary date of the restoration plan approval.

At this stage in the Project development, a reclamation and closure plan has not been developed. An allowance for closure cost has been included in the financial analysis of this PEA study.

20.8 Social Engagement

Inuit people have occupied the region of the Project for centuries and remain closely tied to the land and its resources. Oceanic has stated its commitment to community and social issues (http://oceanicironore.com/company/social-community-considerations) and the agreement of a letter of intent between the company, the Makivik Corporation and the Nunavik Landholding Corporation of Aupaluk was announced on August 4, 2011, as well as the announcement on September 20, 2011 of support received from the Makivik Corporation in Oceanic's submission to the Québec government relating to port and power line infrastructure.

Oceanic initiated consultations before the beginning of the exploration program of the Hopes Advance project and has prepared a consultation plan for the duration of the Project ESIA. The objective of this plan is to obtain Inuit traditional knowledge, maintain Inuit engagement and participation in dialogues, and maximize their involvement in the Project. Consultations with the stakeholders will ensure that the ESIA report optimizes the measures required for the social acceptability of the Project.

At this stage, the jurisdictions and parties consulted include mostly Inuit organizations such as the village of Aupaluk, Kativik Regional Government, Kativik Municipal Housing Bureau or Nunavik Mineral Exploration Fund and Makivik Corporation. Additional stakeholders will also be consulted.

The consultation program includes three key activities:

1. Consultation on the current and anticipated land and resource uses.
2. Identification of stakeholders' issues and concerns on potential impacts and benefits of the Project and identification of the appropriate mitigation measures.
3. Disclosure of the draft ESIA through public consultation sessions.

The main concerns expressed during the first consultation activities with the Inuit relate to the employment situation, the potential social inequity in the community and the possible rise of drug and alcohol consumption. Concern has also been raised about loss and deterioration of wildlife habitat caused by the Project.

Communication and consultation with the Inuit will be key to the success of the Project. During the course of the ESIA, in order to increase understanding of the study area and to maintain Inuit involvement at each step of the environmental assessment process, meetings will be held with the Inuit community and representatives.

21. CAPITAL AND OPERATING COSTS

The Hopes Advance project scope covered in this PEA is based on the construction of a facility having an initial average annual capacity of 5 Mt of dry concentrate, followed by an expansion to 10 Mtpa of dry concentrate by the addition of an identical mineral processing line in Year 5 of production. Capital costs, sustaining capital costs and operating costs for this PEA were developed by BBA and the methodology for their development is described further in this Chapter. Capital and operating costs for the marine facilities and infrastructure were developed by Wood. Table 21-1 presents a summary of the total estimated initial capital cost, expansion capital cost and LOM sustaining capital cost for the Hopes Advance project. All costs in this chapter are presented in USD unless otherwise stated.

Table 21-1: Estimated capital costs

Category	Initial Phase	Expansion	Sustaining
	Million $		
Mining Capital Costs			
Mining equipment fleet	$30.3	$48.1	$358.6
Mining (capitalized pre-stripping)	$23.3	$0	$0
Project direct costs			
Mineral processing area	$206.9	$209.9	$0
TMF (dike construction)	$11.6	$6.8	$95.7
Port area	$181.8	$72.6	$0
Mine site infrastructure and services	$159.2	$41.0	$8.3
Port site infrastructure and services	$26.9	$33.4	$0
Electric power	$47.6	$28.0	$0
Other capitalized pre-production costs	$19.8	$17.6	$70.4
Total direct costs	**$707.3**	**$457.5**	**$533.0**
Indirect costs (including Owner's costs)	$266.0	$117.5	$28.7
Contingency	$187.2	$115.0	$26.5
Closure and rehabilitation costs	$32.8	$0.0	$43.5
Total	**$1,193.3M**	**$690.0M**	**$631.7M**

The total initial Project capital cost, including the Project construction costs, mine pre-stripping, pre-operational capitalized costs as well as indirect costs, contingency and closure costs, was estimated at **$1,193.3M**. The total expansion Project capital cost, including the Project construction costs as well as indirect costs and contingency, was estimated at $690.0M.

This capital cost estimate is expressed in constant Q3-2019 United States Dollars ($ or USD) based on an exchange rate of 1.00 CAD = 0.75 USD.

These preceding estimates do not include the following items:

- The cost of the initial mining equipment fleet required for pre-production and Year 1 mining activities has been estimated to be $77.5M. It has been assumed that the entire fleet of mining equipment will be leased. As such, annual lease payments over the life of the leases are included in operating costs, except for payments that are made in the pre-production years, which are capitalized and included in the total aforementioned capital cost estimate.
- The cost of the initial concentrate loading and hauling mobile equipment fleet with an estimated value of $17.6M, which is assumed to be leased. As such, annual lease payments over the life of the leases are included in operating costs, except for payments that are made in the pre-production years, which are capitalized and included in the total aforementioned capital cost estimate.
- The cost of the site service mobile equipment fleet with an estimated value of $11.2M, which is assumed to be leased. As such, annual lease payments over the life of the leases are included in operating costs, except for payments that are made in the pre-production years, which are capitalized and included in the total aforementioned capital cost estimate.
- The cost of the barge mounted power plant with an estimated value of $120.0M, which is assumed to be leased. As such, annual lease payments over the life of the leases are included in operating costs, except for payments that are made in the pre-production years, which are capitalized and included in the total aforementioned capital cost estimate.

The total Sustaining capital costs (which excludes the capital cost related to the expansion Project) is estimated at **$631.7M** (capital expenses incurred from Year 1 of production to the end of the mine life), which includes items such as mine equipment fleet additions and replacements, facilities additions and improvements and costs related to phasing of the TMF dike construction.

Table 21-2 presents a summary of the estimated operating costs for the initial phase (Years 1 to 4), the expansion phase (Years 5 to 28), including ramp-up years and the average, Life-of-mine (LOM) operating cost, in USD/t of dry concentrate produced. The estimated equipment leasing cost (equipment cost plus interest) over the life of the lease is also shown.

Table 21-2: Total estimated phase and average LOM operating cost ($/t dry concentrate)

Category	Initial Phase	Expansion	Avg. (LOM)
	$/t conc.	$/t conc.	$/t conc.
Mining	$9.38	$10.53	$10.44
Mineral processing	$10.93	$10.53	$10.56
Concentrate transport to port stockpile	$1.98	$1.98	$1.98
Port (concentrate handling and shiploading)	$3.99	$2.32	$2.44
General site services	$4.83	$3.11	$3.24
Administration	$1.77	$1.08	$1.13
Total Opex (excluding leased equipment)	**$32.88**	**$29.55**	**$29.80**
Leased equipment	$5.62	$0.51	$0.90
Total Opex	**$38.50**	**$30.06**	**$30.70**

Royalties and working capital are not included in the operating cost estimate presented but are treated separately in the Economic Analysis presented in Chapter 22 of this Report.

21.1 Basis of Estimate and Assumptions

The cost estimate for this PEA was developed by BBA to an accuracy of +/-35% and is generally based on an Engineering, Procurement and Construction Management (EPCM) project execution strategy. The capital cost for the shiploading and marine infrastructure was estimated by Wood. It should be noted that for these facilities, due to the uncertainty in geotechnical conditions, Wood developed its capital cost estimate to an accuracy of +/-50%. The base date for the cost estimate is the Q3-2019. All costs are expressed in United States Dollars ($ or USD), unless otherwise stated with an exchange rate of 1.00 CAD = 0.75 USD. In general, BBA performed its capital cost estimate (direct and indirect costs) as a factored estimate, scaled to benchmark reference projects that are similar in nature, including the 2012 PFS for the Hopes Advance project. The reference data was reviewed and adjusted for date, scale of size and project context. Additional costing information was obtained via vendors' quotes, internal databases and first principles as described in this Chapter.

The capital cost estimate is based on conceptual Project development and construction milestones presented in Chapter 24 of this Report.

21.1.1 General Direct Capital Costs

This capital cost estimate is based on the construction of a greenfield facility at the Hopes Advance mine site and at the Breakwater Point port facility. For this PEA, the conceptual process and plant design are largely based on metallurgical testwork results, reference projects and BBA's experience on recent projects of similar nature and other iron ore projects in the Labrador Trough.

Areas, items or quantities where no significant scope changes were assumed to have occurred, compared to the 2012 PFS, were priced using the 2012 PFS cost estimate and applying an escalation factor of 10% (based on Marshall and Swift data and other estimated escalation factors). Areas, items or quantities that have been re-estimated in this PEA were subjected to one of the following cost estimation methods, as deemed the most appropriate:

- Factored linearly.
- Factored using the following rule, referred to as the six-tenths rule:

  $$C_B = C_A (S_B / S_A)^{0.6}$$

  Where:

  C_B = the approximate cost ($) of equipment or materials having size or quantity S_B,

  C_A = is the known cost ($) of equipment or materials having corresponding size S_A.

- Estimated using conceptual layouts and civil quantities based on topographical data followed by applying factors to equipment costs for estimating civil, structural, mechanical, electrical and automation.

Equipment costs have been estimated using budgetary proposals obtained from vendors for most of the major process equipment.

The following describes BBA's methodology for estimating direct capital costs for the various areas and infrastructure:

- Mining equipment: Initial, expansion and sustaining capital costs were developed by the BBA mining engineering team based on the mine plan presented in Chapter 16 of this Report. This includes equipment requirements for the pre-production preparation of the open pit mine as well as the excavation and hauling of materials for construction of the TMF. Equipment pricing was obtained from several vendors and the equipment life and replacement schedules were based on vendor information and BBA's experience. For the initial equipment (equipment required in pre-production and in Year 1 of production), it is assumed in this PEA that the equipment will be leased for a period of 7 years at a 7% interest rate. As such, the cost of this equipment is excluded from the capital costs and is included in the operating costs over the life of the lease. Equipment acquired thereafter is included in sustaining capital.

- Mining pre-production: These costs were estimated as operating costs for mining quantities based on the mine plan. As these costs are incurred in pre-production, they have been included in the capital cost estimate.
- Mine infrastructure including mine roads, dewatering, explosives plant, aggregate plant and the dispatch system have been estimated by BBA's mining engineering team and are included with mine site infrastructure and services costs.
- Crushing plant: a budget price was obtained from a reputed vendor for the supply and installation of a 'turnkey' package covering the primary crusher, secondary crusher and screening based on preliminary equipment sizing by BBA.
- For the crushed mineralized material stockpile, HPGR and screening plant, and concentrator, the capital costs estimate was developed as follows:
  - Major process equipment was selected and sized based on the process flowsheet and historical testwork. Budgetary proposals were obtained from equipment vendors or from BBA's internal database. Allowances were made for secondary equipment and platework.
  - Activities and components related to civil works, foundations and concrete works, structural elements, architectural finishes, piping, electrical and automation were evaluated based on the conceptual mechanical layouts developed in this PEA study reflecting the process mechanical equipment located inside a building measuring 72.8 m × 56.8 m.
  - Considering that the facilities will be located in a permafrost area, a provision for piling has been included.
  - Concrete quantities were estimated from the mechanical layouts and unit prices were estimated from historical data.
  - Structural steel quantities were estimated based on a factor of 15 kg/m^3 of building volume for the concentrator and 20 kg/m^3 for the HPGR and screening areas. A factor for ancillary steel, such as decks, platforms, stairs, etc., was added to the aforementioned quantities. Unit prices for structural steel were based on current market prices. Architectural quantities and unit prices were factored based on similar projects.
  - Piping, electrical and automation were factored based on process equipment value.
  - Crew rates were established as an all-inclusive hourly cost (direct and indirect costs as well as equipment rates applicable to the different trades), based on *Commission de la Construction du Québec* (CCQ) schedule of labour cost and hourly rates published by the *Association de la Construction du Québec* (ACQ). Labour productivity factors were also applied based on experience on similar projects.

- TMF Dike Construction: The construction strategy for the TMF, based on the Golder design and material quantities required is described in Chapter 18 of this Report. Construction materials bulk quantities are sourced from the open pit mine waste material and are part of the mine plan described in Chapter 16 of this Report. Unit costs were adjusted by BBA based on recent heavy civil costs from similar projects.
- Site-wide infrastructure: The general site infrastructure is described in Chapter 18 of this Report. The direct capital cost estimation of the following areas and items was performed using the 2012 PFS base costs and scaling factors (linear or six-tenths rule) and price escalation were applied as deemed appropriate.
  - Site preparation, site roads and crossings for service vehicles;
  - Heated and cold warehouses;
  - Mine vehicle maintenance facilities (concentrate haul trucks share facilities);
  - Mine vehicle fuel storage;
  - Emergency vehicle building;
  - Fresh water supply from Ford Lake;
  - Tailing and reclaim water pipelines;
  - Airstrip upgrade;
  - Communication tower;
  - Permanent camp at mine site and port;
  - The infrastructure buildings costs were established based on preliminary design and layouts and in-house databases adapted for northern conditions;
  - Site roads and water management costs were established based on preliminary design and contractor budget unit rates for similar northern projects;
  - Fuel storage at the port (main storage) and at the mine site was adjusted to fuel requirements for each Project phase and scaled and factored;
  - Waste management costs were established based on preliminary design and quotes from suppliers.
- Main access road: Civil works and materials quantities were estimated by BBA based on topography and typical cross-section for this type of road used for product hauling from the concentrator to the port stockpile. Unit costs were based on BBA experience.
- Concentrate stockpiling at port: Civil works and materials quantities were estimated by BBA based on topography and final elevation for the proposed layout of the stockpile storage pad. Sufficient excess construction material was generated by the excavation of the pad for use in port site infrastructure development (material for causeway required by Wood, material for power plant berm).

- Concentrate stacking and reclaiming: A budget price was obtained from a reputed vendor for a supply and installation 'turnkey' package covering the stacker/reclaimer system based on tonnage handling requirements for year-round stacking and seasonal reclaiming. A second identical system is assumed for the expansion phase with an additional connecting conveyor.
- Shiploading system: This system is described in detail in Chapter 18 of this Report. Quantities and unit costs for construction of the wharf (mainly civil works) were estimated by Wood. Bulk construction materials are supplied by material generated by the excavation of the concentrate storage pad. The connecting conveyor (to the concentrate reclaim discharge conveyor) and the shiploader system were conceptually designed and estimated by Wood based on its experience on other similar projects.
- Major site-wide electrical infrastructure: This system is described in detail in Chapter 18 of this Report. Capital cost estimation for the major components was performed as follows for this PEA:
  - Power plant: The cost of the barge mounted power plant and 120 kV substation for the initial phase was estimated based on a well-developed EPC proposal from a reputable vendor. For this PEA, it is assumed that a long-term lease (15 years at 7%) can be put in place for the direct cost of the system. As such, the cost of the barge system is excluded from capital costs and included in operating costs over the life of the lease;
  - Power transmission line: This cost was estimated by BBA's electrical engineering department based on experience on other similar projects;
  - Main mine site substation: This cost was estimated by BBA's electrical engineering department based on experience on other similar projects;
  - Site distribution at the mine site and port site is assumed to be the same as in the 2012 PFS, with escalation;
  - Emergency power: This cost was assumed the same as the 2012 PFS with escalation.
- Costs for service vehicles and plant mobile equipment for site maintenance and support were escalated from the 2012 PFS. As such, a similar equipment fleet was assumed. For this PEA, this mobile equipment was assumed to be leased and is therefore excluded from capital costs and included in operating costs over the life of the lease.
- Costs for concentrate loading and hauling to the port stockpile were estimated based on vendor prices. The initial fleet was assumed to be leased; therefore, it is excluded from capital costs and included in operating costs over the life of the lease. Vehicle additions and replacements were included in sustaining capital.

21.1.2 Indirect Capital Costs

For this PEA, indirect costs were factored as a percentage of direct costs. This percentage is assumed to be 40% of direct costs (30% for sustaining capital items as well as for the expansion project), which is in line with this type of project. A lower factor was applied for 'turnkey' and EPC items quoted by vendors. Indirect costs typically include the following items:

- Owner's costs: These include items such as Owner's project management team salaries and expenses, insurance, authorization certificates and permits, compensation for environmental and affected stakeholders, costs related to commissioning and operational readiness, etc.;
- Engineering, Procurement, and Construction Management (EPCM) services;
- Costs related to the construction of temporary facilities required during the project construction period comprise of costs incurred for building and maintaining temporary facilities and accesses, which will no longer be required once construction is completed. Temporary construction camp construction and dismantling as well as operation of the camp are included in this item. Temporary power generation equipment is included in direct capital costs as the generators used for construction by contractors will be used by the Project to provide emergency power during operations but fuel and maintenance of the generators during the initial construction period is considered an indirect cost;
- Spare parts and first fills;
- Fly-in fly-out costs;
- Contractor mobilization and demobilization;
- Costs for spare parts, freight, Vendor's reps and other such items that are typically factored as a percentage of equipment value.

21.1.3 Contingency

Contingency provides an allowance to the capital cost estimate for undeveloped details within the scope of work covered by the estimate. Contingency is not intended to take into account items such as labour disruptions, weather-related impediments, changes in the scope of the Project from what is defined in this study, nor does contingency take into account price escalation or currency fluctuations. A contingency of 20% of the sum of direct and indirect costs has been generally attributed to the capital cost estimate. Some items that have been quoted by vendors on a 'turnkey' or EPC basis may have a reduced contingency applied. No contingency factor has been applied to mobile equipment costs.

21.1.4 Exclusions

The following items are not included in this Capital Cost Estimate:

- Inflation and escalation. The estimate is in constant Q3-2019 United States Dollars;
- Costs associated with hedging against currency fluctuations;
- All taxes, duties and levies;
- Working capital (included in the Financial Analysis but not in the capital or operating costs)
- Sunk costs;
- Risk mitigation costs;
- Project financing costs including but not limited to interest expense, fees and commissions.

21.2 Estimated Capital Costs

21.2.1 Mining Capital Costs

The mining initial capital costs are mainly comprised of the pre-production costs related to mining operations, which are incurred prior to start of production, totalling **$23.3M**. Mining equipment required during the pre-stripping period as well as for the first year of operation are assumed to be leased and are thus accounted for in the operating costs with the exception of costs incurred in pre-production, which are capitalized. The value of the leased equipment is estimated at $77.5M. The capitalized portion of the lease, which includes down payments and yearly lease payments, totals **$30.3M**.

Mining equipment required for the expansion project starting in Year 5 (equipment purchased in Year 4) is estimated at $48.1M. Equipment required in other years, whether for fleet expansions brought about by the mine plan or for fleet replacement, are considered as sustaining capital and are estimated at $358.6M. Fleet replacement has been estimated by BBA based on the useful life of equipment following discussions with vendors and BBA's experience.

21.2.2 Mineral Processing Area Direct Capital Costs

This area includes primary and secondary crushing and screening, stockpiling and reclaiming, HPGR and screening, grinding, gravity concentrating, magnetic recovery plant and tailings pipeline and reclaim water pipeline. The estimated capital costs for this area is **$206.9M** for the initial Project phase and $209.9M for the expansion Project phase.

21.2.3 TMF Dikes Direct Capital Costs

The capital cost for the construction of the initial dikes required for start-up of operations was estimated at **$11.6M** and $6.8M for the expansion Project phase. The progressive construction over the life of the mine requires sustaining capital estimated at $95.7M.

21.2.4 Port Area Direct Capital Costs

This area includes the marine infrastructure and shiploading equipment and infrastructure (by Wood), as well as the construction of the concentrate stockpile and stacker/reclaimer system. The estimated capital costs for this area is **$181.8M** for the initial Project phase and $72.6M for the expansion Project phase, which consists of the addition of a second identical stockpiling area and stacker/reclaimer system and connecting conveyor.

21.2.5 Mine Site Infrastructure and Services Direct Capital Costs

This area includes a number of sub-areas and systems such as mine infrastructure and services (roads, explosives facilities, site preparation, warehousing facilities, mine garage and wash station, emergency vehicle building, fuel storage, air strip and permanent 400-person camp). The estimated capital costs for this area is **$159.2M** for the initial Project phase and $41.0M for the expansion Project phase. A further $8.3M is required as sustaining capital.

21.2.6 Port Site Infrastructure and Services Direct Capital Costs

This area includes a number of sub-areas and systems such as a permanent 25-person camp, diesel storage for the power plant and for the mine, other mobile equipment and cold storage areas. The estimated capital costs for this area is **$26.9M** for the initial Project phase and $33.4M for the expansion Project phase.

21.2.7 Electric Power Direct Capital Costs

This area includes the barge mounted power generating plant and 120 kV substation, high voltage power transmission line to the concentrator, main substation at the concentrator, emergency power generators and site distribution. The estimated capital costs for this area is **$47.6M** for the initial Project phase and $28.0M for the expansion Project phase. It should be noted that the initial power generating plant, with a value of $90.0M, is assumed to be leased and is included in operating costs.

21.2.8 Indirect Costs

These have been described earlier in this chapter (Section 21.1.2) and have been estimated at **$266.0M** for the initial Project phase and $117.5M for the expansion Project phase. A further $28.7M is applied to sustaining capital.

21.2.9 Contingency

These have been described previously in this chapter (Section 21.1.3) and have been estimated at **$187.2M** for the initial Project phase and $115.0M for the expansion Project phase. A further $26.5M is applied to sustaining capital.

21.2.10 Other Capital Cost Elements

These costs include lease down payments and lease payments incurred during pre-production on leased equipment, with the exception of mining equipment, which have been capitalized. They also include sustaining capital costs related to replacements of concentrate haul trucks and loading equipment. The royalty buyout incurred in pre-production is also taken into account in the other capital cost elements. The estimated capital costs for these items are **$19.8M** for the initial Project phase and $17.6M for the expansion Project phase and $70.4M in sustaining capital.

21.2.11 Closure Costs

These costs include regulatory financial deposits related to closure and rehabilitation of the site. BBA assumes that an initial payment of **$32.8M** will be required prior to initial plant start-up and $43.5M in progressive payments based on the evolution of the TMF area developed over the mine life. These costs have been estimated by BBA based on factors developed form other similar reference projects.

21.3 Operating Costs

Estimated operating costs for the initial phase (Years 1 to 4), expansion phase (Years 5 to 28) and average over the LOM for the Hopes Advance project are summarized in Table 21-3. Operating costs were developed from testwork as well as using benchmarked data, internal databases, industrial standards and current unit price estimates.

Table 21-3: Total estimated phase and average LOM operating cost ($/t dry concentrate)

Category	Initial phase	Expansion	Avg. (LOM)
	$/t conc.	$/t conc.	$/t conc.
Mining	$9.38	$10.53	$10.44
Mineral processing	$10.93	$10.53	$10.56
Concentrate transport to port stockpile	$1.98	$1.98	$1.98
Port (concentrate handling and shiploading)	$3.99	$2.32	$2.44
General site services	$4.83	$3.11	$3.24
Administration	$1.77	$1.08	$1.13
Total Opex (excluding leased equipment)	**$32.88**	**$29.55**	**$29.80**
Leased equipment	$5.62	$0.51	$0.90
Total Opex	**$38.50**	**$30.06**	**$30.70**

21.3.1 Mine Operating Costs

Table 21-4, Table 21-5 and Table 21-6 show the breakdown of the estimated mine operating costs for the initial phase (Years 1 to 4), expansion phase (Years 5 to 28) and average over the LOM (Years 1 to 28). The mine operating costs were developed from first principles based on the mine plan and production schedule, distances to the waste piles, crusher and TMF drop points, re-handle, equipment operating parameters from vendors and internal information for similar projects.

Table 21-4: Initial phase mining operating costs

Category	$/t	$/t	$/t
	mined	milled	conc.
Labour	$0.70	$1.06	$2.71
Loading	$0.16	$0.25	$0.64
Re-handle	$0.03	$0.04	$0.11
Hauling	$0.64	$0.97	$2.50
Drilling	$0.19	$0.29	$0.73
Ancillary equipment	$0.20	$0.31	$0.80
Blasting	$0.44	$0.67	$1.72
Other	$0.05	$0.07	$0.18
Total mining	**$2.41**	**$3.66**	**$9.38**

Table 21-5: Expansion phase mining operating costs

Category	$/t mined	$/t milled	$/t conc.
Labour	$0.44	$0.80	$2.09
Loading	$0.16	$0.30	$0.78
Re-handle	$0.01	$0.02	$0.07
Hauling	$0.74	$1.36	$3.54
Drilling	$0.30	$0.55	$1.44
Ancillary equipment	$0.13	$0.24	$0.63
Blasting	$0.38	$0.70	$1.83
Other	$0.03	$0.06	$0.15
Total mining	**$2.21**	**$4.03**	**$10.53**

Table 21-6: Average LOM mining operating costs

Category	$/t mined	$/t Milled	$/t conc.
Labour	$0.45	$0.82	$2.13
Loading	$0.16	$0.30	$0.77
Re-handle	$0.01	$0.03	$0.07
Hauling	$0.74	$1.33	$3.46
Drilling	$0.30	$0.53	$1.39
Ancillary equipment	$0.14	$0.25	$0.64
Blasting	$0.39	$0.70	$1.82
Other	$0.03	$0.06	$0.16
Total mining	**$2.22**	**$4.01**	**$10.44**

Labour: Labour requirements have been estimated to support the mine plan developed in this study, as outlined in Chapter 16 of this Report. In the initial Project phase, it is estimated that 135 supervisory and hourly personnel will be required to operate the mine. Following the expansion, mine labour requirements are estimated to increase to 246. Labour costs have been estimated based on other similar operations in the Labrador Trough.

Equipment Costs: Hourly operating costs were developed for each piece of mining equipment using vendor pricing for preventative maintenance, parts replacement, wear and tear on ground engaging tools, and tire pricing. The hourly operating costs for the major equipment such as trucks, shovels, drills and dozers were developed in 6,000 hour intervals. The operating costs were then estimated based on the hours of operation and the hourly operating cost for the interval for which the equipment was operating in. For the remaining fleet of equipment an average hourly operating cost was used over the life-of-mine.

Blasting: Explosives costs for mineralized material and waste rock have been estimated based on the parameters and powder factors presented in Chapter 16 of this Report and on pricing received from several vendors.

Other: Additional items are included in the mine operating cost such as an allowance for mine dewatering accessories, mineralized material grade control, and miscellaneous items.

Fuel: The entire fleet of mining equipment will be operated using diesel fuel. Fuel consumption was estimated for each year of operation based on equipment specifications and equipment utilization. Costs are based on a diesel fuel price of $0.75/litre, delivered to site. No electric equipment is assumed in the mine.

21.3.2 Processing Operating Costs

Operating costs for processing at the Hopes Advance project are shown in Table 21-7. These costs were derived from supplier information, BBA's database, or factored from similar operations.

Table 21-7: Concentrator operating costs

Period	Initial Phase ($/t conc.)	Expansion ($/t conc.)	Avg. LOM ($/t conc.)
Average Period Production Rate	**4.91 Mtpa**	**10.12 Mtpa**	**8.75 Mtpa**
Labour	$1.79	$1.23	$1.27
Electric power	$6.21	$6.32	$6.31
Process consumables	$0.81	$0.83	$0.83
Grinding media and reagents	$1.27	$1.30	$1.29
TMF parts and supplies (allowance)	$0.36	$0.36	$0.36
Maintenance and supplies	$0.48	$0.49	$0.49
Total ($/t dry conc.)	**$10.93**	**$10.53**	**$10.56**

Labour: In the initial Project phase, it is estimated that 95 supervisory and hourly personnel will be required to operate and maintain the mineral processing plant, which includes the crushing system, HPGR, process plant and the TMF. Following the expansion, concentrator labour requirements are estimated to increase to 137. Labour costs have been estimated based on other similar operations in the Labrador Trough.

Electric power: For both phases of the Hopes Advance project, electric power is generated using diesel fuel. The cost of power generation, including fuel, labour, maintenance and annualized major overhaul was estimated at $0.193/kWh. Annual power consumption at the concentrator was estimated based on grinding power requirements (based on the testwork and performance assumptions for selected crushing and grinding equipment) and on installed power based on motor counts. Electric power consumption and cost at the concentrator was assumed to be a function of milled tonnes and estimated at $2.42/t milled.

Process consumables: Process consumables include crusher concaves, mantles, HPGR tires, screen decks, mill liners, filter cloths and lab consumables. Utilization rates were estimated in collaboration with vendors as well as BBA's database and other similar projects as a function of throughput. Unit costs were generally provided recently by vendors for major cost items.

Grinding media and reagents: Grinding media is consumed in the ball mill and tower mills. Reagents consist mainly of flocculant and coagulant for the tailings' thickener. Media consumption was estimated based on abrasion indices and power consumption as well as benchmarking with other operations.

TMF parts and supplies: An allowance was made for this item and consists mainly of supplemental piping and couplings for spigoting tailings to the required deposition points. This was based on benchmarking of other similar projects.

Maintenance and supplies: Costs for maintenance parts and supplies (excluding labour) were estimated at 5% of major concentrator equipment direct costs.

21.3.3 Concentrate Transport to Port Costs

A description of the logistics and design parameters for estimating the loading and hauling fleet was provided in Chapter 18 of this Report. Filtered concentrate from the surge stockpile at the concentrator is loaded and hauled to the port stockpile. Concentrate transport operating costs for both the initial and expansion phases were estimated at **$1.98/t conc**. Concentrate transportation costs consider the following parameters: fuel, tires, personnel (drivers and maintenance), minor replacement pieces and major replacement parts. Major parts is an annual allowance for truck overhauling after 5 years, which allows the truck service life to be extended to 10 years prior to replacement.

21.3.4 Port (Concentrate Handling and Shiploading) Operating Costs

Operating costs related to port concentrate handling and shiploading are presented in Table 21-8.

Table 21-8: Port operating costs

Period	Initial Phase ($/t conc.)	Expansion ($/t conc.)	Avg. LOM ($/t conc.)
Average Period Production Rate	**4.91 Mtpa**	**10.12 Mtpa**	**8.75 Mtpa**
Labour	$0.18	$0.09	$0.10
Electric power	$0.68	$0.71	$0.71
Shiploading (marine activities)	$2.52	$1.22	$1.32
Ship Clearance (allowance)	$0.15	$0.07	$0.08
Maintenance and supplies	$0.46	$0.22	$0.24
Total ($/t dry conc.)	**$3.99**	**$2.32**	**$2.44**

Labour: Port operations include year-round concentrate stacking and seasonal reclaiming and shiploading. For both the initial and expansion phases, it is estimated that 24 employees will be required to operate and maintain the port facilities. This excludes power plant labour as well as personnel part of the contracted marine services; these are accounted for elsewhere. Labour costs have been estimated based on the 2019 Collective Bargaining Agreement for hourly personnel and competitive wages and benefits for salaried personnel.

Electric power: Power consumption at the port has been estimated based on installed motor power (for each of the initial phase and expansion phase). Utilization factors (year-round and seasonal) have also been applied. Power cost is $0.193/kWh.

Shiploading (marine activities): A budget cost to provide contracted tug boats and ancillary equipment and services for seasonal port marine operations, for both concentrate shiploading and supply vessels, was provided to Wood by a service provider with experience in arctic seasonal activities in the region.

Ship clearance: This cost was provided as an allowance by Wood based on experience.

Maintenance and supplies: An allowance for maintenance parts and supplies (excluding labour) was estimated.

21.3.5 General Site Services Operating Costs

General site services operating costs at the Hopes Advance project are shown in Table 21-9.

Table 21-9: Site services operating costs

Period	Initial Phase ($/t conc.)	Expansion ($/t conc.)	Avg. LOM ($/t conc.)
Average Period Production Rate	**4.91 Mtpa**	**10.12 Mtpa**	**8.75 Mtpa**
Labour	$0.42	$0.21	$0.22
Electric power	$2.88	$1.92	$1.99
Site maintenance (mobile equipment - allowance)	$0.61	$0.30	$0.32
Camp operations (food and cleaning services)	$0.84	$0.65	$0.66
General site building (allowance)	$0.08	$0.04	$0.05
Total ($/t dry conc.)	**$4.83**	**$3.11**	**$3.24**

Labour: In the initial Project phase, it is estimated that 22 supervisory and hourly personnel will be required to operate and maintain the general site infrastructures. Employees include site mobile equipment operators assigned to tasks such as road maintenance, snow removal and operating general site mobile equipment as required. Labour costs have been estimated based on the 2019 Collective Bargaining Agreement for hourly personnel and competitive wages and benefits for salaried personnel.

Electric power: For both initial and expansion phases, power requirements for infrastructure (other than concentrator building and port) have been estimated based on installed power. Furthermore, an allowance for non-motor power (lighting, building heating, etc.) has been factored based on other projects. These cover ancillary buildings such as the camp, mine garage and warehouses. Power cost is $0.193/kWh.

Site maintenance (mobile equipment): Costs related to the operation and maintenance (fuel and parts) of site equipment has been escalated and scaled from the 2012 PFS costs as a similar fleet was assumed.

Camp operations: Costs related to camp operations were estimated based on projected occupancy for both phases of the Project. A daily unit rate per employee was assumed based on estimates obtained for other similar project from camp operators.

General site buildings: This item was estimated as an allowance.

Lease of mobile equipment: For this PEA, it was assumed that the mobile equipment fleet for site maintenance is leased based on a 7-year duration at a 7% interest rate.

21.3.6 Administration Operating Costs

G&A operating costs at the Hopes Advance project are shown in Table 21-10.

Table 21-10: G&A operating costs

Period	Initial Phase ($/t conc.)	Expansion ($/t conc.)	Avg. LOM ($/t conc.)
Average Period Production Rate	**4.91 Mtpa**	**10.12 Mtpa**	**8.75 Mtpa**
Labour	$0. 55	$0.34	$0.36
Materials and services	$1.22	$0.74	$0.78
Total ($/t dry conc.)	**$1.77**	**$1.08**	**$1.13**

Labour: In the initial Project phase, it is estimated that 27 salaried employees will be required for general management, finance and human resources and support to the operations of the facilities. Following expansion, this number will increase to 36. Labour costs have been estimated based on competitive wages and benefits for salaried personnel.

Materials and services: These costs include miscellaneous items such as mining leases, municipal taxes, site insurance, travel expenses, employee transportation to site, transportation of goods, recruiting, training, safety supplies and other miscellaneous supplies.

21.3.7 Leasing Costs

Leasing costs at the Hopes Advance project are shown in Table 21-11.

Table 21-11: Leasing operating costs

Period	Initial Phase ($/t conc.)	Expansion ($/t conc.)	Avg. LOM ($/t conc.)
Average Period Production Rate	**4.91 Mtpa**	**10.12 Mtpa**	**8.75 Mtpa**
Leased equipment	$5.62	$0.51	$0.90
Total ($/t dry conc.)	**$5.62**	**$0.51**	**$0.90**

All major mobile equipment including initial mining equipment, concentrate loading and hauling equipment and site maintenance equipment acquired during the pre-production phase will be leased as discussed earlier in this Chapter. The power plant is also assumed to be leased. All lease payments made during operations are considered in the operating costs. These payments total **$235.1M** over the life of the mine and conclude at Year 14 once the power plant lease has ended.

22. ECONOMIC ANALYSIS

The Economic Analysis for the Hopes Advance project was performed using a discounted cash flow model on both a pre-tax and post-tax basis. The Capital and Operating Cost Estimates, presented in Chapter 21 of this Report, are based on the mining and processing plan developed in this Study to produce an average of 5 Mtpa of concentrate in the initial 4-year period followed by an expansion to an average of 10 Mtpa for the rest of the life-of-mine (LOM) (ramp-up years are excluded from the averages presented).

The internal rate of return (IRR) on total investment was calculated based on 100% equity financing. The net present value (NPV) was calculated for discounting rates between 0% and 10%, resulting from the net cash flow estimated to be generated by the Project. The Project Base Case NPV was calculated based on a discounting rate of 8%. The payback period, based on the undiscounted annual cash flow of the Project, is also presented. Furthermore, a sensitivity analysis was also performed for the pre-tax base case to assess the impact of a +/-30% variation of the Project initial capital cost, which does not include mining costs, royalty buyouts or leasing costs. Sensitivity analyses were also run with a +/-30% variation on annual operating costs and the price of iron ore concentrate (FOB Breakwater Port). The Economic Analysis was performed with the following assumptions and basis:

- Project Execution is based on key project milestones presented in Chapter 24 of this Report;
- The Economic Analysis was performed based on the 28-year mine plan developed in this Study. Mineral resources will allow for operations to continue beyond this period;
- The price of concentrate loaded in ship (FOB) at Breakwater Port assumed in this base case Economic Analysis is US$82.14/dmt. This price was derived based on the methodology presented in Chapter 19 of this Report and considers the following:
  - Exchange rate of US $1.00 = CAN $0.75;
  - The benchmark reference price is the Platts IODEX 62% Fe, CFR China. An analyst consensus forecast price of US $76.00/dmt was used for the base case analysis;
  - An Fe premium of 15% Fe on a dry metric tonne basis was used to estimate the Platts IODEX 65% Fe, CFR China. This premium was based on the evaluation by Vulcan Technologies described in Chapter 19, which estimated a premium between 15-25% based on historical trends. The evaluated Platts IODEX of 65% Fe is US $91.63/dmt, CFR China;
  - Shipping costs from Breakwater Port to port in China are estimated at US $22.83/t of dry concentrate. This estimate was based on a study conducted by AMEC (AMEC, 2013) with some adjustments made to reflect lower fuel price;
  - All costs and sales estimates are in constant Q3-2019 dollars;
  - The Economic Analysis includes working capital that was estimated based on stockpile inventory logistics;
  - All sunk costs are not considered in this Economic Analysis;
  - A 1% gross sales royalty is payable after buyback.

Table 22-1 presents the undiscounted, pre-tax cash flow projection for the Project. BBA assumed that the initial capital cost disbursement is distributed in Years PP3, PP2, PP1 and Year 1 respectively as follows: 10%, 30%, 50% and 10%. For the expansion, the capital cost disbursement is assumed at 30%, 60% and 10%, respectively, in Years 3, 4 and 5. Details regarding mill feed, head grades and other mining parameters are detailed in the mine production schedule found in Chapter 16 of this Report.

Table 22-1: Hopes Advance table of un-discounted, pre-tax, cash flow (M$ US)

Year / Description	PP3	PP2	PP1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	Total
Concentrate Production (Mt)	-	-	-	4.1	5.1	5.2	5.2	9.9	10.9	10.9	10.4	10.1	10.4	10.6	10.1	9.7	9.7	10.1	10.8	10.4	10.1	9.9	10.2	10.3	9.8	9.7	9.6	10.3	9.9	9.5	9.4	**262.4**
Concentrate Selling Price (USD/t)	-	-	-	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	82.14	**82.14**
Gross Revenue from Sales	-	-	-	**338**	**417**	**430**	**429**	**812**	**896**	**898**	**854**	**829**	**854**	**870**	**831**	**800**	**798**	**833**	**883**	**858**	**830**	**814**	**836**	**847**	**809**	**793**	**791**	**844**	**813**	**777**	**775**	**21,557**
Operating Costs	0.0	0.0	0.0	173.9	190.3	196.2	195.8	277.0	298.3	292.5	288.2	290.3	300.4	298.6	300.9	300.9	303.0	301.8	300.5	311.6	305.9	311.0	322.6	316.9	332.3	332.7	312.4	318.1	311.6	292.5	279.8	**8,056.0**
Royalties	0.0	0.0	0.0	3.4	4.2	4.3	4.3	8.1	9.0	9.0	8.5	8.3	8.5	8.7	8.3	8.0	8.0	8.3	8.8	8.6	8.3	8.1	8.4	8.5	8.1	7.9	7.9	8.4	8.1	7.8	7.7	**215.6**
Capital Costs	0.0	15.3	1,145.2	8.0	11.6	13.2	57.1	657.0	19.5	14.4	6.3	86.5	34.7	12.4	21.5	6.3	73.1	25.0	7.8	4.4	60.1	56.4	22.9	26.2	10.9	22.5	4.9	8.0	7.5	0.0	0.0	**2,438.7**
Rehabilitation and Closure Costs	0.0	0.0	32.8	11.3	0.0	0.0	17.3	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	76.3
Cash Flow (Undiscounted)																																
Total Operating Expenses + Royalties	0.0	0.0	0.0	177.3	194.4	200.5	200.1	285.2	307.2	301.5	296.7	298.6	309.0	307.3	309.2	308.9	311.0	310.1	309.3	320.1	314.2	319.2	331.0	325.4	340.3	340.7	320.3	326.5	319.7	300.3	287.6	**8,271.5**
CAPEX Disbursement Incl. Rehab	114.5	358.9	605.4	133.8	11.6	210.3	468.6	65.7	34.5	14.4	6.3	86.5	34.7	12.4	21.5	6.3	73.1	25.0	7.8	4.4	60.1	56.4	22.9	26.2	10.9	22.5	4.9	8.0	7.5	-	-	**2,515.0**
Working Capital	0.0	0.0	0.0	17.1	4.3	0.0	0.0	21.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(42.7)	**-**
Annual Cash Flow	(114.5)	(358.9)	(605.4)	9.4	206.3	19.4	(239.8)	439.7	554.3	582.2	551.2	443.6	510.3	550.8	499.8	485.0	414.2	497.6	566.0	533.6	455.4	437.9	481.9	495.5	457.3	430.2	466.0	509.2	485.8	476.2	530.1	**10,770.3**
Cumulative Cash Flow	**(114.5)**	**(473.4)**	**(1,078.8)**	**(1,069.4)**	**(863.2)**	**(843.7)**	**(1,083.5)**	**(643.8)**	**(89.5)**	**492.7**	**1,043.9**	**1,487.5**	**1,997.8**	**2,548.6**	**3,048.4**	**3,533.4**	**3,947.5**	**4,445.1**	**5,011.1**	**5,544.7**	**6,000.1**	**6,438.0**	**6,920.0**	**7,415.5**	**7,872.8**	**8,303.0**	**8,769.0**	**9,278.2**	**9,764.0**	**10,240.2**	**10,770.3**	
Mining Duties and Income Taxes Paid	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**	**2.5**	**64.9**	**135.5**	**153.6**	**150.6**	**144.0**	**153.5**	**166.5**	**155.2**	**148.0**	**145.7**	**159.7**	**184.0**	**172.6**	**162.0**	**151.3**	**155.9**	**163.6**	**145.0**	**140.2**	**148.6**	**168.4**	**159.8**	**154.4**	**160.4**	**3 646.3**
Post-tax Cumulative Cash flow ('000$)	**(114.5)**	**(473.4)**	**(1,078.8)**	**(1,069.4)**	**(863.2)**	**(844.4)**	**(1,086.6)**	**(711.8)**	**(293.0)**	**135.6**	**536.2**	**835.8**	**1,192.6**	**1,576.8**	**1,921.5**	**2,258.5**	**2,527.0**	**2,864.9**	**3,246.9**	**3,607.9**	**3,901.3**	**4,188.0**	**4,514.0**	**4,846.0**	**5,158.3**	**5,448.3**	**5,765.7**	**6,106.5**	**6,432.5**	**6,754.3**	**7,124.0**	

PP: Pre-production

A discount rate is applied to the cash flow to derive the NPV for each discount rate. The payback period is presented for the undiscounted cumulative NPV. The NPV calculation was done at 0%, 5%, 8% and 10%. The Base Case NPV was assumed at a discount rate of 8% following discussions with Oceanic. Table 22-2 presents the results of the Economic Analysis for the Project, based on the assumptions and cash flow projections presented previously.

Table 22-2: Economic analysis results (pre-tax)

IRR = 20.5% **Payback = 6.2 years** **Discount Rate**	**NPV (M$)**
0%	$10,770 M
5%	$4,138 M
8%	**$2,377 M**
10%	$1,630 M

22.1 Corporate Taxation

The current Canadian tax system applicable to Mineral Resources Income was used to assess the annual tax liabilities for the Project. This consists of federal and provincial corporate taxes, as well as provincial mining taxes. The federal and provincial corporate tax rates currently applicable over the Project's operating life are 15.0% and 11.5% of taxable income, respectively. The marginal tax rates applicable under the mining tax regulations in Québec are 16%, 22% and 28% of taxable income, depending on profit margin. A processing allowance rate of either 10% of certain capital expenditures, or 75% of income was assumed. The taxation calculations were prepared by management with the assistance of third-party taxation experts. Actual taxes payable will be affected by corporate activities, and current and future tax benefits have not been considered.

Taxation calculations were provided by Oceanic. Table 22-3 presents the results of the post-tax financial analysis.

Table 22-3: Post-tax economic analysis results (base case is bolded)

IRR = 16.8% **Payback = 6.7 years** **Discount Rate**	**NPV (M$)**
0%	$7,124 M
5%	$2,607 M
8%	**$1,405 M**
10%	$ 895 M

22.2 Sensitivity Analysis

A sensitivity analysis was performed whereby initial infrastructure capital cost, annual operating costs and product selling price were individually varied between +/-30% to determine the impact on Project IRR and NPV at an 8% discount rate. Results are presented in Table 22-4, as well as graphically in Figure 22-1 and Figure 22-2. The project financials are most sensitive to the commodity selling price followed by operating costs and finally initial capital expenditures.

Table 22-4: Sensitivity analysis table (post-tax)

	Base Case	Initial infrastructure CAPEX $1 193M		Selling price including shipping USD $82.14/dmt FOB Breakwater Port		LOM OPEX $30.70/t con	
		+30%	-30%	+30%	-30%	+30%	-30%
IRR	16.8%	14.4%	20.4%	23.5%	8.5%	14.1%	19.5%
	NPV	**NPV**	**NPV**	**NPV**	**NPV**	**NPV**	**NPV**
0%	$7,124 M	$7,008 M	$7,229 M	$10,948 M	$3,042 M	$5,669 M	$8,513 M
5%	$2,607 M	$2,420 M	$2,786 M	$4,395 M	$683 M	$1,926 M	$3,259 M
8%	$1,405 M	$1,200 M	$1,602 M	$2,632 M	$77 M	$936 M	$1,855 M
10%	$ 895 M	$684 M	$1,099 M	$1,876 M	-$172 M	$518 M	$1,256 M

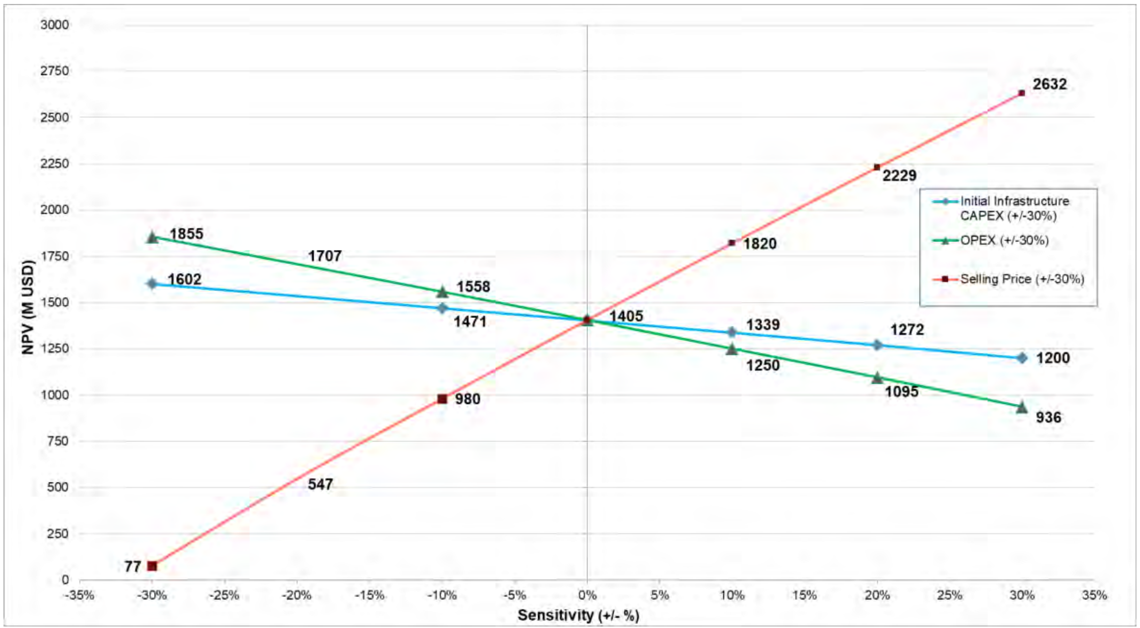


Figure 22-1: Sensitivity analysis graph for NPV

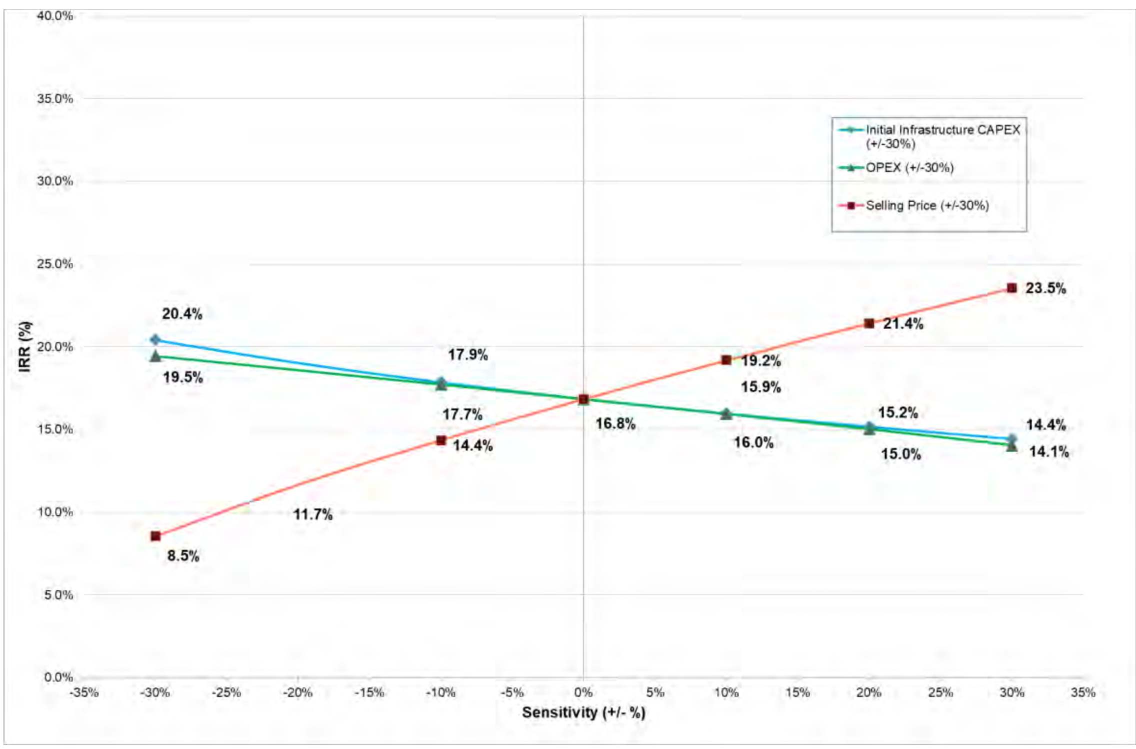


Figure 22-2: Sensitivity analysis graph for IRR

22.3 Spot Price Case

Oceanic requested that BBA evaluates the economic results of the Hopes Advance project using a more recent spot price to reflect the current market conditions. For this analysis, BBA is using the November 22, 2019 spot price derived from data provided by Oceanic. The price of concentrate loaded in ship (FOB) at Breakwater Port assumed in this case is US$88.83/dmt. The results of the evaluation are presented in Table 22-5.

Table 22-5: Post-tax economic analysis results

IRR = 18.8% **Payback = 7.7 years** **Discount Rate**	**NPV (M$)**
0%	$8,179 M
5%	$3,101 M
8%	$1,744 M
10%	$1,166 M

23. ADJACENT PROPERTIES

The Ungava Property is located in the Labrador Trough, which contains several current iron mining operations along with several historical iron mining operations. Oceanic has determined that the nearest active iron mining operation to the property is at Labrador City, approximately 800 km to the southeast. Immediately to the south of the Ungava Property is the Fenimore Property containing several historically identified iron deposits. This area was also explored during the 1950s. No other significant iron properties are known in the area surrounding the Ungava Property (information provided in documents supplied by Peter Ferderber to Oceanic).

Just south of Aupaluk, stretching 40 km towards Tasuijuaq, is a property with several claims held by Nickel North Exploration Corp. on the NTS sheets 24N04, 24N05 and 24K13. The property has potential for discovery of copper, nickel, platinum, palladium and gold mineralization (based on GESTIM Plus, www.mnrf.gouv.qc.ca, and personal communication from Eddy Canova of Oceanic with Nickel North Exploration Corp.). Further to the south, south of Baie des Feuilles and Tasuijuaq on the map sheets 24K and 24F, are claims held by companies Exploration Midland Inc., Focus Graphite, Ping An Hawking China Opportunity Fund I.L.P., Braille Energy Systems Inc., and Northern Shield Resources. These are looking for gold, copper, nickel, platinum, palladium and iron ore mineralization.

In the Roberts Lake area, 10 km to 20 km north-northwest of Kangirsuk, are claims held by Redevance Auriferes Osisko Ltée on the map sheet 25C04 and 25D01. The properties have potential for discovery of copper, nickel, platinum, palladium and gold mineralization. Further north, in the Raglan area Map sheets 35H, and 35G, are operating mines of copper, nickel, platinum, palladium and gold mineralization operated by Glencore Canada Corp. and Exploration Minière Jien Nunavik Ltée. Claims in the area are also held for the exploration of copper, nickel, platinum, palladium and gold mineralization by Glencore Canada Corp., Exploration Minière Jien Nunavik Ltée and Oxford Mining Corp.

24. OTHER RELEVANT DATA AND INFORMATION

As this present Study is a PEA for the Hopes Advance project, it is expected that when Oceanic decides to proceed with the next project development step, it will be a prefeasibility study to further develop the concepts presented in this re-scoped PEA and this would be followed by a feasibility study. Concurrently, Oceanic may also proceed with environmental permitting activities. A duration of about 2 years should be planned for these activities, to completion of the FS, after which Oceanic can proceed directly to detailed engineering in an EPCM or EPC project execution strategy.

The key to success for executing the Hopes Advance project rests with planning of logistics and construction. Early in detailed engineering and with the support of procurement resources, the development of temporary and permanent infrastructure to support construction will be of prime importance. This infrastructure includes the following:

- Permanent camp and the temporary construction camp;
- Airstrip;
- Temporary and permanent roads, including the main access road connecting the port to the mine area;
- Port area temporary and permanent infrastructure including fuel storage and laydown areas for receiving equipment and materials by sea;
- Power generators.

Construction of these aforementioned areas should begin in the summer of the third year (Yr -3) before start of production. This will be followed by engineering, procurement and construction activities for all Project areas based on the schedule that will be developed in the next study phases. The overall project execution schedule should take into account delivery lead times for key elements and engineering and procurement priorities should be given to these. This may even require that some critical early infrastructure packages be developed during the FS. The construction plan should also take into account the seasonal impacts on equipment and materials delivery to site and taking advantage of the summer months to strategically advance work in order to properly plan end execute work during the winter months.

Table 24-1 presents a list of major key milestones and activities. In the next study phase, a more detailed logistics and construction plan should be developed.

Table 24-1: Key project implementation milestones

Major Milestones	Month
Completion of the FS	M -36
Start detailed engineering	M -36
Early infrastructure delivery and construction, site preparation (permits awarded)	M -30
Construction (mine site and port site)	M -27
Construction and commissioning completed, start production (Phase 1 only)	M 0

25. INTERPRETATION AND CONCLUSIONS

This PEA is based on the proposed mining and processing plan for the Hopes Advance project and the mineral resource estimate (MRE) updated in 2019.

25.1 Mineral Resource Estimate

The MRE for the Hopes Advance project has been prepared as summarized in Table 25-1.

Table 25-1: Hopes Advance summary of mineral resource estimate, effective date Nov. 20, 2019 (Cut-off grade 25% total Fe)

Classification	Tonnes (t 000)	Fe (%)	Concentrate tonnes (t 000)
Measured	774,241	32.2	288,971
Indicated	613,796	32.0	226,901
Measured and Indicated	**1,388,037**	**32.1**	**515,872**
Inferred	222,188	32.5	82,475

Notes to Table 25-1:

1. The Qualified Person responsible for the estimates (including the current Mineral Resource Estimates) is Mr. Eddy Canova, P. Geo., GeoConsul Canova Inc., a consultant to the Company.
2. Mineral Resources are reported assuming open pit mining methods. Mineral Resources were initially reported with an effective date of September 19, 2012, on block models that had an effective date of April 2, 2012. A review was undertaken in 2019, which concluded that the estimate and its inputs were current, and the effective date for the reviewed Mineral Resources is now November 20, 2019.
3. Mineral Resources are classified using the 2014 CIM Definition Standards. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability.
4. The Mineral Resources were estimated using a block model with parent blocks of 50 m by 50 m by 15 m sub-blocked to a minimum size of 25 m by 25 m by 1 m and using inverse distance weighting to the third power (ID^3) methods for grade estimation. A total of ten individual mineralized domains were identified and each estimated into a separate block model. Given the continuity of the iron assay values, no top cuts were applied. All resources are reported using an iron cut-off grade of 25% within conceptual Whittle pit shells and a mining recovery of 100%. The Whittle shells used the following input parameters, commodity price of US$115/dmt of concentrate; CA$:US$ exchange rate of 0.97; assumed overall pit slope angle of 50º; 1% royalty; mining cost of $2.00/t material moved; process cost of CA$16.22/t of concentrate; port costs of CA$1.45/t of concentrate; and general and administrative costs of CA$3.38/t of concentrate.
5. Estimates have been rounded and may result in summation differences.

25.2 Mining Methods

Pit optimizations were completed on the Castle Mountain, Iron Valley and Bay Zone F deposits to identify the Mineral Resources which would provide the best potential economics for the study. Pit designs were than carried out which include access ramps and the appropriate final pit wall configurations. Table 25-2 presents the subset of mineral resources within these pit designs which include 406 Mt of Measured Resources and 278 Mt of Indicated Resources which are accessed at a stripping ratio of 0.81 to 1. The subset of mineral resources within the pit designs were then scheduled into a 28 year life-of-mine plan using Hexagon's Mine Plan Schedule Optimizer (MPSO). During full production, the mine equipment fleet requirements were calculated to be 22 haul trucks, 3 hydraulic shovels, 1 wheel loader, and 4 production drills, in addition to the fleet of support and service equipment. The total mine workforce will reach a peak of 246 employees.

Table 25-2: Subset of mineral resources within the PEA pit designs (above 25% Fe cut-off)

Deposit	Measured Resources			Indicated Resources			Total Resources		
	Tonne (Mt)	Fe (%)	WR (%)	Tonne (Mt)	Fe (%)	WR (%)	Tonne (Mt)	Fe (%)	WR (%)
Castle Mountain	266	32.6	38.0	107	32.6	38.0	**372**	**32.6**	**38.0**
Iron Valley	34	34.1	40.0	57	33.9	40.0	**91**	**34.0**	**40.0**
Bay Zone F	107	33.0	39.0	114	32.7	38.0	**221**	**32.8**	**38.5**
Total (1)	**406**	**32.8**	**38.4**	**278**	**32.9**	**38.4**	**684**	**32.9**	**38.4**

(1) Numbers may not add up due to rounding

25.3 Project Economics

The results of the pre-tax and post-tax economic analysis are presented in Table 25-3 and Table 25-4.

Table 25-3: Economic analysis results (pre-tax)

IRR = 20.5% Payback = 6.2 years	NPV (M$)
Discount Rate	
0%	$10,770 M
5%	$4,138 M
8%	**$2,377 M**
10%	$1,630 M

Table 25-4: Post-tax economic analysis results

IRR = 16.8% Payback = 6.7 years Discount Rate	NPV (M$)
0%	$7,124 M
5%	$2,607 M
8%	**$1,405 M**
10%	$ 895 M

25.4 Conclusion

The re-scoped Project, as presented in the PEA Report, is conceptual in nature and needs to be further developed at a PFS level.

25.4.1 Risks

In this PEA, a formal risk register was not formulated; however, in the PFS study a formal risk register should be started and maintained throughout the study to analyze and mitigate potential risks established during the study. At this PEA level, the following key Project risks are identified and should be further analyzed in the next study phases of the project. Recommendations regarding the mitigation of some of these risks are given in Chapter 26.

- There is a risk that the metallurgical performance outlined in the study is not met which will impact the project financial performance;
- Tailings and Water Management has been developed to a conceptual level and require further study;
- Risk related to tailings dam failure need to be taken into consideration by design based on the latest standards and guidelines;
- Seasonal impact could limit the availability of water reclaimed from the TMF;
- Environmental and permitting take longer than expected or have material cost impact;
- Impact of new and evolving regulations on schedule, CAPEX and OPEX; (keep track and investigate new regulations as they relate to the project schedule)
- Impact of logistics and transport on project costs;
- Cargo liquefaction related to transportation of fine materials;
- Dust generation and management;
- Construction and execution plan will be greatly affected by seasonal conditions. (A basis of the construction plan must be established early).

26. RECOMMENDATIONS

On the basis of the results of this PEA, BBA recommends that a PFS be conducted on the Hopes Advance project to advance the Project to the next phase. The proposed PFS would be a stage-gate for Oceanic to determine if the Project should be subsequently advanced further. BBA recommends that the following work be undertaken as the Project is developed further:

1. Metallurgy: In the PFS, analyze metallurgical testwork data for each deposit by lithology to develop weight recovery equations for the gravity and magnetic circuit.
2. Metallurgy: Ahead of the FS, perform more detailed mineralogical analysis on core samples by deposit and by lithology to better understand hematite and magnetite deportment and liberation.
3. Geology: In the PFS, incorporate the lithologies into the geological block model so that the mine plan can be developed accordingly.
4. Mineral Resource Estimate: In the PFS, update the mineral resource estimate to apply current economic parameters and generate an updated resource block model to incorporate data by lithology.
5. In the PFS, include the overburden bedrock contact in the block model.
6. Ore hardness variability: Ahead of the FS, perform variability testwork (such as SPI) on drill cores, by deposit and by lithology.
7. Ore Hardness: Ahead of the FS, conduct further HPGR testwork.
8. Ore Hardness: Ahead of the FS, conduct testwork for regrind design using cobber tail samples.
9. Alternative concentration circuits: In the PFS, perform trade-off studies to evaluate alternative gravity concentration circuits incorporating hindered settlers, wet, high intensity magnetic separation and Reflux Classifiers in order to optimize iron recovery.
10. TMF: In the PFS, conduct an option study to evaluate the following. Such an option study will likely be required as part of the environmental permitting process:
    a. Tailings dewatering options to reduce water pumped to the TMF in light of the fact that during winter, water from the TMF may not be available for recirculation. This should include thickened tailings as well as filtered tailings.
    b. TMF design based on cellular approach to allow for progressive reclamation.
    c. Design strategies to reduce overall TMF footprint.
11. Water management: In the PFS, conduct a more detailed seasonal water study.
12. Archeological areas: Ahead of the FS, considering that this PEA proposes to locate the concentrate stockpile at the port in an area where archeological features have been identified, this should be reviewed in more detail.

13. Dust control: In the PFS, develop conceptual dust control strategies for waste piles, crushed material stockpile and concentrate stockpile, to be developed in even further detail in the FS.
14. Concentrate freezing: In the PFS, considering that the concentrate will be transported and stored during the winter months, it will be important to assess the impact of cold temperature on material handling.
15. Concentrate moisture content: Ahead of the FS, perform testwork on the concentrate to determine its transportable moisture limit (TML). This will define the moisture content to avoid risk of ship cargo liquefaction. In turn, this will determine filtering technology required to achieve the required moisture content.
16. Geotechnical investigations: Ahead of the FS, geotechnical investigations should be performed to confirm the soil/seabed conditions. The soil characteristic will influence both the ports structure and extent of the causeway. This is because dredging the seabed may be a feasible option if the seabed has softer soil than the assumed rock.
17. Power generation: In order to reduce fuel consumption, complementary power generation systems should be explored such as wind power, small hydro (run of river) and tidal. Some grants may be available for undertaking studies as well as for development of such strategies. This can be assessed during the execution of the PFS and FS.
18. Construction and execution plan: In the PFS and subsequently in the FS, a basis of the construction plan must be established early to better define site constraints and logistics, and help establish more accurate construction costs.
19. Product marketability: Considering that the gravity concentrate is no longer subjected to regrind, the particle size may be too fine for conventional sintering and too coarse for direct pelletizing. A more detailed market analysis, specific to the HA product should be undertaken in the next study phases.
20. Community engagement: Oceanic should continue their efforts in engaging the community and stakeholders to actively promote the Project.

26.1 Budget for Ongoing Work

It is recommended that Oceanic proceed with the preparation of a PFS for the Hopes Advance project. The estimated budget for undertaking the work required to complete the PFS is summarized in Table 26-1. The PFS, and related activities, is expected to take 9 to 12 months to complete. The budget estimate excludes costs related to maintaining claims as well as other corporate costs.

Table 26-1: Hopes Advance budget for ongoing work

Item	Cost ($)
Prefeasibility study (PFS) excluding marine facility	1,200,000
Marine facility PFS	250,000
Trade-off study for tailings management options for permitting technologies	75,000
Met-ocean investigation (water current and tidal fluctuation)	180,000
Geotechnical investigation for marine facility	220,000
Market study	50,000
Total	**1,975,000**

27. REFERENCES

Amec, (2013), Shipping Optimization Study, Project number VT1100013.

Auger, P.E., (1958), General Report on the Geology of the Properties Atlantic Iron Ores Limited and International Iron Ores Limited, Ungava-New Quebec, Ungava Iron Ores Company, GM-006240.

Canova, E., (2012). Technical Report on the Mineral Resource Estimate Update, Hopes Advance Bay Iron Deposits, Ungava Bay Region, Québec, Canada, NTS 24M/08, 24N05. An NI 43-101 report for Oceanic Iron Ore Corp. Filed on SEDAR (www.sedar.com).

Campagne, T., (2012), Magnetic Modelling On the Hopes Advance Project From Airborne Magnetic Data, Aupaluk, Qc. Project Number: 3590 for Oceanic iron Ore Corp., January 20, 2012.

Campagne, T., (2012), Addendum To: Magnetic Modelling On the Hopes Advance Project From Airborne Magnetic Data, Aupaluk, Qc. Project Number: 3590 for Oceanic iron Ore Corp., March 9, 2012.

Chabot,A. (2014), Rapport D'Inventaire et Classification du Boeuf Musque, Études Environnementales du Projet Minier Hope Advance, Projet no. 121-23116-01, prepared for Oceanic Iron Ore Corp., by A. Chabot from WSP, June 2014.

FLSmith, Results of Preliminary Laboratory Testing on Four Samples from the Oceanic Iron Ore Project, December 15, 2011.

Golder Associés Ltd. (2011), Integrating Environmental and Social Considerations in Hopes Advance Bay Project - A First Overview, for Oceanic Iron Ore Corp., September 21, 2011.

Golder Associés Ltd. (2012), Hopes Advance Bay Iron Project Prefeasibility Study Tailings Management, Oceanic Iron Ore Corp., November 9, 2012.

Griffis, A.T., (1957), A General Report on Oceanic Iron Ores of Canada Limited, Oceanic Iron Ores of Canada Limited, GM-5244-B.

Lone Star Mining and Exploration, (1973), International Iron Ore, GM-28737.

Micon International Limited (2011), Technical Report on the Mineral Resource Estimate and Results of the Preliminary Economic Assessment, Hopes Advance Bay Iron Deposits, Ungava Bay Region, Quebec, Canada, 4 November 2011. Prepared for Oceanic Iron Ore Corp.

Micon International Limited (2012), Prefeasibility Study Completed on the Hopes Advance Bay Iron Deposits, Ungava Bay Region, Quebec, Canada, 2 November 2012. Prepared for Oceanic Iron Ore Corp.

Mira Geoscience Ltd., (2012), Magnetic Modelling on the Hopes Advance Project From Airborne Magnetic Data, Aupaluk, QC, prepared by Thomas Campagne, dated January 20, 2012.

Simard, J., (2011), Report on the Integration and Reprocessing of Heliborne Magnetic Surveys Performed on the Ungava Bay Project, Nunavik, Quebec, Reference 11-C034, June 2011, Volume 1, Hopes Advance Report.

SGS, The Gravity and Magnetic Separation Characteristics of Samples from the Ungava Bay Iron Properties, Final Report 13169-001, dated April 13, 2012.

SGS, The Pilot Plant Testing of Samples from the Hopes Advance Area, Final Report 13169-002, Revision 1, dated October 16, 2012.

SGS, Solid – Liquid Separation and Rheological Response of Various Hopes Advance Area Pilot Plant, Final Report 13169-003, dated September 17, 2012.

Ungava Iron Ores Company, (1961), Summary Report, GM-12664.

United States Geological Survey, Minerals Yearbooks and Mineral Commodity Summaries for Iron Ore and Iron and Steel, http://minerals.us.gov/minerals/.

United States Geological Survey, (1995), Preliminary Compilation of Descriptive Geoenvironmental Mineral Deposit Models, Edward A. Du Bray, Ed., Open-File Report, 95-831.

Voisey Bay Geophysics Ltd. (2006, 2007, 2008, 2009) a series of geophysical surveys maps for properties in the Ungava Bay area, Northern Quebec. Accompanying reports and miscellaneous maps prepared for Mr. Peter Ferderber and Sheridan Platinum Group Ltd.

Vulcan Technologies (2019), Oceanic Iron Ore Corporation Value in Use and Market Placement, author Mr. Paul Vermeulen, November 15, 2019.

Wood (2019), Preliminary Economic Assessment Marine Facilities Hopes Advance Bay Project, Project # VT180015, dated November 19, 2019.

Appendix A: Complete List of Claims (January 2020)

NTS	RANGE	LOT	PART	TITLE #		RENEWAL DATE	REG. DATE	EXP. DATE	AREA (ha)	CREDITS	WORK REQ.$	RENT $	OWNER REGISTERED	CATEGORY
Hopes Advance														
24M08	1	34	0	CDC	26016	5-May-20	7-Jul-04	6-Jul-20	44.11	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	36	0	CDC	26018	5-May-20	7-Jul-04	6-Jul-20	44.11	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	37	0	CDC	26019	5-May-20	7-Jul-04	6-Jul-20	44.10	148,239.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	38	0	CDC	26020	5-May-20	7-Jul-04	6-Jul-20	44.10	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	41	0	CDC	26023	5-May-20	7-Jul-04	6-Jul-20	44.10	179,005.29 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	42	0	CDC	26024	5-May-20	7-Jul-04	6-Jul-20	44.10	220,520.66 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	50	0	CDC	26031	5-May-20	7-Jul-04	6-Jul-20	44.10	375,593.42 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M08	1	51	0	CDC	26032	5-May-20	7-Jul-04	6-Jul-20	44.10	566,302.67 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M08	1	52	0	CDC	26033	5-May-20	7-Jul-04	6-Jul-20	44.10	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	34	0	CDC	26039	5-May-20	7-Jul-04	6-Jul-20	44.09	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	36	0	CDC	26041	5-May-20	7-Jul-04	6-Jul-20	44.09	33,473.86 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	37	0	CDC	26042	5-May-20	7-Jul-04	6-Jul-20	44.09	61,171.66 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	38	0	CDC	26043	5-May-20	7-Jul-04	6-Jul-20	44.09	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	50	0	CDC	26055	5-May-20	7-Jul-04	6-Jul-20	44.09	84,428.26 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	51	0	CDC	26056	5-May-20	7-Jul-04	6-Jul-20	44.09	821,076.87 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M08	2	52	0	CDC	26057	5-May-20	7-Jul-04	6-Jul-20	44.09	139,959.61 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	52	0	CDC	26066	5-May-20	7-Jul-04	6-Jul-20	44.08	679,176.57 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	49	0	CDC	26072	5-May-20	7-Jul-04	6-Jul-20	44.07	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	50	0	CDC	26073	5-May-20	7-Jul-04	6-Jul-20	44.07	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	51	0	CDC	26074	5-May-20	7-Jul-04	6-Jul-20	44.07	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	52	0	CDC	26075	5-May-20	7-Jul-04	6-Jul-20	44.07	53,872.29 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	53	0	CDC	26076	5-May-20	7-Jul-04	6-Jul-20	44.07	329,330.32 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	54	0	CDC	26077	5-May-20	7-Jul-04	6-Jul-20	44.07	115,526.80 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	55	0	CDC	26078	5-May-20	7-Jul-04	6-Jul-20	44.07	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	56	0	CDC	26079	5-May-20	7-Jul-04	6-Jul-20	44.07	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M08	4	57	0	CDC	26080	5-May-20	7-Jul-04	6-Jul-20	44.07	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	5	49	0	CDC	26081	5-May-20	7-Jul-04	6-Jul-20	44.06	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	5	50	0	CDC	26082	5-May-20	7-Jul-04	6-Jul-20	44.06	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	5	51	0	CDC	26083	5-May-20	7-Jul-04	6-Jul-20	44.06	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	5	52	0	CDC	26084	5-May-20	7-Jul-04	6-Jul-20	44.06	49,507.60 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	5	53	0	CDC	26085	5-May-20	7-Jul-04	6-Jul-20	44.06	74,152.03 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	5	54	0	CDC	26086	5-May-20	7-Jul-04	6-Jul-20	44.06	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	5	55	0	CDC	26087	5-May-20	7-Jul-04	6-Jul-20	44.06	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	5	56	0	CDC	26088	5-May-20	7-Jul-04	6-Jul-20	44.06	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	5	57	0	CDC	26089	5-May-20	7-Jul-04	6-Jul-20	44.06	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	6	49	0	CDC	26090	5-May-20	7-Jul-04	6-Jul-20	44.05	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	6	50	0	CDC	26091	5-May-20	7-Jul-04	6-Jul-20	44.05	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	6	51	0	CDC	26092	5-May-20	7-Jul-04	6-Jul-20	44.05	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	6	52	0	CDC	26093	5-May-20	7-Jul-04	6-Jul-20	44.05	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	6	53	0	CDC	26094	5-May-20	7-Jul-04	6-Jul-20	44.05	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	6	54	0	CDC	26095	5-May-20	7-Jul-04	6-Jul-20	44.05	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	6	55	0	CDC	26096	5-May-20	7-Jul-04	6-Jul-20	44.05	816.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	6	56	0	CDC	26097	5-May-20	7-Jul-04	6-Jul-20	44.05	586.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	7	50	0	CDC	26100	5-May-20	7-Jul-04	6-Jul-20	44.04	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	7	51	0	CDC	26101	5-May-20	7-Jul-04	6-Jul-20	44.04	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	7	52	0	CDC	26102	5-May-20	7-Jul-04	6-Jul-20	44.04	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	7	53	0	CDC	26103	5-May-20	7-Jul-04	6-Jul-20	44.04	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	7	54	0	CDC	26104	5-May-20	7-Jul-04	6-Jul-20	44.04	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	7	55	0	CDC	26105	5-May-20	7-Jul-04	6-Jul-20	44.04	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	9	51	0	CDC	26122	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	9	52	0	CDC	26123	5-May-20	7-Jul-04	6-Jul-20	44.02	62,905.01 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	9	53	0	CDC	26124	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	

NTS	RANGE	LOT	PART	TITLE #		RENEWAL DATE	REG. DATE	EXP. DATE	AREA (ha)	CREDITS	WORK REQ.$	RENT $	OWNER REGISTERED	CATEGORY
24M08	10	50	0	CDC	26133	5-May-20	7-Jul-04	6-Jul-20	44.01	162,571.09 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	10	51	0	CDC	26134	5-May-20	7-Jul-04	6-Jul-20	44.01	523,517.70 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	10	52	0	CDC	26135	5-May-20	7-Jul-04	6-Jul-20	44.01	167,473.47 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	10	53	0	CDC	26136	5-May-20	7-Jul-04	6-Jul-20	44.01	69,881.64 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	10	54	0	CDC	26137	5-May-20	7-Jul-04	6-Jul-20	44.01	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	10	55	0	CDC	26138	5-May-20	7-Jul-04	6-Jul-20	44.01	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	11	50	0	CDC	26142	5-May-20	7-Jul-04	6-Jul-20	44.00	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	11	51	0	CDC	26143	5-May-20	7-Jul-04	6-Jul-20	44.00	147,010.93 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	11	52	0	CDC	26144	5-May-20	7-Jul-04	6-Jul-20	44.00	123,240.27 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	11	53	0	CDC	26145	5-May-20	7-Jul-04	6-Jul-20	44.00	130,331.47 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	11	54	0	CDC	26146	5-May-20	7-Jul-04	6-Jul-20	44.00	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	11	55	0	CDC	26147	5-May-20	7-Jul-04	6-Jul-20	44.00	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M08	12	50	0	CDC	26151	5-May-20	7-Jul-04	6-Jul-20	43.99	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	12	51	0	CDC	26152	5-May-20	7-Jul-04	6-Jul-20	43.99	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	12	52	0	CDC	26153	5-May-20	7-Jul-04	6-Jul-20	43.99	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	12	53	0	CDC	26154	5-May-20	7-Jul-04	6-Jul-20	43.99	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	12	54	0	CDC	26155	5-May-20	7-Jul-04	6-Jul-20	43.99	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	1	0	CDC	26159	5-May-20	7-Jul-04	6-Jul-20	44.03	539,425.83 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	2	0	CDC	26160	5-May-20	7-Jul-04	6-Jul-20	44.03	862,725.27 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	3	0	CDC	26161	5-May-20	7-Jul-04	6-Jul-20	44.03	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	6	0	CDC	26164	5-May-20	7-Jul-04	6-Jul-20	44.03	163,184.68 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	7	0	CDC	26165	5-May-20	7-Jul-04	6-Jul-20	44.03	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	8	0	CDC	26166	5-May-20	7-Jul-04	6-Jul-20	44.03	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	9	0	CDC	26167	5-May-20	7-Jul-04	6-Jul-20	44.03	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	10	0	CDC	26168	5-May-20	7-Jul-04	6-Jul-20	44.03	118,932.62 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	11	0	CDC	26169	5-May-20	7-Jul-04	6-Jul-20	44.03	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	12	0	CDC	26170	5-May-20	7-Jul-04	6-Jul-20	44.03	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	13	0	CDC	26171	5-May-20	7-Jul-04	6-Jul-20	44.03	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	14	0	CDC	26172	5-May-20	7-Jul-04	6-Jul-20	44.03	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	15	0	CDC	26173	5-May-20	7-Jul-04	6-Jul-20	44.03	113,615.40 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	16	0	CDC	26174	5-May-20	7-Jul-04	6-Jul-20	44.03	232,447.23 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	17	0	CDC	26175	5-May-20	7-Jul-04	6-Jul-20	44.03	131,076.73 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	18	0	CDC	26176	5-May-20	7-Jul-04	6-Jul-20	44.03	76,218.84 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	19	0	CDC	26177	5-May-20	7-Jul-04	6-Jul-20	44.03	586.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	20	0	CDC	26178	5-May-20	7-Jul-04	6-Jul-20	44.03	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	21	0	CDC	26179	5-May-20	7-Jul-04	6-Jul-20	44.03	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	22	0	CDC	26180	5-May-20	7-Jul-04	6-Jul-20	44.03	108,347.64 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	23	0	CDC	26181	5-May-20	7-Jul-04	6-Jul-20	44.03	141,141.05 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	24	0	CDC	26182	5-May-20	7-Jul-04	6-Jul-20	44.03	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	25	0	CDC	26183	5-May-20	7-Jul-04	6-Jul-20	44.03	5,507.28 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	26	0	CDC	26184	5-May-20	7-Jul-04	6-Jul-20	44.03	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	1	0	CDC	26185	5-May-20	7-Jul-04	6-Jul-20	44.02	118,977.34 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	2	0	CDC	26186	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	3	0	CDC	26187	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	4	0	CDC	26188	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	5	0	CDC	26189	5-May-20	7-Jul-04	6-Jul-20	44.02	100,214.23 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	6	0	CDC	26190	5-May-20	7-Jul-04	6-Jul-20	44.02	241,070.93 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	7	0	CDC	26191	5-May-20	7-Jul-04	6-Jul-20	44.02	279,957.67 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	8	0	CDC	26192	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	9	0	CDC	26193	5-May-20	7-Jul-04	6-Jul-20	44.02	99,169.25 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	10	0	CDC	26194	5-May-20	7-Jul-04	6-Jul-20	44.02	319,370.72 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	11	0	CDC	26195	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	12	0	CDC	26196	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	

NTS	RANGE	LOT	PART	TITLE #		RENEWAL DATE	REG. DATE	EXP. DATE	AREA (ha)	CREDITS	WORK REQ.$	RENT $	OWNER REGISTERED	CATEGORY
24N05	9	13	0	CDC	26197	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	14	0	CDC	26198	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	15	0	CDC	26199	5-May-20	7-Jul-04	6-Jul-20	44.02	586.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	16	0	CDC	26200	5-May-20	7-Jul-04	6-Jul-20	44.02	586.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	17	0	CDC	26201	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	18	0	CDC	26202	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	19	0	CDC	26203	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	20	0	CDC	26204	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	21	0	CDC	26205	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	22	0	CDC	26206	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	23	0	CDC	26207	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	24	0	CDC	26208	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	25	0	CDC	26209	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	26	0	CDC	26210	5-May-20	7-Jul-04	6-Jul-20	44.02	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	28	35	0	CDC	26265	5-May-20	7-Jul-04	6-Jul-20	44.14	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	28	36	0	CDC	26266	5-May-20	7-Jul-04	6-Jul-20	44.14	586.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	28	40	0	CDC	26270	5-May-20	7-Jul-04	6-Jul-20	44.14	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	28	41	0	CDC	26271	5-May-20	7-Jul-04	6-Jul-20	44.14	133,633.87 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	28	42	0	CDC	26272	5-May-20	7-Jul-04	6-Jul-20	44.14	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
24M01	28	43	0	CDC	26273	5-May-20	7-Jul-04	6-Jul-20	44.14	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	29	36	0	CDC	26285	5-May-20	7-Jul-04	6-Jul-20	44.13	586.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	29	37	0	CDC	26286	5-May-20	7-Jul-04	6-Jul-20	44.13	701.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	29	38	0	CDC	26287	5-May-20	7-Jul-04	6-Jul-20	44.13	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	29	40	0	CDC	26289	5-May-20	7-Jul-04	6-Jul-20	44.13	70,029.13 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	29	41	0	CDC	26290	5-May-20	7-Jul-04	6-Jul-20	44.13	234,677.83 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	29	42	0	CDC	26291	5-May-20	7-Jul-04	6-Jul-20	44.13	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	29	43	0	CDC	26292	5-May-20	7-Jul-04	6-Jul-20	44.13	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
24M01	29	44	0	CDC	26293	5-May-20	7-Jul-04	6-Jul-20	44.13	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
24M01	29	45	0	CDC	26294	5-May-20	7-Jul-04	6-Jul-20	44.13	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
24M01	29	47	0	CDC	26296	5-May-20	7-Jul-04	6-Jul-20	44.13	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
24M01	29	31.2	0	CDC	26297	5-May-20	7-Jul-04	6-Jul-20	44.13	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
24M01	29	49	0	CDC	26298	5-May-20	7-Jul-04	6-Jul-20	44.13	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
24M01	29	50	0	CDC	26299	5-May-20	7-Jul-04	6-Jul-20	44.13	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
24M01	29	51	0	CDC	26300	5-May-20	7-Jul-04	6-Jul-20	44.13	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	30	34	0	CDC	26302	5-May-20	7-Jul-04	6-Jul-20	44.12	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	30	36	0	CDC	26304	5-May-20	7-Jul-04	6-Jul-20	44.12	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	30	37	0	CDC	26305	5-May-20	7-Jul-04	6-Jul-20	44.12	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	30	38	0	CDC	26306	5-May-20	7-Jul-04	6-Jul-20	44.12	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	30	40	0	CDC	26308	5-May-20	7-Jul-04	6-Jul-20	44.12	0.00 $	2,500 $	122.00 $		
24M01	30	41	0	CDC	26309	5-May-20	7-Jul-04	6-Jul-20	44.12	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	30	42	0	CDC	26310	5-May-20	7-Jul-04	6-Jul-20	44.12	106,236.37 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	30	43	0	CDC	26311	5-May-20	7-Jul-04	6-Jul-20	44.12	144,510.09 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	30	44	0	CDC	26312	5-May-20	7-Jul-04	6-Jul-20	44.12	72,868.20 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	30	48	0	CDC	26316	5-May-20	7-Jul-04	6-Jul-20	44.11	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	30	49	0	CDC	26317	5-May-20	7-Jul-04	6-Jul-20	44.11	112,828.23 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	30	50	0	CDC	26318	5-May-20	7-Jul-04	6-Jul-20	44.11	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	30	51	0	CDC	26319	5-May-20	7-Jul-04	6-Jul-20	44.11	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	43	0	CDC	26380	5-May-20	7-Jul-04	6-Jul-20	44.10	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	17	39	0	CDC	2244039	31-May-20	2-Aug-10	1-Aug-20	44.25	0.00 $	1,600.00 $		Oceanic Iron Ore Corp. (86997)	II
24M01	17	40	0	CDC	2244040	31-May-20	2-Aug-10	1-Aug-20	44.25	367.00 $	1,600.00 $		Oceanic Iron Ore Corp. (86997)	II
24M01	17	41	0	CDC	2244041	31-May-20	2-Aug-10	1-Aug-20	44.25	294.00 $	1,600.00 $		Oceanic Iron Ore Corp. (86997)	II
24M01	18	39	0	CDC	2244047	31-May-20	2-Aug-10	1-Aug-20	44.24	0.00 $	1,600.00 $		Oceanic Iron Ore Corp. (86997)	II
24M01	18	40	0	CDC	2244048	31-May-20	2-Aug-10	1-Aug-20	44.24	0.00 $	1,600.00 $		Oceanic Iron Ore Corp. (86997)	II

NTS	RANGE	LOT	PART	TITLE #		RENEWAL DATE	REG. DATE	EXP. DATE	AREA (ha)	CREDITS	WORK REQ.$	RENT $	OWNER REGISTERED	CATEGORY
24N05	12	45	2	CDC	2361333	20-Jun-20	22-Aug-12	21-Aug-20	43.26	0.00 $	1,200.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	45	1	CDC	2361334	20-Jun-20	22-Aug-12	21-Aug-20	0.72	0.00 $	480.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	32	0	CDC	33135	22-Jun-20	24-Aug-04	23-Aug-20	44.11	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	33	0	CDC	33136	22-Jun-20	24-Aug-04	23-Aug-20	44.11	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	32	0	CDC	33138	22-Jun-20	24-Aug-04	23-Aug-20	44.09	128.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	33	0	CDC	33139	22-Jun-20	24-Aug-04	23-Aug-20	44.09	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	48	0	CDC	33145	22-Jun-20	24-Aug-04	23-Aug-20	44.07	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	5	48	0	CDC	33148	22-Jun-20	24-Aug-04	23-Aug-20	44.06	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	6	48	0	CDC	33151	22-Jun-20	24-Aug-04	23-Aug-20	44.05	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	28	34	0	CDC	2247414	22-Jun-20	24-Aug-10	23-Aug-20	44.14	576.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	28	37	0	CDC	2247415	22-Jun-20	24-Aug-10	23-Aug-20	44.14	1,237.04 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	28	38	0	CDC	2247416	22-Jun-20	24-Aug-10	23-Aug-20	44.14	1,187.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	28	39	0	CDC	2247417	22-Jun-20	24-Aug-10	23-Aug-20	44.14	1,187.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
24M01	29	39	0	CDC	2247419	22-Jun-20	24-Aug-10	23-Aug-20	44.13	15,911.10 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	29	46	0	CDC	2247420	22-Jun-20	24-Aug-10	23-Aug-20	44.13	0.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
24M01	30	35	0	CDC	2247422	22-Jun-20	24-Aug-10	23-Aug-20	44.12	0.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	30	46	0	CDC	2247423	22-Jun-20	24-Aug-10	23-Aug-20	44.12	56,330.16 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M01	30	47	0	CDC	2247424	22-Jun-20	24-Aug-10	23-Aug-20	44.11	0.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24N05	9	30	3	CDC	2362699	4-Jul-20	5-Sep-12	4-Sep-20	1.85	2,892.00 $	480.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	58	0	CDC	2362957	5-Jul-20	6-Sep-12	5-Sep-20	44.07	2,352.00 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	59	0	CDC	2362958	5-Jul-20	6-Sep-12	5-Sep-20	44.07	2,352.00 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	60	0	CDC	2362959	5-Jul-20	6-Sep-12	5-Sep-20	44.07	2,352.00 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	5	3	0	CDC	2362960	5-Jul-20	6-Sep-12	5-Sep-20	44.06	2,152.00 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	35	0	CDC	2249074	8-Jul-20	9-Sep-10	8-Sep-20	44.11	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	1	0	CDC	2249394	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	2	0	CDC	2249395	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	3	0	CDC	2249396	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	4	0	CDC	2249397	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	5	0	CDC	2249398	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	6	0	CDC	2249399	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	7	0	CDC	2249400	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	8	0	CDC	2249401	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	9	0	CDC	2249402	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	10	0	CDC	2249403	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	11	0	CDC	2249404	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	12	0	CDC	2249405	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	13	0	CDC	2249406	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	14	0	CDC	2249407	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	15	0	CDC	2249408	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	16	0	CDC	2249409	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	17	0	CDC	2249410	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	18	0	CDC	2249411	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	19	0	CDC	2249412	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	20	0	CDC	2249413	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	21	0	CDC	2249414	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	22	0	CDC	2249415	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	23	0	CDC	2249416	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	24	0	CDC	2249417	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	25	0	CDC	2249418	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	26	0	CDC	2249419	12-Jul-20	13-Sep-10	12-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	29	34	0	CDC	2249523	12-Jul-20	13-Sep-10	12-Sep-20	44.13	0.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	29	35	0	CDC	2249524	12-Jul-20	13-Sep-10	12-Sep-20	44.13	2,680.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	30	39	0	CDC	2249525	12-Jul-20	13-Sep-10	12-Sep-20	44.12	0.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	

NTS	RANGE	LOT	PART	TITLE #		RENEWAL DATE	REG. DATE	EXP. DATE	AREA (ha)	CREDITS	WORK REQ.$	RENT $	OWNER REGISTERED	CATEGORY
24M08	2	35	0	CDC	2363563	13-Jul-20	14-Sep-12	13-Sep-20	44.09	2,352.00 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	20	3	CDC	33127	13-Jul-20	14-Sep-04	13-Sep-20	43.21	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	I-P
24N05	7	21	0	CDC	33128	13-Jul-20	14-Sep-04	13-Sep-20	44.04	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	22	0	CDC	33129	13-Jul-20	14-Sep-04	13-Sep-20	44.04	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	23	0	CDC	33130	13-Jul-20	14-Sep-04	13-Sep-20	44.04	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	24	0	CDC	33131	13-Jul-20	14-Sep-04	13-Sep-20	44.04	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	25	0	CDC	33132	13-Jul-20	14-Sep-04	13-Sep-20	44.04	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	26	0	CDC	33133	13-Jul-20	14-Sep-04	13-Sep-20	44.04	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	28	32	0	CDC	33168	13-Jul-20	14-Sep-04	13-Sep-20	44.14	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
24M01	28	33	0	CDC	33169	13-Jul-20	14-Sep-04	13-Sep-20	44.14	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	29	32	0	CDC	33171	13-Jul-20	14-Sep-04	13-Sep-20	44.13	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	29	33	0	CDC	33172	13-Jul-20	14-Sep-04	13-Sep-20	44.13	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	30	32	0	CDC	33174	13-Jul-20	14-Sep-04	13-Sep-20	44.12	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	30	33	0	CDC	33175	13-Jul-20	14-Sep-04	13-Sep-20	44.12	0.00 $	2,500 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	39	0	CDC	2249911	14-Jul-20	15-Sep-10	14-Sep-20	44.10	5,609.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	40	0	CDC	2249912	14-Jul-20	15-Sep-10	14-Sep-20	44.10	5,954.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	44	0	CDC	2249913	14-Jul-20	15-Sep-10	14-Sep-20	44.10	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	45	0	CDC	2249914	14-Jul-20	15-Sep-10	14-Sep-20	44.10	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	46	0	CDC	2249915	14-Jul-20	15-Sep-10	14-Sep-20	44.10	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	47	0	CDC	2249916	14-Jul-20	15-Sep-10	14-Sep-20	44.10	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M08	1	48	0	CDC	2249917	14-Jul-20	15-Sep-10	14-Sep-20	44.10	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M08	1	49	0	CDC	2249918	14-Jul-20	15-Sep-10	14-Sep-20	44.10	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	39	0	CDC	2249924	14-Jul-20	15-Sep-10	14-Sep-20	44.09	5,609.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	40	0	CDC	2249925	14-Jul-20	15-Sep-10	14-Sep-20	44.09	5,724.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	41	0	CDC	2249926	14-Jul-20	15-Sep-10	14-Sep-20	44.09	5,839.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	42	0	CDC	2249927	14-Jul-20	15-Sep-10	14-Sep-20	44.09	5,609.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	43	0	CDC	2249928	14-Jul-20	15-Sep-10	14-Sep-20	44.09	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	44	0	CDC	2249929	14-Jul-20	15-Sep-10	14-Sep-20	44.09	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	45	0	CDC	2249930	14-Jul-20	15-Sep-10	14-Sep-20	44.09	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	46	0	CDC	2249931	14-Jul-20	15-Sep-10	14-Sep-20	44.09	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	47	0	CDC	2249932	14-Jul-20	15-Sep-10	14-Sep-20	44.09	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	48	0	CDC	2249933	14-Jul-20	15-Sep-10	14-Sep-20	44.09	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	49	0	CDC	2249934	14-Jul-20	15-Sep-10	14-Sep-20	44.09	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	53	0	CDC	2249935	14-Jul-20	15-Sep-10	14-Sep-20	44.09	2,924.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M08	2	54	0	CDC	2249936	14-Jul-20	15-Sep-10	14-Sep-20	44.09	2,923.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M08	2	55	0	CDC	2249937	14-Jul-20	15-Sep-10	14-Sep-20	44.09	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
24M08	3	49	0	CDC	2249940	14-Jul-20	15-Sep-10	14-Sep-20	44.08	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	50	0	CDC	2249941	14-Jul-20	15-Sep-10	14-Sep-20	44.08	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	51	0	CDC	2249942	14-Jul-20	15-Sep-10	14-Sep-20	44.08	114,392.35 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	53	0	CDC	2249943	14-Jul-20	15-Sep-10	14-Sep-20	44.08	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	54	0	CDC	2249944	14-Jul-20	15-Sep-10	14-Sep-20	44.08	2,923.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M08	3	55	0	CDC	2249945	14-Jul-20	15-Sep-10	14-Sep-20	44.08	2,923.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M08	3	56	0	CDC	2249946	14-Jul-20	15-Sep-10	14-Sep-20	44.08	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M08	3	57	0	CDC	2249947	14-Jul-20	15-Sep-10	14-Sep-20	44.08	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
24M08	6	57	0	CDC	2249948	14-Jul-20	15-Sep-10	14-Sep-20	44.05	6,756.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	7	49	0	CDC	2249949	14-Jul-20	15-Sep-10	14-Sep-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	7	56	0	CDC	2249950	14-Jul-20	15-Sep-10	14-Sep-20	44.04	48,102.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	7	57	0	CDC	2249951	14-Jul-20	15-Sep-10	14-Sep-20	44.04	2,923.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	8	49	0	CDC	2249952	14-Jul-20	15-Sep-10	14-Sep-20	44.03	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	8	50	0	CDC	2249953	14-Jul-20	15-Sep-10	14-Sep-20	44.03	5,724.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	8	51	0	CDC	2249954	14-Jul-20	15-Sep-10	14-Sep-20	44.03	5,609.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	8	52	0	CDC	2249955	14-Jul-20	15-Sep-10	14-Sep-20	44.03	5,954.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	8	53	0	CDC	2249956	14-Jul-20	15-Sep-10	14-Sep-20	44.03	5,609.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	

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24M08	8	54	0	CDC	2249957	14-Jul-20	15-Sep-10	14-Sep-20	44.03	5,609.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	8	55	0	CDC	2249958	14-Jul-20	15-Sep-10	14-Sep-20	44.03	5,609.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	8	56	0	CDC	2249959	14-Jul-20	15-Sep-10	14-Sep-20	44.03	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	8	57	0	CDC	2249960	14-Jul-20	15-Sep-10	14-Sep-20	44.03	2,923.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	8	58	0	CDC	2249961	14-Jul-20	15-Sep-10	14-Sep-20	44.03	2,923.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	8	59	0	CDC	2249962	14-Jul-20	15-Sep-10	14-Sep-20	44.03	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	8	60	0	CDC	2249963	14-Jul-20	15-Sep-10	14-Sep-20	44.03	5,609.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	9	49	0	CDC	2249964	14-Jul-20	15-Sep-10	14-Sep-20	44.02	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	9	50	0	CDC	2249965	14-Jul-20	15-Sep-10	14-Sep-20	44.02	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	9	54	0	CDC	2249966	14-Jul-20	15-Sep-10	14-Sep-20	44.02	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	9	55	0	CDC	2249967	14-Jul-20	15-Sep-10	14-Sep-20	44.02	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	9	56	0	CDC	2249968	14-Jul-20	15-Sep-10	14-Sep-20	44.02	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	9	57	0	CDC	2249969	14-Jul-20	15-Sep-10	14-Sep-20	44.02	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	9	58	0	CDC	2249970	14-Jul-20	15-Sep-10	14-Sep-20	44.02	2,923.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	9	59	0	CDC	2249971	14-Jul-20	15-Sep-10	14-Sep-20	44.02	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	9	60	0	CDC	2249972	14-Jul-20	15-Sep-10	14-Sep-20	44.02	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	10	49	0	CDC	2249973	14-Jul-20	15-Sep-10	14-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	10	56	0	CDC	2249974	14-Jul-20	15-Sep-10	14-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	10	57	0	CDC	2249975	14-Jul-20	15-Sep-10	14-Sep-20	44.01	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	11	49	0	CDC	2249976	14-Jul-20	15-Sep-10	14-Sep-20	44.00	2,923.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	11	56	0	CDC	2249977	14-Jul-20	15-Sep-10	14-Sep-20	44.00	2,923.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	11	57	0	CDC	2249978	14-Jul-20	15-Sep-10	14-Sep-20	44.00	2,923.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	12	49	0	CDC	2249979	14-Jul-20	15-Sep-10	14-Sep-20	43.99	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M08	12	55	0	CDC	2249980	14-Jul-20	15-Sep-10	14-Sep-20	43.99	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	12	56	0	CDC	2249981	14-Jul-20	15-Sep-10	14-Sep-20	43.99	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	12	57	0	CDC	2249982	14-Jul-20	15-Sep-10	14-Sep-20	43.99	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	1	31	0	CDC	2253113	4-Aug-20	6-Oct-10	5-Oct-20	44.11	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	2	31	0	CDC	2253114	4-Aug-20	6-Oct-10	5-Oct-20	44.09	5,609.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	46	0	CDC	2253115	4-Aug-20	6-Oct-10	5-Oct-20	44.08	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	47	0	CDC	2253116	4-Aug-20	6-Oct-10	5-Oct-20	44.08	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	48	0	CDC	2253117	4-Aug-20	6-Oct-10	5-Oct-20	44.08	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	46	0	CDC	2253118	4-Aug-20	6-Oct-10	5-Oct-20	44.07	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	47	0	CDC	2253119	4-Aug-20	6-Oct-10	5-Oct-20	44.07	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	5	46	0	CDC	2253120	4-Aug-20	6-Oct-10	5-Oct-20	44.06	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	5	47	0	CDC	2253121	4-Aug-20	6-Oct-10	5-Oct-20	44.06	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	6	46	0	CDC	2253122	4-Aug-20	6-Oct-10	5-Oct-20	44.05	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	6	47	0	CDC	2253123	4-Aug-20	6-Oct-10	5-Oct-20	44.05	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	7	46	0	CDC	2253124	4-Aug-20	6-Oct-10	5-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	7	47	0	CDC	2253125	4-Aug-20	6-Oct-10	5-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	7	48	0	CDC	2253126	4-Aug-20	6-Oct-10	5-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	7	58	0	CDC	2253127	4-Aug-20	6-Oct-10	5-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	7	59	0	CDC	2253128	4-Aug-20	6-Oct-10	5-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	7	60	0	CDC	2253129	4-Aug-20	6-Oct-10	5-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	28	44	0	CDC	2254237	13-Aug-20	15-Oct-10	14-Oct-20	44.14	0.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
24M01	28	45	0	CDC	2254238	13-Aug-20	15-Oct-10	14-Oct-20	44.14	0.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
24N05	8	4	0	CDC	2254485	16-Aug-20	18-Oct-10	17-Oct-20	44.03	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	5	0	CDC	2254486	16-Aug-20	18-Oct-10	17-Oct-20	44.03	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	10	0	CDC	2254487	16-Aug-20	18-Oct-10	17-Oct-20	44.00	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	11	0	CDC	2254488	16-Aug-20	18-Oct-10	17-Oct-20	44.00	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	12	0	CDC	2254489	16-Aug-20	18-Oct-10	17-Oct-20	44.00	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	13	0	CDC	2254490	16-Aug-20	18-Oct-10	17-Oct-20	44.00	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	5	1	0	CDC	2254491	16-Aug-20	18-Oct-10	17-Oct-20	44.06	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24N05	5	2	0	CDC	2254492	16-Aug-20	18-Oct-10	17-Oct-20	44.06	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P

NTS	RANGE	LOT	PART	TITLE #		RENEWAL DATE	REG. DATE	EXP. DATE	AREA (ha)	CREDITS	WORK REQ.$	RENT $	OWNER REGISTERED	CATEGORY
24N05	6	1	0	CDC	2254493	16-Aug-20	18-Oct-10	17-Oct-20	44.05	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	2	0	CDC	2254494	16-Aug-20	18-Oct-10	17-Oct-20	44.05	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	3	0	CDC	2254495	16-Aug-20	18-Oct-10	17-Oct-20	44.05	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24N05	6	4	0	CDC	2254496	16-Aug-20	18-Oct-10	17-Oct-20	44.05	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M08	5	58	0	CDC	2254653	17-Aug-20	19-Oct-10	18-Oct-20	44.06	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	5	59	0	CDC	2254654	17-Aug-20	19-Oct-10	18-Oct-20	44.06	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	5	60	0	CDC	2254655	17-Aug-20	19-Oct-10	18-Oct-20	44.06	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24M08	6	58	0	CDC	2254656	17-Aug-20	19-Oct-10	18-Oct-20	44.05	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	6	59	0	CDC	2254657	17-Aug-20	19-Oct-10	18-Oct-20	44.05	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	6	60	0	CDC	2254658	17-Aug-20	19-Oct-10	18-Oct-20	44.05	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	28	31	0	CDC	2254722	18-Aug-20	20-Oct-10	19-Oct-20	44.14	0.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	29	31	0	CDC	2254723	18-Aug-20	20-Oct-10	19-Oct-20	44.13	0.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M01	30	31	0	CDC	2254724	18-Aug-20	20-Oct-10	19-Oct-20	44.12	0.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	1	0	CDC	2256823	25-Aug-20	27-Oct-10	26-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	2	0	CDC	2256824	25-Aug-20	27-Oct-10	26-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	3	0	CDC	2256825	25-Aug-20	27-Oct-10	26-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	4	0	CDC	2256826	25-Aug-20	27-Oct-10	26-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	5	0	CDC	2256827	25-Aug-20	27-Oct-10	26-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	6	0	CDC	2256828	25-Aug-20	27-Oct-10	26-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24N05	7	7	0	CDC	2256829	25-Aug-20	27-Oct-10	26-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24N05	7	8	0	CDC	2256830	25-Aug-20	27-Oct-10	26-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24N05	7	9	0	CDC	2256831	25-Aug-20	27-Oct-10	26-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24N05	7	10	0	CDC	2256832	25-Aug-20	27-Oct-10	26-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
24N05	7	11	0	CDC	2256833	25-Aug-20	27-Oct-10	26-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	12	0	CDC	2256834	25-Aug-20	27-Oct-10	26-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	13	0	CDC	2256835	25-Aug-20	27-Oct-10	26-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	14	0	CDC	2256836	25-Aug-20	27-Oct-10	26-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	15	0	CDC	2256837	25-Aug-20	27-Oct-10	26-Oct-20	44.04	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	I-P
24N05	7	16	4	CDC	2256838	25-Aug-20	27-Oct-10	26-Oct-20	43.60	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	I-P
24N05	7	17	4	CDC	2256839	25-Aug-20	27-Oct-10	26-Oct-20	43.23	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	I-P
24N05	7	18	3	CDC	2256840	25-Aug-20	27-Oct-10	26-Oct-20	43.43	5,609.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	I-P
24N05	7	19	3	CDC	2256841	25-Aug-20	27-Oct-10	26-Oct-20	43.80	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	I-P
24M01	30	45	0	CDC	2415296	28-Aug-20	30-Oct-14	29-Oct-20	44.12	0.00 $	800.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	27	0	CDC	51828	23-Nov-20	25-Jan-05	24-Jan-21	44.03	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	28	0	CDC	51829	23-Nov-20	25-Jan-05	24-Jan-21	44.03	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	29	0	CDC	51830	23-Nov-20	25-Jan-05	24-Jan-21	44.03	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	30	4	CDC	51831	23-Nov-20	25-Jan-05	24-Jan-21	34.40	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	27	0	CDC	51832	23-Nov-20	25-Jan-05	24-Jan-21	44.02	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	28	0	CDC	51833	23-Nov-20	25-Jan-05	24-Jan-21	44.02	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	29	1	CDC	51834	23-Nov-20	25-Jan-05	24-Jan-21	39.64	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	30	1	CDC	51835	23-Nov-20	25-Jan-05	24-Jan-21	1.17	0.00 $	1,000.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	27	0	CDC	51836	23-Nov-20	25-Jan-05	24-Jan-21	44.01	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	28	0	CDC	51837	23-Nov-20	25-Jan-05	24-Jan-21	44.01	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	29	0	CDC	51838	23-Nov-20	25-Jan-05	24-Jan-21	44.01	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	10	30	1	CDC	51839	23-Nov-20	25-Jan-05	24-Jan-21	36.89	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	8	31	2	CDC	51840	23-Nov-20	25-Jan-05	24-Jan-21	17.37	0.00 $	1,000.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	9	31	0	CDC	51841	23-Nov-20	25-Jan-05	24-Jan-21	44.02	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
24N05	10	31	1	CDC	51842	23-Nov-20	25-Jan-05	24-Jan-21	7.08	0.00 $	1,000.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24M01	23	31	0	CDC	57201	16-Dec-20	17-Feb-05	16-Feb-21	44.19	1,711.08 $	2,500.00 $		Oceanic Iron Ore Corp. (86997)	
24M01	23	32	0	CDC	57202	16-Dec-20	17-Feb-05	16-Feb-21	44.19	97.12 $	2,500.00 $		Oceanic Iron Ore Corp. (86997)	II-P
24M01	22	31	0	CDC	57320	16-Dec-20	17-Feb-05	16-Feb-21	44.20	0.00 $	2,500.00 $		Oceanic Iron Ore Corp. (86997)	
24M01	22	32	0	CDC	57321	16-Dec-20	17-Feb-05	16-Feb-21	44.20	296.04 $	2,500.00 $		Oceanic Iron Ore Corp. (86997)	II-P
24N05	6	24	0	CDC	2056737	20-Dec-20	21-Feb-07	20-Feb-21	44.05	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	

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24N05	6	25	0	CDC	2056738	20-Dec-20	21-Feb-07	20-Feb-21	44.05	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	26	0	CDC	2056739	20-Dec-20	21-Feb-07	20-Feb-21	44.05	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	27	0	CDC	2056740	20-Dec-20	21-Feb-07	20-Feb-21	44.05	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	28	0	CDC	2056741	20-Dec-20	21-Feb-07	20-Feb-21	44.05	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	29	0	CDC	2056742	20-Dec-20	21-Feb-07	20-Feb-21	44.05	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	30	0	CDC	2056743	20-Dec-20	21-Feb-07	20-Feb-21	44.05	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	31	0	CDC	2056744	20-Dec-20	21-Feb-07	20-Feb-21	44.05	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	32	0	CDC	2056745	20-Dec-20	21-Feb-07	20-Feb-21	44.05	0.00 $	2,500.00 $		Oceanic Iron Ore Corp. (86997)	
24N05	7	27	0	CDC	2056746	20-Dec-20	21-Feb-07	20-Feb-21	44.04	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	28	0	CDC	2056747	20-Dec-20	21-Feb-07	20-Feb-21	44.04	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	29	0	CDC	2056748	20-Dec-20	21-Feb-07	20-Feb-21	44.04	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	30	0	CDC	2056749	20-Dec-20	21-Feb-07	20-Feb-21	44.04	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	31	0	CDC	2056750	20-Dec-20	21-Feb-07	20-Feb-21	44.04	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	7	32	0	CDC	2056751	20-Dec-20	21-Feb-07	20-Feb-21	44.04	0.00 $	2,500.00 $		Oceanic Iron Ore Corp. (86997)	
24N05	22	12	0	CDC	2535196	8-Jan-21	12-Mar-19	11-Mar-21	43.88	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	II
24N05	22	13	0	CDC	2535197	8-Jan-21	12-Mar-19	11-Mar-21	43.88	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	II
24N05	23	12	0	CDC	2535198	8-Jan-21	12-Mar-19	11-Mar-21	43.87	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	II
24N05	23	13	0	CDC	2535199	8-Jan-21	12-Mar-19	11-Mar-21	43.87	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	II
24N05	23	14	0	CDC	2535200	8-Jan-21	12-Mar-19	11-Mar-21	43.87	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	II
24N05	24	13			2535201	8-Jan-21	12-Mar-19	11-Mar-21	43.86	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	
24N05	28	10	0	CDC	2535202	8-Jan-21	12-Mar-19	11-Mar-21	43.81	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	II
24N05	28	11	0	CDC	2535203	8-Jan-21	12-Mar-19	11-Mar-21	43.81	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	II
24N05	28	12	0	CDC	2535204	8-Jan-21	12-Mar-19	11-Mar-21	43.81	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	II
24N05	28	13	0	CDC	2535205	8-Jan-21	12-Mar-19	11-Mar-21	43.81	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	II
24N05	28	14	0	CDC	2535206	8-Jan-21	12-Mar-19	11-Mar-21	43.81	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	II
24N05	28	15	0	CDC	2535207	8-Jan-21	12-Mar-19	11-Mar-21	43.81	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	II
24M08	3	34	0	CDC	2278241	13-Jan-21	19-Oct-10	16-Mar-21	44.08	5,609.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	35	0	CDC	2278242	13-Jan-21	19-Oct-10	16-Mar-21	44.08	5,724.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	36	0	CDC	2278243	13-Jan-21	19-Oct-10	16-Mar-21	44.08	5,839.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	37	0	CDC	2278244	13-Jan-21	19-Oct-10	16-Mar-21	44.08	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	38	0	CDC	2278245	13-Jan-21	19-Oct-10	16-Mar-21	44.08	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	39	0	CDC	2278246	13-Jan-21	19-Oct-10	16-Mar-21	44.08	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	40	0	CDC	2278247	13-Jan-21	19-Oct-10	16-Mar-21	44.08	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	34	0	CDC	2278249	13-Jan-21	19-Oct-10	16-Mar-21	44.07	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	35	0	CDC	2278250	13-Jan-21	19-Oct-10	16-Mar-21	44.07	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	36	0	CDC	2278251	13-Jan-21	19-Oct-10	16-Mar-21	44.07	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	37	0	CDC	2278252	13-Jan-21	19-Oct-10	16-Mar-21	44.07	5,609.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	38	0	CDC	2278253	13-Jan-21	19-Oct-10	16-Mar-21	44.07	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	33	0	CDC	2535398	16-Jan-21	20-Mar-19	19-Mar-21	44.08	0.00 $	120 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	33	0	CDC	2535399	16-Jan-21	20-Mar-19	19-Mar-21	44.07	0.00 $	120 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	5	0	CDC	2288579	23-Feb-21	27-Apr-11	26-Apr-21	44.05	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	6	0	CDC	2288580	23-Feb-21	27-Apr-11	26-Apr-21	44.05	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	7	0	CDC	2288581	23-Feb-21	27-Apr-11	26-Apr-21	44.05	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	8	0	CDC	2288582	23-Feb-21	27-Apr-11	26-Apr-21	44.05	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	9	0	CDC	2288583	23-Feb-21	27-Apr-11	26-Apr-21	44.05	1,776.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	10	1	CDC	2290153	3-Mar-21	5-May-11	4-May-21	30.84	1,356.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	11	1	CDC	2290154	3-Mar-21	5-May-11	4-May-21	19.3	2,700.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	12	1	CDC	2290155	3-Mar-21	5-May-11	4-May-21	11.18	2,700.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	13	1	CDC	2290156	3-Mar-21	5-May-11	4-May-21	8.4	2,700.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	14	1	CDC	2290157	3-Mar-21	5-May-11	4-May-21	6.33	2,700.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	15	1	CDC	2290158	3-Mar-21	5-May-11	4-May-21	7.24	2,700.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	16	1	CDC	2290159	3-Mar-21	5-May-11	4-May-21	2.68	2,700.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	17	1	CDC	2290160	3-Mar-21	5-May-11	4-May-21	0.03	2,700.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	

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24N05	6	18	1	CDC	2290161	3-Mar-21	5-May-11	4-May-21	4.51	2,700.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	19	1	CDC	2290162	3-Mar-21	5-May-11	4-May-21	8.42	2,700.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	20	1	CDC	2290163	3-Mar-21	5-May-11	4-May-21	8.63	2,700.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	21	1	CDC	2290164	3-Mar-21	5-May-11	4-May-21	6.63	2,700.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	22	1	CDC	2290165	3-Mar-21	5-May-11	4-May-21	5.55	2,700.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	23	1	CDC	2290166	3-Mar-21	5-May-11	4-May-21	31.01	1,356.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	6	16	2	CDC	2290167	3-Mar-21	5-May-11	4-May-21	0.01	2,700.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	27	14	0	CDC	2539033	7-Mar-21	9-May-19	8-May-21	43.82	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	27	15	0	CDC	2539034	7-Mar-21	9-May-19	8-May-21	43.82	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	27	16	0	CDC	2539035	7-Mar-21	9-May-19	8-May-21	43.82	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	27	17	0	CDC	2539036	7-Mar-21	9-May-19	8-May-21	43.82	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	28	16	0	CDC	2539037	7-Mar-21	9-May-19	8-May-21	43.81	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	31	0	CDC	2306666	8-Jun-21	19-Oct-10	9-Aug-21	44.08	1,356.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	32	0	CDC	2306667	8-Jun-21	19-Oct-10	9-Aug-21	44.08	1,356.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	41	0	CDC	2306668	8-Jun-21	19-Oct-10	9-Aug-21	44.08	1,356.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	42	0	CDC	2306669	8-Jun-21	19-Oct-10	9-Aug-21	44.08	5,189.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	43	0	CDC	2306670	8-Jun-21	19-Oct-10	9-Aug-21	44.08	1,356.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	44	0	CDC	2306671	8-Jun-21	19-Oct-10	9-Aug-21	44.08	1,356.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	3	45	0	CDC	2306672	8-Jun-21	19-Oct-10	9-Aug-21	44.08	1,356.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	44	0	CDC	2306673	8-Jun-21	19-Oct-10	9-Aug-21	44.07	1,356.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	45	0	CDC	2306674	8-Jun-21	19-Oct-10	9-Aug-21	44.07	1,356.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	8	47	0	CDC	2306684	8-Jun-21	19-Oct-10	9-Aug-21	44.03	1,356.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	8	48	0	CDC	2306685	8-Jun-21	19-Oct-10	9-Aug-21	44.03	1,356.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	9	48	0	CDC	2306686	8-Jun-21	19-Oct-10	9-Aug-21	44.02	1,356.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	10	48	0	CDC	2306687	8-Jun-21	19-Oct-10	9-Aug-21	44.01	1,356.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	11	48	0	CDC	2306688	8-Jun-21	19-Oct-10	9-Aug-21	44.00	1,356.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	10	58		CDC	2317546	11-Aug-21		12-Oct-21	44.01	2,414.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	10	59		CDC	2317547	11-Aug-21		12-Oct-21	44.01	2,414.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	10	60		CDC	2317548	11-Aug-21		12-Oct-21	44.01	1,267.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	11	58		CDC	2317549	11-Aug-21		12-Oct-21	44.00	2,414.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	11	59		CDC	2317550	11-Aug-21		12-Oct-21	44.00	2,414.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	11	60		CDC	2317551	11-Aug-21		12-Oct-21	44.00	1,267.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	12	58		CDC	2317552	11-Aug-21		12-Oct-21	44.00	2,414.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	12	59		CDC	2317553	11-Aug-21		12-Oct-21	43.99	2,414.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	12	60		CDC	2317554	11-Aug-21		12-Oct-21	43.99	2,414.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	1		CDC	2317570	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	2		CDC	2317571	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	3		CDC	2317572	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	4		CDC	2317573	11-Aug-21	13-Oct-11	12-Oct-21	44.00	33,850.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	5		CDC	2317574	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	6		CDC	2317575	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	7		CDC	2317576	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	8		CDC	2317577	11-Aug-21	13-Oct-11	12-Oct-21	44.00	89,509.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	9		CDC	2317578	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	1		CDC	2317579	11-Aug-21	13-Oct-11	12-Oct-21	43.99	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	2		CDC	2317580	11-Aug-21	13-Oct-11	12-Oct-21	43.99	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	3		CDC	2317581	11-Aug-21	13-Oct-11	12-Oct-21	43.99	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	4		CDC	2317582	11-Aug-21	13-Oct-11	12-Oct-21	43.99	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	5		CDC	2317583	11-Aug-21	13-Oct-11	12-Oct-21	43.99	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	6		CDC	2317584	11-Aug-21	13-Oct-11	12-Oct-21	43.99	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	7		CDC	2317585	11-Aug-21	13-Oct-11	12-Oct-21	43.99	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	8		CDC	2317586	11-Aug-21	13-Oct-11	12-Oct-21	43.99	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	9		CDC	2317587	11-Aug-21	13-Oct-11	12-Oct-21	43.99	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	

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24N05	12	10		CDC	2317588	11-Aug-21	13-Oct-11	12-Oct-21	43.99	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	11		CDC	2317589	11-Aug-21	13-Oct-11	12-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	12		CDC	2317590	11-Aug-21	13-Oct-11	12-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	13		CDC	2317591	11-Aug-21	13-Oct-11	12-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	14		CDC	2317592	11-Aug-21	13-Oct-11	12-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	15		CDC	2317593	11-Aug-21	13-Oct-11	12-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	16		CDC	2317594	11-Aug-21	13-Oct-11	12-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	17		CDC	2317595	11-Aug-21	13-Oct-11	12-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	18		CDC	2317596	11-Aug-21	13-Oct-11	12-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	19		CDC	2317597	11-Aug-21	13-Oct-11	12-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	20		CDC	2317598	11-Aug-21	13-Oct-11	12-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	21		CDC	2317599	11-Aug-21	13-Oct-11	12-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	22		CDC	2317600	11-Aug-21	13-Oct-11	12-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	23		CDC	2317601	11-Aug-21	13-Oct-11	12-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	24		CDC	2317602	11-Aug-21	13-Oct-11	12-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	14		CDC	2317646	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	15		CDC	2317647	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	16		CDC	2317648	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	17		CDC	2317649	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	18		CDC	2317650	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	19		CDC	2317651	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	20		CDC	2317652	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	21		CDC	2317653	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	22		CDC	2317654	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	23		CDC	2317655	11-Aug-21	13-Oct-11	12-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	24		CDC	2317656	11-Aug-21	13-Oct-11	12-Oct-21	43.99	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	25		CDC	2320282	23-Aug-21	25-Oct-11	24-Oct-21	44.00	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	26		CDC	2320283	23-Aug-21	25-Oct-11	24-Oct-21	43.99	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	27		CDC	2320284	23-Aug-21	25-Oct-11	24-Oct-21	43.99	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	28		CDC	2320285	23-Aug-21	25-Oct-11	24-Oct-21	43.99	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	29		CDC	2320286	23-Aug-21	25-Oct-11	24-Oct-21	43.99	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	30		CDC	2320287	23-Aug-21	25-Oct-11	24-Oct-21	43.99	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	31		CDC	2320288	23-Aug-21	25-Oct-11	24-Oct-21	36.34	419.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	32		CDC	2320289	23-Aug-21	25-Oct-11	24-Oct-21	15.05	419.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	25		CDC	2320290	23-Aug-21	25-Oct-11	24-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	26		CDC	2320291	23-Aug-21	25-Oct-11	24-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	27		CDC	2320292	23-Aug-21	25-Oct-11	24-Oct-21	43.98	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	28		CDC	2320293	23-Aug-21	25-Oct-11	24-Oct-21	43.98	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	29		CDC	2320294	23-Aug-21	25-Oct-11	24-Oct-21	43.98	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	30		CDC	2320295	23-Aug-21	25-Oct-11	24-Oct-21	43.98	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	31		CDC	2320296	23-Aug-21	25-Oct-11	24-Oct-21	43.98	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	32		CDC	2320297	23-Aug-21	25-Oct-11	24-Oct-21	43.98	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	33		CDC	2320298	23-Aug-21	25-Oct-11	24-Oct-21	27.12	419.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	39		CDC	2320299	23-Aug-21	25-Oct-11	24-Oct-21	5.57	419.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	26		CDC	2320301	23-Aug-21	25-Oct-11	24-Oct-21	43.97	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	27		CDC	2320302	23-Aug-21	25-Oct-11	24-Oct-21	43.97	1,451.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	28		CDC	2320303	23-Aug-21	25-Oct-11	24-Oct-21	43.97	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	29		CDC	2320304	23-Aug-21	25-Oct-11	24-Oct-21	43.97	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	30		CDC	2320305	23-Aug-21	25-Oct-11	24-Oct-21	43.97	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	31		CDC	2320306	23-Aug-21	25-Oct-11	24-Oct-21	43.97	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	32		CDC	2320307	23-Aug-21	25-Oct-11	24-Oct-21	43.97	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	33		CDC	2320308	23-Aug-21	25-Oct-11	24-Oct-21	43.97	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	39		CDC	2320309	23-Aug-21	25-Oct-11	24-Oct-21	40.21	419.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	

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24N05	13	40		CDC	2320310	23-Aug-21	25-Oct-11	24-Oct-21	18.95	1,566.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	41		CDC	2320311	23-Aug-21	25-Oct-11	24-Oct-21	7.62	1,566.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	42		CDC	2320312	23-Aug-21	25-Oct-11	24-Oct-21	14.00	419.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	43		CDC	2320313	23-Aug-21	25-Oct-11	24-Oct-21	19.05	438.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	44		CDC	2320314	23-Aug-21	25-Oct-11	24-Oct-21	7.67	1,506.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	45		CDC	2320315	23-Aug-21	25-Oct-11	24-Oct-21	23.60	1,090.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	14	31		CDC	2320321	23-Aug-21	25-Oct-11	24-Oct-21	43.96	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	14	32		CDC	2320322	23-Aug-21	25-Oct-11	24-Oct-21	43.96	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	14	33		CDC	2320323	23-Aug-21	25-Oct-11	24-Oct-21	43.96	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	14	34		CDC	2320324	23-Aug-21	25-Oct-11	24-Oct-21	43.96	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	14	35		CDC	2320325	23-Aug-21	25-Oct-11	24-Oct-21	43.96	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	14	36		CDC	2320326	23-Aug-21	25-Oct-11	24-Oct-21	43.96	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	14	37		CDC	2320327	23-Aug-21	25-Oct-11	24-Oct-21	43.96	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	14	38		CDC	2320328	23-Aug-21	25-Oct-11	24-Oct-21	43.96	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	14	39		CDC	2320329	23-Aug-21	25-Oct-11	24-Oct-21	43.96	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	14	40		CDC	2320330	23-Aug-21	25-Oct-11	24-Oct-21	43.96	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	14	41		CDC	2320331	23-Aug-21	25-Oct-11	24-Oct-21	43.96	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	14	42		CDC	2320332	23-Aug-21	25-Oct-11	24-Oct-21	43.96	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	14	43		CDC	2320333	23-Aug-21	25-Oct-11	24-Oct-21	43.96	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	14	44		CDC	2320334	23-Aug-21	25-Oct-11	24-Oct-21	43.96	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	14	45		CDC	2320335	23-Aug-21	25-Oct-11	24-Oct-21	32.16	718.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	15	31		CDC	2320341	23-Aug-21	25-Oct-11	24-Oct-21	43.95	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	15	32		CDC	2320342	23-Aug-21	25-Oct-11	24-Oct-21	43.95	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	15	33		CDC	2320343	23-Aug-21	25-Oct-11	24-Oct-21	43.95	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	15	34		CDC	2320344	23-Aug-21	25-Oct-11	24-Oct-21	43.95	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	15	35		CDC	2320345	23-Aug-21	25-Oct-11	24-Oct-21	43.95	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	15	36		CDC	2320346	23-Aug-21	25-Oct-11	24-Oct-21	43.95	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	15	37		CDC	2320347	23-Aug-21	25-Oct-11	24-Oct-21	43.95	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	15	38		CDC	2320348	23-Aug-21	25-Oct-11	24-Oct-21	43.95	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	15	39		CDC	2320349	23-Aug-21	25-Oct-11	24-Oct-21	43.95	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	15	40		CDC	2320350	23-Aug-21	25-Oct-11	24-Oct-21	43.95	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	15	41		CDC	2320351	23-Aug-21	25-Oct-11	24-Oct-21	43.95	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	15	42		CDC	2320352	23-Aug-21	25-Oct-11	24-Oct-21	43.95	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	15	43		CDC	2320353	23-Aug-21	25-Oct-11	24-Oct-21	43.95	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	15	44		CDC	2320354	23-Aug-21	25-Oct-11	24-Oct-21	43.95	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	15	45		CDC	2320355	23-Aug-21	25-Oct-11	24-Oct-21	21.47	3,686.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	16	31		CDC	2320363	23-Aug-21	25-Oct-11	24-Oct-21	43.94	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	16	32		CDC	2320364	23-Aug-21	25-Oct-11	24-Oct-21	43.94	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	16	33		CDC	2320365	23-Aug-21	25-Oct-11	24-Oct-21	43.94	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	16	34		CDC	2320366	23-Aug-21	25-Oct-11	24-Oct-21	43.94	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	16	35		CDC	2320367	23-Aug-21	25-Oct-11	24-Oct-21	43.94	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	16	36		CDC	2320368	23-Aug-21	25-Oct-11	24-Oct-21	43.94	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	16	37		CDC	2320369	23-Aug-21	25-Oct-11	24-Oct-21	43.94	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	16	38		CDC	2320370	23-Aug-21	25-Oct-11	24-Oct-21	43.94	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	16	39		CDC	2320371	23-Aug-21	25-Oct-11	24-Oct-21	43.94	2,414.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	16	40		CDC	2320372	23-Aug-21	25-Oct-11	24-Oct-21	43.09	419.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	16	41		CDC	2320373	23-Aug-21	25-Oct-11	24-Oct-21	40.24	419.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	16	42		CDC	2320374	23-Aug-21	25-Oct-11	24-Oct-21	41.17	51.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	16	43		CDC	2320375	23-Aug-21	25-Oct-11	24-Oct-21	43.92	718.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	16	44		CDC	2320376	23-Aug-21	25-Oct-11	24-Oct-21	43.94	1,934.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	16	45		CDC	2320377	23-Aug-21	25-Oct-11	24-Oct-21	37.39	1,566.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	11	31	2	CDC	2389637	23-Aug-21	28-Aug-13	24-Oct-21	7.65	0.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	

NTS	RANGE	LOT	PART	TITLE #		RENEWAL DATE	REG. DATE	EXP. DATE	AREA (ha)	CREDITS	WORK REQ.$	RENT $	OWNER REGISTERED	CATEGORY
24N05	11	32	2	CDC	2389638	23-Aug-21	28-Aug-13	24-Oct-21	28.94	0.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	12	33	2	CDC	2389639	23-Aug-21	28-Aug-13	24-Oct-21	16.87	0.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	12	39	2	CDC	2389641	23-Aug-21	28-Aug-13	24-Oct-21	38.41	0.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	13	39	2	CDC	2389642	23-Aug-21	28-Aug-13	24-Oct-21	3.76	0.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	13	40	2	CDC	2389643	23-Aug-21	28-Aug-13	24-Oct-21	25.03	0.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	13	41	2	CDC	2389644	23-Aug-21	28-Aug-13	24-Oct-21	36.36	0.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	13	42	2	CDC	2389645	23-Aug-21	28-Aug-13	24-Oct-21	29.97	0.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	13	43	2	CDC	2389646	23-Aug-21	28-Aug-13	24-Oct-21	24.92	0.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	13	44	2	CDC	2389647	23-Aug-21	28-Aug-13	24-Oct-21	36.30	0.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	13	45	2	CDC	2389648	23-Aug-21	28-Aug-13	24-Oct-21	20.15	0.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	13	45	3	CDC	2389649	23-Aug-21	28-Aug-13	24-Oct-21	0.22	0.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	14	45	2	CDC	2389650	23-Aug-21	28-Aug-13	24-Oct-21	11.80	0.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	15	45	2	CDC	2389651	23-Aug-21	28-Aug-13	24-Oct-21	22.48	0.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	16	40	2	CDC	2389652	23-Aug-21	28-Aug-13	24-Oct-21	0.85	0.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	16	41	2	CDC	2389653	23-Aug-21	28-Aug-13	24-Oct-21	1.59	0.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	16	41	3	CDC	2389654	23-Aug-21	28-Aug-13	24-Oct-21	2.12	0.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	16	42	2	CDC	2389655	23-Aug-21	28-Aug-13	24-Oct-21	2.62	0.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	16	42	3	CDC	2389656	23-Aug-21	28-Aug-13	24-Oct-21	0.15	0.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	16	43	2	CDC	2389657	23-Aug-21	28-Aug-13	24-Oct-21	0.02	0.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	16	45	2	CDC	2389658	23-Aug-21	28-Aug-13	24-Oct-21	6.55	0.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24N05	12	34		CDC	2323993	16-Sep-21	18-Nov-11	17-Nov-21	9.53	419.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	35		CDC	2323994	16-Sep-21	18-Nov-11	17-Nov-21	27.42	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	36		CDC	2323995	16-Sep-21	18-Nov-11	17-Nov-21	19.87	2,611.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	37		CDC	2323996	16-Sep-21	18-Nov-11	17-Nov-21	20.17	2,611.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	38		CDC	2323997	16-Sep-21	18-Nov-11	17-Nov-21	22.23	2,611.00 $	640.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	34		CDC	2323998	16-Sep-21	18-Nov-11	17-Nov-21	43.94	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	35		CDC	2323999	16-Sep-21	18-Nov-11	17-Nov-21	42.68	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	36		CDC	2324000	16-Sep-21	18-Nov-11	17-Nov-21	40.77	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	37		CDC	2324001	16-Sep-21	18-Nov-11	17-Nov-21	38.93	1,267.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	13	38		CDC	2324002	16-Sep-21	18-Nov-11	17-Nov-21	40.42	1,188.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	34	4	CDC	2389640	16-Sep-21	28-Aug-13	17-Nov-21	33.46	0.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
24M08	4	31	0	CDC	2341203	14-Feb-22	18-Apr-12	17-Apr-22	44.07	1,152.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	32	0	CDC	2341204	14-Feb-22	18-Apr-12	17-Apr-22	44.07	1,152.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	39	0	CDC	2341205	14-Feb-22	18-Apr-12	17-Apr-22	44.07	1,152.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	40	0	CDC	2341206	14-Feb-22	18-Apr-12	17-Apr-22	44.07	1,152.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	41	0	CDC	2341207	14-Feb-22	18-Apr-12	17-Apr-22	44.07	1,152.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	

NTS	RANGE	LOT	PART	TITLE #		RENEWAL DATE	REG. DATE	EXP. DATE	AREA (ha)	CREDITS	WORK REQ.$	RENT $	OWNER REGISTERED	CATEGORY
24M08	4	42	0	CDC	2341208	14-Feb-22	18-Apr-12	17-Apr-22	44.07	1,152.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	4	43	0	CDC	2341209	14-Feb-22	18-Apr-12	17-Apr-22	44.07	1,152.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	9	47	0	CDC	2341290	14-Feb-22	18-Apr-12	17-Apr-22	44.02	1,152.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	10	47	0	CDC	2341302	14-Feb-22	18-Apr-12	17-Apr-22	44.01	1,152.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24M08	12	48	0	CDC	2341316	14-Feb-22	18-Apr-12	17-Apr-22	43.99	1,152.00 $	1,600 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
24N05	12	44	0	CDC	2351661	13-Apr-22	15-Jun-12	14-Jun-22	43.98	0.00 $	1,600.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
Total (Hopes Advance)	**623**								**25,636.62**	**$10,891,279.81**	**$1,105,680.00**	**$69,140.50**		

NTS	RANGE	LOT	PART	TITLE #		RENEWAL DATE	REG. DATE	EXP. DATE	AREA (ha)	CREDITS	WORK REQ.$	RENT $	OWNER REGISTERED	CATEGORY
Morgan Lake														
24M16	17	53	0	CDC	2508340	7-Nov-19	9-Jan-18	8-Jan-20	43.29	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	17	54	0	CDC	2508341	7-Nov-19	9-Jan-18	8-Jan-20	43.29	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	17	55	0	CDC	2508342	7-Nov-19	9-Jan-18	8-Jan-20	43.29	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	18	50	0	CDC	2508343	7-Nov-19	9-Jan-18	8-Jan-20	43.28	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	18	51	0	CDC	2508344	7-Nov-19	9-Jan-18	8-Jan-20	43.28	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	1	56	0	CDC	2510872	27-Nov-19	29-Jan-18	28-Jan-20	43.46	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	1	57	0	CDC	2510873	27-Nov-19	29-Jan-18	28-Jan-20	43.46	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	1	58	0	CDC	2510874	27-Nov-19	29-Jan-18	28-Jan-20	43.46	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	2	56	0	CDC	2510875	27-Nov-19	29-Jan-18	28-Jan-20	43.45	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	2	57	0	CDC	2510876	27-Nov-19	29-Jan-18	28-Jan-20	43.45	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	3	57	0	CDC	2510877	27-Nov-19	29-Jan-18	28-Jan-20	43.44	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	3	58	0	CDC	2510878	27-Nov-19	29-Jan-18	28-Jan-20	43.44	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	6	52	0	CDC	2510879	27-Nov-19	29-Jan-18	28-Jan-20	43.41	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	6	53	0	CDC	2510880	27-Nov-19	29-Jan-18	28-Jan-20	43.41	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	7	55	0	CDC	2510881	27-Nov-19	29-Jan-18	28-Jan-20	43.39	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	7	56	0	CDC	2510882	27-Nov-19	29-Jan-18	28-Jan-20	43.39	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	7	57	0	CDC	2510883	27-Nov-19	29-Jan-18	28-Jan-20	43.39	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	2	58	0	CDC	2510955	28-Nov-19	30-Jan-18	29-Jan-20	43.45	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	7	52	0	CDC	2510956	28-Nov-19	30-Jan-18	29-Jan-20	43.39	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	7	53	0	CDC	2510957	28-Nov-19	30-Jan-18	29-Jan-20	43.39	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	7	54	0	CDC	2510958	28-Nov-19	30-Jan-18	29-Jan-20	43.39	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N12	27	9	0	CDC	2508386	7-Nov-19	9-Jan-18	8-Jan-20	43.50	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N12	28	5	0	CDC	2508387	7-Nov-19	9-Jan-18	8-Jan-20	43.49	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N12	28	6	0	CDC	2508388	7-Nov-19	9-Jan-18	8-Jan-20	43.49	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N12	28	9	0	CDC	2508389	7-Nov-19	9-Jan-18	8-Jan-20	43.49	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N12	29	1	0	CDC	2508390	7-Nov-19	9-Jan-18	8-Jan-20	43.48	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N12	29	7	0	CDC	2508391	7-Nov-19	9-Jan-18	8-Jan-20	43.48	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N12	27	7	0	CDC	2510884	27-Nov-19	29-Jan-18	28-Jan-20	43.50	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N12	27	8	0	CDC	2510885	27-Nov-19	29-Jan-18	28-Jan-20	43.50	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N12	28	7	0	CDC	2510886	27-Nov-19	29-Jan-18	28-Jan-20	43.49	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N12	28	8	0	CDC	2510887	27-Nov-19	29-Jan-18	28-Jan-20	43.49	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16 - Payne Range	22	59	0	CDC	2224798	27-Feb-20	30-Apr-10	29-Apr-20	43.23	0.00 $	1,600.00 $		Oceanic Iron Ore Corp. (86997)	
24M16 - Payne Range	22	60	0	CDC	2224799	27-Feb-20	30-Apr-10	29-Apr-20	43.23	0.00 $	1,600.00 $		Oceanic Iron Ore Corp. (86997)	
24M16 - Payne Range	23	59	0	CDC	2224800	27-Feb-20	30-Apr-10	29-Apr-20	43.22	0.00 $	1,600.00 $		Oceanic Iron Ore Corp. (86997)	
24M16 - Payne Range	23	60	0	CDC	2224801	27-Feb-20	30-Apr-10	29-Apr-20	43.22	0.00 $	1,600.00 $		Oceanic Iron Ore Corp. (86997)	
24M16 - Black Payne Range	24	57	0	CDC	2224803	27-Feb-20	30-Apr-10	29-Apr-20	43.21	0.00 $	1,600.00 $		Oceanic Iron Ore Corp. (86997)	
24M16 - Black Payne Range	24	58	0	CDC	2224804	27-Feb-20	30-Apr-10	29-Apr-20	43.21	0.00 $	1,600.00 $		Oceanic Iron Ore Corp. (86997)	
24M16 - Black Payne Range	24	59	0	CDC	2224805	27-Feb-20	30-Apr-10	29-Apr-20	43.21	0.00 $	1,600.00 $		Oceanic Iron Ore Corp. (86997)	
24M16 - Black Payne Range	25	58	0	CDC	2224807	27-Feb-20	30-Apr-10	29-Apr-20	43.20	0.00 $	1,600.00 $		Oceanic Iron Ore Corp. (86997)	
24N13 - Payne Range	23	1	0	CDC	2224945	27-Feb-20	30-Apr-10	29-Apr-20	43.22	0.00 $	1,600 $		Oceanic Iron Ore Corp. (86997)	
24M16	1	59	0	CDC	2519515	4-Apr-20	6-Jun-18	5-Jun-20	43.46	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	1	60	0	CDC	2519516	4-Apr-20	6-Jun-18	5-Jun-20	43.46	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	2	59	0	CDC	2519517	4-Apr-20	6-Jun-18	5-Jun-20	43.45	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	2	60	0	CDC	2519518	4-Apr-20	6-Jun-18	5-Jun-20	43.45	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	3	59	0	CDC	2519519	4-Apr-20	6-Jun-18	5-Jun-20	43.44	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	3	60	0	CDC	2519520	4-Apr-20	6-Jun-18	5-Jun-20	43.44	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	6	54	0	CDC	2519521	4-Apr-20	6-Jun-18	5-Jun-20	43.41	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	16	51	0	CDC	2519522	4-Apr-20	6-Jun-18	5-Jun-20	43.30	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	17	49	0	CDC	2519523	4-Apr-20	6-Jun-18	5-Jun-20	43.29	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	17	50	0	CDC	2519524	4-Apr-20	6-Jun-18	5-Jun-20	43.29	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	17	51	0	CDC	2519525	4-Apr-20	6-Jun-18	5-Jun-20	43.29	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	18	49	0	CDC	2519526	4-Apr-20	6-Jun-18	5-Jun-20	43.28	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	

NTS	RANGE	LOT	PART	TITLE #		RENEWAL DATE	REG. DATE	EXP. DATE	AREA (ha)	CREDITS	WORK REQ.$	RENT $	OWNER REGISTERED	CATEGORY
24M16	18	52	0	CDC	2519527	4-Apr-20	6-Jun-18	5-Jun-20	43.28	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	18	53	0	CDC	2519528	4-Apr-20	6-Jun-18	5-Jun-20	43.28	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	18	54	0	CDC	2519529	4-Apr-20	6-Jun-18	5-Jun-20	43.28	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16	18	55	0	CDC	2519530	4-Apr-20	6-Jun-18	5-Jun-20	43.28	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N13	1	1	0	CDC	2519531	4-Apr-20	6-Jun-18	5-Jun-20	43.46	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N13	1	2	0	CDC	2519532	4-Apr-20	6-Jun-18	5-Jun-20	43.46	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N13	1	3	0	CDC	2519533	4-Apr-20	6-Jun-18	5-Jun-20	43.46	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N13	1	15	0	CDC	2519534	4-Apr-20	6-Jun-18	5-Jun-20	43.46	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N13	2	1	0	CDC	2519535	4-Apr-20	6-Jun-18	5-Jun-20	43.45	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N13	2	2	0	CDC	2519536	4-Apr-20	6-Jun-18	5-Jun-20	43.45	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N13	2	3	0	CDC	2519537	4-Apr-20	6-Jun-18	5-Jun-20	43.45	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N13	3	15	0	CDC	2519538	4-Apr-20	6-Jun-18	5-Jun-20	43.44	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N13	3	16	0	CDC	2519539	4-Apr-20	6-Jun-18	5-Jun-20	43.44	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N13	3	17	0	CDC	2519540	4-Apr-20	6-Jun-18	5-Jun-20	43.44	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N13	4	15	0	CDC	2519541	4-Apr-20	6-Jun-18	5-Jun-20	43.43	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N13	4	16	0	CDC	2519542	4-Apr-20	6-Jun-18	5-Jun-20	43.43	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N13	19	8	0	CDC	2519543	4-Apr-20	6-Jun-18	5-Jun-20	43.26	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M09	29	58	0	CDC	2519776	17-Apr-20	19-Jun-18	18-Jun-20	43.48	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M09	29	59	0	CDC	2519777	17-Apr-20	19-Jun-18	18-Jun-20	43.48	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M09	29	60	0	CDC	2519778	17-Apr-20	19-Jun-18	18-Jun-20	43.48	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M09	30	57	0	CDC	2519779	17-Apr-20	19-Jun-18	18-Jun-20	43.47	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M09	30	58	0	CDC	2519780	17-Apr-20	19-Jun-18	18-Jun-20	43.47	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M09	30	59	0	CDC	2519781	17-Apr-20	19-Jun-18	18-Jun-20	43.47	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M09	30	60	0	CDC	2519782	17-Apr-20	19-Jun-18	18-Jun-20	43.47	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N12	28	2	0	CDC	2519783	17-Apr-20	19-Jun-18	18-Jun-20	43.49	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N12	28	3	0	CDC	2519784	17-Apr-20	19-Jun-18	18-Jun-20	43.49	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N12	28	4	0	CDC	2519785	17-Apr-20	19-Jun-18	18-Jun-20	43.49	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N13 - South Payne Range	18	9	0	CDC	2240336	11-May-20	13-Jul-10	12-Jul-20	43.28	0.00 $	1,600 $		Oceanic Iron Ore Corp. (86997)	
24M16 - Payne Range	23	58	0	CDC	2021037	16-May-20	2006à-07-18	17-Jul-20	43.22	0.00 $	2,500 $		Oceanic Iron Ore Corp. (86997)	
24M16 - Esson Range	17	56	0	CDC	2521791	15-Jun-20	17-Aug-18	16-Aug-20	43.29	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16 - Esson Range	19	49	0	CDC	2522228	26-Jun-20	28-Aug-18	27-Aug-20	43.27	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16 - Esson Range	19	50	0	CDC	2522229	26-Jun-20	28-Aug-18	27-Aug-20	43.27	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24M16 - Esson Range	19	51	0	CDC	2522230	26-Jun-20	28-Aug-18	27-Aug-20	43.27	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
24N13 - Payne Range	22	1	0	CDC	2047845	13-Nov-20	15-Jan-07	14-Jan-21	43.23	114.30 $	2,500 $		Oceanic Iron Ore Corp. (86997)	
24N13 - South Payne Range	18	6	0	CDC	2544465	13-Aug-21	15-Oct-19	14-Oct-21	43.28	0.00 $	120 $	122.00 $	Camille (91320)	
24N13 - South Payne Range	18	7	0	CDC	2544466	13-Aug-21	15-Oct-19	14-Oct-21	43.28	0.00 $	120 $	122.00 $	Camille (91320)	
24N13 - South Payne Range	18	8	0	CDC	2544467	13-Aug-21	15-Oct-19	14-Oct-21	43.28	0.00 $	120 $	122.00 $	Camille (91320)	
24N13 - South Payne Range	19	6	0	CDC	2544468	13-Aug-21	15-Oct-19	14-Oct-21	43.26	0.00 $	120 $	122.00 $	Camille (91320)	
24N13 - South Payne Range	19	7	0	CDC	2544469	13-Aug-21	15-Oct-19	14-Oct-21	43.26	0.00 $	120 $	122.00 $	Camille (91320)	
24N13 - Payne Range	22	2	0	CDC	2544470	13-Aug-21	15-Oct-19	14-Oct-21	43.23	0.00 $	120 $	122.00 $	Camille (91320)	
24N13 - Payne Range	22	3	0	CDC	2544471	13-Aug-21	15-Oct-19	14-Oct-21	43.23	0.00 $	120 $	122.00 $	Camille (91320)	
24M16 - Esson Range	16	52	0	CDC	2545227	19-Aug-21	21-Oct-19	20-Oct-21	43.30	0.00 $	120 $	122.00 $	Camille (91320)	
24M16 - Esson Range	16	53	0	CDC	2545228	19-Aug-21	21-Oct-19	20-Oct-21	43.30	0.00 $	120 $	122.00 $	Camille (91320)	
24M16 - Esson Range	16	54	0	CDC	2545229	19-Aug-21	21-Oct-19	20-Oct-21	43.30	0.00 $	120 $	122.00 $	Camille (91320)	
24M16 - Esson Range	16	55	0	CDC	2545230	19-Aug-21	21-Oct-19	20-Oct-21	43.30	0.00 $	120 $	122.00 $	Camille (91320)	
24M16 - Esson Range	17	52	0	CDC	2545231	19-Aug-21	21-Oct-19	20-Oct-21	43.29	0.00 $	120 $	122.00 $	Camille (91320)	
24M16 - Black Payne Range	25	56	0	CDC	2545232	19-Aug-21	21-Oct-19	20-Oct-21	43.20	0.00 $	120 $	122.00 $	Camille (91320)	
24M16 - Black Payne Range	25	57	0	CDC	2545233	19-Aug-21	21-Oct-19	20-Oct-21	43.20	0.00 $	120 $	122.00 $	Camille (91320)	
24M16 - Black Payne Range	26	55	0	CDC	2545234	19-Aug-21	21-Oct-19	20-Oct-21	43.19	0.00 $	120 $	122.00 $	Camille (91320)	
24M16 - Black Payne Range	26	56	0	CDC	2545235	19-Aug-21	21-Oct-19	20-Oct-21	43.19	0.00 $	120 $	122.00 $	Camille (91320)	
24M16 - Black Payne Range	26	57	0	CDC	2545236	19-Aug-21	21-Oct-19	20-Oct-21	43.19	0.00 $	120 $	122.00 $	Camille (91320)	
24N13 - McQuat	3	9	0	CDC	2547748	7-Oct-21	9-Dec-19	8-Dec-21	43.44	0.00 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	

NTS	RANGE	LOT	PART	TITLE #		RENEWAL DATE	REG. DATE	EXP. DATE	AREA (ha)	CREDITS	WORK REQ.$	RENT $	OWNER REGISTERED	CATEGORY
24N13 - McQuat	3	10	0	CDC	2547749	7-Oct-21	9-Dec-19	8-Dec-21	43.44	0.00 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	
24N12 - Morgan	29	2	0	CDC	2547791	7-Oct-21	9-Dec-19	8-Dec-21	43.48	0.00 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	
24N12 - Morgan	29	3	0	CDC	2547792	7-Oct-21	9-Dec-19	8-Dec-21	43.48	0.00 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	
24N12 - Morgan	29	4	0	CDC	2547793	7-Oct-21	9-Dec-19	8-Dec-21	43.48	0.00 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	
24N12 - Morgan	29	5	0	CDC	2547794	7-Oct-21	9-Dec-19	8-Dec-21	43.48	0.00 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	
24N12 - Morgan	29	6	0	CDC	2547795	7-Oct-21	9-Dec-19	8-Dec-21	43.48	0.00 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	
24N12 - Morgan	30	1	0	CDC	2547796	7-Oct-21	9-Dec-19	8-Dec-21	43.47	0.00 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	
24N12 - Morgan	30	2	0	CDC	2547797	7-Oct-21	9-Dec-19	8-Dec-21	43.47	0.00 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	
24N12 - Morgan	30	3	0	CDC	2547798	7-Oct-21	9-Dec-19	8-Dec-21	43.47	0.00 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	
24N12 - Morgan	30	4	0	CDC	2547799	7-Oct-21	9-Dec-19	8-Dec-21	43.47	0.00 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	
Total (Morgan Lake)	**114**								**4944.43**	**$114.30**	**$33,240.00**	**$3,416.00**		

NTS	RANGE	LOT	PART	TITLE #		RENEWAL DATE	REG. DATE	EXP. DATE	AREA (ha)	CREDITS	WORK REQ.$	RENT $	OWNER REGISTERED	CATEGORY
Roberts Lake														
25D07	28	47	0	CDC	2508345	7-Nov-19	9-Jan-18	8-Jan-20	42.52	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	5	3	0	CDC	2508346	7-Nov-19	9-Jan-18	8-Jan-20	42.77	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	5	4	0	CDC	2508347	7-Nov-19	9-Jan-18	8-Jan-20	42.77	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	5	5	0	CDC	2508348	7-Nov-19	9-Jan-18	8-Jan-20	42.77	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	6	3	0	CDC	2508349	7-Nov-19	9-Jan-18	8-Jan-20	42.76	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	6	4	0	CDC	2508350	7-Nov-19	9-Jan-18	8-Jan-20	42.76	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	6	5	0	CDC	2508351	7-Nov-19	9-Jan-18	8-Jan-20	42.76	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	11	3	0	CDC	2508352	7-Nov-19	9-Jan-18	8-Jan-20	42.71	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	11	4	0	CDC	2508353	7-Nov-19	9-Jan-18	8-Jan-20	42.71	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	27	26	0	CDC	2508354	7-Nov-19	9-Jan-18	8-Jan-20	42.53	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	27	27	0	CDC	2508355	7-Nov-19	9-Jan-18	8-Jan-20	42.53	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	27	28	0	CDC	2508356	7-Nov-19	9-Jan-18	8-Jan-20	42.53	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	28	22	0	CDC	2508357	7-Nov-19	9-Jan-18	8-Jan-20	42.52	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	28	23	0	CDC	2508358	7-Nov-19	9-Jan-18	8-Jan-20	42.52	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	28	24	0	CDC	2508359	7-Nov-19	9-Jan-18	8-Jan-20	42.52	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	21	40	0	CDC	2510888	27-Nov-19	29-Jan-18	28-Jan-20	42.60	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	22	38	0	CDC	2510889	27-Nov-19	29-Jan-18	28-Jan-20	42.59	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07	19	50	0	CDC	2519786	17-Apr-20	19-Jun-18	18-Jun-20	42.62	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07	19	51	0	CDC	2519787	17-Apr-20	19-Jun-18	18-Jun-20	42.62	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07	20	49	0	CDC	2519788	17-Apr-20	19-Jun-18	18-Jun-20	42.61	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07	20	55	0	CDC	2519789	17-Apr-20	19-Jun-18	18-Jun-20	42.61	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07	20	56	0	CDC	2519790	17-Apr-20	19-Jun-18	18-Jun-20	42.61	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07	20	57	0	CDC	2519791	17-Apr-20	19-Jun-18	18-Jun-20	42.61	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07	21	48	0	CDC	2519792	17-Apr-20	19-Jun-18	18-Jun-20	42.6	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07	21	49	0	CDC	2519793	17-Apr-20	19-Jun-18	18-Jun-20	42.6	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07	22	49	0	CDC	2519794	17-Apr-20	19-Jun-18	18-Jun-20	42.59	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07	26	46	0	CDC	2519795	17-Apr-20	19-Jun-18	18-Jun-20	42.55	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07	26	47	0	CDC	2519796	17-Apr-20	19-Jun-18	18-Jun-20	42.55	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07	27	47	0	CDC	2519797	17-Apr-20	19-Jun-18	18-Jun-20	42.53	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07	30	46	0	CDC	2519798	17-Apr-20	19-Jun-18	18-Jun-20	42.5	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	3	59	0	CDC	2519845	18-Apr-20	20-Jun-18	19-Jun-20	42.79	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	3	60	0	CDC	2519846	18-Apr-20	20-Jun-18	19-Jun-20	42.79	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	4	59	0	CDC	2519847	18-Apr-20	20-Jun-18	19-Jun-20	42.78	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	4	60	0	CDC	2519848	18-Apr-20	20-Jun-18	19-Jun-20	42.78	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	10	5	0	CDC	2519849	18-Apr-20	20-Jun-18	19-Jun-20	42.72	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	12	3	0	CDC	2519850	18-Apr-20	20-Jun-18	19-Jun-20	42.7	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	12	4	0	CDC	2519851	18-Apr-20	20-Jun-18	19-Jun-20	42.7	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	13	4	0	CDC	2519852	18-Apr-20	20-Jun-18	19-Jun-20	42.69	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	13	5	0	CDC	2519853	18-Apr-20	20-Jun-18	19-Jun-20	42.68	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	20	42	0	CDC	2519854	18-Apr-20	20-Jun-18	19-Jun-20	42.61	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	21	39	0	CDC	2519855	18-Apr-20	20-Jun-18	19-Jun-20	42.6	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	21	42	0	CDC	2519856	18-Apr-20	20-Jun-18	19-Jun-20	42.6	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	22	41	0	CDC	2519857	18-Apr-20	20-Jun-18	19-Jun-20	42.58	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	23	37	0	CDC	2519858	18-Apr-20	20-Jun-18	19-Jun-20	42.57	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08	23	38	0	CDC	2519859	18-Apr-20	20-Jun-18	19-Jun-20	42.57	0 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08 - Hump	27	25	0	CDC	2521491	12-Jun-20	14-Aug-18	13-Aug-20	42.53	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08 - Hump	28	25	0	CDC	2521492	12-Jun-20	14-Aug-18	13-Aug-20	42.52	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08 - Hump	28	26	0	CDC	2521493	12-Jun-20	14-Aug-18	13-Aug-20	42.52	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08 - Hump	28	27	0	CDC	2521494	12-Jun-20	14-Aug-18	13-Aug-20	42.52	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25C04	12	22	0	CDC	2522406	3-Jul-20	4-Sep-18	3-Sep-20	43.02	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	
25C04	12	23	0	CDC	2522407	3-Jul-20	4-Sep-18	3-Sep-20	43.02	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	
25C04	12	24	0	CDC	2522408	3-Jul-20	4-Sep-18	3-Sep-20	43.02	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	

NTS	RANGE	LOT	PART	TITLE #		RENEWAL DATE	REG. DATE	EXP. DATE	AREA (ha)	CREDITS	WORK REQ.$	RENT $	OWNER REGISTERED	CATEGORY
25C04	13	22	0	CDC	2522409	3-Jul-20	4-Sep-18	3-Sep-20	43.00	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	
25C04	13	23	0	CDC	2522410	3-Jul-20	4-Sep-18	3-Sep-20	43.00	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	
25D08 - Igloo	22	39	0	CDC	2522942	23-Jul-20	24-Sep-18	23-Sep-20	42.58	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08 - Igloo	22	40	0	CDC	2522943	23-Jul-20	24-Sep-18	23-Sep-20	42.58	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D08 - Igloo	24	35	0	CDC	2525101	31-Aug-20	2-Nov-18	1-Nov-20	42.56	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	19	53	0	CDC	2528362	27-Sep-20	29-Nov-18	28-Nov-20	42.62	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	19	54	0	CDC	2528363	27-Sep-20	29-Nov-18	28-Nov-20	42.62	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	24	46	0	CDC	2528364	27-Sep-20	29-Nov-18	28-Nov-20	42.57	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	25	46	0	CDC	2528365	27-Sep-20	29-Nov-18	28-Nov-20	42.56	0.00 $	120 $		Oceanic Iron Ore Corp. (86997)	
25D09 - West Hump	2	3	0	CDC	2380277	25-Dec-20	26-Feb-13	25-Feb-21	42.48	0 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	2	14	0	CDC	2380288	25-Dec-20	26-Feb-13	25-Feb-21	42.48	2,514 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	2	15	0	CDC	2380289	25-Dec-20	26-Feb-13	25-Feb-21	42.48	2,651 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	2	16	0	CDC	2380290	25-Dec-20	26-Feb-13	25-Feb-21	42.48	2,514 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	2	17	0	CDC	2380291	25-Dec-20	26-Feb-13	25-Feb-21	42.48	2,514 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	2	18	0	CDC	2380292	25-Dec-20	26-Feb-13	25-Feb-21	42.48	2,514 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	3	2	0	CDC	2380294	25-Dec-20	26-Feb-13	25-Feb-21	42.47	2,651 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	3	3	0	CDC	2380295	25-Dec-20	26-Feb-13	25-Feb-21	42.47	2,679 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	3	4	0	CDC	2380296	25-Dec-20	26-Feb-13	25-Feb-21	42.47	2,651 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	3	7	0	CDC	2380299	25-Dec-20	26-Feb-13	25-Feb-21	42.47	0 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	3	8	0	CDC	2380300	25-Dec-20	26-Feb-13	25-Feb-21	42.47	1,994 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	3	9	0	CDC	2380301	25-Dec-20	26-Feb-13	25-Feb-21	42.47	897 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	3	10	0	CDC	2380302	25-Dec-20	26-Feb-13	25-Feb-21	42.47	0 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	3	11	0	CDC	2380303	25-Dec-20	26-Feb-13	25-Feb-21	42.47	1,354 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	3	12	0	CDC	2380304	25-Dec-20	26-Feb-13	25-Feb-21	42.47	0 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	3	13	0	CDC	2380305	25-Dec-20	26-Feb-13	25-Feb-21	42.47	2,450 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	4	4	0	CDC	2380309	25-Dec-20	26-Feb-13	25-Feb-21	42.46	2,514 $	1,200 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D08 - Igloo	23	39	0	CDC	2531633	10-Dec-20	11-Feb-19	10-Feb-21	42.57	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	19	52	0	CDC	2532287	25-Dec-20	26-Feb-19	25-Feb-21	42.62	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	20	54	0	CDC	2532288	25-Dec-20	26-Feb-19	25-Feb-21	42.61	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	21	57	0	CDC	2532289	25-Dec-20	26-Feb-19	25-Feb-21	42.60	0.00 $	120.00 $		Oceanic Iron Ore Corp. (86997)	
25D09 - West Hump	2	2	0	CDC	2426867	13-Feb-21	17-Apr-15	16-Apr-21	42.48	0 $	800 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	2	19	0	CDC	2426868	13-Feb-21	17-Apr-15	16-Apr-21	42.48	0 $	800 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	3	14	0	CDC	2426869	13-Feb-21	17-Apr-15	16-Apr-21	42.47	0 $	800 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	4	5	0	CDC	2426870	13-Feb-21	17-Apr-15	16-Apr-21	42.46	0 $	800 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	4	6	0	CDC	2426871	13-Feb-21	17-Apr-15	16-Apr-21	42.46	0 $	800 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D09 - West Hump	4	7	0	CDC	2426872	13-Feb-21	17-Apr-15	16-Apr-21	42.46	0 $	800 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	

NTS	RANGE	LOT	PART	TITLE #		RENEWAL DATE	REG. DATE	EXP. DATE	AREA (ha)	CREDITS	WORK REQ.$	RENT $	OWNER REGISTERED	CATEGORY
25D09 - West Hump	4	8	0	CDC	2426873	13-Feb-21	17-Apr-15	16-Apr-21	42.46	0 $	800 $	122.00 $	Oceanic Iron Ore Corp. (86997) 100 % (responsable)	
25D07 - Yvon Lake	18	50	0	CDC	2539038	7-Mar-21	9-May-19	8-May-21	42.63	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	18	51	0	CDC	2539039	7-Mar-21	9-May-19	8-May-21	42.63	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	18	52	0	CDC	2539040	7-Mar-21	9-May-19	8-May-21	42.63	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	21	47	0	CDC	2539041	7-Mar-21	9-May-19	8-May-21	42.60	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	22	47	0	CDC	2539042	7-Mar-21	9-May-19	8-May-21	42.59	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	22	48	0	CDC	2539043	7-Mar-21	9-May-19	8-May-21	42.59	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	23	47	0	CDC	2539044	7-Mar-21	9-May-19	8-May-21	42.58	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	23	48	0	CDC	2539045	7-Mar-21	9-May-19	8-May-21	42.58	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	24	47	0	CDC	2539046	7-Mar-21	9-May-19	8-May-21	42.57	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	24	48	0	CDC	2539047	7-Mar-21	9-May-19	8-May-21	42.57	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	25	47	0	CDC	2539048	7-Mar-21	9-May-19	8-May-21	42.56	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	25	48	0	CDC	2539049	7-Mar-21	9-May-19	8-May-21	42.56	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	25	49	0	CDC	2539050	7-Mar-21	9-May-19	8-May-21	42.56	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	24	45	0	CDC	2540671	8-Apr-21		9-Jun-21	42.57	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25D07 - Yvon Lake	25	45	0	CDC	2540672	8-Apr-21		9-Jun-21	42.56	0.00 $	120.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	8	29	0	CDC	87791	19-May-21	21-Jul-05	20-Jul-21	43.06	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
25C04 - Kayak	8	30	2	CDC	87792	19-May-21	21-Jul-05	20-Jul-21	42.13	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	9	29	0	CDC	87793	19-May-21	21-Jul-05	20-Jul-21	43.05	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	10	26	0	CDC	87797	19-May-21	21-Jul-05	20-Jul-21	43.04	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
25C04 - Kayak	10	27	0	CDC	87798	19-May-21	21-Jul-05	20-Jul-21	43.04	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
25C04 - Kayak	6	33	2	CDC	87807	19-May-21	21-Jul-05	20-Jul-21	14.75	0.00 $	1,000.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	6	34	2	CDC	87808	19-May-21	21-Jul-05	20-Jul-21	40.22	264,697.59 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	6	35	1	CDC	87809	19-May-21	21-Jul-05	20-Jul-21	38.91	191,929.21 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	7	32	2	CDC	87810	19-May-21	21-Jul-05	20-Jul-21	23.08	0.00 $	1,000.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	7	33	2	CDC	87811	19-May-21	21-Jul-05	20-Jul-21	43.02	189,508.96 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	7	34	0	CDC	87812	19-May-21	21-Jul-05	20-Jul-21	43.07	442,928.83 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	8	31	0	CDC	87814	19-May-21	21-Jul-05	20-Jul-21	43.06	29,300.61 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	8	32	0	CDC	87815	19-May-21	21-Jul-05	20-Jul-21	43.06	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	6	33	1	CDC	2171699	19-May-21	15-Sep-08	20-Jul-21	28.33	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	6	34	1	CDC	2171700	19-May-21	15-Sep-08	20-Jul-21	2.86	0.00 $	1,000.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	6	35	2	CDC	2171701	19-May-21	15-Sep-08	20-Jul-21	0.01	0.00 $	1,000.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	6	35	3	CDC	2171702	19-May-21	15-Sep-08	20-Jul-21	4.15	0.00 $	1,000.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	7	32	1	CDC	2171707	19-May-21	15-Sep-08	20-Jul-21	19.99	95,722.58 $	1,000.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	7	33	1	CDC	2171708	19-May-21	15-Sep-08	20-Jul-21	0.05	0.00 $	1,000.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	8	30	1	CDC	2171712	19-May-21	15-Sep-08	20-Jul-21	0.93	0.00 $	1,000.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	7	31	1	CDC	2118325	18-Jun-21	20-Aug-07	19-Aug-21	9.89	0.00 $	1,000.00 $	33.75 $	Oceanic Iron Ore Corp. (86997)	
25C04 - Kayak	7	31	2	CDC	2171706	18-Jun-21	15-Sep-08	19-Aug-21	33.18	0.00 $	2,500.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	
25D08 - Igloo	21	41	0	CDC	2546884	16-Sep-21	18-Nov-19	17-Nov-21	42.6	0 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	
25D08 - Igloo	22	37	0	CDC	2546885	16-Sep-21	18-Nov-19	17-Nov-21	42.59	0 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	
25D08 - Igloo	23	35	0	CDC	2546886	16-Sep-21	18-Nov-19	17-Nov-21	42.57	0 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	
25D08 - Igloo	23	36	0	CDC	2546887	16-Sep-21	18-Nov-19	17-Nov-21	42.57	0 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	

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25D07 - Yvon Lake	20	50	0	CDC	2547800	7-Oct-21	9-Dec-19	8-Dec-21	42.61	0 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	
25D08 - Roberts	10	3	0	CDC	2547801	7-Oct-21	9-Dec-19	8-Dec-21	42.72	0 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	
25D08 - Roberts	10	4	0	CDC	2547802	7-Oct-21	9-Dec-19	8-Dec-21	42.72	0 $	120 $	122.00 $	Camille Doiron (91320) 100 % (responsable)	
25C04 - Kayak	9	27	0	CDC	2224809	26-Feb-22	30-Apr-10	29-Apr-22	43.05	0.00 $	1,800.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II
25C04 - Kayak	9	28	0	CDC	2224810	26-Feb-22	30-Apr-10	29-Apr-22	43.05	0.00 $	1,800.00 $	122.00 $	Oceanic Iron Ore Corp. (86997)	II-P
Total (Roberts Lake)	**135**								**5,417.72**	**$1,243,984.78**	**$81,540.00**	**$7,745.75**		

Hopes Advance	**623**								**25,636.62**	**$10,891,279.81**	**$1,105,680.00**	**$69,140.50**		
Morgan Lake	**114**								**4,944.43**	**$114.30**	**$33,240.00**	**$3,416.00**		
Roberts Lake	**135**								**5,417.72**	**$1,243,984.78**	**$81,540.00**	**$7,745.75**		
Total	**872**								**35,998.77**	**$12,135,378.89**	**$1,220,460.00**	**$80,302.25**		