Bovill Kaolin Project

Latah County, Idaho, USA

NI 43-101 Technical Report - Feasibility Study

Prepared For:

I-Minerals USA, Inc.

QUALIFIED PERSONS:
Michael Short, CEng
Richard D. Rath, PE
Thomas L. Dyer, PE
Bart Stryhas, CPG
Manuel Rauhut, PE

CONTRIBUTING CONSULTANTS:
GBM Engineers LLC
Mine Development Associates
HDR Engineering Inc.
SRK Consulting (U.S.), Inc.
Tetra Tech, Inc.

Compiled By:

GBM

GBM Project Number: 0530

Document Approval

Role	Name
Prepared by Project Engineer	Jaan Hurditch
Checked by Project Manager	Daniel Blakeman
Approved by Qualified Person	Michael Short
Approved by Qualified Person	Richard Rath
Approved by Qualified Person	Bart Stryhas
Approved by Qualified Person	Manuel Rauhut
Approved by Qualified Person	Thomas Dyer

Revision History

Date	Rev	Reason	Prepared	Checked	Approved
03/18/2016	A	Initial Issue	JH	SR	DB
04/20/2016	0	Issued as Final	JH	SR/DB	DB/MS/RR/ BS/MM/TD

IMPORTANT NOTE:

This report was prepared as a National Instrument 43-101 Technical Report, in accordance with Form 43-101F1, for I-Minerals USA, Inc. by GBM Engineers LLC. The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in GBM's services, based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended to be filed as a Technical Report with Canadian securities regulatory authorities pursuant to National Instrument 43-101, Standards of Disclosure for Mineral Projects. Except for the purposes legislated under provincial securities law, any other use of this report by any third party is at that party's sole risk.

CERTIFICATE OF QUALIFIED PERSON

MICHAEL JOHN SHORT

As the individual who has co-authored or supervised the preparation of sections of the Technical Report prepared for I-Minerals USA, Inc. (the "Issuer") entitled "NI 43-101 Technical Report – Feasibility Study" dated effective "March 17, 2016", (the "Technical Report"), I hereby certify that:

1. I am a Chartered Engineer and the Chief Executive Officer of GBM Engineers LLC (GBM) of 12211 West Alameda Parkway, Suite 220, Lakewood, Colorado 80228, USA.

2. I graduated with a Bachelor of Engineering in Civil Engineering from the University of New South Wales, Australia in 1975. I am a Chartered Engineer (CEng) registered with the Engineering Council UK, and a Fellow of the Institute of Materials, Minerals and Mining (FIMMM). I am also a Chartered Professional (CP) and a Fellow of the Australasian Institute of Mining and Metallurgy (FAusIMM), and a Chartered Professional Engineer (CPEng) and Fellow of Engineers Australia (FIEAust). I have been working in the engineering profession continuously since 1975 and have had experience in metallurgy, process design and engineering, plant operations and management.

3. I have read the definition of "Qualified Person" set out in the National Instrument 43-101 (NI 43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

4. GBM professionals visited the site in January 2015.

5. I authored or supervised the work carried out by other GBM professionals for GBM's contribution to the Technical Report, and take responsibility for Sections 1, 2, 3, 4, 5, 6, 18, 19, 21, 22, 23, 24, 25, and 26.

6. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.

7. I, and GBM, have had no prior involvement with the project.

8. I have read NI 43-101, and the sections of the Technical Report for which I am responsible, as stated above, have been prepared in compliance with NI 43-101 and Form 43-101F1.

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

Dated this April 20, 2016, Lakewood, CO

(Original Signed) "Michael John Short"

Michael John Short

Qualified Person

CERTIFICATE OF QUALIFIED PERSON

RICHARD D. RATH

As the individual who has co-authored or supervised the preparation of sections of the Technical Report prepared for I-Minerals USA, Inc. (the "Issuer") entitled "NI 43-101 Technical Report" dated effective "March 17, 2016", (the "Technical Report"), I hereby certify that:

1. I am a Registered Professional Engineer in the States of Colorado, Utah and Wyoming, USA and the Principal Process Engineer for this project, based at GBM Engineers, LLC (GBM), of 12211 West Alameda Parkway, Lakewood, CO 80228-2825, USA.

2. I graduated with a Bachelor of Engineering in Chemistry and Business from Valparaiso University, Valparaiso IN, USA in 1964 and a Masters in Chemical Engineering from the University of Rochester, Rochester, NY in 1976. I am a Registered Professional Engineer (ChE) in the States of Colorado, Utah and Wyoming. I have been working in the engineering profession continuously since 1967 and have had experience in metallurgy, process design and engineering, plant operations and management.

3. I have read the definition of "Qualified Person" set out in the National Instrument 43-101 (NI-43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "Qualified Person" for the purposes of NI 43-101.

4. I have personally visited the Bovill Kaolin Project site in January 2015.

5. I have authored or supervised the work carried out by other GBM professionals for GBM's contribution to the Technical Report, and take responsibility for Section 13 and Section 17.

6. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101. I, and GBM, have had no prior involvement with the project.

7. I have read NI 43-101, and the sections of the Technical Report for which I am responsible, as stated above, have been prepared in compliance with NI 43-101 and Form 43-101F1.

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

Dated this April 20, 2016, Lakewood, CO

(Original Signed) "Richard D. Rath"

Richard D. Rath

Qualified Person

CERTIFICATE OF QUALIFIED PERSON

BART STRYHAS

As the individual who has co-authored or supervised the preparation of sections of the Technical Report prepared for I-Minerals USA, Inc. (the "Issuer") entitled "NI 43-101 Technical Report – Feasibility Study" dated effective "March 17, 2016", (the "Technical Report"), I hereby certify that:

1. I am a Certified Professional Geologist and Principal Resource Geologist of SRK Consulting (U.S.), Inc. (SRK) of 7175 W. Jefferson Ave, Suite 3000, Denver, CO, 80235, USA.
2. I graduated with a Doctorate degree in Structural Geology from Washington State University in 1988. In addition, I received a Master of Science degree in Structural Geology from the University of Idaho in 1985, and a Bachelor of Arts degree in Geology from the University of Vermont in 1983. I am a current member of the American Institute of Professional Geologists. I have worked as a Geologist for a total of 28 years since my graduation from university. My relevant experience includes minerals exploration, mine geology, project development, and resource estimation. I have conducted resource estimations since 1988 and have been involved in technical reports since 2004.
3. I have read the definition of "Qualified Person" set out in the National Instrument 43-101 (NI-43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.
4. I have personally visited the Bovill Kaolin Project site in May 2010 and September 2013.
5. I authored or supervised the work carried out by other SRK professionals for SRK's contribution to the Technical Report, and take responsibility for Sections 7, 8, 9, 10, 11, 12, and 14.
6. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.
7. I, and SRK, have had prior involvement with the project on behalf of the Issuer as described in the following reports:
    - Technical Report entitled "NI 43-101 Updated Prefeasibility Technical Report, Bovill Kaolin Project, Latah County, Idaho" Effective Date: April 20, 2014; SRK Project Number: 165800.080
    - Technical Report entitled "NI 43-101 Prefeasibility Technical Report Bovill Kaolin Project Latah County, Idaho" Effective Date: November 23, 2012; SRK Project Number: 165800.050

- Technical Report entitled "NI 43-101 Preliminary Economic Assessment Bovill Kaolin Project Latah County, Idaho" Effective Date: January 18, 2012; SRK Project Number: 165800.030_0200
- Technical Report entitled "NI 43-101 Technical Report on Resources WBL Tailings Project Latah County, Idaho" Effective Date: November 1, 2012; SRK Project Number: 165800.060
- Technical Report entitled "NI 43-101 Technical Report, Helmer Bovill, Primary Clay Project, Latah County, Idaho" Effective Date January 14, 2011: SRK Project Number 1658.040
- Technical Report entitled "NI 43-101 Technical Report, Helmer-Bovill Project, Kelly's Basin Mine, Latah County, Idaho" Effective Date November 5, 2010. SRK Project Number 1658.030

8. I have read NI 43-101, and the sections of the Technical Report for which I am responsible, as stated above, have been prepared in compliance with NI 43-101 and Form 43-101F1.

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

Dated this April 20, 2016, Denver, CO

(Original Signed) "Bart Stryhas"

____

Bart Stryhas, PhD

Qualified Person

CERTIFICATE OF QUALIFIED PERSON

MANUEL RAUHUT

As the individual who has co-authored or supervised the preparation of sections of the Technical Report prepared for I-Minerals USA, Inc. (the "Issuer") entitled "NI 43-101 Technical Report – Feasibility Study" dated effective "March 17, 2016", (the "Technical Report"), I hereby certify that:

1. I am an Environmental Engineer and the Associate Project Manager of HDR Engineering Inc. (HDR) of 412 E. Parkcenter Boulevard, Suite 100, Boise, Idaho 83706.

2. I am a Registered Professional Engineer in the State of Idaho (#13828).

3. I graduated with a Bachelor of Science degree in Geology from Colorado State University and a Master of Engineering degree from Boise State University. I have 10 years of professional experience working as a water resource engineer applied to mine site permitting and operations inspections. My responsibilities have included well design and construction, tailings and dam safety design review and inspections, wetland delineations and Section 404 permitting, and water rights permitting. In addition, I have been involved in numerous projects involving mine permitting and NEPA compliance.

4. I have read the definition of "Qualified Person" set out in the National Instrument 43-101 (NI-43-101) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101.

5. I have personally visited the Bovill Kaolin Project site in April 2015. Additionally HDR professionals have visited the site multiple times including July and August 2012, October 2014, April 2015, and September 2015.

6. I have co-authored and reviewed the work carried out by other HDR professionals for HDR's contribution to the Technical Report, and take responsibility for Section 20.

7. I am independent of the Issuer applying the test set out in Section 1.5 of NI 43-101.

8. I, and HDR, have had prior involvement with the project on behalf of the Issuer as described in the following reports:

    - Technical Report entitled "NI 43-101 Prefeasibility Technical Report, Bovill Kaolin Project, Latah County, Idaho" dated effective 23 November 2013

9. I have read NI 43-101, and the sections of the Technical Report for which I am responsible, as stated above, have been prepared in compliance with NI 43-101 and Form 43-101F1.

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

Dated this April 20, 2016, Boise, ID

(Original Signed) "Manuel Rauhut"

Manuel Rauhut

Qualified Person

CERTIFICATE OF QUALIFIED PERSON

THOMAS L. DYER

I, Thomas L. Dyer, PE, do hereby certify that I am currently employed as Senior Engineer by Mine Development Associates, Inc., 210 South Rock Blvd., Reno, Nevada 89502 and:

1. I graduated with a Bachelor of Science degree in Mine Engineering from South Dakota School of Mines and Technology in 1996. I have worked as a mining engineer for a total of 20 years since my graduation.
2. I am a Registered Professional Engineer in the state of Nevada (#15729) and a Registered Member (#4029995RM) of the Society of Mining, Metallurgy and Exploration.
3. 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 in NI 43-101) and past relevant work experience, I fulfill the requirements to be a "Qualified Person" for the purposes of NI 43-101. I am independent of I-Minerals Inc. and its subsidiaries, applying all of the tests in section 1.5 of National Instrument 43-101.
4. I am responsible for sections 15, 16, 21.1.6, and 21.2.2. I am jointly responsible for sections 1, 2, 25, and 26 of this technical report prepared for I-Minerals USA, Inc. (the "Issuer") titled "NI 43-101 Technical Report – Feasibility Study" effective dated "March 17, 2016" ("Technical Report").
5. I have not worked on this project prior to this study. I visited the property on January 7, 2015.
6. To the best of my knowledge, information and belief, the technical report contains the necessary scientific and technical information to make the technical report not misleading.
7. I am independent of the Issuer applying all of the tests in Section 1.5 of NI 43-101 and in Section 1.5 of the Companion Policy to NI 43-101.
8. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in accordance with the requirements of that instrument and form.

Dated this April 20, 2016, Reno, NV

(Original Signed) "Thomas L Dyer"

____

Thomas L Dyer

Qualified Person

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

STANDARD TERMS AND NOMENCLATURE

The following abbreviations are used throughout this report:

Abbreviation	Description
A.P. Green	A.P. Green Refractories Company
AACE	AACE International (previously known as American Association of Cost Engineering and Association for the Advancement of Cost Engineering).
ALS	ALS Global Limited
ASTM	American Society for Testing and Materials
BMPs	Best Management Practices
CAPEX	Capital Expenditure
CCL	Confidential Clay Laboratory
CoG	Cut-off Grade
CRB	Columbia River Basalts
CV	Coefficient of Variation
CWA	Clean Water Act
DI	De-ionized
DCF	Discounted Cash Flow
DST	Dry Stack Tailings
ECOS	Environmental Conservation Online System
EPCM	Engineering Procurement and Construction Management
ESA	Endangered Species Act
FS	Feasibility Study
G&A	General & Administrative
GBM	GBM Engineers LLC
GMT	Ginn Mineral Technology, Inc.
GPS	Global Positioning System
GWUISW	Groundwater Under the Influence of Surface Water
IDAPA	Idaho Administrative Procedures Act
IDEQ	Idaho Department of Environmental Quality
IDFG	Idaho Department of Fish and Game
IDL	Idaho Department of Lands
IDW	Inverse Distance Weighting
IDWR	Idaho Department of Water Resources
IRR	Internal Rate of Return

Abbreviation	Description
ISP	Idaho State Plane Coordinate System
JD	Jurisdictional Determination
K-feldspar	Potassium Feldspar
LoM	Life of Mine
MO	Minerals Only
MRL	Minerals Resource Laboratory, North Carolina State University
MSGP	Multi-Sector General Permit
MSHA	Mine Safety and Health Administration
N/A	Not applicable
NHPA	National Historic Preservation Act
NHS	National Highway System
NN	Nearest Neighbor
NOE	Notice of Exploration
NPDES	National Pollutant Discharge Elimination System
NPV	Net Present Value
NSR	Net Smelter Return
NTNC	Non-transient Non-community
OEM	Original Equipment Manufacturers
OPEX	Operating Expenditure
OSHA	Occupational Safety and Health Administration
PEA	Preliminary Economic Assessment
PEMW	Palustrine Emergent Marsh Wetlands
PFO	Palustrine Forested Wetland
PFS	Preliminary Feasibility Study
PJD	Preliminary Jurisdictional Determination
PTC	Permits to Construct
QA/QC	Quality Assurance / Quality Control
QP	Qualified Person
REM	Rare Earth Magnet
ROM	Run of Mine
SEM	Scanning Electron Microscopy
SHPO	State Historic Preservation Office
SWPPP	Stormwater Pollution Protection Plan
TAPPI	Technical Association of the Pulp and Paper Industry

Abbreviation	Description
TGM	Technical Guidance Manual
TIF	Tagged Image Format
TMDL	Total Maximum Daily Load
TSF	Tailings Storage Facility
UOI	University of Idaho
US$	United States Dollars
USACE	U.S. Army Corps of Engineers
USBM	U.S. Bureau of Mines
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WRCC	Western Regional Climate Centers
XRD	X-Ray Diffraction
XRF	X-Ray Fluorescence

The following units are used throughout this report

Unit	Description
°C	Degrees Celsius
°F	Degrees Fahrenheit
ac	acre
amsl	above mean sea level
cfs	cubic feet per second
g	grams
g/cm^3	grams per cubic meter
gpm	gallons per minute
lb	pound(s)
ml	milliliter(s)
Mt	Million tons
pcf	pounds per cubic foot
t	ton (2,000 lbs)
t/d	tons per day
t/yr	tons per year
yr	year

The following terms and definitions are used throughout this report:

Term	Description
Effective Date	The date of the most recent scientific or technical information, included in the Technical Report.
Feasibility Study (FS)	A Feasibility Study is a comprehensive technical and economic study of the selected development option for a mineral project that includes appropriately detailed assessments of applicable Modifying Factors together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate, at the time of reporting, that extraction is reasonably justified (economically mineable). The results of the study may reasonably serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project. The confidence level of the study will be higher than that of a Pre-Feasibility Study. The term proponent captures issuers who may finance a project without using traditional financial institutions. In these cases, the technical and economic confidence of the Feasibility Study is equivalent to that required by a financial institution.
Inferred Mineral Resources	An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.
Indicated Mineral Resources	An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.
Measured Mineral Resources	A Measured Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proven Mineral Reserve or to a Probable Mineral Reserve

Term	Description
Mineral Reserves	A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified. The reference point at which Mineral Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported. The public disclosure of a Mineral Reserve must be demonstrated by a Pre-Feasibility Study or Feasibility Study.
Mineral Resources	A Mineral Resource is a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade or quality and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade or quality, continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.
Modifying Factors	Modifying Factors are considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.
Ore	A naturally occurring solid material from which a metal or valuable mineral can be extracted profitably. Ore implies technical feasibility and economic viability that should only be attributed to Mineral Reserves.
Potentially Economic Material (PEM)	Mineralized material that has been identified as a Mineral Resource that has no demonstrated economic viability but that could potentially if in the future was reclassified as ore.
Potentially Mineable Resource	Includes Inferred Mineral Resources, Indicated Mineral Resources and Measured Mineral Resources.
Preliminary Feasibility Study or Pre-Feasibility Study (PFS)	A Pre-Feasibility Study is a comprehensive study of a range of options for the technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method, in the case of underground mining, or the pit configuration, in the case of an open pit, is established and an effective method of mineral processing is determined. It includes a financial analysis based on reasonable assumptions on the Modifying Factors and the evaluation of any other relevant factors which are sufficient for a Qualified Person, acting reasonably, to determine if all or part of the Mineral Resource may be converted to a Mineral Reserve at the time of reporting. A Pre-Feasibility Study is at a lower confidence level than a Feasibility Study.
Preliminary Economic Assessment (PEA)	Means a study, other than a Pre-Feasibility Study or Feasibility Study, that includes economic analysis of the potential viability of mineral resources.
Probable Mineral Reserve	A Probable Mineral Reserve is the economically mineable part of an Indicated, and in some circumstances, a Measured Mineral Resource. The confidence in the Modifying Factors applying to a Probable Mineral Reserve is lower than that applying to a Proven Mineral Reserve.
Proven Mineral Reserve	A Proven Mineral Reserve is the economically mineable part of a Measured Mineral Resource. A Proven Mineral Reserve implies a high degree of confidence in the Modifying Factors.

Term	Description
Qualified Person (QP)	A Qualified Person means an individual who is an engineer or geoscientist with at least five years of experience in mineral exploration, mine development or operation or mineral project assessment, or any combination of these; has experience relevant to the subject matter of the mineral project and the Technical Report; and is a member or licensee in good standing of an approved professional association.
Technical Report	Means a report prepared and filed in accordance with National Instrument 43-101 and includes, in summary form, all material scientific and technical information in respect of the subject property as of the effective date of the technical report.

SECTION 1 SUMMARY

1.1 INTRODUCTION

I-Minerals USA, Inc. (I-Minerals) holds mineral leases associated with the Bovill Kaolin Project in Latah County, Idaho. The Project area is located on endowment lands owned and administered by the Idaho Department of Lands (IDL).

I-Minerals engaged GBM Engineers LLC (GBM) to complete a Feasibility Study (FS) for the Project and this Technical Report presents the results of that study. The Project includes design of the mine and waste dump, process plant, administration facilities, dry stack tailings facility, and all required infrastructure, including road upgrades and connection to power, gas, and water supplies.

The production and sale of four quartz products, three potassium feldspar products, two halloysite products, and a metakaolin product are individually tracked, which together yield a weighted average price of US$316/ton. A Mineral Resource estimate of 21.3 million tons (Mt) and Mineral Reserves of 8.7 Mt were defined, with a mine life spanning 26 years and an average annual production rate of 346,000 tons (years 2-24).

The FS economic results indicate a pre-tax net present value (NPV) of US$385.8 million and internal rate of return (IRR) of 31.6%, and an after tax NPV of US$249.8 million and IRR of 25.8%. The Project is estimated to require an initial capital investment of US$108.3 million, with total Life-of-Mine (LoM) capital costs of US$120.0 million. These results demonstrate that the Project is both technically and economically feasible, and it is therefore recommended that I-Minerals pursue a program of further investment and development.

1.2 GEOLOGY, MINERALIZATION, AND EXPLORATION

Granitoid intrusive rocks of Cretaceous age underlie a large portion of the Helmer-Bovill area and form part of a body referred to as the Thatuna batholith, which was subject to intense weathering during the Miocene epoch. This resulted in much of the feldspar and at least some of the mica in the igneous body being altered to one or more varieties of clay minerals. The depth of this weathering may exceed 100 ft along ridges, and be less than 3 ft in some valleys.

The presence of kaolinitic clay deposits provided the initial impetus for economic mineral development in northern Idaho. Plagioclase (Na- or Ca- bearing feldspar) is the least stable phase in the weathering environment, and it alters to form clay well before potassium feldspar (K-feldspar) and muscovite. K-feldspar and the micas (biotite and muscovite) are relatively resistant to alteration during all but the most intense weathering. Quartz is impervious to alteration throughout the weathering cycle. In the Helmer-Bovill area, pits that were mined for kaolin in residual deposits contained mostly quartz, halloysite, kaolinite, and K-feldspar. The waste material is primarily quartz and K-feldspar, with Na-feldspar (plagioclase) accounting for only a small proportion of the total feldspar. Residual clay deposits in the Helmer-Bovill area reflect this mineral distribution, and targeted commodities from strongly-weathered Thatuna granitoid are kaolin, halloysite, quartz, and K-feldspar.

The Project hosts four different deposit types. These include primary Na-feldspar deposits, residual K-feldspar-quartz-kaolinite-halloysite deposits, transported clay deposits, and K-feldspar-quartz tailings deposits. The residual deposits that are the subject matter of this report are derived from saprolitic weathering of the Thatuna granodiorite-granitic phases. In general, the Na-feldspar alters to kaolinite and halloysite. These clays are accompanied by residual K-feldspar and quartz.

1.3 MINERAL RESOURCES AND RESERVES

The Project's Measured and Indicated Mineral Resources from the Kelly's Hump and Middle Ridge areas are reported in Table 1-1. Three mineral products are included in the resource: quartz and K-feldspar sand, kaolinite clay, and halloysite clay. The Proven and Probable Mineral Reserves are reported in Table 1-2.

Table 1-1: Statement of Measured and Indicated Mineral Resources (as of October 2015)

Classification	Location	Tons (000s)	Qtz & K-feldspar Sand (%)	Kaolinite (%)	Halloysite (%)	Qtz & K-feldspar Tons (000s)	Kaolinite Tons (000s)	Halloysite Tons (000s)
Measured	Kelly's Hump	3,540	75.98	13.08	3.86	2,688	463	137
	Middle Ridge	2,180	77.43	10.95	4.15	1,690	239	91
	All	**5,720**	**76.53**	**12.27**	**3.97**	**4,378**	**702**	**226**
Indicated	Kelly's Hump	7,500	55.22	14.81	2.77	4,140	1,110	208
	Middle Ridge	5,140	58.85	17.91	3.61	3,023	920	185
	WBL Pit	2,900	58.43	13.31	1.62	1,694	386	47
	All	**15,530**	**57.02**	**15.56**	**2.83**	**8,857**	**2,416**	**440**
Measured and Indicated	Kelly's Hump	11,040	61.87	14.26	3.12	6,828	1,574	344
	Middle Ridge	7,320	64.39	15.83	3.77	4,713	1,159	276
	WBL Pit	2,900	58.43	13.31	1.62	1,694	386	47
	All	**21,260**	**62.27**	**14.67**	**3.14**	**13,235**	**3,119**	**667**

Note that values presented here have been rounded to reflect the level of accuracy. Resources are inclusive of reserves

Table 1-2: Statement of Mineral Reserves (as of October 2015)

Reserve	Proven	Probable	Total P&P
Tons (000s)	4,155	4,548	8,702
Halloysite (%)	4.8	4.0	4.4
Halloysite Tons (000s)	200	182	382
Kaolinite (%)	11.1	12.5	11.8
Kaolinite Tons (000s)	460	568	1,028
Sand (%)	77.8	76.8	77.3
Sand Tons (000s)	3,234	3,491	6,725

Note that values presented here have been rounded to reflect the level of accuracy.
Proven and Probable Mineral Reserves are presented using a $57.00 NSR cutoff grade.

1.4 ENVIRONMENTAL STUDIES AND PERMITTING

To support Project mine and environmental permitting requirements, the following baseline environmental studies and surveys have been conducted:

- Wetlands and Vegetative Survey
- Water Resource Assessment (Surface and Groundwater)
- Threatened and Endangered Species and Wildlife Assessment
- Air Quality Assessment
- Cultural Resources Assessment

Several plans and permits are required for the Project including:

- An Idaho Mine Operation and Reclamation Plan, administered through IDL.
- An Air Quality Permit, administered by Idaho Department of Environmental Quality (IDEQ)
- A Clean Water Act Section 402 National Pollutant Discharge Elimination System General Permit for Discharges from Construction Activities, and Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, administered by the U.S. Environmental Protection Agency (USEPA).
- To address wetlands, a pre-construction notification for Section 404 Nationwide Permit 14 (linear transportation projects) will be filed with the U.S. Army Corps of Engineers (USACE) prior to commencing construction activities. A preliminary jurisdictional determination has been conducted by the USACE and a formal determination will be conducted at time of the pre-construction notification.

No listed threatened or endangered species or critical habitat as identified under the Endangered Species Act, have been identified. A “no effects” for cultural resource impacts under the National Historic Preservation Act is anticipated. Overburden, waste rock, ore, and tailings characterization have been completed and the materials are not acid producers.

The Idaho Mine Operation and Reclamation Plan and permit application should be finalized and filed with Idaho Department of Lands shortly after issuance of this Technical Report.

1.5 CONCLUSIONS AND RECOMMENDATIONS

1.5.1 MINING METHODS

The Project is planned as an open-pit, truck and excavator operation. The truck and excavator method provides reasonable cost benefits and selectivity for this type of deposit. The material to be mined consists of clays and soils, and as such, no drilling or blasting is anticipated.

Mining depth has been restricted to approximately 75 ft to limit the height of highwalls. In some cases, partial backfilling of the pits will be undertaken to ensure that there will be no pit lakes formed at the end of the mine life.

Waste dumps include both external dumps, which are located outside of designed pits, and backfill dumps, which are designed over the pit designs. The external dumps, and portions of the backfill dumps that are outside of the pit crest, were designed using 2.5:1 slopes to help facilitate reclamation at the end of the mine life.

1.5.2 RECOVERY METHODS

Recovery methods employed consist of physical and mechanical separations using proven equipment specifically selected for each unit operation. The Project will produce six main products from the run-of-mine (ROM) feed to the plant. The products are listed below, with some produced in a range of final particle sizes:

- Metakaolin
- Standard grade halloysite
- High-purity halloysite
- K-feldspar sand (multiple sizes)
- Quartz sand product Q1 grade (multiple sizes)
- Quartz sand product Q3 grade

The process comprises four main areas:

- ROM stockpiling and crushing
- Clay/Sand separation, the products of which will feed the clay and feldspathic sand circuits
- Feldspathic sand circuit, to produce separate quartz (Q1 and Q3) and K-feldspar products
- Clay circuit, to produce separate kaolin and halloysite products

Figure 1-1 depicts the overall processing scheme in a simplified block flow diagram.

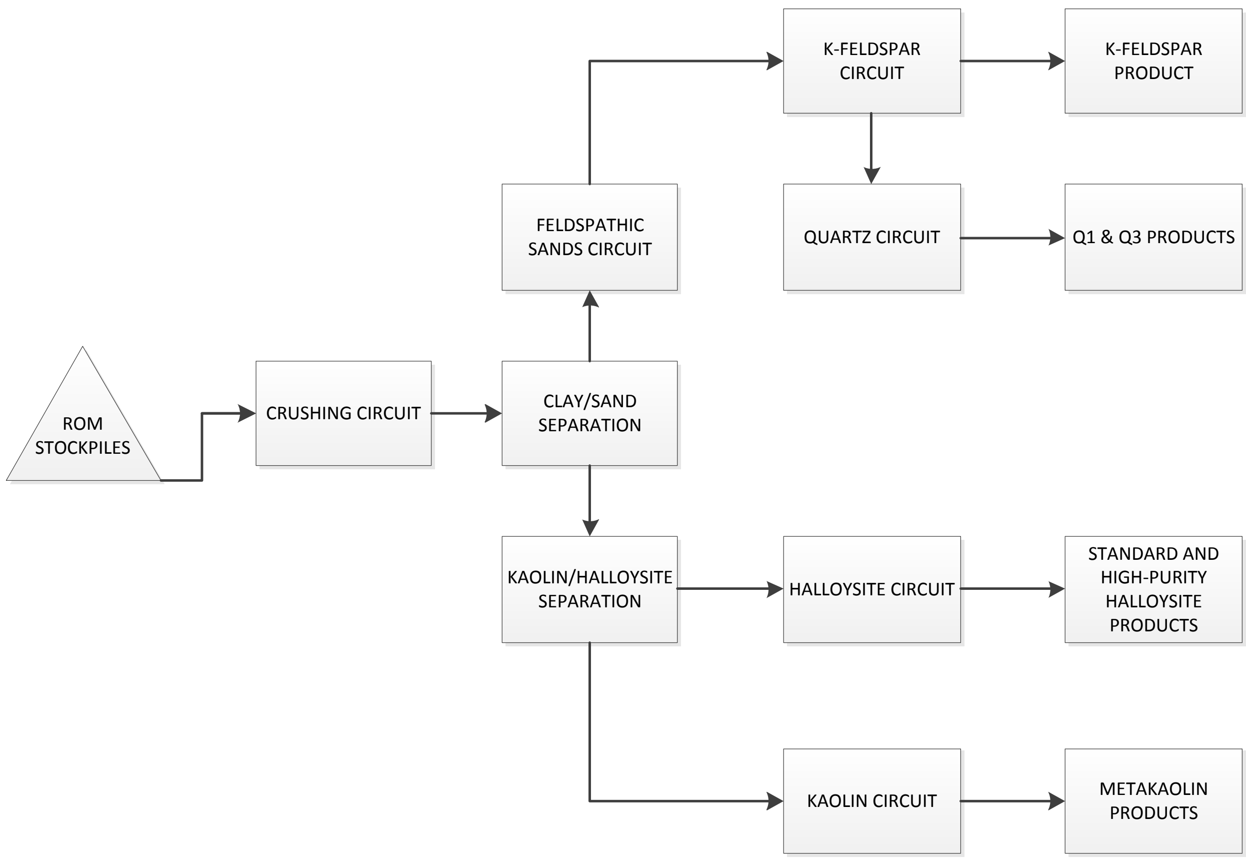


Figure 1-1: Simplified Block Flow Diagram

1.5.3 CAPITAL AND OPERATING COST ESTIMATES

The LoM capital expenditure (CAPEX) for the Project is estimated to be US$120 million. This includes all initial sustaining capital, and reclamation and closure costs. A summary of the capital cost estimate is shown in Table 1-3.

Table 1-3: CAPEX Estimate

	Initial Capital (US$000s)	Sustaining Capital (US$000s)	LoM Capital (US$000s)
TOTAL CAPITAL INVESTMENT	**108,258**	**11,775**	**120,033**
FIXED CAPITAL TOTAL	**97,773**	**11,230**	**109,548**
DIRECT TOTAL	**65,054**	**11,230**	**76,284**
General	4,059	6,001	10,059
Mining	1,334	84	1,418
Process	50,764	0	50,764
Waste Management	3,167	5,145	8,312
Infrastructure and Utilities	5,731	0	5,731
INDIRECT TOTAL	**32,718**	**546**	**33,264**
Engineering & Procurement	10,200	0	10,200
Construction Management	5,204	0	5,204
Field Indirect	5,314	0	5,314
Contingency	12,000	546	12,546
WORKING CAPITAL TOTAL	**10,485**	**0**	**10,485**
Cash Reserve	9,687	0	9,687
Inventory	798	0	798

The LoM operating expenditures (OPEX) are summarized in Table 1-4.

Table 1-4: OPEX Estimate

Area		Av. US$/yr (000s)	Av. US$/t ROM	Av. US$/t Product	Percentage of Total (%)
000	**General – Subtotal**	**3,888**	**11.62**	**19.01**	**20.69**
000	General and Administrative	2,615	7.81	12.78	13.92
000	General - Utilities - Gas	3	0.01	0.02	0.02
000	General - Utilities - Power	124	0.37	0.61	0.66
000	General - Mobile Equipment Lease	168	0.50	0.82	0.89
000	General - Consumables - Raw Water Pumping	3	0.01	0.02	0.02
000	General - Consumables - Diesel	161	0.09	0.15	0.17
000	General - Mobile Equipment Maintenance	161	0.48	0.79	0.86
000	General - Labor	782	2.34	3.82	4.16
100	**Mining – Subtotal**	**2,960**	**8.84**	**14.47**	**15.75**
100	Contract Mining Cost	2,616	7.82	12.79	13.92
100	Owners Mining Cost	344	1.03	1.68	1.83
200	**Processing Plant – Subtotal**	**11,941**	**35.68**	**58.37**	**63.55**
200	Processing - Reagents	1,165	3.48	5.69	6.20
200	Processing - Maintenance & Operating Spares	798	2.39	3.90	4.25
200	Processing - Utilities	3,869	11.56	18.91	20.59
200	Processing - Consumables	1,071	3.20	5.24	5.70
200	Processing - Labor	3,749	11.20	18.33	19.95
300	**Waste Management - Tailings**	**449**	**1.34**	**2.19**	**2.39**
400	**Product Handling – Bulk Bags**	**840**	**2.51**	**4.11**	**4.47**
TOTAL OPERATING COST		**18,789**	**56.14**	**91.84**	**100.00**

1.5.4 FINANCIAL ANALYSIS

The economic analysis returned a post-tax NPV of US$249.8 million and an IRR of 25.8%. Economic results are summarized in Table 1-5.

Table 1-5: Economic Results

Description	LoM Value Pre-Tax (US$Millions)	LoM Value After-Tax (US$Millions)	Unit Cost (US$/ton product)
Gross Revenue	**1,683.1**	**1,683.1**	**316.43**
Royalties (5% sales)	(84.2)	(84.2)	(15.82)
Gross Income	**1,598.9**	**1,598.9**	**300.60**
Mining Costs	(77.0)	(77.0)	(14.47)
Processing Costs	(314.0)	(310.5)	(58.37)
G&A Costs	(102.4)	(101.1)	(19.01)
Operating Costs	**(493.4)**	**(493.4)**	**(91.84)**
Mine Capital	(1.4)	(1.4)	-
Process Capital	(50.8)	(50.8)	-
Infrastructure	(5.7)	(5.7)	
Tailings / Waste Mgmt Capital	(8.3)	(8.3)	-
General / Owner's Capital / EPCM	(53.8)	(53.8)	-
LoM Capital	**(120.0)**	**(120.0)**	-
Taxes		(342.8)	-
Subtotal Capital & Tax	**(120.0)**	**(460.8)**	**-**
CASH FLOW	**990.4**	**658.1**	**-**
$NPV_{6\%}$	**385.8**	**249.8**	**-**
IRR	**31.6%**	**25.8%**	**-**

1.5.5 RECOMMENDATIONS

Based on the results of this FS, which demonstrate that the Project is both technically and economically feasible, it is recommended that I-Minerals pursue a program of further investment and development to complete the engineering, procurement and construction of the Project. The following activities are recommended to be undertaken as early as possible in the next phase of development, as both have schedule and completion impacts:

- Confirmation testwork needs to be completed for final equipment selection, as well as to finalize the process plant water balance and utilities consumptions. The confirmation testwork is expected to cost about US$100,000 and take approximately 4 months to complete.
- Activities required to bring electricity and gas to the site should be expedited, as this currently impacts the overall project completion.

SECTION 2 INTRODUCTION

2.1 GENERAL

This report was prepared by GBM Engineers LLC (GBM), SRK Consulting (U.S.), Inc. (SRK), HDR Engineering, Inc. (HDR), Mine Development Associates (MDA), and Tetra Tech, Inc. (Tetra Tech) on behalf of I-Minerals USA Inc. (I-Minerals) who engaged them to prepare a Technical Report in compliance with Canadian Securities Administrators' National Instrument 43-101 on the Feasibility of the Bovill Kaolin Project, located in Bovill, Idaho, USA.

2.2 SCOPE OF WORK

GBM is an independent firm of engineering consultants specializing in the development and design of mining and minerals processing projects. GBM was commissioned as the lead consultant to manage the overall Feasibility Study (FS), including coordinating other specialist subconsultants involved in the work. The objective of the FS was to investigate project economic viability and achieve project definition for eventual EPCM project implementation.

In the FS, ore reserves, mining, processing, waste disposal, environmental impacts, ancillary facilities, services, utilities, infrastructure, permitting, and product marketing are defined, and technical and economic evaluations of the project are included.

GBM's direct scope of work for the FS included the mine site process plant and related infrastructure, including developing estimates of the Project's overall capital (CAPEX) and operating (OPEX) expenditures, and preparing the financial and economic analysis.

Tetra Tech completed dry stack tailings (DST) design and associated infrastructure.

HDR completed all environmental aspects including hydrogeology, permitting and GIS. HDR also designed the haul/multi-use and bypass roads in conjunction with I-Minerals, MDA and GBM to interface with the mine/waste dump areas and process plant battery limits.

MDA completed the reserve estimation, pit optimizations, and dump designs, as well as the production schedules for ore and waste. MDA also developed all mining costs.

SRK's scope included geology and resource evaluation and estimation.

2.3 PRIMARY INFORMATION SOURCES

This report makes use of the NI 43-101 Updated Prefeasibility Technical Report for the Bovill Kaolin Project dated April 20, 2014, prepared by SRK Consulting (U.S) Inc. as the primary information source.

GBM also used various other information sources, which are referenced throughout this report.

2.4 QUALIFIED PERSONS

The GBM Qualified Persons (QPs) are Michael J. Short, CEng, GBM Chief Executive Officer, and Richard D. Rath, PE, GBM Senior Process Engineer.

SRK authored sections of this report as detailed in Table 2-1. The SRK QP is Bart Stryhas, CPG, SRK Associate Principal Consultant.

HDR authored sections of this report as detailed in Table 2-1. The HDR QP is Manuel Rauhut, PE, HDR Environmental Engineer.

MDA authored sections of this report as detailed in Table 2-1. The MDA QP is Thomas L. Dyer, PE, MDA Senior Engineer.

2.5 QUALIFIED PERSON SITE VISITS

A number of site visits by various QPs and other parties have been carried out to inspect the Project site and verify its characteristics. Specifically, representatives of GBM, SRK, HDR, MDA and Tetra Tech made the following site visits:

- Bart Stryhas, SRK, May 2010 and September 2013
- Jessica Spriet, Tetra Tech, May 2011
- Michael Murray, HDR, May and July 2012; October 2014; April 2015
- Christine Whittaker, May and July 2012, August 2015
- Richard Rath, GBM, January 2015
- Daniel Blakeman, GBM, January 2015
- Jaan Hurditch, GBM, January 2015
- Thomas L. Dyer, MDA, January 2015
- Chris Johns, Tetra Tech, January 2015

2.6 VERIFICATION

The QPs have inspected the project site and verified its characteristics as stated in the respective sections of this report.

The QPs have carried out due diligence reviews of the information provided to them by I-Minerals and others for the preparation of this report and are satisfied that the information was accurate at the time of the report and that the interpretations and opinions expressed in them were reasonable and based on current understanding of mining and processing techniques and costs, economics, mineralization processes, and the host geologic setting. The QPs made reasonable efforts to verify the accuracy of the data relied on in this report.

2.7 FINANCIAL INTEREST DISCLAIMER

None of GBM, SRK, HDR, MDA, or Tetra Tech, or any of their consultants employed in the preparation of this report, have any beneficial interest in the assets of I-Minerals.

GBM, SRK, HDR, MDA, Tetra Tech have been paid fees and will continue to be paid fees for this work in accordance with normal professional consulting practices.

2.8 QUALIFIED PERSON SECTION RESPONSIBILITY

This report was prepared by or under the supervision of the QPs identified in Table 2-1 for each of the sections of this report.

Table 2-1: Responsible Qualified Persons

Section	Section Title	QP
1	Summary	GBM (Michael Short)
2	Introduction	GBM (Michael Short)
3	Reliance On Other Experts	GBM (Michael Short)
4	Property Description and Location	GBM (Michael Short)
5	Accessibility, Climate, Local Resources, Infrastructure and Physiography	GBM (Michael Short)
6	History	GBM (Michael Short)
7	Geological Setting and Mineralization	SRK (Bart Stryhas)
8	Deposit Types	SRK (Bart Stryhas)

Section	Section Title	QP
9	Exploration	SRK (Bart Stryhas)
10	Drilling	SRK (Bart Stryhas)
11	Sample Preparation, Analyses, and Security	SRK (Bart Stryhas)
12	Data Verification	SRK (Bart Stryhas)
13	Mineral Processing and Metallurgical Testing	GBM (Richard Rath)
14	Mineral Resource Estimates	SRK (Bart Stryhas)
15	Mineral Reserve Estimates	MDA (Thomas L. Dyer)
16	Mining Methods	MDA (Thomas L. Dyer)
17	Recovery Methods	GBM (Richard Rath)
18	Project Infrastructure	GBM (Michael Short)
19	Market Studies and Contracts	GBM (Michael Short)
20	Environmental Studies, Permitting, and Social or Community Impact	HDR (Manuel Rauhut)
21	Capital and Operating Costs	GBM (Michael Short)
22	Economic Analysis	GBM (Michael Short)
23	Adjacent Properties	GBM (Michael Short)
24	Other Relevant Data and Information	GBM (Michael Short)
25	Interpretation and Conclusions	GBM (Michael Short)
26	Recommendations	GBM (Michael Short)
27	References	GBM (Michael Short)

SECTION 3 RELIANCE ON OTHER EXPERTS

The QPs for this report have relied on expert opinions and information provided by I-Minerals pertaining to environmental considerations, and taxation and legal matters, including mineral tenure, surface rights, and material contracts.

For the purposes of Section 4 (Property Description and Location) and Section 23 (Adjacent Properties) of this report, the QP relied on property ownership data provided by I-Minerals and other sources referenced within the sections. This information is believed to be essentially complete and correct to the best of the QP's knowledge, and no information has been intentionally withheld that would affect the conclusions made herein. The QP has not researched the property title or mineral rights for the Project, and expresses no legal opinion as to the ownership status of the property.

For the purposes of Section 19 (Market Studies and Contracts) of this report, the QP relied on information pertaining to market studies provided by I-Minerals and Roskill Consulting Group Limited as referenced within the section. Roskill is a global leader in international metals and minerals research and independent market analysis. The author of the Roskill report has over 30 years of experience researching industrial mineral markets. The QP reviewed the information provided by I-Minerals and Roskill, and believes this information to be correct and adequate for use in this report. Prices for sand and clay products can vary dramatically, depending on the specifications and quality of each product produced. Due to the highly competitive nature of the industrial sand and clay industry, contract prices are confidential and are not presented in public documents. The QP confirms that I-Minerals completed a market study for its products that included preliminary negotiations to supply a variety of clay and sand products. The QP also confirms that the process facility is capable of producing these products.

For the purposes of Section 20 (Environmental Studies, Permitting, and Social or Community Impact) of this report, the QP relied on information provided by I-Minerals and other sources as referenced within the section. The QP reviewed the information provided and believes this information to be correct and adequate for use in this report.

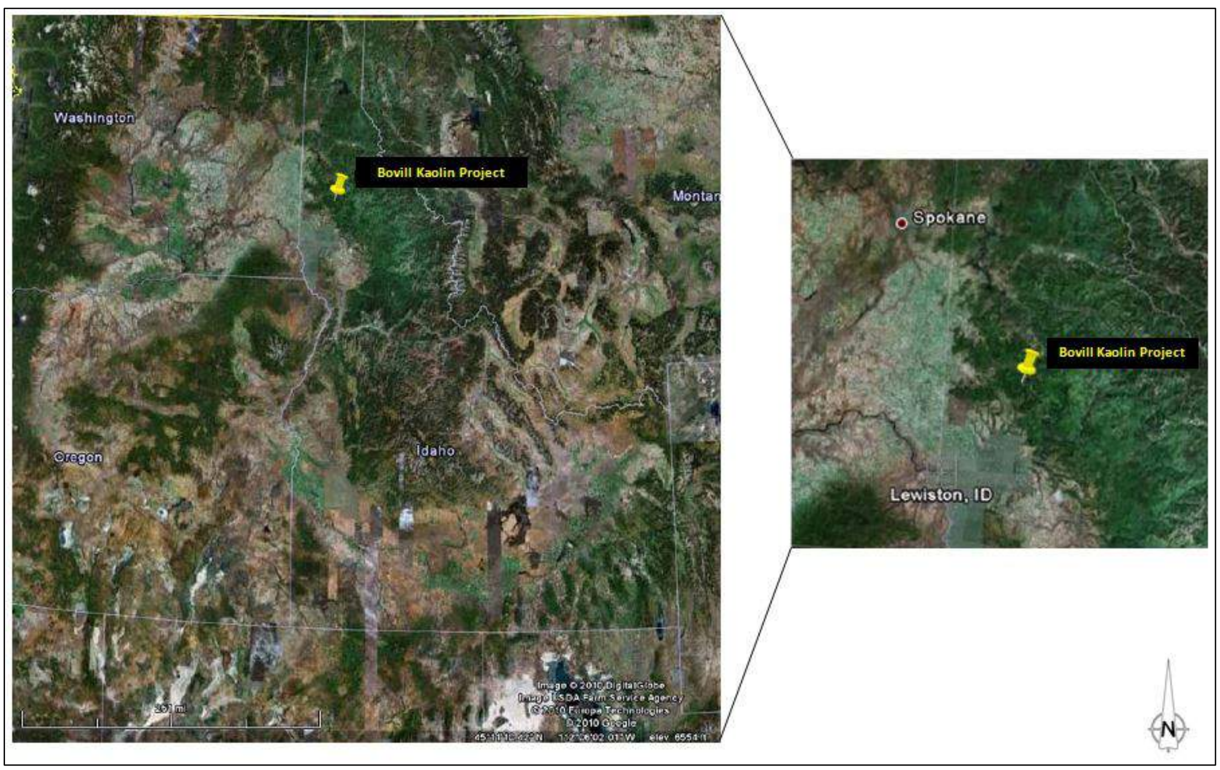
For the purposes of Section 22 (Economic Analysis) of this report, the QP relied on taxation information provided by I-Minerals and other sources referenced within the section. The QP reviewed the taxation information provided and believes it to be correct and adequate for use in this report.

SECTION 4 PROPERTY DESCRIPTION AND LOCATION

4.1 LOCATION

The Project is a development stage open pit mining operation that will produce quartz sand, potassium feldspar (K-feldspar) sand, kaolin clay, and halloysite clay. The Project area has been mined historically for primarily clay products. This section summarizes information related to the property location, mineral titles, royalties and agreements, environmental permits and liabilities, and Project risks.

The Project is located at geographical coordinates 46° 52' 43.5" N. latitude and 116° 25' 47.2" W longitude (State Plane, NAD 83, Zone 1103, Idaho West: 1 900 717 N, 2 454 671 E) in Latah County, Idaho, USA (Figure 4-1). The property currently totals 5,140.6 acres. The mineral leases are not adjoining, but are situated within three surveyed townships near the town of Bovill, Idaho.



Source: HDR Engineering

Figure 4-1: Location Map – Bovill Kaolin Project

4.2 MINERAL TENURE

The Project includes the mineral leases listed in Table 4-1 and shown in Figure 4-2.

Table 4-1: Mineral Leases

Mineral Lease No.	Township	Range	Section	Legal Description	Acres
E410005	41 North	1 West	16	Govt Lots 1-2, N2SE	172.86
E410006	41 North	1 East	18	Govt Lot 2, NE, E2NW, W2SE, W2SESE	377.75
E410007	41 North	1 East	17	W2NE, W2NENE, SESE	140.00
E410007	41 North	1 East		NW, N2SW, S2SWSE	260.00
E410008	40 North	1 West	6	Govt Lots 9-11, SENW, E2SW, SWNE, W2SE	370.80
E410008	40 North	1 West	8	SW	160.00
E410008	40 North	1 West	17	NWNW and right-of-way in S2NE and N2SE	53.17
E410009	40 North	1 West	6	E2SE	80.00
E410009	40 North	1 West	8	S2NE, NENE, SE	280.00
E410009	40 North	1 West	17	S2NW, NENW, N2NE, SENE, NWSE less right-of-way	269.50
E410010	41 North	1 West	23	Govt Lots 5-8, E2SW	242.44
E410010	41 North	1 West	23	Govt Lots 1-4, W2SE	242.52
E410010	41 North	1 West	35	NWNW	40.00
E410010	41 North	1 West	36	SESW, SWSE	80.00
E410011	41 North	1 West	27	Govt Lots 1, 2, and 4	117.19
E410011	41 North	1 West	27	Govt Lot 3, W2NW, SENW, S2NE, N2S2, NENE	438.73
E410012	41 North	1 West	24	Govt Lot 3	41.41
E410012	41 North	1 West	36	NENW, NESW	80.00
E410013	41 North	1 West	20	W2NE, NENE, W2SE, SESE	240.00
E410013	41 North	1 West	21	N2, S2SW	400.00
E410014	41 North	1 West	16	Govt Lots 3 and 4, NW, N2SW, S2NE	413.78
E410014	41 North	1 West	24	Govt Lot 2, E2NW, NWNE	161.35
E410015	41 North	1 West	22	N2SE, SESE, N2, NESW	480.00
				TOTAL	**5,141.50**

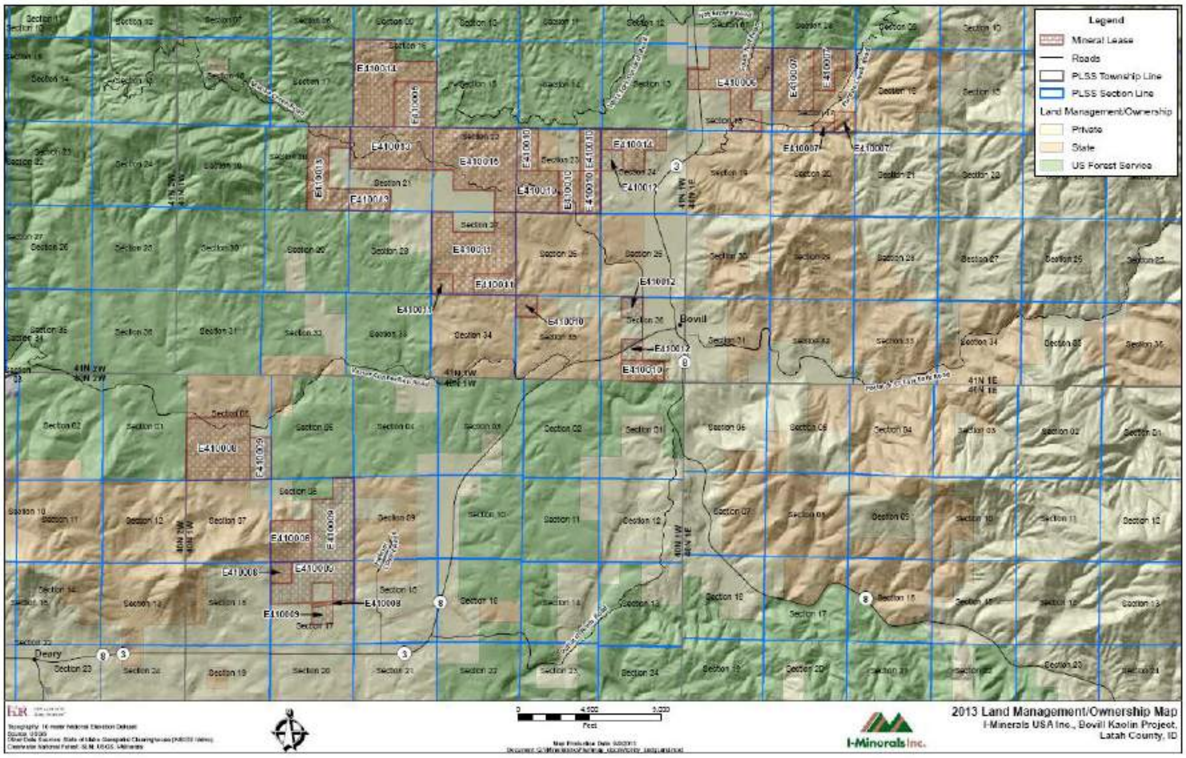


Figure 4-2: Land Management/Ownership Map

The QP has limited the review of the mineral rights held by I-Minerals to comparing the individual concession boundaries shown on plans to those depicted on the mining concessions. A legal review of the validity of the process I-Minerals went through to obtain the mining concessions has not been undertaken.

4.3 PROPERTY, TITLE AND SURFACE RIGHTS

The Project area is located on endowment lands owned and administered by the IDL. These and other IDL holdings across the State of Idaho were granted to the State in 1890 by the Federal Government on the condition they produce maximum long-term financial returns for public schools and other beneficiaries. Therefore, IDL has a mandate for these lands to produce revenue to support the State's public school system and other State institutions. To achieve this, IDL manages these properties primarily for profit through the production of timber, livestock grazing, and the extraction of mineable materials.

The State of Idaho endowment lands fall into two categories, referred to as "Fee Simple" and "Minerals Only." The Fee Simple lands are those where the State owns both mineral and surface rights. The

Minerals Only lands are those where the State owns the mineral rights but someone else owns the surface rights. The majority of the property leases held by I-Minerals are Fee Simple, and all mineral resources and mineral reserves described in this report are located on Fee Simple lands. By way of its mineral leases, I-Minerals has surface rights and legal access to the Project provided it meets all permitting and bonding requirements administered by IDL.

In 2002, Alchemy Ventures Ltd (predecessor to I-Minerals) acquired from Idaho Industrial Minerals (IIM), through its wholly owned subsidiary Alchemy Kaolin Corporation, 16 State of Idaho mineral lease applications in Latah County to cover deposits of feldspar, kaolin, and quartz located near Bovill, Idaho. In 2003, I-Minerals converted these applications to ten mineral leases, and subsequently obtained two additional mineral leases. The Project then consisted of 12 State of Idaho mineral leases. Renewal applications for all 12 leases were filed on April 27, 2012, with a US$3,000 application fee. As part of the renewal process, the State converted the 12 mineral leases into 10 revised mineral leases issued on February 28, 2013. Subsequently, during 2013, the State granted one additional mineral lease to I-Minerals. As of the date of this report, I-Minerals holds 11 mineral leases totaling 5,141.50 acres. All current leases are valid until 2023. Due to recent changes in the law, I-Minerals is exploring various options for renewal. All leases are subject to rental fees of US$1.00/acre/yr and a production royalty of 5% of gross proceeds.

The production royalty is prepaid at a rate of US$500 per lease for the first five years, and increases to US$1,000 per lease for the second five years of the lease. The surface rights of the 11 mineral leases are owned by both the State of Idaho and some private landowners. However, the surface right of the mineral leases specific to the resource estimation contained in this report are all owned and administered by the State of Idaho.

Most of the mineral leases are located within the Moose Creek drainage, specifically within the geographical area called Moose Meadows.

4.4 ROYALTIES, AGREEMENTS AND ENCUMBRANCES

I-Minerals has rights to develop the Project through minerals leases issued by the State of Idaho (Leases). These Leases were acquired from IIM and are held by I-Minerals, based on an Assignment Agreement with Contingent Right of Reverter (the Agreement), dated August 12, 2002, between I-Minerals USA (formerly Alchemy Kaolin Corporation) and IIM. The Agreement has been subject to several amendments and ratifications between the parties, dated effective August 10, 2005, August 10, 2008, and January 21, 2010. Under the terms of the Agreement, I-Minerals acquired a 100% interest in the property upon final issuance of a total of 1.75 million shares of common stock to IIM. The issuance of these shares occurred on a staged basis following completion of a series of defined work programs conducted during the different phases of Project development, subject to approval by the TSX-V, which was granted by letter dated January 18, 2013. The final block of shares was delivered on January 23, 2013.

The State of Idaho retains a 5% gross production royalty due upon commencement of any mineral production.

4.5 ENVIRONMENTAL LIABILITIES

The Leases held by I-Minerals cover areas of historic open pit mining. These areas include open pit mines, waste dumps and tailings areas. At this time, there are no known environmental liabilities associated with the exploration work conducted by I-Minerals, and all activities to date are covered under general State and Federal authorizations for exploratory work. I-Minerals submitted an original bond of US$750 to the IDL to cover environmental liabilities associated with its exploration work. This bond remained in place throughout the work, but it was refunded in December 2012. On November 1, 2010, the State of Idaho revised its bonding program, and since that time, I-Minerals has paid a reclamation bond of US$100 per lease per year. In addition, in June 2014, I-Minerals posted an additional bond in the amount of approximately $6,200 for additional exploration on currently held leases. All reclamation bonding is current through October 31, 2016, and the IDL has approved all reclamation conducted to date.

4.6 PERMITS

I-Minerals is currently permitted for the following activities at the Bovill Project site (IDL mineral leased lands).

4.6.1 EXPLORATION ACTIVITIES

I-Minerals conducted exploration activities in accordance with Idaho Administrative Procedure Act (IDAPA) 20.03.02.060 – Exploration Operations and Required Reclamation. I-Minerals filed an original Notification of Exploration (NOE) to the IDL in 2000, which was subsequently amended for surface exploration and drilling programs. Exploration disturbances have been reclaimed, and approved by the IDL.

4.6.2 MINING ACTIVITIES

I-Minerals is permitted through an approved Mine Plan of Operations and Reclamation Plan from IDL for the mining of approximately 10 acres of feldspathic sands from June through October for up to 10 years (2012 through 2022). The feldspathic sands were deposited as tailings from clay mining operations that occurred on or near the Company's mineral leases between 1956 and 1974. These activities are conducted under a National Pollutant Discharge Elimination System's (NPDES) Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activities (Permit Number IDR053100). The stormwater permit became effective on November 8, 2012, and has been extended until June 4, 2020.

4.6.3 PERMITS TO BE ACQUIRED FOR THE PROJECT

A review of Project plans identified a range of environmental permits, review processes, and authorizations required for construction, operation, and closure. Development of the Project will require approval of a Plan of Operations and Reclamation Plan by IDL (IDAPA 20.03.02), and an updated NOI for coverage under the NPDES MSGP for industrial activities (Sector J3: Mineral Mining and Dressing/Clay, Ceramic, and Refractory Materials). In addition, a State air quality permit will be required for emission sources, including dryer stacks and fugitive dust. Closure of the mine requires IDL approval of a Mine Site Reclamation and Tailings Closure Plan. Also, monitoring of certain resources will likely be mandated through the State mine permitting process as well as through the Federal NPDES stormwater general permit. I-Minerals will apply for water rights in the name of the State to withdraw water from the Section 16 Reservoir and from groundwater wells to help support mine activities.

A goal of the Project design is to avoid disturbances in jurisdictional wetlands or other waters, so that a Clean Water Act Section 404 permit will not be required, or at most, be limited to Section 404(e) Nationwide Permit 14 for minor fill. No federal lands or federal permits (except for the stormwater general permits) are anticipated in the Project plans, and as such, a National Environmental Policy Act (NEPA) environmental review of the proposed Project is not anticipated (other than resource information required as part of the stormwater general permits).

A description of permitting requirements, risks, and other important factors is provided in Section 20.

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

5.1 ACCESSIBILITY AND INFRASTRUCTURE

The Project is located near the town of Bovill, Idaho, and is accessed by road by following Idaho State Highway 8 (ID-8) west for 0.4 mi, then turning right (west) on Moose Creek Road/National Forest Road 381 and following for 5.5 miles. ID-8 is an improved two-lane road, while Moose Creek Road/National Forest Development Road 381 is a dirt/gravel road that provides access to State and Federal lands. In addition, access to specific areas to be mined will require either upgrades to former logging roads or construction of new access roads.

The nearest, large communities are Moscow, Idaho (population 25,000), located about 28 miles west-southwest of the Project, and Lewiston, Idaho (population 32,000), located about 42 miles southwest of the Project. Transportation to and from the Project site will be with standard over-highway vehicles.

5.2 CLIMATE

The climate at the Project site, as described by the nearby Natural Resources Conservation Services Sherwin 752 weather station, is characterized by an average annual precipitation of 40.02 inches, with the highest values recorded between October and March. The annual minimum and maximum temperatures are 30.4°F and 55.3°F, respectively; with average monthly minimum and maximum temperatures ranging from 16.4°F to 42.6°F and 30.3°F to 83.2°F, respectively.

Available records (1952 to 2010) from the Elk River weather station indicate an average total snowfall ranging from 0.1 inch in October to 27.5 inches in February, with a monthly maximum snowfall of 88 inches. Average snow depth ranges from 1 inch in November to 75 inches in February.

It is expected that process operations will run year round, with the majority of process areas being contained indoors. Mining operations will similarly be conducted year round; however, provision has been made for ROM ore stockpiles with a minimum 30-day capacity in the event that weather prevents safe mining operations for any significant amount of time.

5.3 AVAILABILITY OF LOCAL RESOURCES

5.3.1 SURFACE RIGHTS

The surface ownership of the 11 mineral leases is a mixture of private land owners and the State of Idaho. The surface rights of the mineral leases specific to the resource estimation are owned and administered by the State of Idaho.

5.3.2 POWER SOURCE

Electric power will be provided by Avista Corp. Approximately 4 miles of power lines will need to be constructed, including a 2-mile 115kv line to a substation, and a 2-mile 24kv line from the substation to the plant site. Natural gas is available to the Project from a natural gas pipeline that extends from Moscow to Bovill, and is available to be used for the processing facility. Approximately 2 miles of natural gas pipeline will need to be constructed.

5.3.3 WATER SOURCE

Water required for processing will primarily come from a small reservoir north of the Project site. New wells located at the process plant site will provide potable water. Groundwater from drilled wells is typically used to serve domestic needs within the vicinity of the Project.

5.3.4 PERSONNEL

The region has a long history of clay production, forestry, and farming. A labor force skilled in heavy equipment operation, trucking, and general labor exists within the surrounding communities and rural areas. Additional information about the local community is provided in Section 20.

5.4 PHYSIOGRAPHY

The average elevation at the Project is 3,000 feet amsl (above mean sea level), with a topographic relief of approximately 200 ft. The area is largely covered with soil, but old workings (pits and trenches) and road cuts provide exposure to the underlying bedrock geology. The Project is located on the west side of the Potlatch River drainage area and consists of low foothills and ridges alternating with relatively wide, flat basins. Forested areas occupy the slopes and ridge tops, which are managed primarily for timber production. Conifer forest makes up approximately 50% of the overall Project area. Forest stands are early seral, highly fragmented, and lacking in the ecological functions and values of older, more contiguous forests. Grasslands occur in the basins alongside intermittent and perennial stream channels.

There are several suitable locations at the Project site for potential tailings storage, mining waste disposal, and processing facilities.

SECTION 6 HISTORY

6.1 INTRODUCTION

Hubbard (1956) (1) defined an area in Latah County known to contain the most extensive clay deposits in north Idaho (Figure 6-1). The area is approximately 35 miles long, 12 miles wide, and extends across the center of the county, from Moscow to Bovill. Between initiation of mining in the area and 1956, Hubbard estimated that about 250,000 tons of clay was produced, with most of the clay used for refractory products. The area's production has been mostly for clay products with some quartz byproduct. A brief history of the area is described in the following sections.

6.2 IDAHO FIRE BRICK AND CLAY COMPANY (1910-1955)

Refractory clay was first produced near Troy, Idaho in about 1910 (Hubbard, 1956) (1). Idaho Fire Brick and Clay Company (IFCC) opened a pit in 1913, which operated until 1955 when their plant was destroyed by fire. The Benson deposit (Figure 6-1) contains residual clay that was mined for many years by IFCC. It is believed that their name and/or ownership changed to Troy Brick and Clay Company during that time.

6.3 U.S. BUREAU OF MINES AND U.S. GEOLOGICAL SURVEY (1942-1956)

During WWII, the clays in eastern Washington and northern Idaho were examined as a possible source of alumina and a substitute for foreign bauxite ores. Domestic bauxite reserves were being depleted, and the importation of foreign bauxites was handicapped by transportation difficulties (Hosterman, et al., 1960(1)). Both the USGS and USBM conducted extensive field studies that were followed by the drilling of 650 holes that totaled about 20,250 ft. From this work, over 300 Mt of clay were identified in this region with available alumina greater than 20%. About 90% of this tonnage was found in four deposits in Latah County; namely, the Bovill, Olson, Canfield-Rogers, and Benson deposits (Hosterman, et al., 1960 (1)).

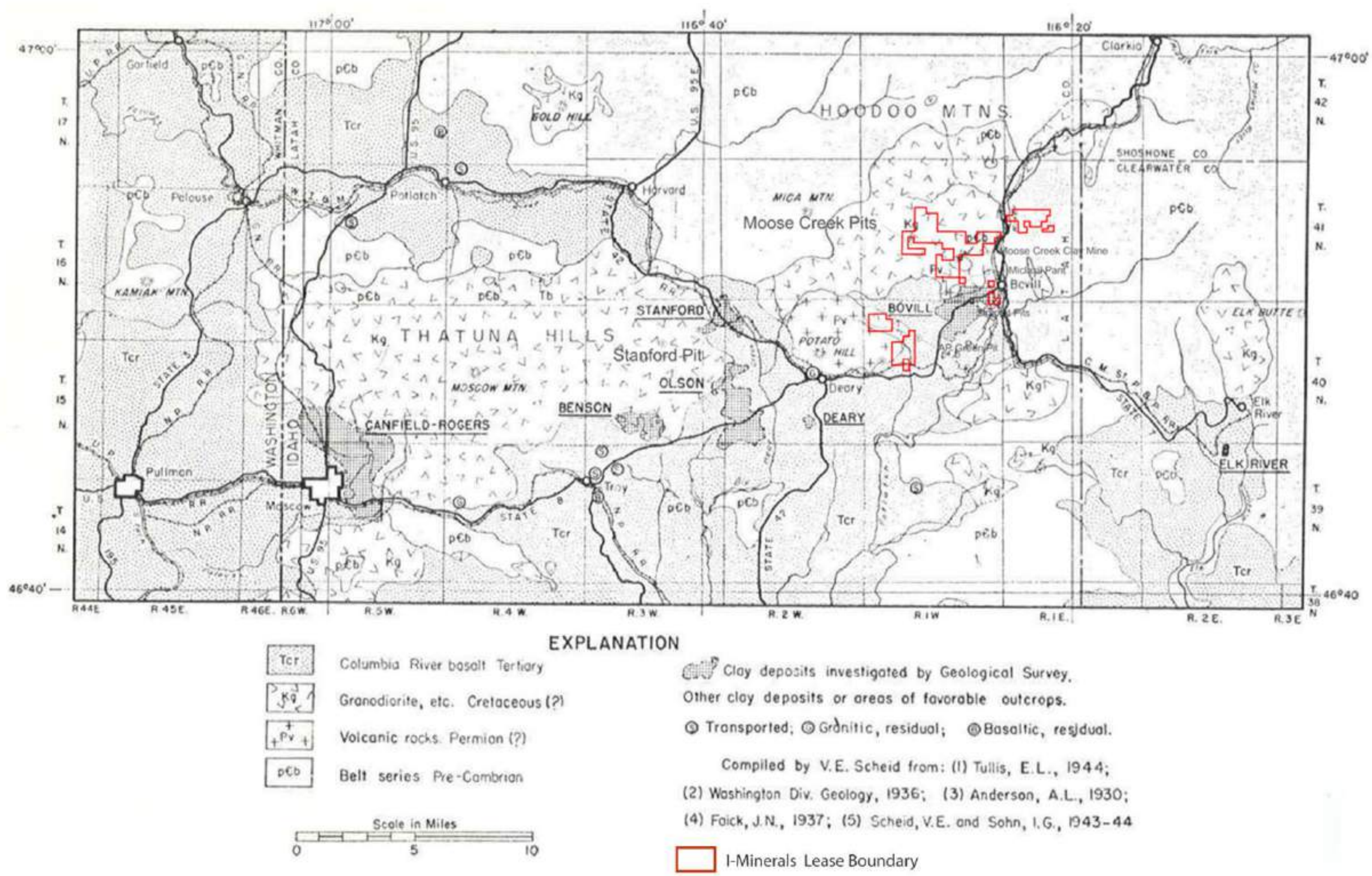


Figure 6-1: Geologic and Index Map of the Latah County, Idaho Clay District

At the Bovill deposit, located just west of the city of Bovill, 11 holes were drilled on approximately 1,000 ft spacing in a 900 acre area covering approximately 8,000 ft by 14,000 ft. The average overburden is about 10 ft thick, and the average thickness of the clay is 21 ft. Using a density of 2.15 g/cm^3 for clay in place, Hubbard (1956) (1) calculated an indicated clay resource of over 57 Mt, containing alumina averaging 21.8% and ferric oxide (Fe_2O_3) averaging 4%. Hubbard also estimated an additional inferred clay resource of 27 Mt at an adjacent 650 acre area, with a clay layer thickness of 20 ft, an available alumina content of 20%, and Fe_2O_3 of 4%. Both of these resource calculations are unconfirmed and uncategorized in terms of NI 43-101 requirements.

6.4 THE ANACONDA COMPANY (1919, 1952-63)

The Anaconda Company conducted independent evaluations on the Latah County clay belt during 1919 (Stephens, 1960) (3) and renewed their interest during the period from 1952 to 1963 (Hosterman and Prater, 1964 (2)). Their intent was to use the clay as a source of alumina for their new aluminum plant in Columbia Falls, Montana. Leases were taken on clay deposits in the clay belt and drilling programs were conducted. Several thousand tons of clay were extracted for pilot plant testing in order to develop an alumina-from-clay process (Miller, 1967) (5). Anaconda’s drilling in Latah County was done largely on the Olson deposit (Figure 6-1), and it defined a substantial resource (Hubbard, 1956) (1). However, this resource should be considered uncategorized and unconfirmed in terms of NI 43-101.

6.5 U.S. BUREAU OF MINES (1953-1963)

In 1953, the USBM continued their search for viable clay deposits. They also investigated the potential of the contained silica sand for the glass industry. The USBM tested the Benson and Olsen clay deposits near the cities of Troy and Deary, Idaho, and then moved on to the Bovill deposits. Ninety-seven samples were collected from 1,325 ft of drilling over an area covering 750 ft x 350 ft that is located 1.5 miles southwest of the city of Bovill near Idaho State Highway 8 (Kelly, et al., 1963 (3)).

6.6 A.P. GREEN REFRACTORIES COMPANY (1956-1993)

In 1956, A.P. Green Refractories Company purchased all the remaining assets of Troy Brick and Clay and acquired a lease on Section 9, T.40N, R.1W (Figure 6-1) north of Helmer, from which they produced refractory clay. They processed the clay by air flotation to produce two grades of refractory clay. Production continued until the early 1990s when Hammond Engineering purchased one pit from A.P.

Green. This pit produced sedimentary clay for ceramic applications. Total production from the area during this period is estimated to be 250,000 t.

6.7 J.R. SIMPLOT COMPANY (1956-1974)

In 1956, the J.R. Simplot Company (Simplot) of Boise, Idaho, acquired leases covering the Bovill deposits. In a cooperative program, Simplot and USBM drilled 240 holes (99 of which were on 50 ft centers) and conducted washing, pyrometric, mineralogical, and beneficiation tests (Kelly, et al., 1963 (3)). By 1962, Simplot had built the Miclasil processing facility to process the clays for production of paper fillers and specialty ceramics (Hosterman and Prater, 1964 (2)). Production initially came from pits in the Bovill deposit as defined by Kelly, et al., (1963) (3), which was sedimentary clay from the Latah formation located directly south of the Miclasil processing facility. Simplot shifted production to residual clay deposits in the granodiorite, as this source proved more satisfactory for paper filler (Hosterman and Prater, 1964). Shown on Figure 6-1, the pits exploited by Simplot for residual clays were the WBL north and south pits located in Section 23, T41N, R1W; the Moose Creek Clay Mine in Section 28, T41N, R1W in the Moose Meadows area; and the Stanford pit in Section 5, T40N, R3W. Simplot operated their plant until 1974, when it was sub-leased to Clayburn Industries of British Columbia (Rains, 1991). Clayburn operated the property for only a few years, calcining clay that was shipped to Canada and processed into super duty and 70% alumina bricks. In 1994, the plant was dismantled and the property partially reclaimed.

6.8 SEVERAL COMPANIES (1983-1986)

During the mid-1980s a number of companies began exploration work in the Helmer-Bovill area to identify clays suitable for use as paper fillers and coaters. The University of Indiana, Nord Resources, Miles Industrial Mineral Research, and Cominco American all conducted work on the Helmer-Bovill area deposits. In 1985-86, the Erikson-Nisbet Partnership formed a consortium of companies to develop new processes for beneficiation of the clays, but the introduction of precipitated calcium carbonate (PCC) fillers for paper reduced the demand for kaolin fillers.

6.9 NORTHWEST KAOLIN INC. (1999-2002)

Northwest Kaolin Inc. was formed to explore new markets for kaolin, and to develop new processing techniques. In December 1999, Northwest Kaolin entered into a joint venture, option to purchase agreement with Alchemy Kaolin Corporation (Alchemy), which had applied for 16 State of Idaho mineral leases in the Helmer-Bovill area to explore and develop kaolin resources in the area. The agreement was subsequently revised in 2002, when Idaho Industrial Minerals (IIM) purchased Northwest Kaolin Inc., and all assets were transferred under agreement to Alchemy.

6.10 HAMMOND ENGINEERING (1998-PRESENT)

Hammond Engineering currently operates a small raw clay operation on the old AP Green Refractories pit north of Helmer. The operation produces about 1,300 tons of clay from the Latah formation annually. Customers include Wendt Pottery in Lewiston, Idaho, which produces a buff-firing porcelain ceramic body; and Clayburn Industries, which uses the clay as a binder for refractories. Current reserves, which are considered historic and were not prepared in accordance with NI 43-101, are 1.65 million tons, based on 50-ft drill centers. The same clay unit is projected to extend onto an adjacent I-Minerals mineral lease.

6.11 I-MINERALS INC. (1999-PRESENT)

Since 1999, I-Minerals has acquired mineral leases covering several thousand acres; compiled an extensive database on the results of previous operations in the area; performed chemical, physical, and beneficiation tests on potential products; and conducted four diamond drilling exploration programs. These programs are described in Section 10.

In 2002, I-Minerals acquired from IIM, through its wholly-owned subsidiary, Alchemy, 16 State of Idaho mineral lease applications in Latah County, Idaho, to cover deposits of feldspar, kaolin, and quartz located near Bovill, Idaho. I-Minerals subsequently converted these applications to 11 mineral leases that contain an aggregate 5,141.5 acres.

SECTION 7 GEOLOGICAL SETTING AND MINERALIZATION

7.1 REGIONAL GEOLOGY

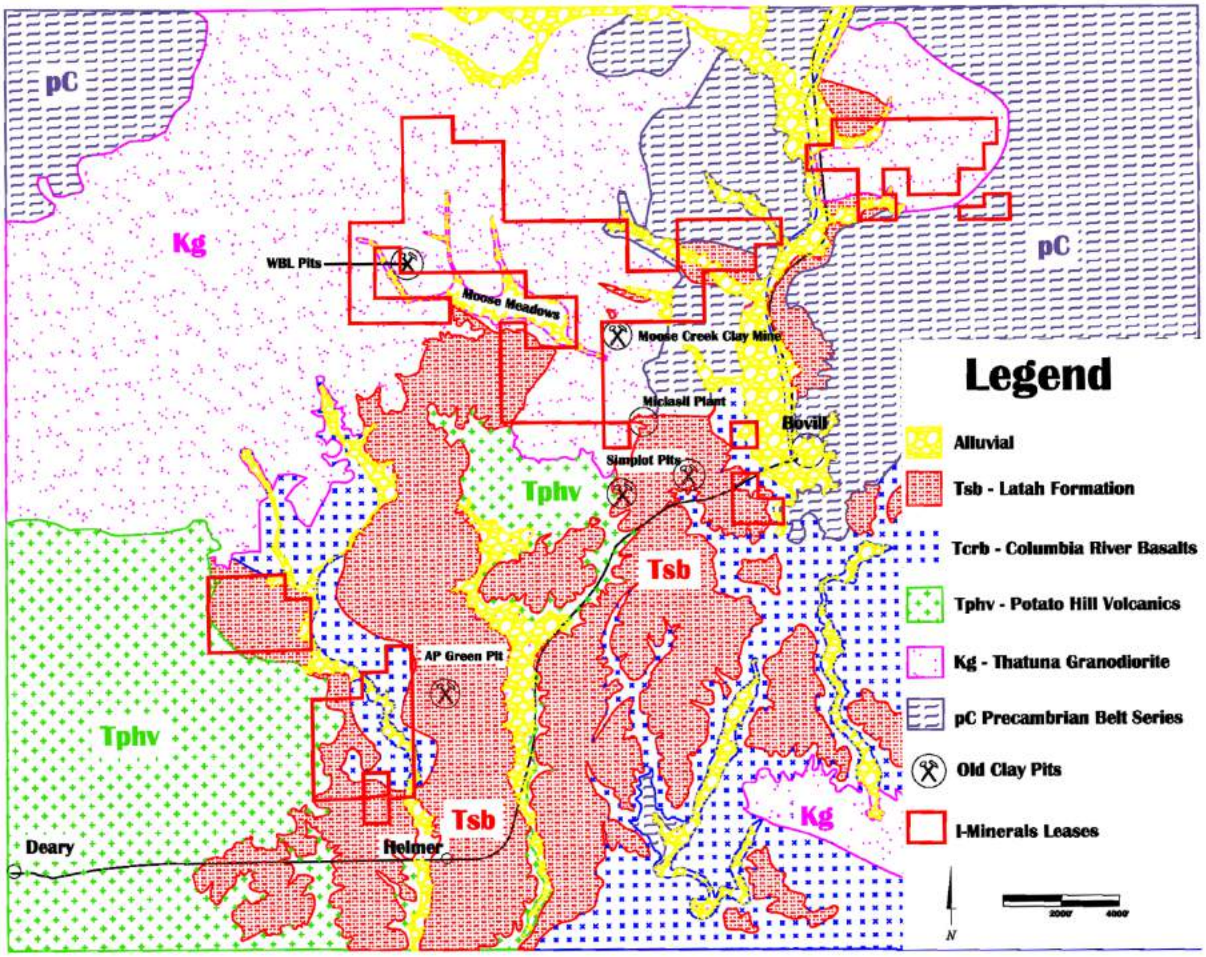
The regional geology is dominated by Precambrian sedimentary rocks of the Belt Supergroup (Belt), which have been strongly deformed and intruded with granitic phases of the Idaho Batholith during the Cretaceous age Sevier Orogeny.

During the Middle Proterozoic, the area was dominated by a large intracratonic basin that was subsiding along synsedimentary faults. The basin sediments comprise the Belt, and range in age from about 1,470 to 1,400 million years. The oldest units consist of the Lower Belt sequence; these are overlain by the Middle Belt Carbonates; and the youngest are the Missoula Group.

The Belt sediments are believed to have remained relatively stable until approximately 1,350 million years, when portions of the basin were affected by compressional tectonics of the East Kootenay Orogeny. This orogeny was followed by rifting of the basin during the late Proterozoic-early Paleozoic when large portions of the sediments were transported away and the western margin of North America was developed.

The next major tectonic event occurred during the Cretaceous Sevier Orogeny. Early compressional tectonics dominated the area forming large-scale folds, reverse and thrust faults. During the late Cretaceous, the Bitterroot Lobe of the Idaho Batholith was emplaced in the region. The intrusive rocks described below were formed during this event.

The most recent, significant, geologic event was the deposition of the Columbia River Basalts (CRB). The CRB consist of a large plateau flow sequence of Miocene age (6 to 17 million years). The lavas are distributed over an extensive area covering portions of Idaho, Oregon, and Washington. Minor extensional block faulting has resulted in much of the present landscape. Figure 7-1 illustrates the regional geology of the Project.



Source: I-Minerals, 2016

Figure 7-1: Regional Geology

7.2 LOCAL GEOLOGY

7.2.1 BELT SERIES (PM)

The Precambrian Metasediments of the Belt series are the oldest rocks in the Bovill-Moscow area and form the basement for the entire area (1). The Belt series rocks crop out primarily in the northern and eastern sections of the Property. They form a high-grade metamorphic facies assemblage that includes gneiss, schist, and minor metaquartzite, meta-argillite, and metasiltite.

7.2.2 THATUNA GRANODIORITE

Granitoid intrusive rocks of Cretaceous age underlie a large portion of the Helmer-Bovill area and form part of a body referred to by Tullis (1) as the Thatuna batholith. He believed that this intrusive body was separate from the Idaho batholith, based on the distance between the two. However, Priebe and Bush (2) consider the Thatuna granodiorite to be a lobe of the Idaho batholith. Tullis (1) reported the Thatuna lithologies to consist predominantly of granodiorite with subordinate adamellite, tonalite, and granite. The principal mineral constituents are quartz, plagioclase feldspar, K-feldspar, and biotite, with trace to minor amounts of muscovite, garnet, and epidote. The batholith is medium- to coarse-grained granular, and porphyritic textures are common. Erosion of the Thatuna batholith developed a mature topography where it is exposed in Latah County (3).

Recent geological mapping done for the benefit of this Project, detailed in an internal company report by Clark (4), identified a previously undescribed phase of the Thatuna batholith, referred to as the Kmcp. The Kmcp is interpreted to be a border zone of the intrusion that occurs along the interface between the main-stage, coarse-grained, and porphyritic Thatuna batholith and the Precambrian Belt series roof rocks. Intrusion into cooler roof rocks resulted in a distinctive and texturally diverse unit characterized by dominant granular medium-grained and subordinate coarse-grained and pegmatoid textures, the lack of well-developed porphyritic textures and the presence of Precambrian xenolithic paragneiss, paraschist and metasiltite blocks inherited from the roof rocks. Where unaltered, the Kmcp intrusive rocks contain a primary assemblage of plagioclase, K-feldspar, quartz, biotite, and muscovite, and are predominantly of granodioritic to granitic composition. The porphyritic main body of the Thatuna batholith (Kg, Kgd) does not appear to crop out within the mapped part of the Helmer-Bovill area.

According to Clark (4), the Kmcp derives its distinctive character from high-level interaction with the Precambrian metasedimentary roof rocks. More rapid cooling in the contact zone produced a dominant medium-grained, non-porphyritic, granodioritic unit in contrast to the coarser-grained, porphyritic granodiorite lithology that characterizes the deeper main stage of the batholith (Kg, Kgd). In the roof zone, hydrous mineral-bearing xenolithic blocks of the Precambrian Belt series metasediments were entrained by the intruding magma and outgassed of their volatile component. The outgassing contributes to the creation of pockets of hydrous granitic liquid proximal to the Precambrian blocks. These pockets subsequently crystallized into coarse-grained to pegmatoid granite pods that are distributed within the larger body of medium-grained granodiorite. Due to the physicochemical conditions of crystallization within the hydrous pods of granitic liquid, the resultant solidified rocks show a stronger tendency toward higher proportions of K-feldspar relative to plagioclase and higher K_2O/Na_2O ratios than does the dominant medium-grained granodiorite.

7.2.3 WEATHERED THATUNA GRANITOID

The exposed Thatuna batholith was subjected to intense weathering in a tropical or near-tropical climate during the Miocene epoch, while the Columbia River basalts were erupted and the Latah formation sediments were deposited (5). In response to the strong weathering, much of the feldspar and at least some of the mica in the igneous body were altered to one or more varieties of clay minerals. The depth limit of weathering may initially have been fairly consistent; however, subsequent erosion has left a variable weathering profile with thickness roughly dependent on topography. At present, the depth of weathering may exceed 100 ft along ridges and be less than 3 ft in some valleys.

Understanding the weathering profile of the Thatuna granodiorite is important for determining the range of mineral products that can be produced from a given area on the Property. Of particular importance is the weathering of the feldspar in the granitoids to halloysitic to kaolinitic clays. It was the presence of kaolinitic clay deposits that provided the initial impetus for economic mineral development in north Idaho. Plagioclase (Na-Ca bearing) feldspar is the least stable phase in the weathering environment, and it alters to form clay well before K-feldspar and muscovite (6). K-feldspar and the micas (biotite and muscovite) are relatively resistant to alteration during all but the most intense weathering. Quartz is impervious to alteration throughout the weathering cycle. In the Helmer-Bovill area, pits that were mined for kaolin in residual deposits contained mostly quartz, halloysite, kaolinite, and K-feldspar. The waste material is primarily quartz and K-feldspar, with Na-feldspar (plagioclase) accounting for only a minor proportion of the total feldspar. Na-feldspar made up less than 5% of the total feldspar in a tailings sample examined by Clark (7). Residual clay deposits in the Helmer-Bovill area reflect this mineral distribution and targeted commodities from strongly-weathered Thatuna granitoid are kaolin, quartz, and K-feldspar.

7.2.4 POTATO HILL VOLCANICS (TPHY, TRDY)

The Potato Hill volcanic rocks were tentatively considered to be of Permian age by Tullis (1), but Bush, et al., (8) interpreted field relationships to indicate an Eocene age. The silicic to intermediate volcanic rocks include lava flow and pyroclastic flow units, as well as hypabyssal intrusive rocks. They form much of the rock along the western edge of the Helmer embayment at Potato Hill, and along the southern edge of the Thatuna. Many of the pyroclastic flows contain abundant xenolithic clasts of older granodiorite and Belt metasediments.

The individual flows are 3 to 50 ft thick and the complete sequence exceeds 900 ft in thickness. The flow units generally contain 3% to 10% phenocrysts of feldspar and quartz distributed in an aphanitic matrix of devitrified volcanic glass. Accessory minerals include magnetite, hornblende, apatite, and zircon. Some lithic-rich pyroclastic flow units carry up to 20% fragments. The saprolitic weathering that is well-developed in the older rocks has not appreciably affected the Potato Hill volcanics.

7.2.5 COLUMBIA RIVER BASALTS (TCRB)

Swanson, et al., (1979) described the stratigraphy of the basaltic units and divided them into 14 members assigned to five formations. Two flow units are interpreted to have reached Latah County by Swanson, et al., (9), although Priebe and Bush (2) have mapped at least five distinct flow units. The First Normal member of the Grande Ronde formation, the Priest Rapids member of the Wanapum formation, and the Onaway member of the Saddle Mountain formation (oldest to youngest, respectively) are all Columbia River basalt flows mapped by Priebe and Bush (2) in the Helmer-Bovill area. The Grande Ronde formation flow occurs in the southern portion of the Helmer-Bovill area and consists of fine-grained to very fine-grained aphyric basalt. The Priest Rapids flow is a medium to course-grained basalt with microphenocrysts of plagioclase and olivine in a groundmass of intergranular pyroxene, ilmenite, and devitrified glass. It crops out in increasing abundance to the southwest toward Deary. Saddle Mountain basalts are found much further to the west. The importance of the Columbia River basalts to the genesis of the Latah formation is that the episodic basaltic extrusion dammed streams and formed lakes into which kaolin-rich sediments eroded from weathered granitoid and Precambrian metasediments were deposited (10)

7.2.6 LATAH FORMATION (TSB)

Kirkham and Johnson (10) described the Latah formation as lake bed sediments that, although local in origin and distributed in disconnected basins, occur over an area 175 miles long and 75 miles wide in eastern Washington and northern Idaho. Episodic flows of the Columbia River basalts blocked streams and formed lakes that collected sediments eroded from surrounding rocks. In the Helmer-Bovill area, a major basin termed the Helmer embayment (5) occurs over an area of approximately 25 to 30 square miles. Latah formation sediments are termed the sediments of Bovill (Tsb) by Bush, et al., (8) and are described as clay, silt, sand and minor gravel deposits that are laterally equivalent with and overlie flows of Columbia River basalts. The clays are white, yellow, red and brown in color, kaolinite-rich, and range from a few feet to several tens of feet in thickness.

7.2.7 PALOUSE FORMATION

The Palouse Formation comprises mixed loess and flood plain sediments of Pleistocene age. It ranges in thickness from 3 to 35 ft in thickness and averages 10 ft thick in the Helmer embayment. The unconsolidated layers also include volcanic ash from the eruption of various Cascade Range volcanoes.

7.3 MINERALIZATION MODEL

The Project hosts four different deposit types. These include primary Na-feldspar deposits, residual K-feldspar-quartz-kaolinite-halloysite deposits, transported clay deposits, and K-feldspar-quartz tailings deposits.

The primary Na-feldspar deposits are hosted within granitic border phases of the Thatuna granodiorite. These deposits are described in detail in a previous I-Minerals report (11).

The transported clay deposits are hosted primarily within the Latah formation. This formation was deposited primarily in shallow lakes dammed by Columbia River Basalts. Extensive weathering of feldspathic source terrains constitutes the provenance of these clays.

The K-feldspar-quartz tailing deposits are the result of previous mining and washing of the residual deposits. Here, the majority of the clay has been removed and the tailings are composed primarily of K-feldspar and quartz. These deposits are described in detail in a previous I-Minerals report (12).

The residual deposits are derived from saprolitic weathering of the Thatuna granodiorite-granitic phases. In general, the Na-feldspar alters to kaolinite and halloysite. These clays are accompanied by residual K-feldspar and quartz. These deposits are described in detail in a previous I-Minerals report (13) and are the subject of this report.

The information in the following sections has been cited with minor modifications from the March 13, 2006 "Report on the Helmer-Bovill Feldspar, Quartz, and Kaolin Mineral Leases, Latah County, Idaho" by James L. Browne, PG, on behalf of I-Minerals. These citations describe the general geologic setting as it pertains to the four deposit types described above.

7.3.1 FELDSPARS

Tullis (1) described the main lithologies in the Thatuna Batholith as consisting primarily of granodiorite, with subordinate adamellite and tonalite, and minor granite. Total feldspar content in these intrusive rocks is reported by Tullis (1) to range between 47.4% and 80.6%, with an average of about 62.7% total feldspar. By definition (14), granodiorite contains an abundance of plagioclase feldspar in excess of 65% of the total feldspar. Thus, the unweathered Thatuna represents a source carrying a high total feldspar abundance, of which a significant proportion is Na-bearing feldspar (sodic plagioclase).

Clark (4) collected many samples of Thatuna batholithic rocks from the Moose Meadows portion of the Helmer-Bovill area during his mapping program in 2002 and from core drilled during the 2000-2001 diamond-drilling program. Results from the petrographic work indicate that intrusive lithologies range from granodiorite to quartz monzonite (one sample) to granite, with granodioritic rocks being the most common. Estimated total feldspar abundances for these samples range from 60% to 82% and average about 71.5%. Following the petrographic and cathodoluminescence work, electron microprobe analyses of feldspars and quartz from representative samples were undertaken in order to quantify feldspar compositions and determine potential product quality in terms of alkali abundances and suitably low Fe_2O_3 contents (4), (7). Petrographic analyses of the Kmcp samples show that contained feldspars rarely have inclusions of Fe-bearing minerals (biotite, muscovite, or FeOx; (4), (7)).

In the strongly weathered Thatuna Batholith rocks plagioclase shows nearly complete alteration to a kaolin mineral, but much of the K-feldspar survives alteration. This is illustrated by sample IK81, collected from the Stanford Pit, about 11 miles WSW of the Moose Meadows area. Plagioclase was not identified by the X-Ray Diffraction (XRD) analysis. These results correspond well with the mineralogy of the material in the tailings impoundment adjacent to the pit. The tailings contain essential quartz and K-feldspar, some clay/mica, and only minor amounts of plagioclase.

7.3.2 QUARTZ

Petrographic examination of 21 granitoid samples from the Moose Meadows area led Clark (4) to conclude that quartz in Thatuna batholithic rocks is relatively free of Fe-bearing mica or oxide inclusions. Table 7-1 shows the average quartz composition, calculated from electron microprobe analyses of quartz in drill core, surface outcrop, and processed quartz product samples from the Moose Meadows area granitoid (7); along with two analyses of quartz products from Moose Meadows granitoid (WBL pit produced by Minerals Resource Laboratory (MRL); an interval from drillhole MC-22); and an analysis of a commercial mid-western U.S. glass sand product.

Table 7-1: Average Quartz Composition Calculated from Electron Microprobe Analyses

Product	SiO_2 (%)	Al_2O_3 (%)	Fe_2O_3 (%)	CaO (%)	Na_2O (%)	K_2O (%)
Avg. quartz analysis	>99.9	0.004	0.003	0.004	0.009	0.007
MRL-P quartz prod	99.8	0.15	<0.01	<0.01	<0.05	0.08
MC-22 quartz prod	99.7	0.19	<0.01	<0.01	0.08	0.05
Mid-west glass sand	99.5	0.15	0.09	0.01	0.01	0.04

Source: Clark, 2003b (7)

The analytical values for the trace elements in the quartz are very near or below detection limits for the electron microprobe and indicate that quartz from the Moose Meadows area is essentially free of impurities. This data suggests that the area has excellent potential to produce a glass-grade product that might be processed further into feed stocks for the high purity quartz market.

7.3.3 CLAY MINERALS

The kaolinite group of clay minerals includes four minerals that are similar chemically, but differ with regard to crystal structure. Two of these kaolinite group minerals, kaolinite and halloysite, comprise the major clay minerals in the Helmer-Bovill area deposits. The crystal structure differences are important and control properties relevant to their commercial applications. Kaolinite occurs as distinct platelets, whereas halloysite forms tubes and spheroids. Although halloysite also has a plate-like crystal form, imperfections in its crystal lattice cause the crystal to “roll up” into the tubular forms. There are two varieties of halloysite, the four-water variety and the two-water variety. The two-water variety is a dehydrated version of the four-water halloysite and is almost impossible to distinguish from poorly crystallized kaolinite with XRD. Both varieties of tubular halloysite and poorly crystallized kaolinite exhibit poor viscosity, and their use is limited to fillers and ceramics. Well-crystallized kaolinite generally exhibits good viscosity properties and is suitable for high quality ceramics and paper coaters.

Most of the mineralogical work (3)(15)(16) completed on the Helmer embayment clays indicates that the transported, sedimentary kaolins consist predominantly of kaolinite, but have a significant halloysite component. Yuan (15) sampled clays from both the A.P. Green Refractories Company (A.P. Green) pit near Helmer and Simplot's Miclasil pits west of Bovill. The main producing clay bed in the A.P. Green pit is 10 ft thick and includes several thin (1 to 6 in) interlayers of white to yellow tonsteins. The clay fraction in the main clay bed contains variable proportions of kaolinite and halloysite. Kaolinite abundance in the clay fraction ranges between 42% and 100%, while halloysite abundance ranges from 58 to 0%, respectively. Ginn Mineral Technology, Inc. (GMT) found only minor halloysite in a bulk sample from the same pit (16). The tonstein interlayers are generally all halloysite, the spheroidal halloysites that Yuan (15) found to have low viscosities. Historically, Simplot mined sedimentary clay from their Miclasil pits for paper filler, but later switched production to residual clay pits. A.P. Green mined sedimentary clay from their pit north of Helmer for refractory brick.

Residual clays developed on weathered granitoid in the Helmer-Bovill area are a mixture of halloysite and kaolinite, with the concentration of each dependent upon the degree of weathering. Yuan (15) reported that the halloysite content increases with depth as the effects of weathering diminish. He reported that kaolinite abundance can be as high as 100% of the clay fraction in samples taken near surface, while samples collected deep in old pits reach 100% halloysite. In tests on two samples from the WBL north pit, GMT (2005) demonstrated that there is a significant halloysite fraction in the residual clay. It is difficult to say where the samples discussed by Yuan (15) occur within the weathering profile in this area. SEM photomicrographs from core holes drilled into the weathered granodiorite by I-Minerals show consistently that the halloysite content decreases with depth. Historically, Simplot produced a filler clay for the paper industry from residual clay mined in the Moose Meadows area (5). The work done by GMT ((16)(17)) indicates that the quality of the residual clay from the WBL pit is high enough to be used in some high-end specialty paper, paint, and ceramic markets. Work done by I-Minerals and further continued by GMT (18) show that a wet process using proven gravity separation equipment can produce a high-quality halloysite product that will gain attention of halloysite markets.

SECTION 8 DEPOSIT TYPES

The mineral deposit consists of residual weathered deposits containing primarily K-feldspar, quartz and clays. The mineral deposit is underlain by the Thatuna Batholith, composed mainly of Na-feldspar, K-feldspar and quartz. Weathering has created a residual saprolite horizon which directly overlies the bedrock from which it was derived. During the natural processes of weathering, the original plagioclase feldspars have preferentially broken down to produce the clays, kaolinite and halloysite. The K-feldspars have resisted weathering to a degree and much of the original component remains as free grains. Similarly, the quartz component of the host rock remains as free grains in the weathered material.

Minerals of economic interest include the following:

- Halloysite clay, an aluminosilicate with hollow tubular morphology in the submicron range
- Kaolinite clay, hydrated aluminum silicate used in ceramics, rubber, plastics, etc., and when calcined becomes a metakaolin clay, or dehydroxylated kaolin clay, which is reactive (Pozzolan) and enhances the strength, density and durability of concrete and ceramics
- K-feldspar, uniquely suited to ceramic formulations requiring an alumina source
- Quartz, silicon dioxide (SiO_2) a component of various types of glass.

SECTION 9 EXPLORATION

9.1 PROCEDURES AND PARAMETERS OF SURVEYS AND INVESTIGATIONS

From 1999 through the end of 2001, exploration work included the acquisition of over 6,000 acres of mineral lease applications; the compilation of an extensive file on the results of previous operations; and new drilling programs.

During 2002 and 2003, I-Minerals completed geologic mapping and petrographic studies. An electron microprobe analytical study was conducted on field samples, quartz products and feldspar products from earlier work. Following these studies, select intervals of residual deposits from the 2000-2001 drilling program were sent to MRL at North Carolina State University for process testing.

Since 2003, all exploration work completed on the property has involved diamond core drilling, which is described in Section 10. The Mineral Resource estimate in this study report is based on data and information gathered during these diamond drilling programs.

9.2 SAMPLING METHODS AND SAMPLE QUALITY

Field sampling in the WBL Tailings was undertaken on a grid pattern at approximate 200 ft centers. Sampling was with a hand auger to a depth of four feet. Outcrop sampling for the first MRL samples consisted of grab type collection by digging with a shovel to below the A/B soil horizon (topsoil and subsoil) and placing the residual weathered material into a pre-labeled sample bag. In previously mined locations, samples were collected directly into a sample bag by scraping with a trowel or hammer from freshly exposed residual clay horizons. I-Minerals maintained sample custody and control in a secure facility prior to them being sent to commercial, governmental, and university laboratories for size fraction analyses. The resulting data were used to support and advance ongoing exploration work.

9.3 SIGNIFICANT RESULTS AND INTERPRETATION

The exploration work conducted by I-Minerals was used to target generalized rock types and their weathering by-products. The work was successful in defining four target areas which were subsequently tested by diamond drilling. SRK reviewed the exploration procedures and sampling methods as part of the pre-feasibility study completed in 2014 and found that the work was conducted by trained professionals to industry standards for a deposit of this type. SRK further opined that the exploration methods were successful in defining their intended targets, and that similar techniques would be appropriate to expand the resource base if necessary.

SECTION 10 DRILLING

10.1 PROGRAM AND METHODOLOGY

During 2000-2001, a 41-hole diamond drill program, focused on both the bedrock feldspar deposits and the residual deposits, was completed at the Project, Approximately 50% of the drillholes penetrated residual deposits at or very near the surface. A total of 4,063 ft. were drilled during this program. All holes were surveyed by Rim Rock Surveying. This work is described in two previous Technical Reports by Hodgson (19) and Montgomery (20).

In 2003, a 12-hole, diamond drill program was completed at the Project, testing for unweathered granodiorite favorable for Na-feldspar over a broad area, although several holes intersected residual clays. A total of 1,333 ft. were drilled in this program. The core was split, sampled, and described in detail within a previous Technical Report by Clark (21) and in petrographic reports prepared for I-Minerals ((22); (23) (24); (25)). All holes were surveyed with a hand held GPS with an accuracy of several meters.

In 2007, a 28-hole, diamond drill program was conducted to further evaluate the residual deposits. Six holes on 200 to 600 ft spacing were located in the WBL Pit area. The remaining holes were spread over the entire property to test those areas believed to be underlain by the weathered Thatuna granodiorite, establishing several new prospective areas. A total of 3,529 ft were drilled during this program. The six holes located at WBL Pit were surveyed by Jamar and Associates, and all remaining holes were surveyed by handheld GPS with an accuracy of several meters.

In 2010, a 10-hole, diamond drilling program was completed in the WBL Pit and Middle Ridge areas. Five holes were completed in each area, on 400 to 900 ft spacing. A total of 1,195 ft were drilled in this program. All holes were surveyed by Taylor Engineering using a differential GPS with centimeter accuracy.

In 2011, a 66-hole, diamond drilling program was conducted in the WBL Pit and Middle Ridge areas. At Middle Ridge, 45 holes were drilled and at WBL, 21 holes were drilled. These holes were mostly located on 200 ft spacing with a few on 400 ft. A total of 7,747 ft were drilled during this program. All holes were surveyed by Taylor Engineering using a differential GPS with centimeter accuracy.

In 2013, a 167-hole, diamond drilling program was conducted in the Middle Ridge deposit and in two new areas referred to as Kelly's Hump North and South. At Middle Ridge, 21 additional holes were completed to provide a drill pattern on 100 ft spacing in the area hosting higher halloysite grades. In the Kelly's Hump area, a Phase 1 program was completed with 17 holes spread throughout the elevated area of the north south trending ridge. These were generally spaced at approximately 400-800 ft, with all except one located in the northern area. A Phase 2 program was completed with 113 additional holes on 100 ft spacing in the Kelly's Hump North area, and 16 holes on 200 ft spacing in the Kelly's Hump South area. A total of 17,811 ft. were drilled during this program. The drillhole locations were first laid out by Taylor Engineering with a differential GPS, and then after the drill rig was set up, any offsets were measured with a tape measure.

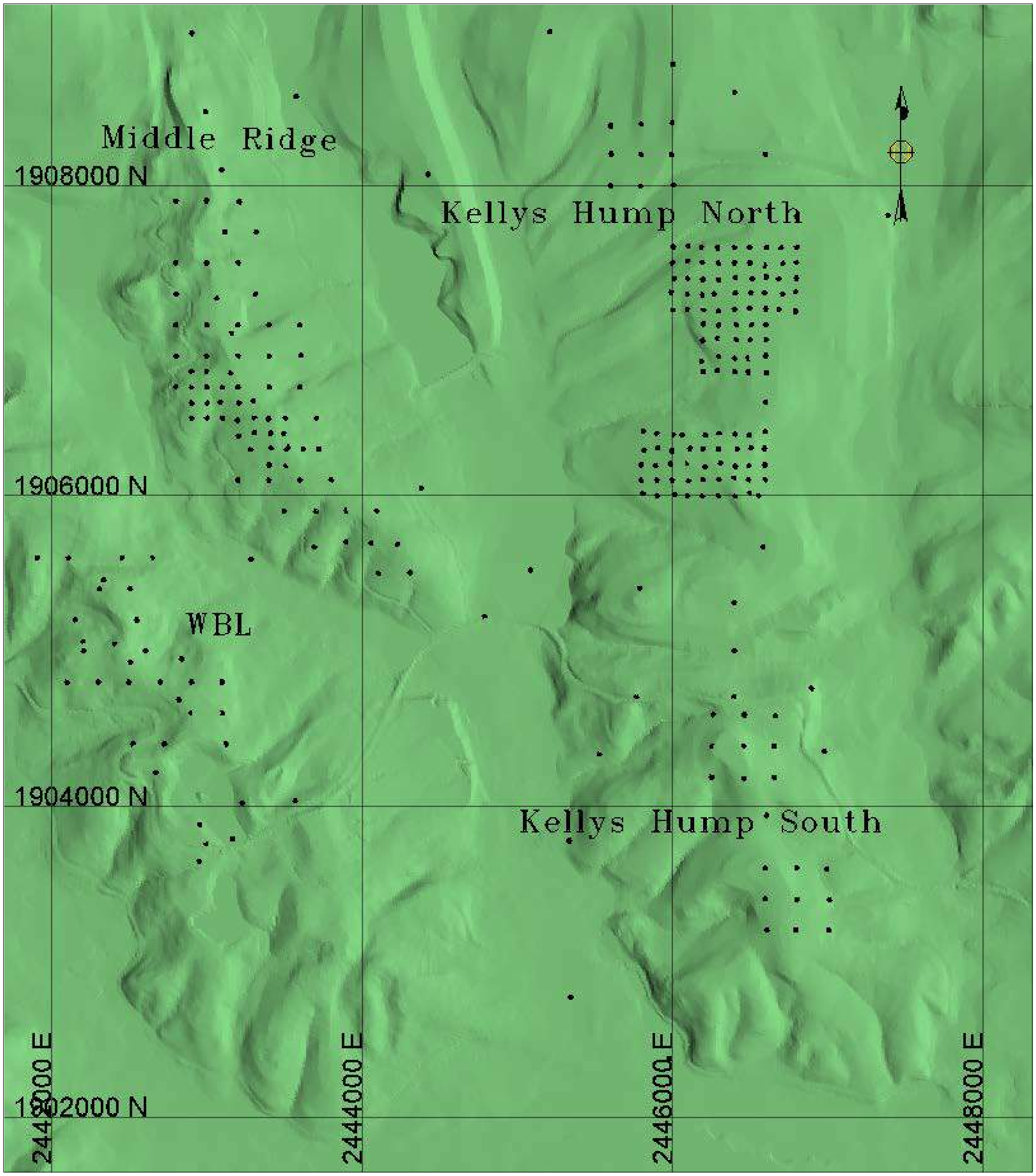
The drillhole database supporting the resource estimation of this report consists of 322 diamond core drillholes totaling 35,909 ft. (see Figure 10-1). The shallowest hole is 20 ft, the deepest is 260 ft, and the average is 112 ft. All drillholes are vertically oriented and none of the holes have downhole deviation surveys. Since all of the drilling is relatively shallow, the lack of downhole deviation survey has no material impact on the sample location. Since many of the older drillholes are located with a hand held GPS their elevations do not match the current, high-resolution topographic surface. For this reason, all drillhole supporting the resource estimation of this report are draped onto the high resolution topography to provide a uniform basis of elevation control. Typically, the sample recovery was very good, ranging from 60% to 100%. The average core recovery is 87%.

10.2 INTERPRETATION AND RESULTS

The exploration drilling programs are all of appropriate type, and they were well-planned and carried out in a prudent and careful manner. All geologic logging and sampling has been performed by trained and professional personnel. I-Minerals has made a concerted effort to ensure good sample quality and has maintained a careful chain of custody to ensure sample security from the drill rig to the assay laboratory.

The drilling was conducted by reputable contractors using industry standard techniques and procedures. This work has defined zones of residual deposits derived from weathered granitoid overlying the Thatuna batholith. These zones generally are continuous, following topography or lying sub-horizontal to an average depth of 70 ft below surface. The zones are thicker along ridges and thinner toward the valleys. Because the deposits are interpreted to be sub-horizontal and the drillholes are all vertically oriented, the drill intercepts represent an approximate true thickness of the mineralization.

In summary, SRK is of the opinion that the drilling operations were conducted by professionals; the core was handled, logged and sampled in an acceptable manner by professional geologists; and the results are suitable for support of a NI 43-101 compliant resource estimation.



Source: SRK, 2013

Figure 10-1: Drillhole Locations and Resource Areas

SECTION 11 SAMPLE PREPARATION, ANALYSES, AND SECURITY

11.1 METHODOLOGY AND PROGRAM

Three types of samples were collected from the Project area to support this study, including one sample type to support resource estimation, and two types to support aspects of the metallurgical testwork. The resource estimate is supported by diamond drill core samples. The metallurgical testwork is supported by hand dug channel samples and large bulk samples.

11.2 PREPARATION, DELIVERY, AND ANALYSES

During collection of the drill core samples, the core barrel was removed from the hole and the core was allowed to slide into the core box, with the top of the interval at the top left of the core box. Poorly consolidated core was scraped with a sharp instrument and hard core scrubbed with a brush to remove adherent drilling mud from the core. The core boxes were labeled with hole number and footage interval on tops and bottoms. The core was transported to the I-Minerals' core facility near Moscow, Idaho at the end of every drilling shift. The core is all stored in a locked building prior to sampling. Once it has been logged and sampled it is moved to a locked core shed or a locked storage container. As part of the logging procedure, drill core was described in detail, and the descriptions were recorded on a standardized, hand written drill log form. A knife or chisel was used to split the core in half, and quarter-splits were made from one of the halves. In the 2007 and 2010 programs, one quarter-split in the visually clay-rich zones was bagged as a geochemical sample in intervals of uniform lithology that generally did not exceed 5 ft. The clay in the bag was crushed by hand and the bag was shaken up to thoroughly mix the sample. In general, sample intervals were 5 ft in length for the clay testing and 10 ft in length for whole rock geochemistry unless lithic contacts required a shorter interval. In the 2011 and 2013 programs, the one quarter-split is bagged and saved for clay testing in the laboratory at the University of Idaho. Sample intervals are no longer than 5 ft down to 50 ft in depth and 10 ft below that.

Two hand-dug channel samples, approximately 150 lbs each, were collected from the North WBL Pit, and a single sample of about 120 lbs was collected from a pit in the southern portion of the property. These were collected as channel samples with pick and shovel from the face of the pit after the face was cleaned by scrapping with a hoe. The sample material was shoveled directly into 5 gallon buckets lined with plastic bags. The bags were tied, and the buckets were sealed, palletized and shipped directly to the laboratory.

Two large bulk samples of residual clay were collected from the North WBL Pit. In 2005, a 1.5-ton sample was taken and in 2007, a 2-ton sample was taken. Both were collected by a Kobelco 905LC excavator with a 3 ft wide bucket. The pit face was scraped to expose fresh material prior to sampling. The excavator dug across the face, taking as much as possible in both vertical and horizontal directions. After the bucket was filled, the material was hand shoveled into 1-ton super sacks. These sacks are brand-new, woven plastic bags that are constructed to handle heavy loads. The sacks were tied and shipped directly to the laboratory. In discussions with I-Minerals personnel, it is understood that these samples were not representative of the entire clay deposit. However, the samples were “typical of the character of the material” and for the purpose of designing a test program, were adequate.

11.3 LABORATORIES

Analysis of the drill core to support the resource estimation was conducted at five laboratories. Whole rock analysis was completed at ALS Global (ALS). Material characterization studies were undertaken at Ginn Mineral Technology (GMT), a commercial clay operation laboratory (CCL), the University of Idaho (UOI), and Washington State University (WSU).

Whole rock sample preparation and geochemical analysis was completed at ALS in Vancouver, British Columbia. The sample preparation was performed in accordance with standard procedures to support the X-ray fluorescence (XRF) analytical method. ALS is an ISO-9002 certified, international corporation and its analytical services are highly respected in the mining industry.

GMT is located in Sandersville, Georgia, in the heart of the Georgia kaolin belt. GMT is a technology-based company focusing on industrial mineral and base metal resources, fine particle process and product development, and the commercial application of minerals. GMT is the foremost independent kaolin process testing laboratory in North America. GMT is not ISO certified.

A confidential commercial clay operation’s private laboratory (CCL) was used to determine recoveries of different size fractions and to obtain specific characteristics of the clay fraction. The laboratory itself is not ISO certified.

The UOI’s Geologic Science Department, located in Moscow, Idaho was used for particle characterization studies and scanning electron microscopy (SEM) for the majority of the samples supporting the resource estimate in this report. Some of the 2013 SEM work was completed at Washington State University (WSU) in Pullman, Washington. The UOI and WSU laboratories are not ISO certified.

The laboratories described above are independent of the issuer.

11.4 ANALYSIS

Whole rock sample preparation and geochemical analysis was completed at ALS. The sample preparation was performed in accordance with standard procedures to support the XRF analytical method.

The material characterization studies at UOI provide the primary support for the resource estimation of this study. This work involved two general areas of study, including particle size analysis and clay characterization.

The particle size analysis is basically a screening/decantation process. The material is weighed, slurried, run through an attrition scrubber, and then washed over 50 and 325 mesh screens. The overflow materials from both represent the sand portion of the sample. The underflow material is then volume adjusted, run through a high speed mixer and washed over 500 and 635 mesh screens. After the 325, 500, and 635 mesh screenings, multiple static settlings occur and the clay decants are collected. The decant samples collectively comprise the clay portion of the sample. The mass balance of the three sample components (sand, clay and waste) equals 100%.

The specific procedures used by UOI are listed below:

- Obtain a 25g sample then dry to determine percent moisture
- Obtain a 750g sample to be attrition scrubbed
- Use dry basis for calculations of material below
- Add sample below to attrition scrubber vessel of D-12 Denver laboratory flotation unit:
    - 450g of sample (dry basis)
    - 300 ml of de-ionized (DI) water
    - 2 lb/t dispersant or 0.001 grams
- Attrition scrub for 5 minutes
- Transfer contents from vessel to wet screen apparatus double-stacked with a 50 mesh screen and a 325 mesh screen (placed on 5 gallon bucket). Turn on electric sieve vibrator to unit and allow material screen. The 2011 samples were washed into the wet screen using a hand held squeeze bottle containing DI water. The 2013 samples were washed into the wet screen using a high pressure spray nozzle containing DI water.
- When 50 mesh top-screen appears clean of clay, (not to exceed 3500ml DI water), remove it and continue rinsing on the 325 mesh screen. Stop screening when all clay appears to have passed through 325 mesh screen.

- Combine retained fractions from screens and dry. Determine dry weight.
- Pour contents of bucket (-325 mesh fraction) into 4,000 ml beaker – rinse bucket with DI water to insure all -325 mesh fraction has been removed.
- Using bench mixer, mix contents for 5 minutes at a fairly vigorous mix speed.
- Pour mixed sample into 4,000 ml cylinder (use DI water squeeze bottle to remove all contents). Allow to settle for 20 minutes.
- Using a siphon tube, remove (decant) top layer of suspended clay fraction into a separate beaker. There will be a distinct settled fraction that contains a predominantly -325+635 mesh material (+20 microns).
- Decanted fraction is transferred to 4,000 ml beaker for mixing. After 3 minutes draw 40 ml of sample using a syringe, then transferred to a petri dish to dry in oven over 24 hrs.
- Add some DI water to cylinder to remix settled fraction in cylinder and transfer back into a beaker. Wet screen this material over a 500 mesh screen.
- Retain fractions from screen and dry. Determine dry weight.
- Pour contents of bucket (-500 mesh fraction) into 4,000 ml beaker, adjust volume to 1,000 ml with DI water and mix for 2 minutes. Transfer material into 4,000 ml cylinder and static settle for 20 minutes. Repeat decantation process and sampling steps as detailed above with 325 mesh screen.
- Using settled fraction from cylinder, repeat process again using 635 mesh screen.
- Determine weights of all retained fractions and record.
- Prepare decant samples for Scanning Electron Microscopy (SEM) analyses.

Clay characterization includes the differentiation between kaolinite and halloysite. This work was determined visually using the three clay decants secured from the process described above. The halloysite clay has a tubular shape while the kaolinite has a plate-like or blocky appearance.

The visual determinations were made using SEM technology. A small portion of each retained clay decant was prepped for SEM analysis by mounting each sample onto SEM wafers and coating with carbon. The prepped samples were then placed in the SEM and observed at 800X and 2000X magnifications. Representative photomicrographs were taken of each sample at each magnification.

Visual reviews for each laboratory-processed drillhole interval were then performed and assigned a qualitative rating based on the amount of halloysite present in each respective sample. The key sample of interest for each interval was the -325 mesh decant (first decant), with the -500 mesh decant (second decant) of secondary interest. If present, the halloysite was primarily found in these two decants.

The relative ratios of kaolinite versus halloysite are visually estimated in each decant and then the entire sample is coded from 1 to 4. The lowest coding (1) has none, trace, or minor amounts of halloysite present, and the highest coding (4) has approximately 70%+ halloysite. Allocation of the halloysite and kaolinite quantification was then based on the clay coding parameters as described in Table 11-1.

Table 11-1: Clay Code Assignment

Clay Code	Clay Assignment
1	100% of all clay is assigned as kaolinite
2	100% of the -325 mesh clay decant is assigned to halloysite and all remaining clay decant material is assigned to kaolinite
3	100% of the -325 mesh clay decant is combined with 50% of the -500 mesh clay decant and assigned as halloysite, the remaining clay decant material is assigned as kaolinite
4	100% of the -325 mesh clay decant is combined with 100% of the -500 mesh clay decant and assigned as halloysite all remaining clay decant material is assigned as kaolinite

11.5 SECURITY MEASURES

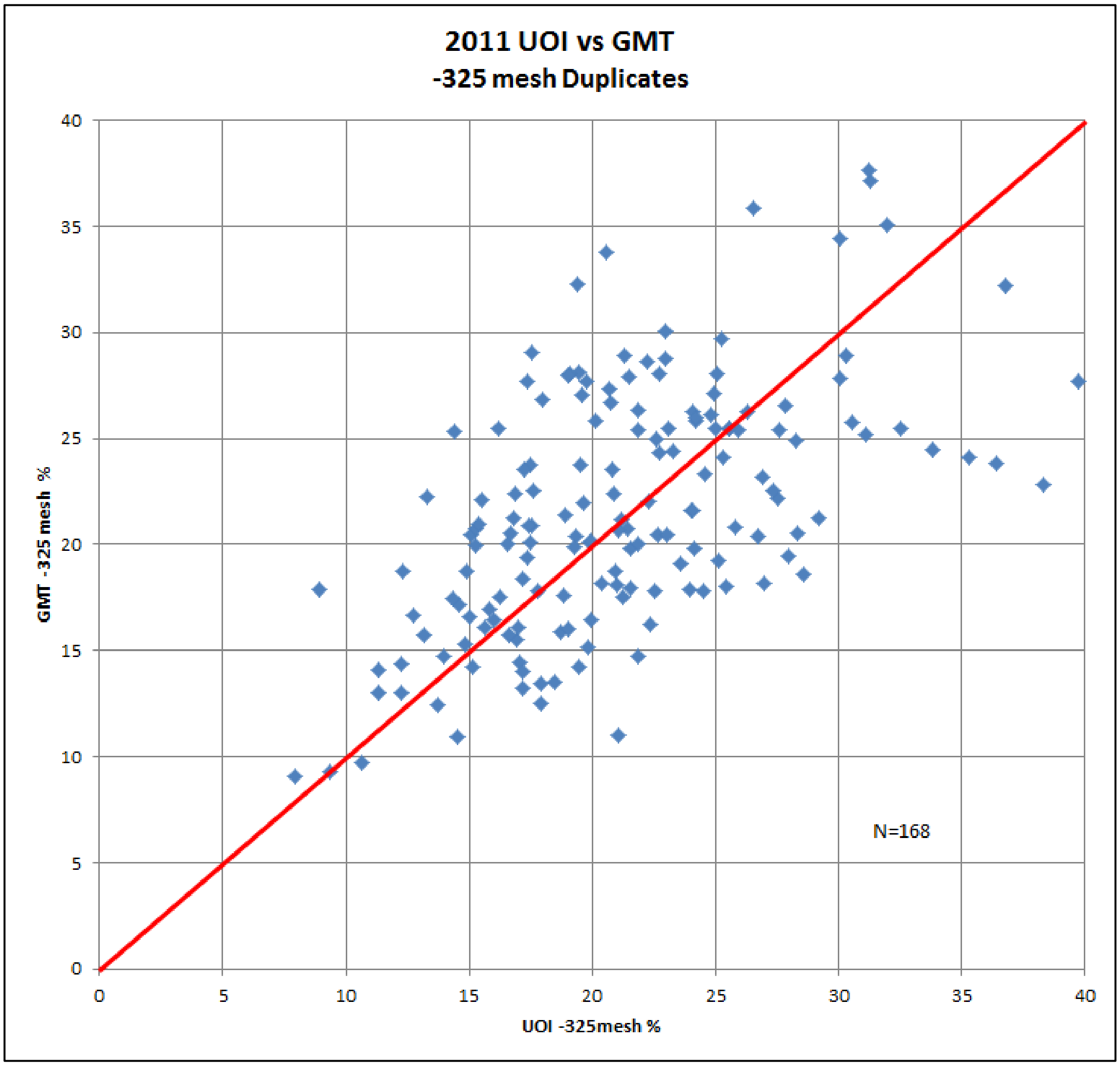
I-Minerals maintained a careful chain of custody throughout the sampling and transportation process. All samples were bagged and closed immediately with tamper-proof ties. Samples were transported by I-Minerals staff or commercial carriers, and all samples stored in a locked facility.

11.6 QUALITY CONTROL AND ASSURANCE

I-Minerals implemented a QA/QC program to ensure all samples were collected using industry best practices; analyses were completed by reputable laboratories; a representative number of the samples were subject to duplicate analysis at independent laboratories; and standard reference material was submitted to the UOI laboratory. Certified reference material for this type of mineralization does not exist, so I-Minerals created non-certified reference material by using splits from bulk samples analyzed by pilot-scale testing at GMT.

The duplicate analysis of the + 325 mesh and -325 mesh sample portions was completed during the 2011 and 2013 test work conducted at UOI. Because these two size fractions total to 100%, all results of the +325 mesh are inverse to the -325 mesh. For simplicity, only the -325 mesh results are presented and discussed. Figure 11-1 shows a scatter plot of the 2011 UOI analyses versus the GMT analyses. Although there is an expected amount of scatter, the duplicate analysis shows good correlation. Figure 11-2 shows a scatter plot of the 2011 UOI analyses versus CCL analyses. This plot clearly shows that the

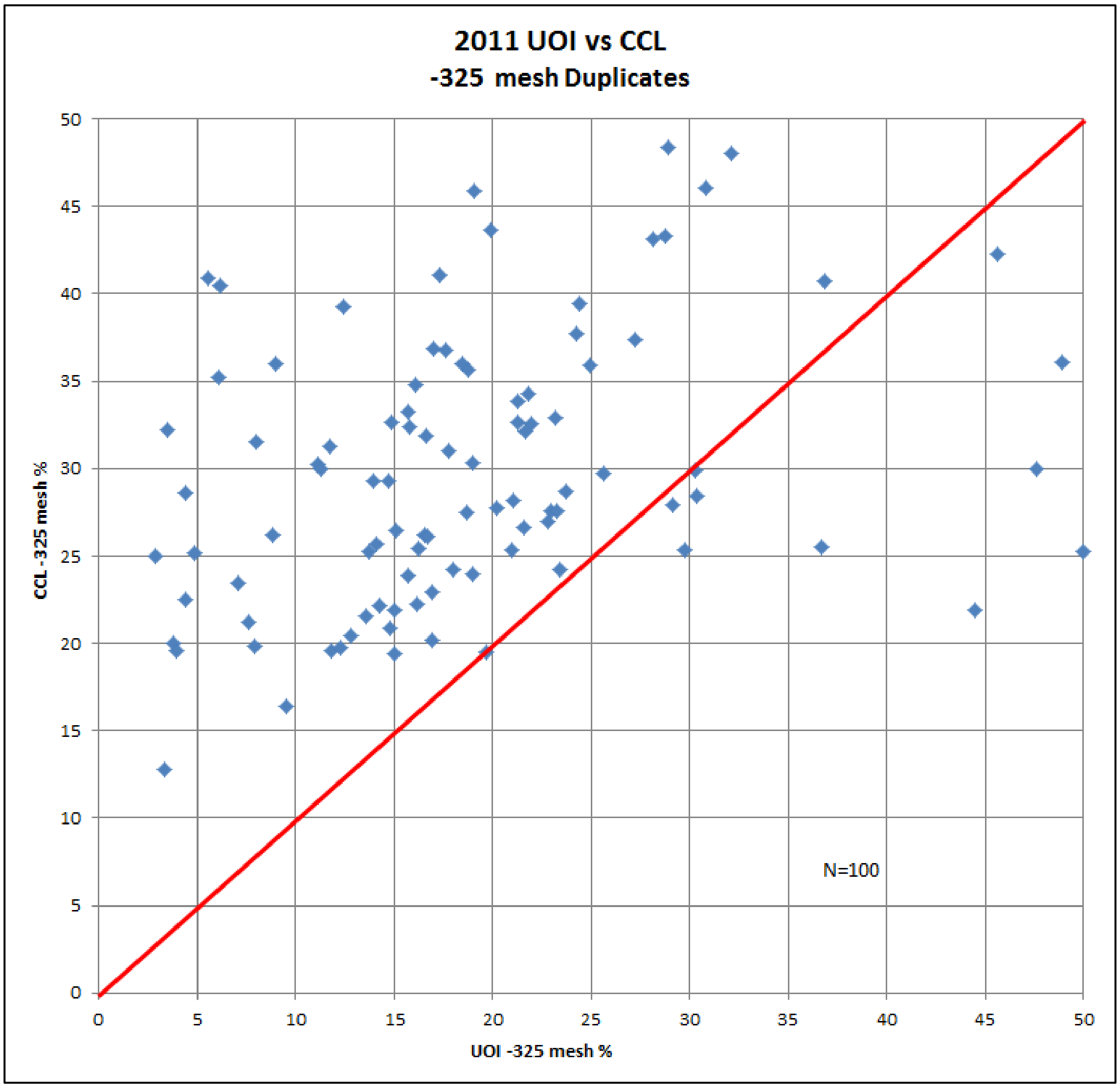
CCL has a bias towards the finer size fraction. This bias is not considered a material effect on the resource estimation since the CCL analytical data only represents the widely spaced drilling of the first exploration phase and because parts of this data were replaced by the data from the duplicate analyses. The duplicate analyses from the 2013 UOI testing were all sent to GMT. Figure 11-3 shows a scatter plot of the 2013 UOI analyses versus the GMT analyses. This plot clearly shows that the 2013 UOI tests have a bias towards the finer size fraction.



Source: SRK, 2012

Figure 11-1: UOI vs. GMT Analyses for 2011

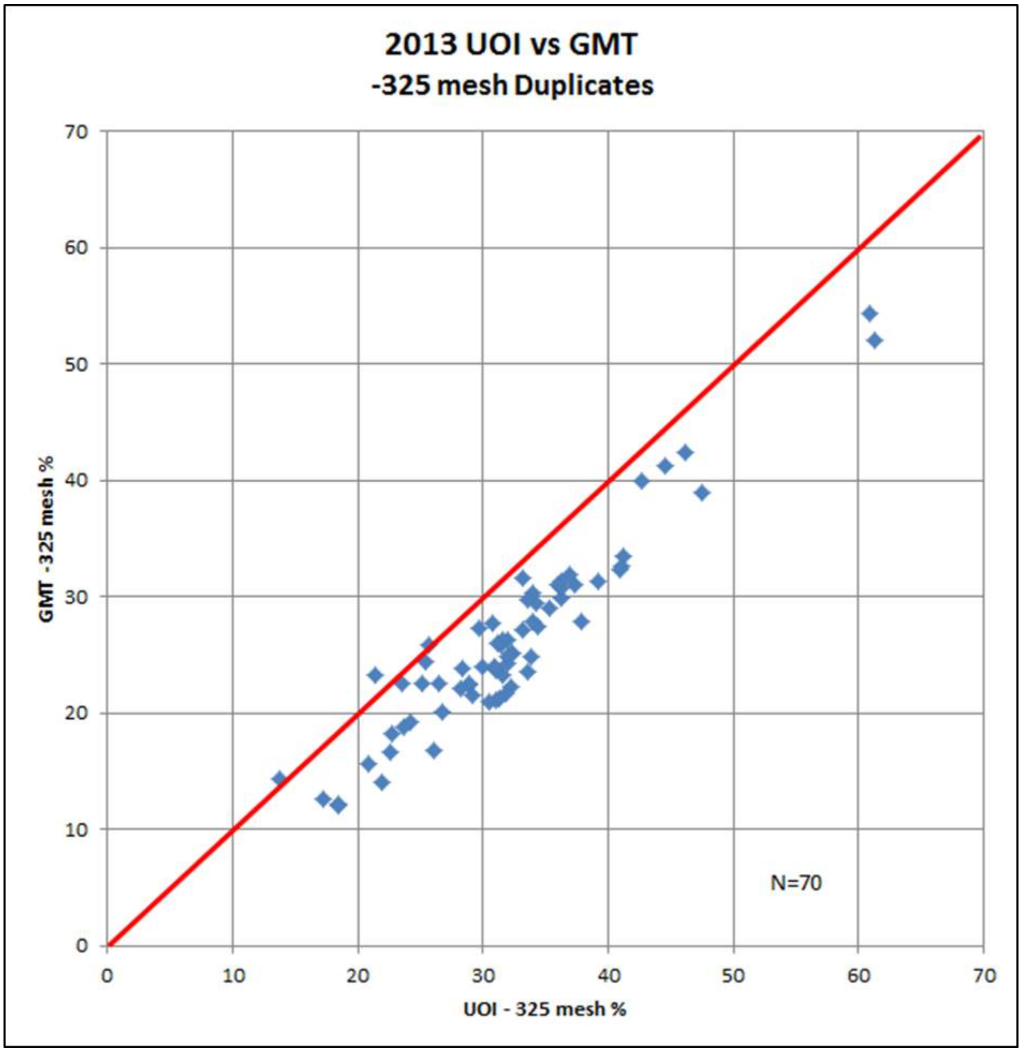
-325 Mesh Duplicates



Source: SRK, 2012

Figure 11-2: UOI vs. CCL Analyses for 2011

-325 Mesh Duplicates

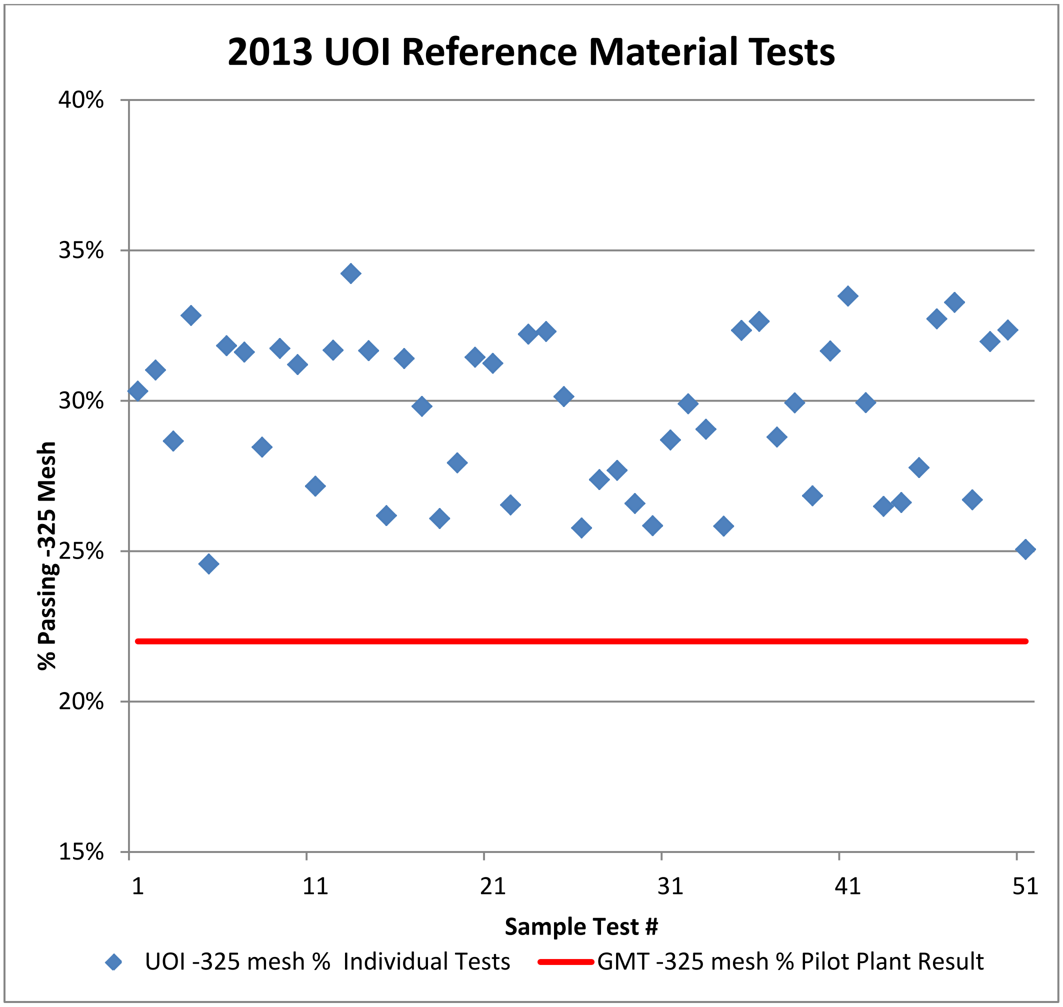


Source: SRK, 2012

Figure 11-3: UOI vs. GMT Analyses for 2013

-325 Mesh Duplicates

The UOI also conducted testing of the non-certified reference material. These were run over the entire program of testing, resulting in 51 tests by 18 different lab technicians. The results are shown in Figure 11-4. Here again, the UOI tests clearly show a bias toward the finer size fraction.



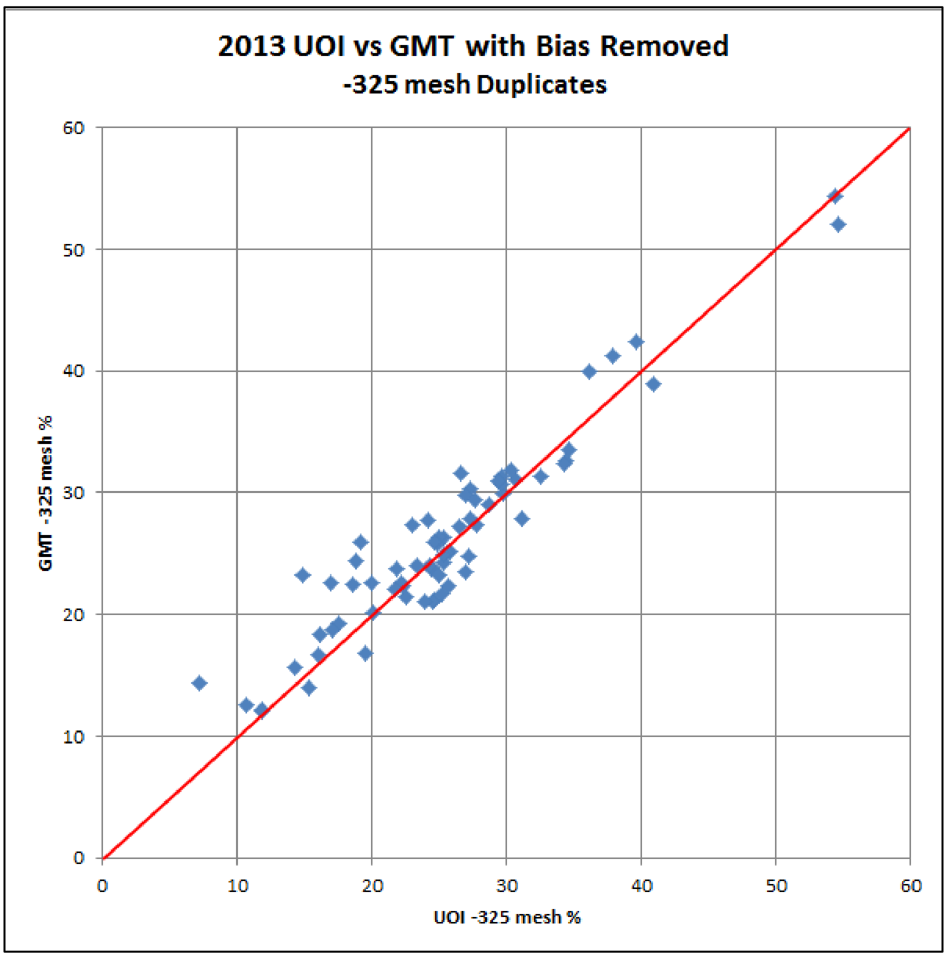
Source: SRK, 2012

Figure 11-4: UOI vs. Non Certified Reference Material for the -325 Mesh

2013 Analyses

The significant change in UOI's laboratory practice from 2011 to 2013 was the addition of the high pressure shower used to complete the initial -325 mesh wet screening. This change has clearly impacted the comparison between the two laboratories. Since the entire pilot-scale metallurgical testwork and associated analyses were completed at GMT, and since this data supports the technical economic model, the GMT results were accepted as more accurate.

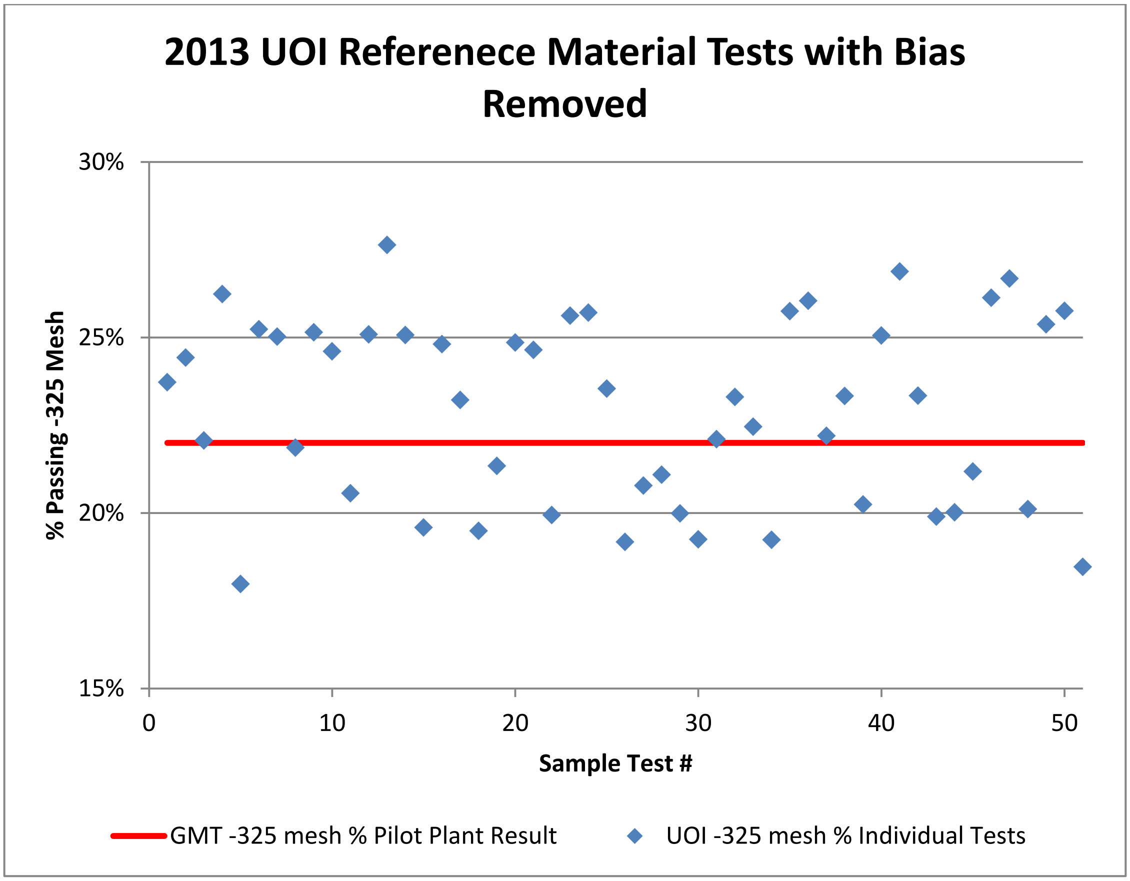
To overcome UOI's 2013 bias towards the finer size fraction, all of the 2013 size fraction analyses from UOI were adjusted to remove the bias. This was done by first determining the average bias. This was taken to be the average difference between all of the 2013 UOI -325 mesh samples and the GMT results for the same. A total of 121 tests were averaged to show that UOI reported 6.5922% more -325 mesh material than GMT. The database of the 2013 UOI samples was factored by this amount, as follows. The relative proportion of the clay waste, halloysite and kaolinite constituting the -325 mesh material was determined. Each of these components was then factored down by its weighted proportion of the 6.5922% bias. The remaining +325 mesh, sand fraction was then factored up by 6.5922 to provide a 100% mass balance in the sample. Figure 11-5 and Figure 11-6 show the results of the UOI vs. GMT duplicates and reference samples, respectively, with the 2013 bias factored out.



Source: SRK, 2013

Figure 11-5: UOI vs. GMT Analyses for 2013

-325 Mesh Duplicates, with Bias Removed



Source: SRK, 2013

Figure 11-6: UOI vs. Non Certified Reference Material for the -325 Mesh

2013 Analyses with Bias Removed

11.7 OVERALL ADEQUACY STATEMENT

SRK states that the sampling work conducted by I-Minerals and the analytical work performed by the laboratories discussed above is valid and suitable for use in resource estimation. The sample characterization studies used industry-accepted analytical techniques to determine particle size distributions of exploration samples. The QA/QC program employed by I-Minerals meets current industry best practices and the results of this work indicate acceptable precision and accuracy of the analytical results.

SECTION 12 DATA VERIFICATION

12.1 QUALITY CONTROL AND DATA VERIFICATION PROCEDURES

The exploration database provided by I-Minerals to SRK consisted of an Access database, an Excel spreadsheet, and SEM photomicrographs.

The Access database was created by Dr. Mark Groszos of Valdosta State University in Georgia, and was subsequently modified by Sierra Nash, a database consultant from the UOI. The database contains drillhole collar locations, drillhole orientations, lithology intervals and descriptions, analytical sample intervals, XRF assay data, and various laboratories' material size classification data generated prior to 2012.

The Excel spreadsheet was constructed jointly by I-Minerals and Nash. It is titled "Master Data Summary" and contains all drill sample intervals, material size classification data, and clay identification information. The Master Data Summary was developed in 2012 and was updated in 2014 with additional data.

The SEM photomicrographs are arranged in electronic folders by drillhole, sample interval, size fraction decant sequence, SEM magnification, and photo number. The SEM photomicrographs are saved in Tagged Image File (TIF) format.

The drill collar locations were verified by comparing original layout maps and coordinate sheets with the Access collar tables. The drillhole collars were surveyed in the Idaho State Plane (ISP) coordinate system by a licensed surveyor. The drill collar locations were further verified by comparing original surveyor coordinate data to the coordinates in the Access database. In addition, the original drillhole layout maps were compared to maps derived from the collar locations in the Access database. All drillholes are oriented vertically, so verification of drillhole azimuth and inclination is not required.

The material size characterization data in the Master Data Summary was first verified in 2012, by comparing information from the original, independent laboratory data files to the same records in the Excel spreadsheet. At that time, a total of 112 records, representing 17% of the total database, were checked. A few minor errors were corrected.

UOI provided a Master Data Summary, which contains only data generated since the original 2012 verification. Since the 2012 verification, UOI has entered their results directly into the Master Data Summary, and therefore does not generate any other assay certificates or data files from which to verify the Master Data Summery. SRK believes that UOI staff assembled the data with utmost regards to accurate transfer and data entry. SRK conducted additional verification on the Master Data Summary by verifying from-to intervals and mass balance results. A total of 295 samples were verified, representing 19% of the total database. Twenty-seven errors were detected and corrected, but overall the database represents the actual data very well.

The clay characterization codes were verified by viewing the SEM photomicrographs and visually estimating the proportion of kaolinite versus halloysite clay. This is essentially a parallel routine to the methods used by I-Minerals. A total of 672 records, representing 23% of the total data, were checked. A total of 231 discrepancies were noted and corrected. The discrepancies were related to clay type assignment codes for intervals which did not have SEM photomicrographs or were missing size fraction data. I-Minerals corrected all of these intervals and the database was accepted by SRK as suitable to support the current resource estimation.

12.2 DATA VERIFICATION BY QUALIFIED PERSON

The data verification described above was completed by Dr. Bart Stryhaus, SRK's QP for this Technical Report. The QP has not collected independent samples and has not conducted clay analysis independent of the issuer.

12.3 LIMITATIONS OR FAILURE TO CONDUCT VERIFICATION

SRK was not limited in its access to any of the supporting data used for the resource estimation or describing the geology and mineralization in this Technical Report.

The database verification is limited to the procedures described above. All mineral resource data relies on the industry professionalism and integrity of those who collected and handled it.

12.4 ADEQUACY OF THE DATA

In SRK's opinion, best professional judgment, and appropriate exploration and scientific methods were used in the collection and interpretation of the data used in this Technical Report. The sampling data is sufficient and spaced appropriately to support the resource estimation. However, users of this Technical Report are cautioned that the evaluation methods employed herein are subject to inherent uncertainties.

SECTION 13 MINERAL PROCESSING AND METALLURGICAL TESTING

The Bovill Project has been the subject of a number of comprehensive testwork programs extending back nearly a decade, the results of which indicate that commercial quantities and qualities of products can be produced from Bovill mineralized material using conventional technologies. The extent of the testwork performed and completed to date is sufficient for the completion of the engineering and costing contained in this Feasibility Study.

13.1 HISTORICAL TESTING

Mineralogical, beneficiation, and product characterization testing programs have been conducted by various investigators on behalf of I-Minerals. Testing was undertaken on material sourced from the Project site. This includes primary material from the Bovill deposit, as well as secondary material - referred to as “WBL Tailings” - that was generated from a previous clay operation at the site during the 1960s and 1970s. Relevant technical material generated as part of these programs was previously reported in the Preliminary Feasibility Study (PFS) prepared by SRK Consulting (April 20, 2014). A summary of the relevant results are presented here for convenience; however, the reader is referred to the original report for a complete appraisal. The data remain relevant and representative of the planned operations at the Bovill Kaolin Project.

Much of the process development was conducted by two principal investigators, Ginn Mineral Technology (GMT) and the Mineral Research Laboratory (MRL) of North Carolina State University. GMT completed the developmental work on the clay circuit, employing bench-scale and pilot plant process demonstrations. Similarly, MRL carried out the development work on the sand circuit, also employing bench-scale and pilot plant process demonstrations. Both service providers produced products of a suitable grade and quality for detailed characterization, and suitable for commercial production.

The bench-scale testwork conducted by GMT demonstrated the responsiveness of the clay to conventional physical and chemical beneficiation methods. Additionally, characterization of the products determined the presence of halloysite in the kaolinite concentrate. The bench-scale testing results were further reinforced with five pilot plant demonstrations. The first two were conducted in July 2008 and July 2010, and were modest in scale. Subsequently, three additional small-scale pilot tests were conducted to explore alternative process flowsheet arrangements. The data generated from these tests confirmed the results of the previous tests, both quantitatively and qualitatively, including definition of the circuit for the recovery of halloysite.

Additional testing and development was conducted in 2011 and 2012 on bulk samples and composites to confirm previous work and generate material for product development. Process development work focused on assessing alternative physical separation technologies for the kaolinite/halloysite preparation. Importantly, the results from this campaign of testing quantitatively and qualitatively confirmed the previous work, which improves the confidence in the viability of the process to generate saleable products.

Historical mining activities on the property, targeting the recovery of kaolinite, generated a feldspathic sand tailings material, which is referred to as WBL Tailings. These tailings are considered representative of the sand fraction of the material derived from the Bovill resource. Additionally, primary material derived from the historical WBL pit was used in testing. The sand material was prepared from the sand rejected as part of the clay testwork programs undertaken by GMT.

Initial testing on the WBL Tailings by MRL focused on recovery of K-feldspar from quartz. Scoping beneficiation tests were conducted to identify candidate unit operations, operating conditions, and general equipment arrangement. A basic set of parameters for conventional beneficiation methods was established, which rendered the K-feldspar and quartz responsive to selective concentration. Subsequently, a comprehensive pilot plant campaign was undertaken based on the findings of the bench-scale testing. The objective was to determine engineering and operating data that would facilitate the design of a commercial process plant. A 35-ton bulk sample of WBL Tailings was processed on a continuous basis, facilitating the preparation of a sizable quantity of product concentrates as well as the optimization of unit operations. The process employed conventional unit operations and was successful in achieving the stated objectives. While this work successfully produced a high quality K-feldspar, it did not continue with the optimization of the quartz product fraction. The work stopped with a feldspar flotation tailings fraction, consisting primarily of quartz material which was suitable for further qualitative processing to achieve higher purity quartz products.

MRL was also retained to provide definition of the quartz purification process. Mirroring previous development work on the K-feldspar flowsheet, MRL performed bench-scale testing to provide preliminary data to design and plan a more comprehensive pilot plant campaign. Pilot campaigns were conducted in late 2011 and again mid-2012, which demonstrated the ability to produce suitable quartz products from both WBL Tailings and primary material. Due to constraints on material, budget, and time, the processing regime was not optimized during these campaigns.

13.2 CURRENT TESTING

The current testwork is mainly focused on the development of both sand and clay circuits, further product definition and characterization, and initial Original Equipment Manufacturer (OEM) equipment testing in preparation for detailed engineering. Previous testwork on the feldspathic sands provided engineering definition sufficient for the completion of engineering and feasibility assessment. Additional testing in 2015 confirmed earlier results, optimized the processing scheme, and added some refinements regarding purification of the products.

13.2.1 REPRESENTATIVE SAMPLE COLLECTION

In June 2014, bulk metallurgical samples were collected from 10 trenches using an excavator. The trench locations were selected based on the local geology and results from adjacent drillholes. Selection of the sample locations was reviewed and approved by SRK's Principal Resource Geologist, Dr. Bart Stryhas.

Drillholes selected for sampling were numbers 6063, 6037, 6091, 5145, 5221, 6026, 6027, 6110, 6123, and 6013. Figure 13-1 shows the sample locations as they relate to the mining areas.

The mineral composition of the deposit is relatively homogeneous with the exception of halloysite content. The selected sample locations (listed in Table 13-1 below) are in the expected mining areas, and either rich in halloysite (7 locations in the Kelly's Hump area and two locations in the Middle Ridge area) or void of halloysite (one location in the Kelly's Hump South area).

Table 13-1: Sample Locations

Deposit Location	Bore Hole Number
Kelly's Hump	6123
Kelly's Hump	6110
Kelly's Hump	6026
Kelly's Hump	6027
Kelly's Hump	6063
Kelly's Hump	6037
Kelly's Hump	6091
Kelly's Hump South	6013
Middle Ridge	5145
Middle Ridge	5221

Depth of the ore-bearing layer and depth of the overburden were also considered when selecting the sample locations. The depth to the ore layer (weathered granodiorite) was determined for each hole, and an excavator dug through the overburden to the top of the mineralized layer. The excavator then dug approximately 5 ft into the ore zone for sample collection. The samples were collected, placed in large bulk bags, and shipped to GMT for clay and sand separation. The samples were not blended in the field, but were sent to GMT in three discrete samples; Kelly's Hump (halloysite-rich), Kelly's Hump South (halloysite-void), and Middle Ridge (halloysite-rich). GMT processed the clay fraction and shipped the sand to MRL for additional bench and pilot-scale testing.

While these samples cannot be considered statistically representative of the entire ore body, they are characteristic of the mineable material that is expected to be encountered during the mining and processing of the Bovill Project during the initial mining phase. The sampling techniques, and the metallurgical samples collected are considered suitable for bench and pilot plant metallurgical testing to define and confirm the process scheme and final product quality.

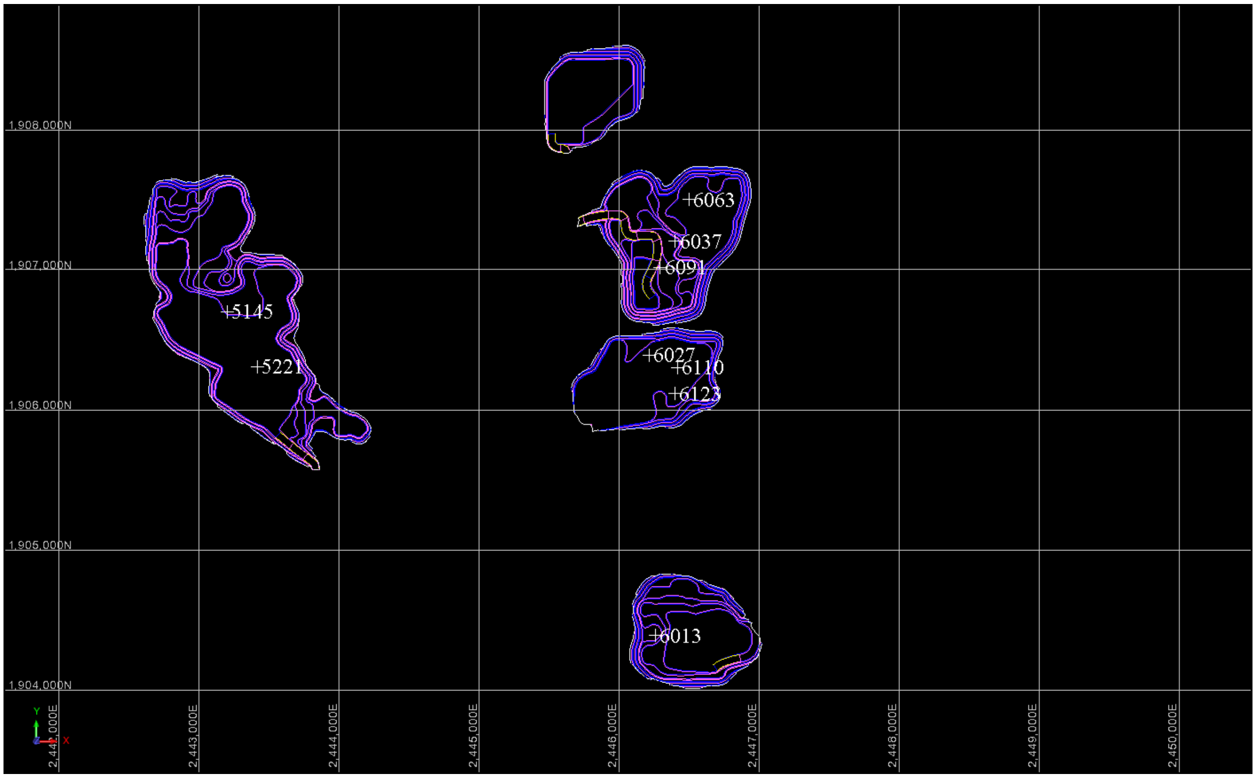


Figure 13-1: Metallurgical Sample Locations on Pit Outlines

Table 13-2 presents a list of the current testwork and reporting on the Bovill ores.

Table 13-2: Current Testwork

Description	Organization	Report Title	Report Date
Halloysite and Kaolin Processing Trials	GMT	Production Trials of the Kelly's Hump and Middle Ridge Crude Resource Ore	January 2015
Processing for brightness improvement	GMT	Middle Ridge Differential Flotation Product Brightness Optimization	April 2015
Ore characteristics and impact crushing tests	Stedman Machine Company	Test Results for GBM Engineers/I-Minerals	May 2015
Tailings thickening and filtration testing	Bilfinger Water Technologies, Inc.	Filtration Test Report No. LAB315090	July 20, 2015
Slurry rheology and filtration tests on kaolin, and halloysite products	RDi	Bovill Rheology and Filtration Results	September 22, 2015
Halloysite and Kaolin Processing Trials	GMT	Production Trials of the Kelly's Hump & Middle Ridge Crude Resource Ore	September 2014-January 2015
Feldspar percentage in ore	Process Mineralogical Consulting Ltd.	Mineralogical Characterization of 31 Samples	January 29, 2016
Metakaolin Fine Grinding	GMT	Fine Grinding and Processing Trials	March – April 2015
Brightness Processing	GMT	Middle Ridge Differential Flotation Product Brightness Optimization	April 2015
Metakaolin and Ultra Hallopure™ Production	GMT	Large Scale Sample Production and the Processing of Kelly's Hump Crude Resource Ore	January, 2016
Synopsis of sand bench and pilot-scale testing	MRL	Summary of Pilot Plant Testing for I-Minerals to Recover Upgraded Quartz	March 17, 2016

13.2.2 COMMINUTION

Comminution testing consisted of a rod mill grinding test on sand to determine a work index, and testing of ROM samples in an impact crusher to determine specific power requirements and the ability to produce crushed ore of the required size specification.

In 2008, a sample was collected from drill core from three drillholes in the Kelly's Basin area. In total, 34 intervals were sampled and composited into a feldspar/quartz sand sample. Although Kelly's Basin is not considered as feed for the clay processing plant, the sand derived from this area is considered to be representative of the sand in the Project feed, since all of the materials in the area are a result of surface weathering of the Thatuna Batholith.

The 2008 sample of feldspar/quartz sand was tested by Hazen Research in Golden, Colorado using a modified Bond Rod Mill Work Index (RWi) determination procedure. The only modification from the standard procedure is the closing screen mesh was changed from 16 mesh to 30 mesh to be more representative of the product size required for the process. This work determined a RWi of 9.5 kWh/t.

In 2015, an approximately 2,000 lb bulk sample of material of similar composition to ores from the proposed mining areas was collected from the proposed plantsite area and provided to Stedman Machine Company for impact crushing testing, as well as determination of the angle of repose, drawdown angle, and other crushed ore physical characteristics. The sample was successfully crushed from ROM size to a nominal 0.25 inch passing size. The information was used to specify the type and size of the appropriate machine for crushing service. The tests determined that 2.25 HP/t was required for the crushing service.

13.2.3 CLAY PROCESSING

The samples described in Section 13.2.1 were shipped to GMT in Sandersville, Georgia, USA in June 2014. GMT received 26.3 tons of Kelly's Hump (halloysite-rich) material, 4.4 tons of Kelly's Hump (void of halloysite) material, and 6.3 tons of Middle Ridge (halloysite-rich) material for production scale trials.

GMT reported on the processing of the bulk metallurgical samples in a report titled "Halloysite and Kaolin Processing Trials, Production Trials of the Kelly's Hump and Middle Ridge Crude Resource Ore," dated September 2014-January 2015. GMT successfully processed all three ores based on prescribed product objectives for each ore body. Both Kelly's Hump and Middle Ridge ores were processed to produce both halloysite products (standard and high purity) and a metakaolin product. The Kelly's Hump South ore was processed to produce only a metakaolin product (ore void of halloysite).

Each of the three samples was treated individually. The halloysite-rich samples from Kelly's Hump and Middle Ridge were treated in a similar manner, whereas the Kelly's Hump South sample was treated using an abbreviated program due to its lack of contained halloysite. Figure 13-2 presents the processing scheme used for the clay samples.

The bulk sample was processed to remove the sand component (+325 mesh). Reconciliation and mass balancing determined that approximately 78% of the feed mass reports to the +325 mesh sand fraction with the balance 22% reporting to the fine clay fraction. The sand fraction was then retained and shipped to MRL for further feldspathic sand testing.

Table 13-3 summarizes the key material balance data and brightness of the three samples after processing according the processing schemes employed in the pilot operations.

It should be noted the while these processing schematics did provide a suitable clay separation for balance work associated with the clay circuit, it proved deficient in providing a clean separation for the subsequent sand fraction processing at MRL as a result of residual clay in the sand product.

In an effort to improve clay/sand separation, GMT implemented a screw classifier that was systematically evaluated on one of the ores (Middle Ridge). Modifications were made to the flights to improve sand removal and the equipment proved successful in confirming the concept. However, the length of the screw was determined inadequate to provide complete clay/sand separation for this pilot plant work.

The recovery data utilized from this GMT test work is acceptable, but as described previously the pilot plant processing schematic does present a loss of some clay percentage to the sand fraction circuit and was not recovered. GMT's report suggests a potential 10% yield improvement may be possible through fully optimized processing equipment.

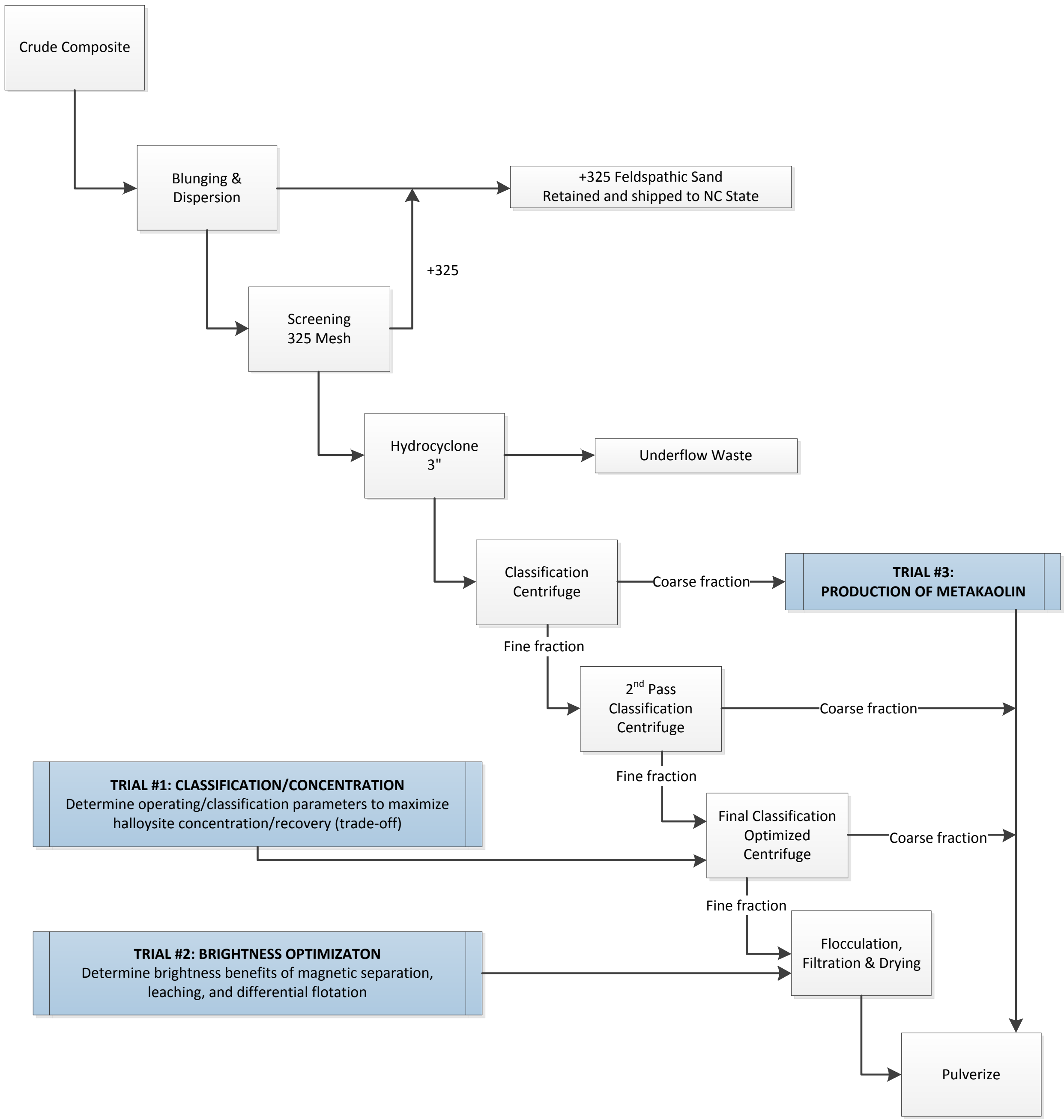


Figure 13-2: GMT Clay Testwork Processing Flowsheet

Table 13-3: Product Yields

PROCESS FLOW DESCRIPTION	Kelly's Hump		Middle Ridge		Kelly's Hump South	
	Process Recovery / Yield (%)	Yield from Total Dry Resource (%)	Process Recovery / Yield (%)	Yield from Total Dry Resource (%)	Process Recovery / Yield (%)	Yield from Total Dry Resource (%)
+ 325 Screened Fraction + Sand	76.8	76.8	77.9	77.9	76.2	76.2
< 325 Screened Fraction (clays and waste)	23.2	23.2	22.1	22.1	23.8	23.8
3" Hydrocyclone Overflow (combined clays)	88.1	20.4	83.3	18.4	83.5	19.9
50% Classification of Overflow (Halloysite) – Fine Fraction	43.8	8.9	46.6	46.6	N/A	N/A
50% Classification of Underflow (Kaolinite) – Coarse Fraction	56.2	11.5	53.4	53.4	N/A	N/A
Differential Flotation from 50% Classification Fine Fraction Of Overflow (High-purity Halloysite)	58.2	5.2	58.5	5.0	N/A	N/A

As shown in Table 13-3, regardless of the ore source, the sand portion (+325 mesh), makes up 76-77% of the sample. This portion reports to the sand processing area of the plant. In the case of the 2014 bulk sample, the sand portion was shipped to MRL for further testing. The testwork results for the sand are reported in Section 13.2.3

The clay fraction of the ore (-325 mesh) contains the kaolinite and halloysite clays in addition to grit, which is rejected in the 3" cyclone operation. The cyclone underflow, which contains the grit, reports to tailings and makes up approximately 4% of the ore (in the case of the 2014 bulk samples). This material is categorized as waste in the mineral resource and mineral reserve estimates. The 3" cyclone overflow contains the clays (18-20% of the total feed) which are further processed using a centrifuge to separate standard-grade (70%+ purity) halloysite (50% classification of overflow) and kaolinite (50% classification of underflow). The halloysite is further concentrated using a proprietary differential flotation technique developed by GMT, to produce high-purity halloysite (90%+ purity). Because essentially all of the material in the 3" cyclone overflow is recovered into one of the three final clay products, the process recovery of the clays from this point is 100%.

The primary purpose of the testwork was to optimize the separation of halloysite from kaolinite, and secondarily, to optimize the brightness of the halloysite by employing physical and chemical beneficiation methods. This work was reported as *Brightness Processing, Middle Ridge Differential Flotation Product Brightness Optimization – April 2015* (30). A third aim of the program was to produce a metakaolin product and to assess its pozzolanic properties and was reported as GMT Report *Meta-Kaolin, Fine Grinding and Processing Trials – March-April 2015* (31). The testing undertaken by GMT was conducted using American Society for Testing and Materials (ASTM) and Technical Association of the Pulp and Paper Industry (TAPPI) standards in line with previous testing campaigns and industry practice

As shown in Table 13-4, a two-stage beneficiation process employing both centrifugation and differential flotation yielded the brightest product. Differential flotation also produced the highest grade halloysite, exceeding 90% purity. Final product processing then explored cleaning the concentrates with either acid leaching or magnetic separation, or a combined magnetic separation with acid leaching step. A summary of the results are presented in Figure 13-3. A single stage processing route with magnetic separation alone was the most effective in improving the brightness of the finished products by removing mica gangue from the concentrate. Further improvements were realized with the inclusion of an acid leaching stage for the non-magnetic product. Finally, a coarse kaolinite product was prepared from the 3" hydrocyclone underflow for conversion into metakaolin. The sample was prepared by calcining the kaolinite at approximately 850°C for appraisal as a pozzolanic material.

The kaolinite fractions exhibited a brightness of 47-51% on the TAPPI/ GE brightness scale. Additional processing improved the results slightly, and could produce a kaolin material to compete with the lower value traditional kaolin products from the Georgia Clay Belt. However, this material can be calcined to produce a high-quality metakaolin, which is a pozzolan that has strong demand in the cement industry.

Table 13-4: Clay Processing Product Recoveries and Brightness

ID	Process Flow Description	Stage Yield (%)	Cumulative Yield (%)	TAPPI Brightness (%)
1	+325 mesh screened fraction	78	78.0	N/A
2	-325 mesh screened fraction	22	22.0	63.00
3	3” hydrocyclone overflow	90	19.8	64.43
4	50% classification of overflow (fine)	50	9.9	71.98
5	50% classification of overflow (coarse)	50	9.9	52.1
6	35% / 50% classification of overflow (fine)	33	6.5	73.51
7	35% / 50% classification of overflow (coarse)	67	13.3	56.07
8	Differential flotation of Item 4	71	7.0	75.72

Brightness of the halloysite and high-purity halloysite was somewhat higher than the results for kaolin, and this material was further tested to improve brightness. The results of this testwork were reported in GMT’s report “Middle Ridge Differential Flotation Product Brightness Optimization” (GMT, April 2015) (30) and are summarized below.

Halloysite product, from the final differential flotation of the Middle Ridge sample described above, was treated by leaching and magnetic separation techniques to improve impurity removal and optimize brightness. Leaching in acidified slurry, with addition rates for sodium hydrosulfite varying between 0 and 15 lb/t of solids, was performed. The optimum dosage rate was determined to be 12 lb/t.

In other tests, the slurry was treated by magnetic separation using a magnetic field strength of 2 Tesla to reduce impurities, and then leached to further improve in brightness. Results of the work are presented in Figure 13-3.

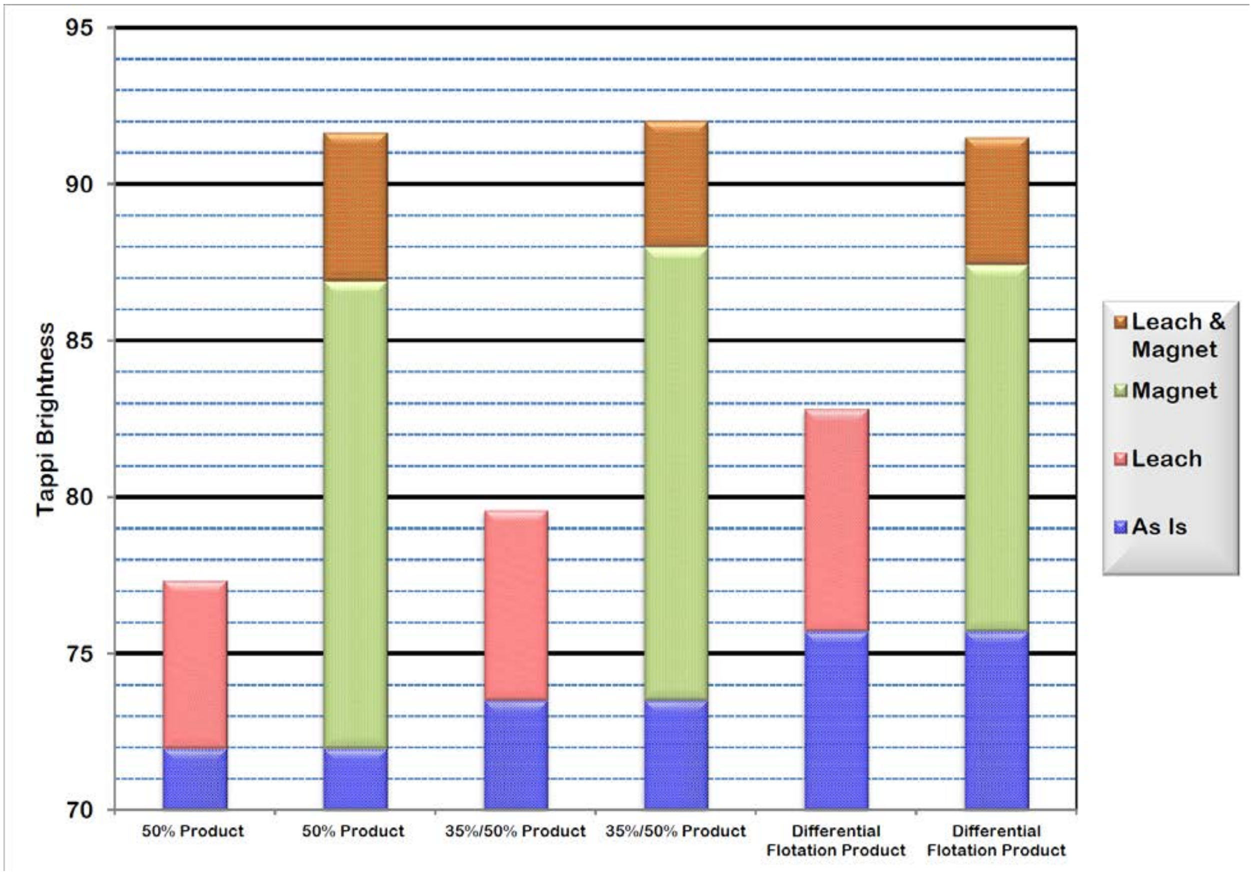


Figure 13-3: Finished Halloysite Product Brightness

While the combination of magnetic separation and leaching produced the greatest total benefit, leaching was not selected to be included in the full-scale processing scheme due to the increased cost and complexity required for a somewhat marginal improvement. Magnetic separation alone was selected as the preferred method of impurity removal to produce an improvement in brightness.

In May 2015 a bulk sample was collected from the Kelly's Hump area and shipped to GMT for large scale sample production and processing. The treatment scheme was similar to previous samples but with emphasis on the separation and purification of halloysite and kaolinite and various tests regarding the fine grinding of the kaolinite. The resulting kaolinite samples were calcined to produce metakaolin and analyzed for pozzolanic properties. XRD tests by First Test Minerals on the high purity halloysite product showed 96% halloysite contained in the sample.

The clay testwork demonstrated the ability to produce varying grades of halloysite and kaolinite concentrates. The extent of the process to be deployed in the commercial plant will largely be determined by the size and value of the halloysite product markets. Market research has subsequently shown there is a market for both standard grade halloysite and high-purity halloysite, and therefore, differential flotation is incorporated in the process flowsheet. Market research has also shown there is a limited market for kaolin of the type produced from Bovill ores but quite a robust market for metakaolin. As a result, all kaolin will be converted to metakaolin prior to marketing.

13.2.4 CLAY FILTRATION

In mid-2015, samples of product material representing kaolin, standard-grade halloysite, and high-purity halloysite were provided to Resource Development Incorporated (RDi) to determine slurry rheology characteristics, and vacuum filtration rates and cake characteristics. The work was undertaken to confirm vacuum drum filter sizing and cake moisture content for dryer design and operating expense calculations, and reported in RDi's report, "Bovill Rheology and Filtration Results" (RDi, September 22, 2015. (31)).

The samples were slurried with water to 45% solids to simulate the slurry expected from the prior centrifuge dewatering step. The slurry was then tested using standard bench vacuum filtration tests, simulating rotary drum vacuum filtration equipment. The results of the tests are summarized in Table 13-5

Table 13-5: Vacuum Filtration Results

		Filtration Rate	
	Cake Solids %	Dry lbs/ft^2/hr	Gallons/ft^2/hr
Kaolin	55.4	18.0	0.8
Standard Halloysite	54.7	8.1	0.36
High-purity Halloysite	52.7	11.0	0.51

13.2.5 SAND PROCESSING

Initial sand processing to recover K-feldspar was performed by MRL and the results summarized in Section 13.1.

In the current testing program, two distinct projects were assigned to the MRL to process the sand provided from the pilot plant work performed at GMT. The first project was to produce quartz products on a bench-scale from each of the three ore bodies (designated Kelly's Hump North or Kelly's Hump, Middle Ridge, and Kelly's Hump South or Kelly's Hump Void) while the second project was to produce quartz products on a pilot scale using a composite consisting of all three ore bodies. Combining all of the ores for the pilot plant was required because the amount of sand material received from the GMT pilot plant clay/sand separation suitable for MRL processing was insufficient for individual ore processing.

This work started late in 2014 by initially separating enough individual ore material for the bench testing and then combining the remaining ore and air drying to produce a material which could be fed to the pilot plant at a controlled rate.

Once processing commenced, it became obvious that the sample had a lower K-feldspar to quartz ratio than in previous testing of the WBL tails. This is considered to be a result of the sample coming from the upper portions of the ore body and inefficiencies in the clay sand separation at pilot scale at GMT. However, suitable K-feldspar grade was produced to be used for further product development work as an optimal grade of slightly over 12% K_2O was achieved during the course of several trial runs. Figure 13-4 shows the general schematic for the recovery of K-feldspar.

This issue was further examined through additional evaluation work to insure that adequate K-feldspar is contained in the deposits. This work was performed by Process Mineralogical Consulting Ltd. and discussed in a report dated January 29, 2016. Samples from 31 drillholes were examined. The weighted average percentage of K-feldspar in the ore as determined from 29 samples was 18.7%. Results from one anomalous high sample and one anomalous low sample were excluded from the average. The results confirmed the ample presence of K-feldspar throughout the deposits.

Quartz processing data was not as affected by these issues although more residual K-feldspar was present in the feedstock to the quartz circuit as a result of difficulties incurred with the K-feldspar circuit. This resulted in slightly lower quartz yields during quartz circuit flotation to remove the additional residual spar. However, both the bench and pilot plant work yielded very good quartz products and achieved desired quartz purities for each quartz grade. Figure 13-5 shows the general schematic for the recovery of quartz.

The completion of the pilot plant work was in its final stages at the time of this writing and a final version of the report covering all of this work is still pending. However, a summary of the work has been provided and listed as MRL Report – *Summary of Pilot Plant Testing for I-Minerals to Recover Upgraded Quartz – March 17, 2016* (32).

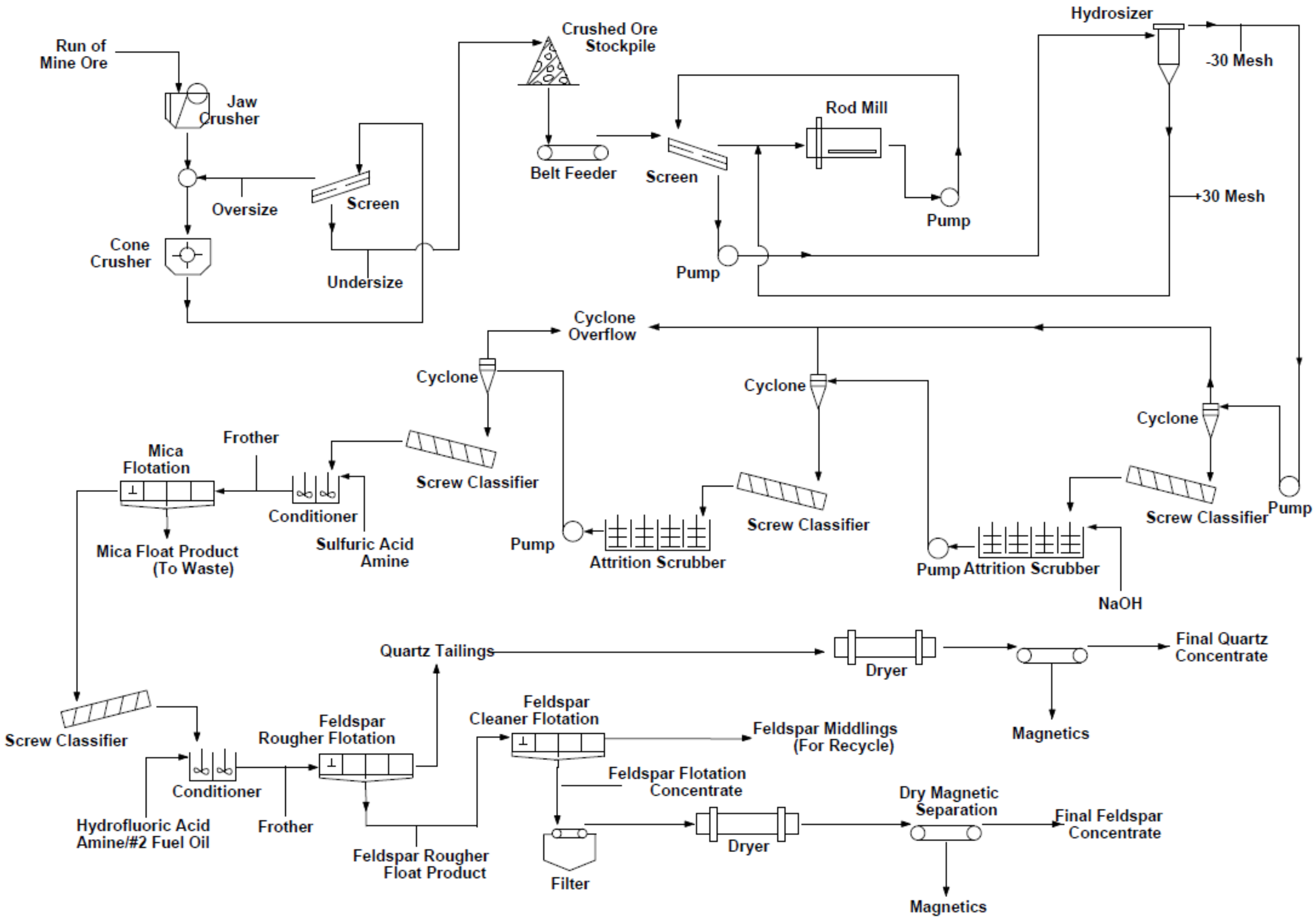


Figure 13-4: Schematic Process Flowsheet - Feldspar Recovery

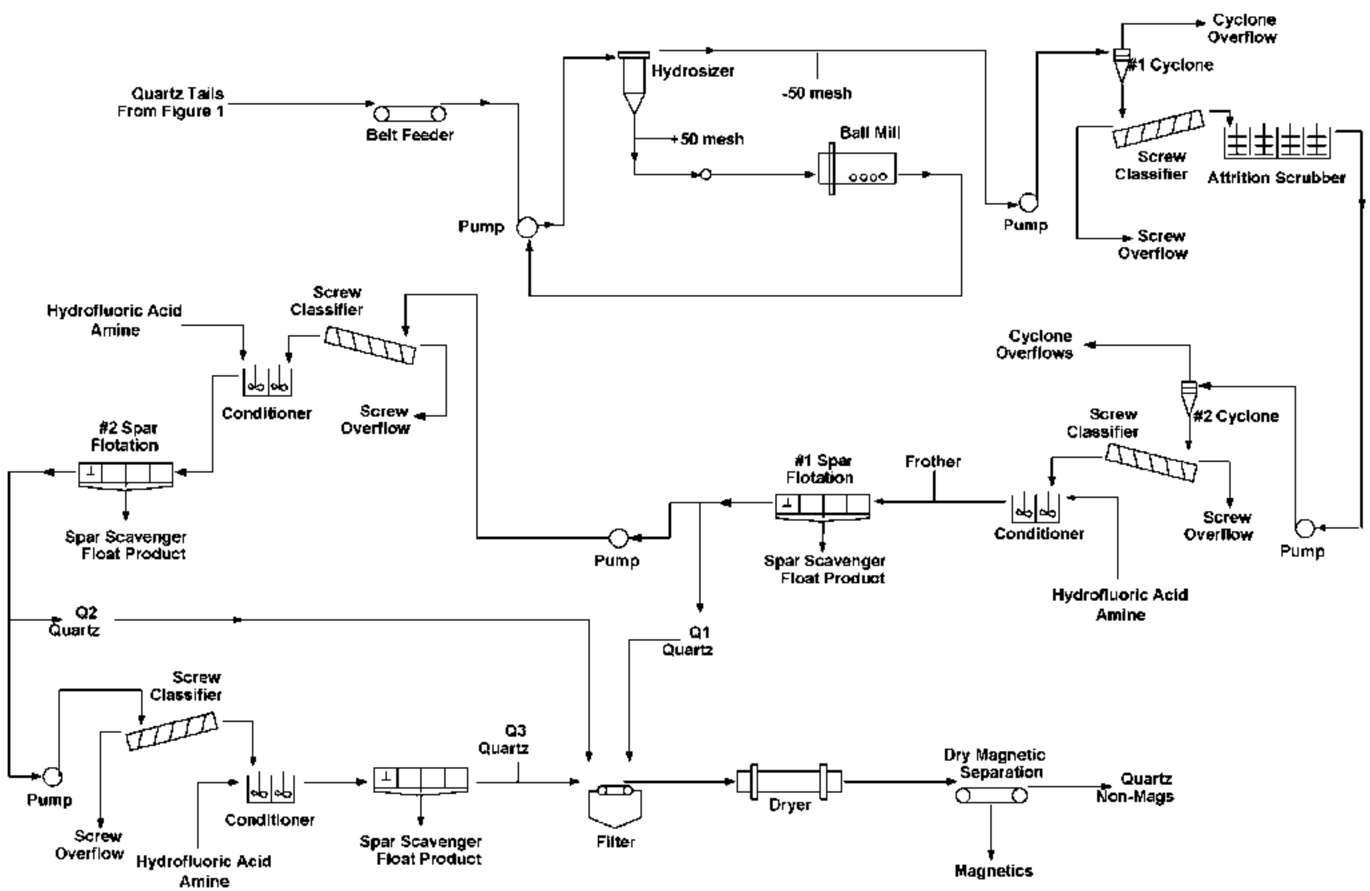


Figure 13-5: Schematic Process Flowsheet - Quartz Recovery

The pilot plant schematics shown above form the basis for the plant design. Some logical equipment substitutions were made for the production-scale equipment. An example of this would be the change from pilot-scale screw classifiers to hydrocyclones to make desliming or dewatering splits.

13.2.6 TAILINGS THICKENING AND FILTRATION

A tailings composite sample was prepared by combining various tailings streams produced from pilot and bench testing in representative proportions to create a tailings sample for further testing. This procedure was necessary since the pilot testing for clays and sands were conducted in different laboratories, physically separated by significant distance, and treated at different processing rates. As a result, there was no combined tailings stream from which a representative sample could be collected. Considerable care was taken to make sure each of the many tailings streams from the proposed full scale processing facility was represented in the sample in their respective ratios.

The combined tailings sample was created primarily for pressure filtration testing to gather design information for equipment selection and to produce tailings filter cake to be used in the testwork upon which the design of the DST facility could be accomplished. The combined tailings sample was also used in thickening tests to gather design information for this unit operation.

Bilfinger Water Technologies Inc., located in Lugo, Italy, (Bilfinger) was selected to do thickening and filtration testwork on the composite sample. Bilfinger conducted granulometry, XRF, and XRD analyses on the composite. The latter is reported in Table 13-6. The tailings composite was diluted with water to simulate the expected thickener feed slurry before conducting thickening characterization tests, including flocculant screening, prior to the thickening testwork.

Table 13-6: XRD Analysis of the Tailings Composite Sample

Phase	Weight (/%)
Quartz	21.220
Muscovite	2.043
Birnessite	0.737
Microcline	13.186
Kaolinite	39.841
Orthoclase	22.972

The flocculant section program determined that the highly anionic flocculant Zetag 4125 was effective in achieving a satisfactory settling rate and clarity in the overflow with a dosage of 20 ppm. The specific settling rate was determined and used as the criteria for thickener sizing. Subsequently, a set of six filtration tests were conducted on thickened tailings to determine the performance of pressure filtration using various options to produce the driest cake possible. Results from the filtration tests show that the moisture content of the filter cake varied from 27.4% to 16.2%. Using a membrane-type plate and frame filter press produced the driest cake, suitable for the anticipated DST disposal method.

13.3 RECOVERY ESTIMATE ASSUMPTIONS

13.3.1 RECOVERY OF CLAY PRODUCTS

Combined recoverable clay products in the ore account for 16-18% of the total feed. The clays are separated from the other constituents in the ore based on particle size and apparent density. Virtually 100% of the clay is recovered as standard purity halloysite, high purity halloysite or kaolinite (metakaolin).

The split of recovery between standard grade halloysite and high purity halloysite is dictated more by market conditions than any inherent differences in the products. The market for high purity halloysite will be satisfied first with the market for standard grade being satisfied on a secondary basis. If necessary, any remaining halloysite can be blended with kaolinite and calcined to create metakaolin.

Kaolinite recovery is 100% of this constituent in the ore with the only loss being in the calcining step. The conversion of kaolinite to metakaolin by calcining removes most of the water of hydration and results in approximately 10% loss of mass. As a result, the recovery of kaolinite is effectively 90% of the amount of kaolinite in the feed.

13.3.2 RECOVERY OF SAND PRODUCTS

Feldspathic sand makes up approximately 75% of the material in the ore. Processing of the sand involves separation of the quartz from the potassium feldspar and purification of the resulting separate streams. In this process there is removal and rejection of iron bearing minerals (primarily muscovite and biotite micas) and losses of fines to the tailings stream. Testwork results show that the recovery of quartz and potassium feldspar from the ore feed is approximately 58.5% each which is equivalent to approximately 78% recovery from the sand component in the feed.

13.3.3 OVERALL PRODUCT RECOVERY

The sum of all products recovered from the feed ore is approximately 61%. The remaining 39% is lost to tailings as sand fines or impurities removed in the upgrading of the clay and sand products.

SECTION 14 MINERAL RESOURCE ESTIMATES

Dr. Bart Stryhas, Principal Resource Geologist with SRK, constructed the geologic and resource models discussed below. He is responsible for the resource estimation methodology and the resource statement. Dr. Stryhas is independent of the issuer, applying all of the tests in Section 3 of NI 43-101.

There are no known material impacts that could negatively affect the mineral resource as described herein.

14.1 GEOLOGY OF THE RESOURCE ESTIMATION

Host material of the resource products is the weathered profile of the granitic phase of the Thatuna Batholith (Thatuna). The Thatuna is composed mainly of sodium feldspar (Na-feldspar), potassium feldspar (K-feldspar), and quartz. Weathering has created a residual saprolite-type horizon which directly overlies the bedrock from which it was derived. During the natural weathering process, the original plagioclase feldspars preferentially broke down to produce the clays kaolinite and halloysite. The K-feldspars have resisted weathering to a degree and much of the original component remains as free grains. Similarly, the quartz component of the host rock remains as free grains in the weathered material.

The geologic model was constructed from the drillhole lithologic descriptions. An upper soil horizon was modeled by constructing a 3-D base of soil profile. All model blocks located above the base of soil and below topography were coded as un-mineralized soil. Typically, the soil horizon is 10 to 20 ft deep. Directly below the soil horizon, the saprolitic weathered zone of Thatuna is approximately 50 to 125 ft thick. This material hosts the resource products. This zone transitions downward into regolith and un-weathered batholith. The base of saprolitic weathering was modeled based on relative concentrations of clay mineral and geologic descriptions from the drill logs. All blocks located above the base of weathering and below the base of soil were coded as potentially resource bearing. The batholith also contains widely spaced, flat lying roof pendants of un-mineralized Precambrian gneiss. All pendants were modeled and excluded from the potential resource material. Miocene age, basalt dikes typically 10 to 25 ft wide, cut all the other lithologies. They strike at azimuth 140° and dip steeply east approximately 70-75°. These were also modeled and excluded from the potential resource material.

14.1.1 DRILLHOLE DATABASE

The drillhole database supporting the resource estimation consists of 338 diamond core drillholes totaling 37,416 ft. The shallowest hole is 20 ft, the deepest is 260 ft and the average is 111 ft. All the drillholes are oriented vertically and spaced approximately on 100 or 200 ft centers.

Each sample within the drillhole database is characterized by the relative proportions of sand, kaolinite clay, halloysite clay, and waste. The sum of these four components equals 100% of each sample. These four variables were estimated as the resource material of this report.

14.1.2 CAPPING AND COMPOSITING

The raw data for sand, kaolinite, halloysite, and waste concentrations were plotted on separate histograms and log-normal cumulative distribution plots to assess data characteristics and appropriate capping levels. The histograms of all four variables are nearly identical, showing a near normal distribution with a slight negative bias. The cumulative distribution plots generally show a continuous, linear distribution up to a point where the data becomes slightly discontinuous and irregular. None of the variables were capped because there is no clear boundary defining outlier values.

The original assay sample lengths generally range from 5 to 10 ft with an average of 5.8 ft. For the modeling, these were composited into 10 ft run length composites. This length was mainly chosen so that approximately two average samples would be composited and the composite length would match the model block height of 10 ft. The composites were broken at the lithologic contacts. Table 14-1 lists the results of the compositing.

Table 14-1: Compositing Results

Total No. of Samples	Product	Capping Level (%)	Minimum	Maximum	Mean	Coefficient of Variation
2,152	Halloysite	None	0	21.37	3.17	1.36
	Kaolinite	None	0	53.87	11.41	0.62
	Sand	None	7.7	96.91	68.55	0.28
	Clay Waste	None	0.3	25.00	5.69	0.45

Source: SRK

14.1.3 VARIOGRAM ANALYSIS

Variogram analysis was conducted on the capped bench composites from within the resource material. Semivariograms were constructed for the four variables in all horizontal directions, and also as omni-directional. The sand omni-directional semivariogram showed a very crude structure with a large amount of scatter. The kaolinite omni-directional semivariogram showed a weakly defined structure with a range of about 200 ft, equal to the average drillhole spacing. The halloysite omni-directional semivariogram showed a pure nugget structure. The waste omni-directional semivariogram showed a reasonable structure with a range of 200 ft, equal to the average drillhole spacing. Due to the poor or marginal quality of the variograms, the grade estimation for all four variables was completed using an inverse distance weighting (IDW) squared algorithm.

14.1.4 DENSITY

During 2015, I-Minerals conducted a 15-hole drilling program, from which samples were specifically collected for density testing. The holes were arranged with five in each mining area including WBL, Middle Ridge, and Kelly's Hump North. A total of 136 samples from four lithologies were tested. The results were sorted by lithology, location of mineralization, and by the intensity of the weathering profile. Average density values were calculated for all samples in all areas for soil, dikes, and pendants. These were assigned in the block model regardless of the weathering profile. The samples collected from the Thatuna were sorted by location and by weathering profile. The higher grade zone is reflective of clay content and is shallower than the lower grade zone. The density values assigned were assigned in the block model according to Table 14-2.

Table 14-2: Block Model Material Densities

Material	Number of Samples	Density g/cm^3	Density t/ft^3
Soil	13	1.855	0.057913291
Pendants	9	1.934	0.060381035
Basalt Dikes	3	1.697	0.059591270
WBL Higher Grade Thatuna	7	1.897	0.059216717
WBL Lower Grade Thatuna	9	2.136	0.066658443
WBL All Other Thatuna	12	2.105	0.065693546
Middle Ridge Higher Grade Thatuna	28	1.729	0.053977286
Middle Ridge Lower Grade Thatuna	5	1.974	0.061615708
Middle Ridge All Other Thatuna	4	1.782	0.055636188
Kelly's Hump Higher Grade Thatuna	22	1.691	0.052779412
Kelly's Hump Lower Grade Thatuna	6	1.812	0.056548695
Kelly's Hump All Other Thatuna	9	1.789	0.055830219
All Other Thatuna	Averaged	1.892	0.059053318

Source: SRK 2015

14.2 BLOCK MODEL AND TOPOGRAPHY

A single block models was constructed within the ISP coordinate system parameters listed in Table 14-3. A 20 ft x 20 ft x 10 ft (x,y,z) block size was chosen as an appropriate dimension based on the current drillhole spacing and a potential open pit, smallest mining unit. Topography was provided by I-Minerals as a digital map covering the entire resource area. The topographic surface was created by Aero Geometrics in 2006. The survey was completed using 1:10,000 scale aerial photography and processed to 2.0 ft elevation precision.

Table 14-3: Block Model Limits WBL and Middle Ridge Areas

Orientation	Minimum	Maximum	Block Size (ft)
Easting (ISP)	2,441,600	2,447,300	20
Northing (ISP)	1,902,800	1,908,900	20
Elevation	2,840	3,120	10

Source: SRK 2015

14.3 RESOURCE MODELING

The block model described above was subdivided into four model areas based primarily on the geographic location and somewhat by sample support represented by the average drill spacing. The WBL area is drilled mainly on 200 ft centers. The Middle Ridge area has an inner portion drilled on 100 ft spacing which is flanked by drilling on 200 ft spacing. The Kelly’s Hump North area is mainly drilled on 100 ft spacing with one area drilled on 200 ft spacing. The Kelly’s Hump South area is all drilled on 200 ft spacing.

The resource estimation is confined within two nested hard boundaries defined by the percentage of total clay which reflects the extent of weathering within the Thatuna granodiorite. The upper/inner, higher grade clay shell was constructed based on a combined halloysite and kaolinite content of 10% or more. This boundary was allowed to extend laterally, up to 100 ft from unconfined drillholes. Below or external to the to the 10% clay shell, a lower grade clay shell was constructed based on clay content threshold of 1% or more. This lower grade boundary is located below and laterally to the higher grade shell, representing less weathered material. The external grade shell was also allowed to extend laterally, 100 ft from unconfined drillholes. Figure 14-1 shows the locations of drillholes and the limits of the nested clay shells. The number of blocks within each clay shell in each of the four model areas is provided in Table 14-4.

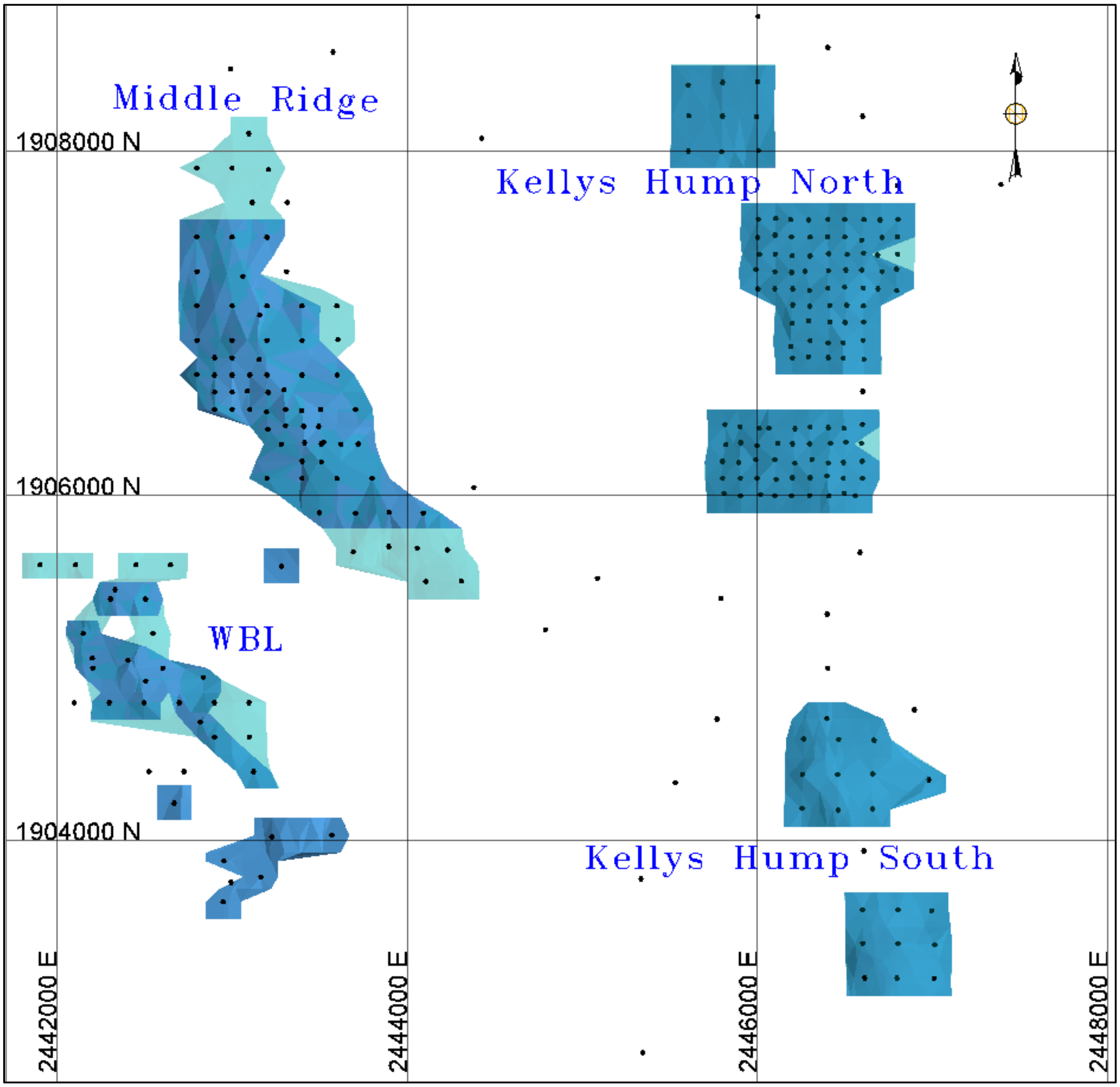


Figure 14-1: Drillhole Locations

Drillhole Locations (Black Dots), Clay Shell >=10% (Blue), Clay Shell >1-<10% (Teal)

Four variables are estimated, including sand, kaolinite, halloysite, and waste. The estimations are run independently within each clay shell using only samples within that shell. An inverse distance squared algorithm was used to estimate all variables. The grade estimation utilized a three-pass method according to the parameters listed in Table 14-5. A varied search orientation was used for the second and third passes based on the strike and dip of the base of soil profile. This profile is interpreted to reflect the pattern of weathering that created the residual deposits. The varied search orientation is controlled by an anisotropy model which is created by the modeling software. An octant restriction was used to select samples from multiple drillholes. Length weighting was used to account for any short composites at the bottom of drillholes. The number of samples, number of drillholes, and average distance to all samples was stored for each block to be used in the model validation. After the IDW estimation was run, all four variables in each block were normalized so they would total 100%. As part of the grade estimation, model validation is conducted as an interactive process. To achieve proper validation, higher grade composites were limited by the distance they could be interpolated. A high-grade composite restriction, as listed in Table 14-6, means that any sample above the listed grade could not be interpolated beyond the listed distance. Figure 14-2 through Figure 14-5 present typical cross-sections, showing the estimated block grades for halloysite, kaolinite, sand, and waste, respectively, for each of the model areas.

Table 14-4: Percentage of Model Blocks in Clay Shell

Model Area	Higher Grade Shell (% of Blocks)	Lower Grade Shell (% of Blocks)
WBL	47	53
Middle Ridge	65	35
Kelly's Hump North	80	20
Kelly's Hump South	67	33

Source: SRK 2015

Table 14-5: Resource Estimation Parameters

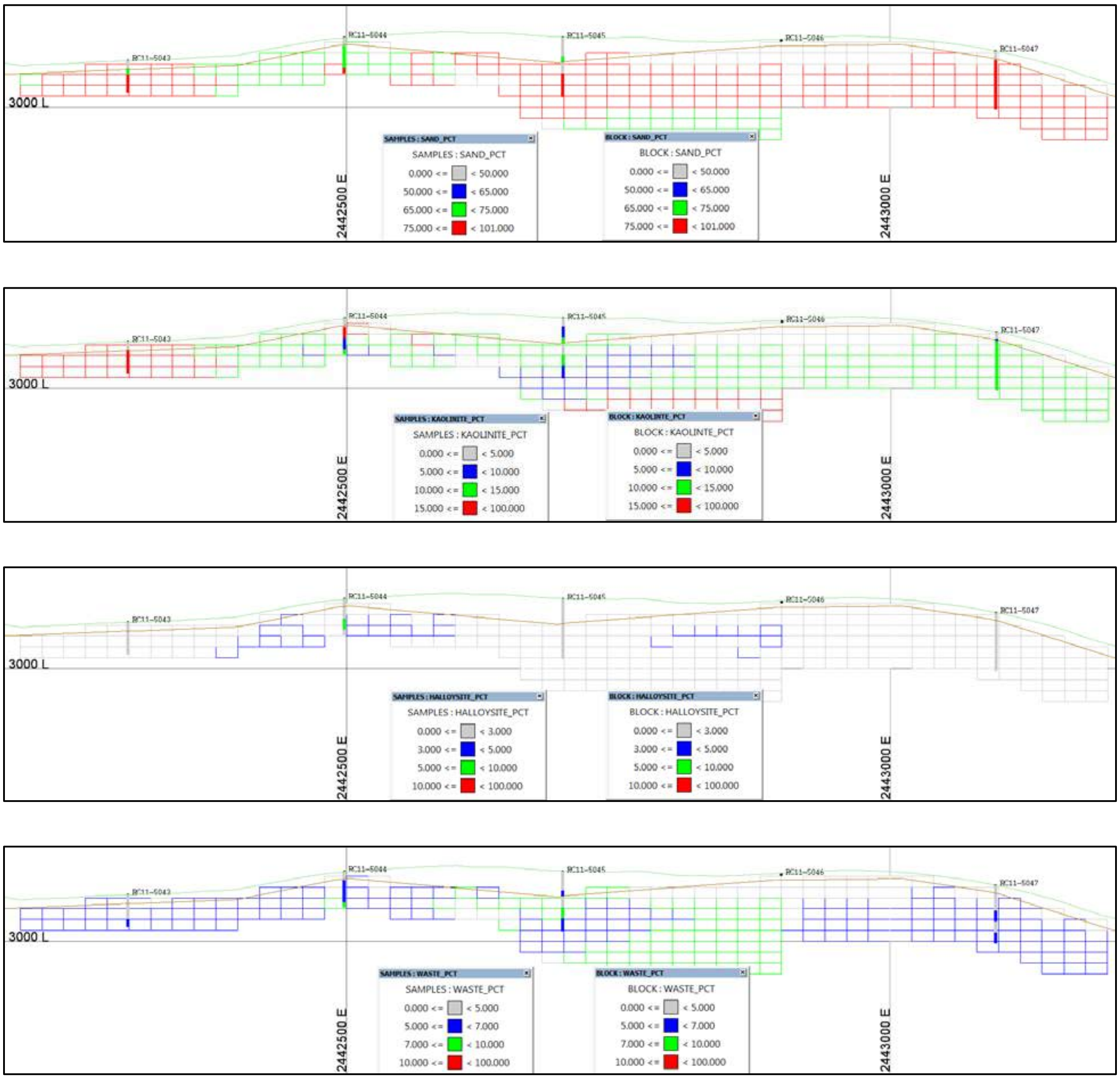
Estimation Area	Clay Shell	Estimation Pass	Search Range (x,y,z) ft	Min/Max # Samples	Octant Restriction
WBL	Higher Grade	1	10,10,5 (Box)	1/3	None
		2	250,250,10	3/8	2 Samp/Oct
		3	300,300,20	3/8	None
	Lower Grade	1	10,10,5 (Box)	1/3	None
		2	200,200,15	3/8	2 Samp/Oct
		3	500,500,35	3/8	None
Middle Ridge	Higher Grade	1	10,10,5 (Box)	1/3	None
		2	175,175,10	3/8	2 Samp/Oct
		3	400,400,20	3/8	None
	Lower Grade	1	10,10,5 (Box)	1/3	None
		2	200,200,15	3/8	2 Samp/Oct
		3	300,300,20	3/8	None
Kelly's Hump North	Higher Grade	1	10,10,5 (Box)	1/3	None
		2	125,125,10	3/8	2 Samp/Oct
		3	300,300,20	3/8	None
	Lower Grade	1	10,10,5 (Box)	1/3	None
		2	150,150,15	3/8	2 Samp/Oct
		3	300,300,25	3/8	None
Kelly's Hump South	Higher Grade	1	10,10,5 (Box)	1/3	None
		2	200,200,10	3/8	2 Samp/Oct
		3	300,300,20	3/8	None
	Lower Grade	1	10,10,5 (Box)	1/3	None
		2	200,200,15	3/8	2 Samp/Oct
		3	500,500,35	3/8	None

Source: SRK 2015

Table 14-6: Resource Estimation High-Grade Restrictions

Estimation Area	Clay Shell	Estimation Pass	Material	Grade Restriction (%)	Distance Restriction (m)
WBL	Higher Grade	3	Halloysite	9	150 x 150 x10
			Kaolinite	27	
			Sand	69	
			Waste	9	
	Lower Grade	3	Halloysite	None	
			Kaolinite	9	
			Sand	90	
			Waste	6	
Middle Ridge	Higher Grade	3	Halloysite	None	
			Kaolinite	15	175 x 175 x10
			Sand	70	200 x 200 x10
			Waste	6	200 x 200 x10
	Lower Grade	3	Halloysite	1	100 x 100 x10
			Kaolinite	15	200 x 200 x10
			Sand	52	100 x 100 x10
			Waste	4	200 x 200 x10
Kelly's Hump North	Higher Grade	3	Halloysite	8	150 x 150 x10
			Kaolinite	13	150 x 150 x10
			Sand	68	200 x 200 x10
			Waste	5	200 x 200 x10
	Lower Grade	3	Halloysite	8	200 x 200 x10
			Kaolinite	15	200 x 200 x10
			Sand	30	150 x 150 x10
			Waste	5	100 x 100 x10
Kelly's Hump South	Higher Grade	3	Halloysite	None	
			Kaolinite	17	175 x 175 x10
			Sand	70	200 x 200 x10
			Waste	None	
	Lower Grade	3	Halloysite	None	
			Kaolinite	18	200 x 200 x10
			Sand	75	100 x 100 x10
			Waste	6	200 x 200 x10

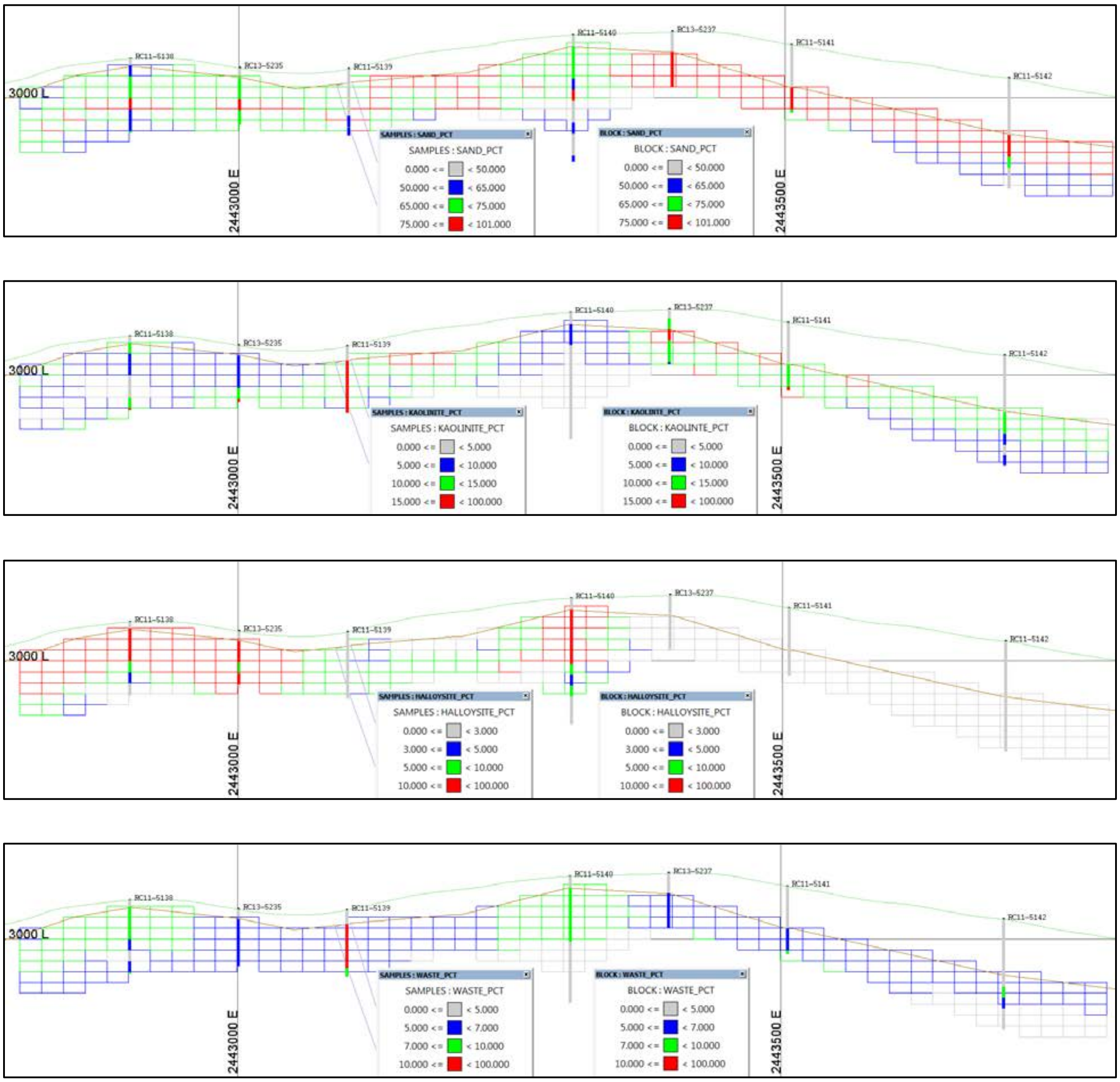
Source: SRK 2015



Source: SRK

Figure 14-2: WBL, East-West Cross Section 1,904,800N Viewing North

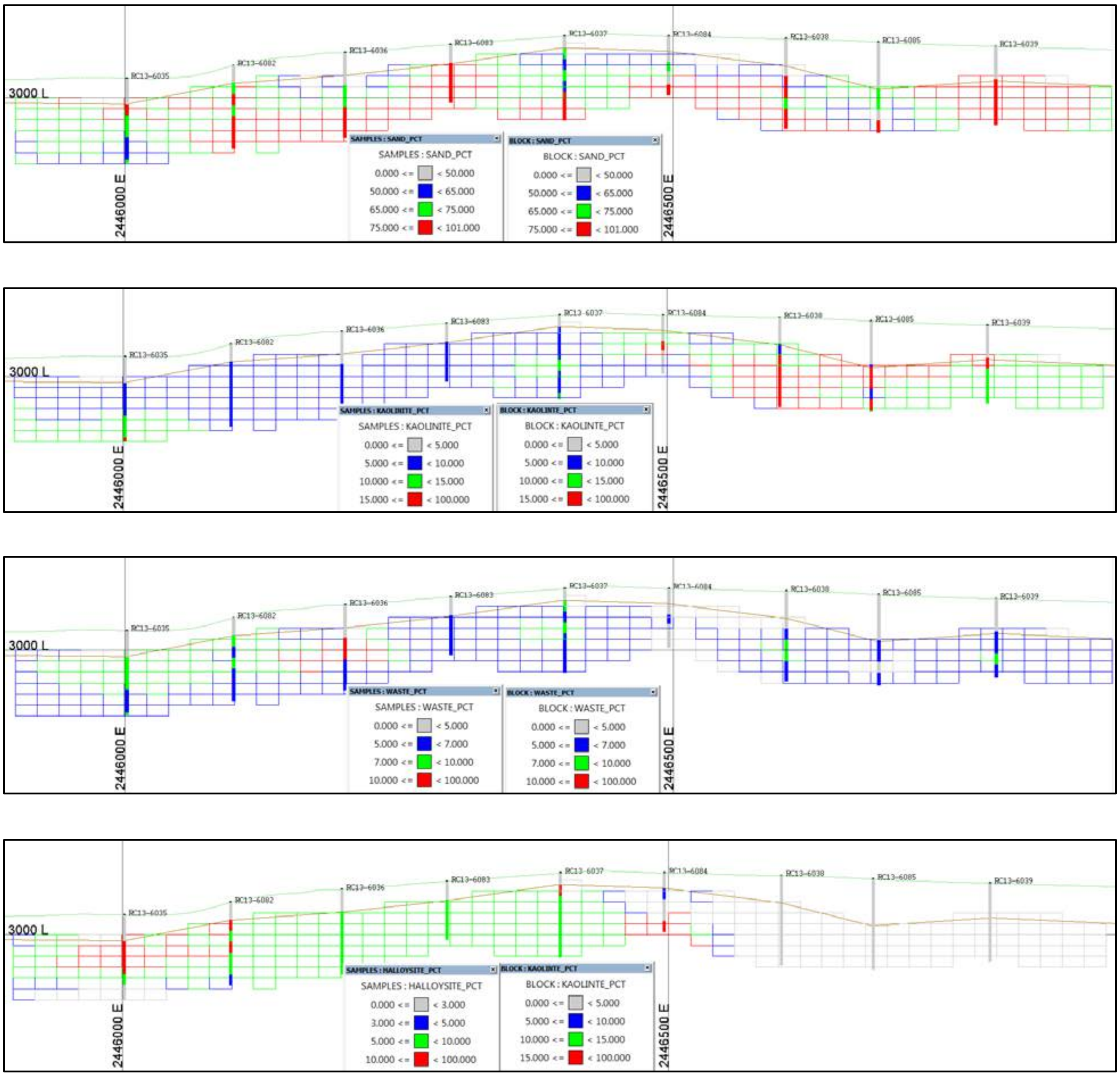
Composite and Estimated Block Grades, From Top to Bottom-Sand, Kaolinite, Halloysite, and Waste



Source: SRK

Figure 14-3: Middle Ridge, East-West Cross Section 1,906490N Viewing North

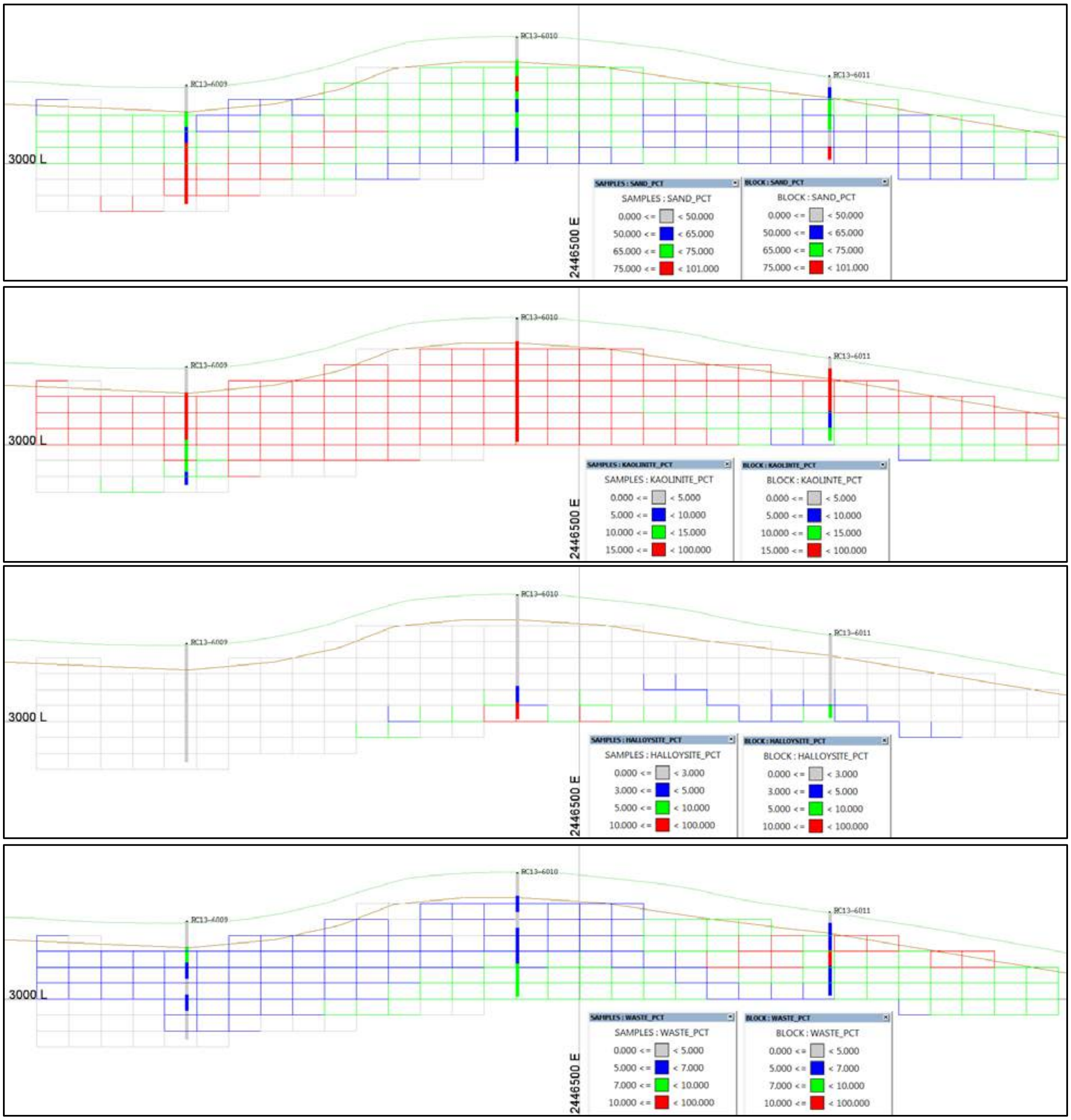
Composite and Estimated Block Grades, From Top to Bottom-Sand, Kaolinite, Halloysite, and Waste



Source: SRK

Figure 14-4: Kelly's Hump North, East-West Cross Section 1,907,200N Viewing North

Composite and Estimated Block Grades, From Top to Bottom-Sand, Kaolinite, Halloysite, and Waste



Source: SRK

Figure 14-5: Kelly’s Hump South, East-West Cross Section 1,904,200N Viewing North

Composite and Estimated Block Grades, From Top to Bottom-Sand, Kaolinite, Halloysite, and Waste

14.3.1 MODEL VALIDATION

Four techniques were used to evaluate the validity of the block model. First, during the grade estimation, the estimation pass, the number of samples used, the number of drillholes used, and the average distance to samples were stored. This data was checked to evaluate the performance of the sample selection parameters discussed above. The results of each estimation are listed in Table 14-7. Second, the interpolated block grades were visually checked on sections and bench plans for comparison to the composite grades. Third, statistical analyses were made comparing the estimated block grades to the composite sample data supporting the estimation. The results in Table 14-8 show good relations for all variables within the higher grade clay shell, which is supported by greater data density. Within the lower grade clay shell, halloysite and kaolinite block grades do vary from composite grades primarily due to the paucity of data in certain parts of the grade shell. The fourth validation is a nearest neighbor (NN) estimation comparison. The total contained material, at a zero cut-off grade (CoG) in the NN models, were compared to the IDW grade models at the same CoG. The results are listed in Table 14-9. These show that no significant material is being manufactured during the modeling process. All four model validation tests described above provide good confidence in the resource estimation.

Table 14-7: Grade Estimation Performance Parameters

Estimation Area	Clay Shell	Criteria	Result
WBL	Higher Grade	% Blocks Estimated in First Pass	1
		% Blocks Estimated in Second Pass	56
		% Blocks Estimated in Third Pass	43
		Average Number of Samples Used Per Block	4.4
		Average Number of Drillholes Used Per Block	2.5
		Average Distance to Samples	113
	Lower Grade	% Blocks Estimated in First Pass	1
		% Blocks Estimated in Second Pass	47
		% Blocks Estimated in Third Pass	52
		Average Number of Samples Used Per Block	5.3
		Average Number of Drillholes Used Per Block	2.9
		Average Distance to Samples (ft)	149
Middle Ridge	Higher Grade	% Blocks Estimated in First Pass	1
		% Blocks Estimated in Second Pass	67
		% Blocks Estimated in Third Pass	32
		Average Number of Samples Used Per Block	5.9
		Average Number of Drillholes Used Per Block	3.8
		Average Distance to Samples (ft)	116
	Lower Grade	% Blocks Estimated in First Pass	1
		% Blocks Estimated in Second Pass	66
		% Blocks Estimated in Third Pass	33
		Average Number of Samples Used Per Block	4.7
		Average Number of Drillholes Used Per Block	2.7
		Average Distance to Samples (ft)	117
Kelly's Hump North	Higher Grade	% Blocks Estimated in First Pass	2
		% Blocks Estimated in Second Pass	49
		% Blocks Estimated in Third Pass	49
		Average Number of Samples Used Per Block	6.2
		Average Number of Drillholes Used Per Block	3.5
		Average Distance to Samples (ft)	102
	Lower Grade	% Blocks Estimated in First Pass	2
		% Blocks Estimated in Second Pass	65
		% Blocks Estimated in Third Pass	33
		Average Number of Samples Used Per Block	5.2
		Average Number of Drillholes Used Per Block	3.3
		Average Distance to Samples (ft)	97

Estimation Area	Clay Shell	Criteria	Result
Kelly's Hump South	Higher Grade	% Blocks Estimated in First Pass	1
		% Blocks Estimated in Second Pass	52
		% Blocks Estimated in Third Pass	47
		Average Number of Samples Used Per Block	4.8
		Average Number of Drillholes Used Per Block	2.6
		Average Distance to Samples (ft)	125
	Lower Grade	% Blocks Estimated in First Pass	1
		% Blocks Estimated in Second Pass	41
		% Blocks Estimated in Third Pass	58
		Average Number of Samples Used Per Block	5.6
		Average Number of Drillholes Used Per Block	2.9
		Average Distance to Samples (ft)	160

Source: SRK 2015

Table 14-8: Statistical Model Validation

Estimation Area	Clay Shell	Variable	Average Composite Value (%)	Average Block Value (%)	% Difference Comps to Blocks
WBL	Higher Grade	Sand	70.082	70.993	-1.3
		Kaolinite	12.623	12.411	1.7
		Halloysite	2.504	2.504	0
		Waste	5.992	5.731	4.3
	Lower Grade	Sand	58.599	59.582	-1.7
		Kaolinite	5.632	5.121	9.1
		Halloysite	0.429	0.370	13.7
		Waste	2.023	2.892	-1.4
Middle Ridge	Higher Grade	Sand	69.530	70.103	-0.8
		Kaolinite	10.802	10.858	-0.5
		Halloysite	4.686	4.460	4.8
		Waste	6.340	6.319	0.3
	Lower Grade	Sand	62.322	58.964	5.3
		Kaolinite	7.066	6.984	1.2
		Halloysite	0.727	0.740	-1.8
		Waste	4.074	4.098	-0.6
Kelly's Hump North	Higher Grade	Sand	68.008	68.636	-0.9
		Kaolinite	11.188	11.278	-0.8
		Halloysite	4.444	4.424	0.5
		Waste	5.876	5.873	0.1
	Lower Grade	Sand	61.560	61.824	-0.4
		Kaolinite	6.460	6.567	-1.7
		Halloysite	0.548	0.557	-1.5
		Waste	3.250	3.301	-1.6
Kelly's Hump South	Higher Grade	Sand	63.045	63.089	-0.1
		Kaolinite	18.328	15.389	16.0
		Halloysite	2.095	2.049	2.2
		Waste	6.389	6.325	1.0
	Lower Grade	Sand	52.129	50.245	3.6
		Kaolinite	9.721	8.912	8.3
		Halloysite	0.218	0.151	30.0
		Waste	3.413	3.340	2.2

Source: SRK 2015

Table 14-9: Nearest Neighbor Model Validation

Estimation Area	Clay Shell	IDS/NN (Mt)	Variable	IDW Grade (%)	NN Grade (%)	% Diff Contained Material NN to IDW
WBL	Higher Grade	0.892	Sand	70.99	71.89	1.2
			Kaolinite	12.41	14.01	11.4
			Halloysite	2.5	2.48	-0.8
			Waste	5.73	6.60	13.2
	Lower Grade	1.149	Sand	59.58	60.65	1.8
			Kaolinite	5.12	5.75	10.9
			Halloysite	0.37	0.33	-12.1
			Waste	2.89	3.02	4.3
Middle Ridge	Higher Grade	3.672	Sand	70.10	71.53	2.0
			Kaolinite	10.68	11.14	2.5
			Halloysite	4.46	4.45	-0.2
			Waste	6.32	6.57	3.8
	Lower Grade		Sand	58.964	60.44	2.4
			Kaolinite	6.98	7.04	0.9
			Halloysite	0.74	0.82	1.8
			Waste	4.10	4.23	3.8
Kelly's Hump North	Higher Grade		Sand	68.636	69.98	1.9
			Kaolinite	11.28	12.19	7.5
			Halloysite	4.42	4.98	11.2
			Waste	5.87	6.36	7.7
	Lower Grade		Sand	61.824	64.95	4.8
			Kaolinite	6.57	6.67	1.5
			Halloysite	0.56	0.57	1.8
			Waste	3.3	3.43	3.8
Kelly's Hump South	Higher Grade		Sand	63.089	64.15	1.7
			Kaolinite	15.39	18.39	16.3
			Halloysite	2.05	2.16	5.0
			Waste	6.33	6.37	0.6
	Lower Grade		Sand	50.245	51.33	2.11
			Kaolinite	8.91	9.57	6.9
			Halloysite	0.15	0.19	21.0
			Waste	3.34	3.38	1.2

Source: SRK 2015

14.3.2 RESOURCE CLASSIFICATION

Mineral Resources are classified under the categories of Measured, Indicated and Inferred according to CIM guidelines. Classification of the resources reflects the relative confidence of the grade estimates and the continuity of the mineralization. This classification is based on several factors, including sample spacing relative to geological and geo-statistical observations regarding the continuity of mineralization; data verification to original sources; specific gravity determinations; accuracy of drill collar locations; accuracy of topographic surface; quality of the assay data; and many other factors that may influence the confidence of the mineral estimation. No single factor controls the resource classification, but rather each factor influences the result.

The Mineral Resources are classified as “Measured” and “Indicated” based on the drillhole spacing. Measured resources are assigned where the average drillhole spacing is 100 ft or less, while all other areas, where drillhole spacing averages 200 ft, are classified as “Indicated”.

14.4 MINERAL RESOURCE STATEMENT

The mineral resource statement in Table 14-10 is confined within a Whittle™ pit design according to the parameters listed in Section 16.2. A CoG is not applied to the resource because all recovered material in the resource estimation contains sufficient sand, kaolinite, or halloysite to be profitably mined.

14.4.1 RELEVANT FACTORS

There are no known legal, political, environmental, or other risks that could materially affect the potential development of the mineral resources described herein.

Table 14-10: Indicated Mineral Resource Statement, (as of 26 October 2015)

Classification	Location	Tons (000s)	Qtz & K-feldspar Sand (%)	Kaolinite (%)	Halloysite (%)	Qtz & K-feldspar and Tons (000s)	Kaolinite Tons (000s)	Halloysite Tons (000s)
Measured	Kelly's Hump	3,540	75.98	13.08	3.86	2,688	463	137
	Middle Ridge	2,180	77.43	10.95	4.15	1,690	239	91
	All	**5,720**	**76.53**	**12.27**	**3.97**	**4,378**	**702**	**226**
Indicated	Kelly's Hump	7,500	55.22	14.81	2.77	4,140	1,110	208
	Middle Ridge	5,140	58.85	17.91	3.61	3,023	920	185
	WBL Pit	2,900	58.43	13.31	1.62	1,694	386	47
	All	**15,530**	**57.02**	**15.56**	**2.83**	**8,857**	**2,416**	**440**
Measured and Indicated	Kelly's Hump	11,040	61.87	14.26	3.12	6,828	1,574	344
	Middle Ridge	7,320	64.39	15.83	3.77	4,713	1,159	276
	WBL Pit	2,900	58.43	13.31	1.62	1,694	386	47
	All	**21,260**	**62.27**	**14.67**	**3.14**	**13,235**	**3,119**	**667**

Note that values presented here have been rounded to reflect the level of accuracy.

Resources are inclusive of reserves

Source: SRK

SECTION 15 MINERAL RESERVE ESTIMATES

MDA used Measured and Indicated resources provided by SRK to define the Project reserves. The first step was to identify the ultimate pit limits using economic and geometrical parameters with pit optimization techniques. The resulting optimized pit shells were used to guide pit design to allow access for equipment and personnel. The pit designs were further constrained to limit production to a 25-year mine life. Several phases of mining were defined to enhance the economics of the project, and MDA used the phased pit designs to define the production schedule to be used for cash flow analysis for the Feasibility Study.

The following sections detail the definition of reserves used for the production scheduling. Later sections detail the production schedule and the mining costs used in the cash flow model.

15.1 PIT OPTIMIZATION

Pit optimization was completed using version 4.6 of GEOVIA Whittle™ software (Whittle) to define pit limits with input for economic and slope parameters. Optimization used only Measured and Indicated material for processing. All Inferred material was considered waste.

Varying kaolinite, halloysite, and sand prices were used to evaluate the sensitivity of the deposit to product prices, as well as to develop a strategy for optimizing project cash flow. To achieve cash flow optimization, mining phases or push backs were developed using the guidance of Lerchs Grossman pit shells.

Pit designs were later developed using the different optimized pit shells constraining them to approximately 25 years of production. In addition, pit designs strive to minimize high-wall heights and reduce potential for formation of pit lakes upon closure.

15.1.1 ECONOMIC PARAMETERS

Economic parameters for pit optimizations were used based on information provided by I-Minerals and their consultants and are listed in Table 15-1. The recoveries are based on the kaolinite, halloysite, and sand grades as provided by GBM.

Table 15-1: Pit Optimization Economic Parameters

Description	Value	Unit
Mining	5.82	$/t Mined
Processing Cost	31.39	$/t Processed
Throughput Rate	989	t/day
Days per Year of Processing	350	days/yr
Tons per Year	346,000	t/yr
General and Administrative	3.957	Million $/year
General and Administrative	11.44	$/t Processed

Mining and processing costs have been based on the final Feasibility costs. However, it is important to note that the final pit designs were constrained by pit depth and potential mine life years, resulting in designs and reserves that are conservative with respect to the available resources reported for Bovill.

General and Administrative (G&A) costs are assumed to be fixed at $3,957,000 per year. G&A costs were applied in the optimization as $11.44 per ton processed, based on the yearly G&A costs and tonnage targets.

Recoveries were estimated for kaolinite, halloysite, and sands by GBM based on the Feasibility Study process flowsheet. Recoveries used are shown in Table 15-2. Conversion of kaolinite to metakaolin incurs additional losses, so a 90% payable factor was applied.

Table 15-2: Product Recoveries

Description	Value (%)
Halloysite Recovery	99.5
Halloysite Payable	100.0
Metakaolin Recovery	99.5
Metakaolin Payable	90.0
Quartz Recovery from Sands	40.4
K-feldspar Recovery from Sands	18.1
Net Sands Recovery	58.5
Sands Payable	100.0

Base prices of $231/t for kaolinite, $1,054/t for halloysite, and $281/t for sand were used for net smelter return (NSR) calculations and Whittle project evaluations. Pit optimizations were updated and completed using the final product prices from the Feasibility Study cash flows. Since the reserves are based on the NSR calculations and the prices used to calculate the NSR are lower than the final cash flow values, the resulting reserves are considered to be conservative, but reasonable with respect to the project economics. Additional product prices were used in pit optimizations for sensitivity analysis.

Table 15-3: Product Prices for Pit Optimization

Product	$/t of Product	
	Initial (Used in NSR)	Final Product Prices (Pit optimization and Cash Flow)
Halloysite	707	1,054
Kaolinite	225	231
Sand	238	281

15.1.2 NSR CALCULATIONS AND CUT-OFF GRADES

To ensure that material classified into Proven and Probable reserves is economical, a NSR value was determined using Equation 1 through Equation 4 (below). The NSR value represents the value of material sold using the economic parameters previously provided in Table 15-1. Initial product prices were used for the NSR calculation as shown in Table 15-4.

The NSR values do not include operating costs. As such, the CoG used to determine if material should be processed is the additive operating costs along with any required minimum profit. MDA used a break-even CoG, so no minimum profit was added. For the external CoG, the cost of mining, processing, and G&A are added together.

Since material inside of the pit is defined by an economic limit, and all of the material is assumed to be mined, the mining cost is considered to be a sunk cost. For this reason the NSR internal CoG used excludes the mining cost. The CoG was determined early in the study, and subsequently used economic parameters that were established before final values were available. The NSR cut-off used is $57.00/ton based on $48.35/ton processing + $0.50 ore haulage + $8.48/ton G&A = 57.33/ton, rounded to $57.00/ton. Based on the final economic parameters, a more appropriate CoG may be $31.39/ton processing + $1.34/ton tailings disposal + $2.51/ton product handling + $11.44/ton G&A costs = $46.68. Since the NSR cut-off used is higher at $57.00/t, the resulting reserves are considered conservative, but reasonable.

Equation 1: Halloysite NSR Equation

$$Halloy_{NSR} = \frac{Halloy_{\%}}{100} * Halloy_{Rec} * Halloy_{Pay} * Halloy_{Price} - Halloy_{Ref}$$

Where: $Halloy_{\%}$ = Percent grade of halloysite based on the resource model

$Halloy_{Rec}$ = Recovery for halloysite

$Halloy_{Pay}$ = Payable percentage for recovered halloysite

$Halloy_{Price}$ = Price received per ton of halloysite

$Halloy_{Ref}$ = Refining cost per ton of halloysite

Equation 2: Kaolinite NSR Equation

$$Kaolin_{NSR} = \frac{Kaolin_{\%}}{100} * Kaolin_{Rec} * Kaolin_{Pay} * Kaolin_{Price} - Kaolin_{Ref}$$

Where: $Kaolin_{\%}$ = Percent grade of kaolinite based on the resource model

$Kaolin_{Rec}$ = Recovery for kaolinite

$Kaolin_{Pay}$ = Payable percentage for recovered kaolinite

$Kaolin_{Price}$ = Price received per ton of kaolin

$Kaolin_{Ref}$ = Refining cost per ton of kaolin

Equation 3: Sand NSR Equation

$$Sand_{NSR} = \frac{Sand_{\%}}{100} * Sand_{Rec} * Sand_{Pay} * Sand_{Price} - Sand_{Ref}$$

Where: $Sand_{\%}$ = Percent grade of sand based on the resource model

$Sand_{Rec}$ = Recovery for sand

$Sand_{Pay}$ = Payable percentage for recovered sand

$Sand_{Price}$ = Price received per ton of sand

$Sand_{Ref}$ = Refining cost per ton of sand

Equation 4: Total NSR Equation

$$NSR_{Total} = Halloy_{NSR} + Kaolin_{NSR} + Sand_{NSR}$$

15.1.3 SLOPE PARAMETERS

Pit slope recommendations were provided by Strata (I-Minerals' geotechnical consultant) and are documented in a report titled "Preliminary Geotechnical Evaluation for Feasibility Bovill Kaolin Project – Kelly's Hump Area Highwall and Waste Slopes Moose Creek Road Bovill, Idaho". MDA used these recommendations for pit designs, interpreting overall angles based on bench face angle, catch bench width, and height between catch benches. The recommendations provided were the same for all sections of all pits, with additional recommendations for isolated areas. The slope configurations used for pit designs are shown in Figure 15-1.

BH	**20'**
IRA	**42°**
BFA	**65°**
Berm	**13'**

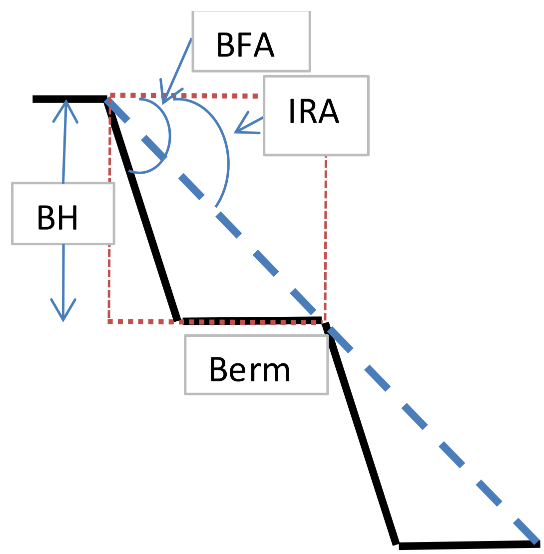


Figure 15-1: Pit Design Slope Parameters

The slope parameters in Figure 15-1 were used for pit design only. The pit optimization slopes used a slightly steeper overall slope of 45°. The resulting pit shells are generally much larger than ultimate pit designs, and the depths of the designed pits are fairly shallow. Thus, the pit shells are not sensitive to the slope angle, and this was deemed not to be an important factor with respect to pit optimizations.

15.1.4 PIT OPTIMIZATION RESULTS

Whittle pit optimizations were run using the economic and slope parameters described in previous sections. Pit optimizations were completed using varying product prices based on 91 incremental factors from 0.20 to 1.10 in increments of 0.01. These factors are multiplied against the product base price to determine the economics for each pit shell run. The resulting product prices used for optimizations are shown in Table 15-4.

Table 15-4: Product Prices for Pit Optimization

Product	$/t of Product			
	Base Price (US$)	Minimum (US$)	Maximum (US$)	Increment (US$)
Halloysite	707	212	848	7.07
Kaolinite	225	68	270	2.25
Sand	238	71	286	2.38

Whittle pit optimization was run to develop multiple pit shells for economic analysis. The economic analysis was completed using Whittle Pit by Pit analysis tools. The Pit by Pit analysis uses the volumes generated inside each pit and completes simplistic production schedules based on the economic parameters and mining and process limits. For this analysis, the product price is fixed to the base product price and the program calculates a Best, Worst, and Specified Case cash flow and present value.

The Best Case assumes each pit shell would be mined sequentially. In other words, to develop a production schedule for material mined out of a given pit shell, it would schedule each individual pit prior to the given pit shell. For example, if Pit 15 is to be mined, there would be 14 individual pits mined prior to Pit 15 as a final pit. This takes advantage of higher value mining areas during initial mining and provides the best project return; however, the Best Case typically does not allow enough room between pit shells to be realistically mined.

The Worst Case assumes each pit shell is mined individually without the advantage of mining higher value material up front. The discounted value from each pit shell will generally be lower than the Best case.

The Specified Case allows the user to choose specific pit shells for pit phasing. This helps to provide a more realistic production schedule and estimate of the discounted value to determine ultimate pit limits.

For the purpose of generating a present value, capital was not included, so this represents a NPV of the operating cash flow. In the Pit by Pit analysis, a 10% discount rate was used along with the base product prices. Partial results based on various revenue factors are shown in Table 15-5. Revenue factors for Pits 1 through 14 show the increase in value for smaller pit increments. The highlighted pit shells 8, 40, and 67 are the pits that maximize the Worst, Specified, and Best cases respectively. A graph of the Whittle results is shown in Figure 15-2.

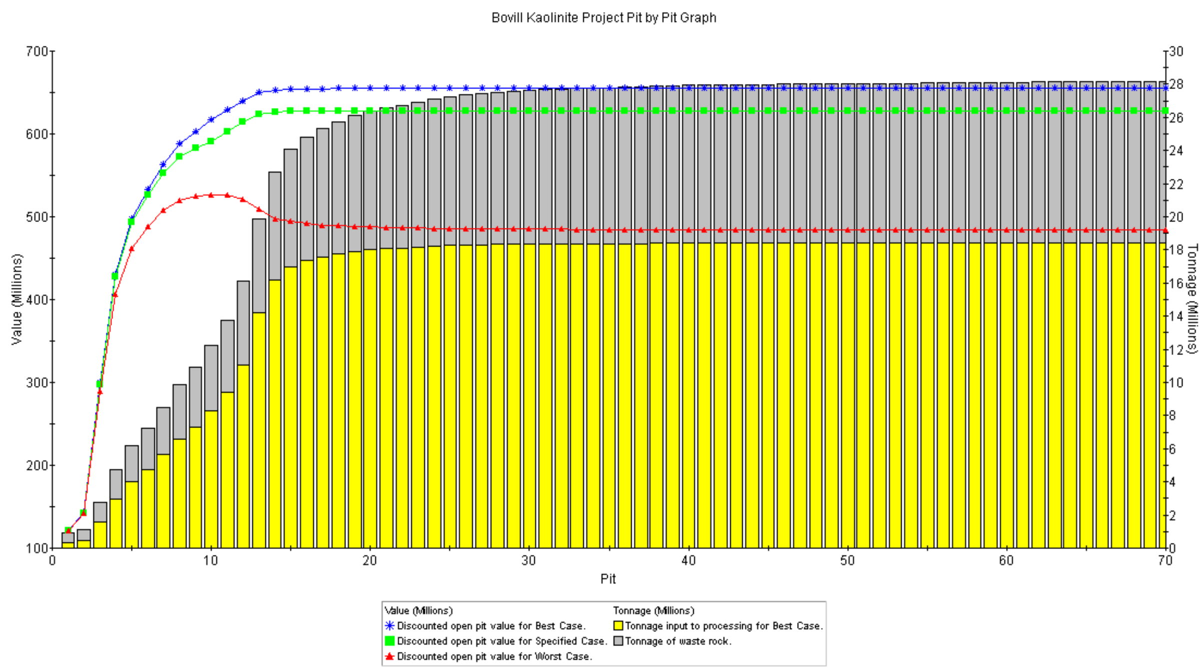


Figure 15-2: Graph of Whittle Pit by Pit Analysis Results

Table 15-5: Whittle Pit by Pit Analysis Results

Pit #	Rev Factor	Material Processed							Waste K tons	Total K tons	Strip Ratio	Years	Discounted Cash Flow (US$ Millions)		
		K Tons	Halloy %	Halloy Tons	Kaolin %	Kaolin Tons	Sand %	Sand Tons					Best	Specified	Worst
1	0.30	425	25.8	109,811	24.0	102,252	40.4	171,995	506	931	1.19	1.2	71.3	71.3	71.3
2	0.31	1,594	14.1	224,323	14.7	234,483	63.3	1,008,839	1,028	2,621	0.64	4.6	174.5	170.9	170.9
3	0.32	3,419	10.8	369,457	13.2	452,615	68.6	2,343,875	1,678	5,097	0.49	9.9	275.0	263.9	263.9
4	0.33	4,368	9.9	433,505	13.4	583,478	69.3	3,027,765	2,031	6,399	0.47	12.6	308.1	296.7	292.0
5	0.34	5,356	9.1	486,618	13.5	722,668	70.1	3,753,608	2,367	7,723	0.44	15.5	333.1	321.3	311.0
6	0.35	6,457	8.3	534,508	13.8	893,400	70.6	4,557,596	2,781	9,238	0.43	18.7	352.8	341.1	323.4
7	0.36	7,900	7.3	579,509	14.3	1,126,280	71.2	5,624,363	3,329	11,229	0.42	22.8	370.0	358.0	332.2
8	0.37	10,604	5.8	614,553	14.1	1,500,418	73.2	7,759,903	3,940	14,544	0.37	30.6	387.0	374.1	337.6
9	0.38	13,271	4.8	636,270	14.5	1,919,845	73.9	9,813,179	4,763	18,034	0.36	38.4	394.4	380.2	333.2
10	0.39	15,519	4.2	649,701	15.0	2,330,754	74.1	11,491,803	5,908	21,426	0.38	44.9	397.4	382.1	327.4
11	0.40	16,351	4.0	655,930	15.3	2,499,744	73.9	12,084,359	6,491	22,842	0.40	47.3	398.1	382.8	324.9
12	0.41	16,900	3.9	659,115	15.5	2,617,496	73.8	12,464,921	6,942	23,841	0.41	48.8	398.5	383.1	323.7
13	0.42	17,208	3.8	661,260	15.6	2,688,223	73.7	12,673,862	7,288	24,496	0.42	49.7	398.6	383.3	322.4
14	0.43	17,383	3.8	662,229	15.7	2,733,716	73.6	12,785,859	7,510	24,893	0.43	50.2	398.7	383.4	321.7
15	0.44	17,523	3.8	662,989	15.8	2,772,384	73.5	12,872,694	7,715	25,239	0.44	50.6	398.8	383.4	321.1
20	0.49	18,029	3.7	665,935	16.4	2,954,465	72.8	13,118,142	8,524	26,554	0.47	52.1	399.0	383.6	319.0
30	0.59	18,314	3.6	667,282	16.8	3,074,487	72.2	13,221,085	9,207	27,522	0.50	52.9	399.1	383.7	317.0
40	0.69	18,371	3.6	667,522	16.9	3,103,047	72.0	13,234,442	9,433	27,804	0.51	53.1	399.1	383.7	316.5
50	0.79	18,393	3.6	667,612	16.9	3,115,996	72.0	13,238,154	9,573	27,966	0.52	53.2	399.1	383.7	316.3
60	0.89	18,402	3.6	667,683	17.0	3,120,376	71.9	13,239,843	9,639	28,041	0.52	53.2	399.1	383.7	316.2
67	0.97	18,406	3.6	667,717	17.0	3,121,512	71.9	13,241,201	9,673	28,079	0.53	53.2	399.1	383.7	316.1
70	1.00	18,407	3.6	667,717	17.0	3,122,471	71.9	13,241,413	9,690	28,098	0.53	53.2	399.1	383.7	316.1

15.1.5 ULTIMATE PIT LIMIT DETERMINATION

Additional constraints were considered when determining the ultimate pit limits, including mine life, maximum height of pit highwalls, and potential for pit lake development at the end of the mine life. A mine life of approximately 25 years was targeted with the pit design. With a processing rate of 346,000 tons per year, this meant limiting the pit to approximately 8,650,000 tons of material to be processed.

The maximum highwall for pit designs has been limited based on discussions between I-Minerals and permitting consultants and agencies. There is a desire to constrain highwall heights to about 70 ft from the toe to the crest of the pit. The resulting pit designs have a maximum highwall of about 90 ft in a couple of areas, but these pits would be backfilled later in the mine life, so this height was considered reasonable for the purpose of this study.

Another constraint on the pit design was to try to eliminate the potential development of pit lakes. This requires that the bottom of the pit, after closure, be contoured to allow any potential water to drain naturally out the lowest crest. The assumption was made that pits could be designed roughly 20 ft below the crest and then partially backfilled to allow for pit drainage. This required limiting pit depth.

As shown by the pit shells presented in Table 15-5, pit number 8 (revenue factor 0.37) produces more than enough total tons of material to be processed to provide for the LoM. This pit shell, along with the previous pit shell 7, was used as a guide to complete the ultimate pit designs. Pit designs were created iteratively to meet the total tonnage required for a 25-year mine life, constrain the maximum pit highwall height, and minimize potential pit lakes for the ultimate pit.

Of note, there are additional resources that may enhance the overall life-of-mine economics. Before backfilling any pits, additional studies should be completed to determine if expanding these pits can be done economically and within any modified constraints that the project may impose. Under the current production scenario presented in Section 16, backfilling would start during Year 5. Any expansion scenarios will have to have to be decided on prior to that time.

15.2 PIT DESIGNS

Detailed pit designs were completed including three pit designs in the Kelly's Hump area, one design in the South Kelly's Hump area, and two designs in the Middle Ridge area. The total ultimate pit is considered the combination of the three designs and is shown in Figure 15-3.

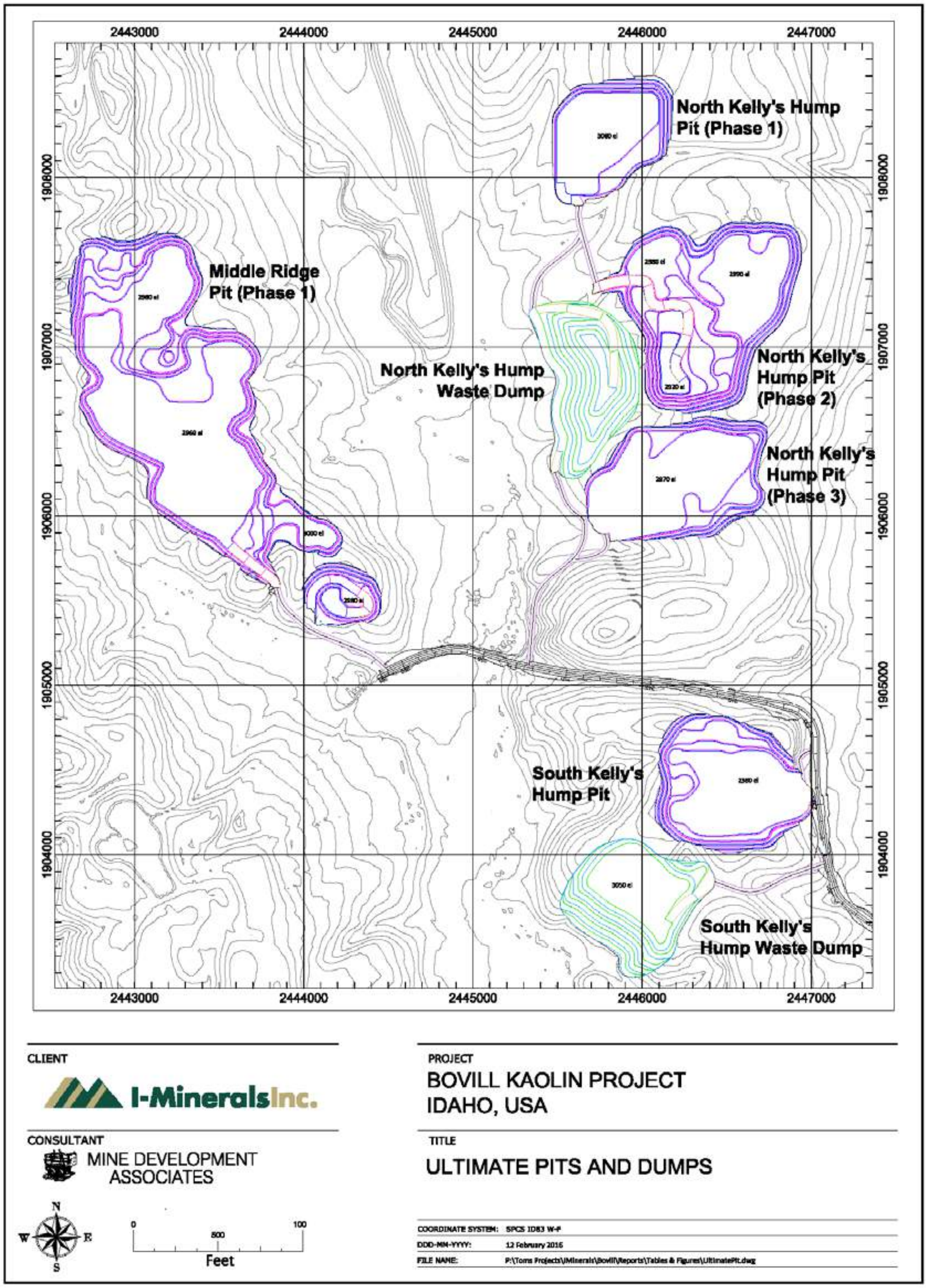


Figure 15-3: Ultimate Pit Design

15.2.1 BENCH HEIGHT

Pit designs were created using a 10-ft bench height, which is the same as the block model block heights. This bench height provides reasonable selectivity and mining efficiency for the production required. In actual operation, some benches may be partially mined, to mine more selectively if required.

15.2.2 PIT DESIGN SLOPES

Strata provided slope recommendations, and MDA created the slope profile using a bench face angle, bench height, and catch benches that best matches those recommendations. The slope parameters used are shown in Figure 15-1.

Note that this requires a height of 20 ft between catch benches, which is achieved by installing a catch bench at every other 10-ft mining bench.

15.2.3 HAULAGE ROADS

Ramps were designed to have a maximum centerline gradient of 10%. In areas where the ramps may curve along the outside of the pit, the inside gradient may be up to 11% or 12% for short distances.

Ramp width was determined as a function of the largest truck width to be used during mining. Design criteria accounts for 3.5 times the width of the truck for running room in areas using two-way traffic. An additional width was added to the ramp for a single safety berm at least half of a tire height inside of the pit. For roads designed outside of the pit, an additional safety berm is accounted for in the road widths.

Contract mining has been assumed, using 30-ton capacity trucks. The operating width of the trucks was assumed to be 12 ft. Ramps are designed to allow 3.5 times the operating width of the trucks along with room for sufficient safety berms. The ramp width used for design is 50 ft.

15.2.4 PIT PHASING

Pit phases were developed in each of the mining areas (Kelly's Hump North, Kelly's Hump South, and Middle Ridge). Due to the natural arrangement of the Whittle pit shells used for pit design, North Kelly's Hump was divided into 3 distinct areas, South Kelly's Hump contains a single pit phase, and Middle Ridge contains one main pit and a second smaller pit phase. Pit phases are shown in Figure 15-3 and the general dimensions and depths are listed below. The resulting reserves for each of the phases are shown in Table 15-7.

- **North Kelly's Hump Phase 1 (Pit_NKH_1)**
  - The pit is located in the northernmost portion of North Kelley's Hump.
  - The pit is roughly 680 ft long (north to south) and 700 ft wide (east to west).
  - Maximum depth from the highest pit crest to the immediate floor is about 90 ft and the minimum height from the pit exit to the pit floor is about 18 ft (Note that this pit is anticipated to be completely backfilled by the end of the mine life).
- **North Kelly's Hump Phase 2 (Pit_NKH_2)**
  - The pit is located in the central portion of North Kelley's Hump.
  - The pit is roughly 1,100 ft long (north to south) and 1,050 ft wide (east to west).
  - Maximum depth from the highest pit crest to the immediate floor is about 90 ft and the minimum height from the pit exit to the pit floor is about 70 ft (Note that this pit will be backfilled to the elevation of the pit exit before the end of the mine life).
- **North Kelly's Hump Phase 3 (Pit_NKH_3)**
  - The pit is located in the southernmost portion of North Kelley's Hump.
  - The pit is roughly 675 ft long (north to south) and 1,000 ft wide (east to west).
  - Maximum depth from the highest pit crest to the immediate floor is about 70 ft and the pit design floor daylights with topography at the pit exit. (Note that this pit is anticipated to be completely backfilled by the end of the mine life).
- **South Kelly's Hump Phase 1 (Pit_SKH_1)**
  - The pit is located in the southernmost portion of North Kelley's Hump.
  - The pit is roughly 800 ft long (north to south) and 900 ft wide (east to west).
  - Maximum depth from the highest pit crest to the immediate floor is about 70 ft and the minimum height from the pit exit to the pit floor is about 10 ft (Note that this pit will be backfilled to the elevation of the pit exit before the end of the mine life).
- **Middle Ridge Phase 1 (Pit_MR_1)**
  - The pit is located in the northern portion of Middle Ridge, and is the largest pit by area.
  - The pit is roughly 2,200 ft long (north to south) and 1,100 ft wide (east to west).
  - Maximum depth from the highest pit crest to the immediate floor is about 80 ft and the minimum height from the pit exit to the pit floor is about 30 ft (Note that this pit will be backfilled to the elevation of the pit exit as part of final closure).

- **Middle Ridge Phase 2 (Pit_MR_2)**
  - The pit is located in the southern portion of Middle Ridge and is the smallest pit by area.
  - The pit is roughly 370 ft long (north to south) and 470 ft wide (east to west).
  - Maximum depth from the highest pit crest to the immediate floor is about 80 ft and the minimum height from the pit exit to the pit floor is about 40 ft (Note that this pit will be backfilled to the elevation of the pit exit before the end of the mine life).

15.3 DILUTION

The SRK resource model with block sizes of 20 ft x 20 ft x 10 ft was used to estimate resources. This model was used to define the ultimate pit limit and to estimate Proven and Probable reserves. MDA believes that the block size is reasonable with respect to a selective mining unit to be used for mining at Bovill. MDA further believes that this represents an appropriate amount of dilution for the statement of reserves for the project.

15.4 MINERAL RESERVES

Mineral reserves for the project were developed by applying relevant economic criteria in order to define the economically extractable portions of the resource. MDA developed the reserves to meet NI 43-101 standards. The NI 43-101 standards rely on the “CIM Definition Standards for Mineral Resources and Mineral Reserves” (2014) (35) by the CIM council. CIM standards define Proven and Probable Mineral Reserves as follows:

Mineral Reserve

Mineral Reserves are sub-divided in order of increasing confidence into Probable Mineral Reserves and Proven Mineral Reserves. A Probable Mineral Reserve has a lower level of confidence than a Proven Mineral Reserve.

A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.

The reference point at which Mineral Reserves are defined, usually the point where the ore is delivered to the processing plant, must be stated. It is important that, in all *situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.*

The public disclosure of a Mineral Reserve must be demonstrated by a Pre-Feasibility Study or Feasibility Study.

Mineral Reserves are those parts of Mineral Resources which, after the application of all mining factors, result in an estimated tonnage and grade which, in the opinion of the QP(s) making the estimates, is the basis of an economically viable project after taking account of all relevant Modifying Factors. Mineral Reserves are inclusive of diluting material that will be mined in conjunction with the Mineral Reserves and delivered to the treatment plant or equivalent facility. The term 'Mineral Reserve' need not necessarily signify that extraction facilities are in place or operative or that all governmental approvals have been received. It does signify that there are reasonable expectations of such approvals.

'Reference point' refers to the mining or process point at which the QP prepares a Mineral Reserve. For example, most metal deposits disclose mineral reserves with a "mill feed" reference point. In these cases, reserves are reported as mined ore delivered to the plant and do not include reductions attributed to anticipated plant losses. In contrast, coal reserves have traditionally been reported as tonnes of "clean coal". In this coal example, reserves are reported as a "saleable product" reference point and include reductions for plant yield (recovery). The QP must clearly state the 'reference point' used in the Mineral Reserve estimate.

Probable Mineral Reserve

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

A *The QP(s) may elect, to convert Measured Mineral Resources to Probable Mineral Reserves if the confidence in the Modifying Factors is lower than that applied to a Proven Mineral Reserve. Probable Mineral Reserve estimates must be demonstrated to be economic, at the time of reporting, by at least a Pre-Feasibility Study.*

Proven Mineral Reserve

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

Application of the Proven Mineral Reserve category implies that the QP has the highest degree of confidence in the estimate with the consequent expectation in the minds of the readers of the report. The term should be restricted to that part of the deposit where production planning is taking place and for which any variation in the estimate would not significantly affect the potential economic viability of the deposit. Proven Mineral Reserve estimates must be demonstrated to be economic, at the time of reporting, by at least a Pre-Feasibility Study. Within the CIM Definition standards the term Proved Mineral Reserve is an equivalent term to a Proven Mineral Reserve.

Modifying Factors

Modifying Factors are considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.

Proven and Probable reserves based on the pit designs discussed in previous sections for each case are reported in Table 15-6. The reserves and associated waste by pit phase are shown in Table 15-7. The reserves are shown to be economically viable based on cash flows provided by GBM. MDA has reviewed the cash flows and believes they are reasonable for the statement of Proven and Probable reserves.

Table 15-6: Proven and Probable Reserves

Reserve	Proven	Probable	Total P&P
Tons (000s)	4,155	4,548	8,702
Halloysite (%)	4.8	4.0	4.4
Halloysite Tons (000s)	200	182	382
Kaolinite (%)	11.1	12.5	11.8
Kaolinite Tons (000s)	460	568	1,028
Sand (%)	77.8	76.8	77.3
Sand Tons (000s)	3,234	3,491	6,725
NSR	$165	$160	$162

Notes:

Reserves are based on a $57.00 NSR cutoff grade and pit designs.

Rounding of numbers in mineral reserves listed above may cause apparent inconsistencies.

Table 15-7: Proven and Probable Reserves by Phase with Associated Waste

Pit Phase	Proven and Probable Reserves								Waste Tons (000s)	Total Tons (000s)	Strip Ratio
	Tons (000s)	Halloy (%)	Halloy Tons (000s)	Kaolin (%)	Kaolin Tons (000s)	Sand (%)	Sand Tons (000s)	NSR (US$/t)			
North Kelly's Hump Phase 1	525	7.8	41	11.4	60	73.6	386	181	386	911	0.73
North Kelly's Hump Phase 2	1,949	4.9	96	10.6	208	78.4	1,528	165	1,017	2,967	0.52
North Kelly's Hump Phase 3	1,036	3.8	39	12.4	129	77.8	806	160	580	1,616	0.56
South Kelly's Hump Phase 1	1,326	2.7	36	14.7	195	75.9	1,006	154	750	2,076	0.57
Middle Ridge Phase 1	3,713	4.5	168	11.4	425	77.3	2,870	163	1,831	5,544	0.49
Middle Ridge Phase 2	153	1.7	3	8.1	12	85.1	130	147	160	313	1.04
Total	**8,702**	**4.4**	**382**	**11.8**	**1,028**	**77.3**	**6,725**	**162**	**4,724**	**13,426**	**0.54**

SECTION 16 MINING METHODS

16.1 MATERIAL TYPES

Material was broken into ore and waste categories for the purpose of scheduling. The waste consists of material inside of pit designs that is not included in Proven and Probable reserves

Ore definition used a $57.00 CoG to be consistent with Proven and Probable reserves. In addition, ore was further defined into Low-Sand (below 75% sands), Med-Sand (above 75% sands), and High-Sand (above 80% sands). These CoGs were chosen because they provided reasonable amounts of halloysite, kaolinite, and sand products within the pit designs. This was important to provide some variability for blending of materials to maintain a generally consistent blend of the three different products.

16.2 MINING METHOD

The Project is planned as an open-pit, truck and excavator operation. The truck and excavator method provides reasonable cost benefits and selectivity for this type of deposit. Only open-pit mining methods are considered for mining at Bovill.

The material to be mined consists of sandy clays, clays, and soils, and as such, no drilling or blasting is anticipated. Most sampling will be done from mining faces, however some auger drilling will be done where additional ore control data is required.

16.3 MINE-WASTE FACILITIES

Waste dumps include both external dumps, which are located outside of designed pits, and backfill dumps, which are designed over the pit designs. The external dumps, and portions of the backfill dumps that are outside of the pit crest, were designed using 2.5:1 slopes to help facilitate reclamation at the end of the mine life.

Two external waste dumps have been designed: North Kelly’s Hump (NKH_Dmp) and South Kelley’s Hump (SKH_Dmp) waste dumps. These dumps will be used to store waste material near the first two pits to be mined during the first three years of production.

NKH_Dmp is located just to the northwest of North Kelly’s Hump phase 3. This dump will store waste mined out of North Kelly’s Hump phase 3 and some waste from South Kelly’s Hump phase 1 pit. Total capacity is approximately 580,000 tons using a swell factor of 1.4.

SKH_Dmp is located just to the south of South Kelly's Hump phase 1. This dump will store waste mined out of South Kelly's Hump phase 1. Total capacity is approximately 646,000 tons using a swell factor of 1.4. Some construction waste generated from the plant site will be stored permanently in this dump and as well as additional waste mined from South Kelly's Hump will be stored in the North Kelly's Hump phase 3 backfill.

Backfill dumps have been designed over each of the pit designs, but not all of the backfill dumps are fully utilized. The utilization of the backfill dumps are shown in the end of the mine pit and dump map in Figure 16-1.

The following discusses each backfill area and their usage:

16.3.1 NKH_BCKFL_1

NKH_BckFl_1 was designed over Pit_NKH_1. This dump will be utilized to store waste from Pit_NKH_2 and Pit_MR_1 starting in Year 10 through a portion of Year 15. The backfill dump will eventually be filled to a final elevation of 3,080 ft.

16.3.2 NKH_BCKFL_2

NKH_BckFl_2 was designed over Pit_NKH_2. This dump will store re-handle waste from the NKH_Dmp. The purpose of re-handling waste into NKH_BckFl_2 is to eliminate the potential of forming a pit lake. The costs of re-handling material into this pit are considered part of the closure costs and the backfill area is only utilized to an elevation of about 2,990 ft.

16.3.3 NKH_BCKFL_3

NKH_BckFl_3 was designed over Pit_NKH_3. This dump will be utilized to store waste from Pit_SKH_1 and Pit_NKH_1 starting in Year 3 and continuing through Year 10. The backfill dump will be filled to a final elevation of about 3,100 ft.

16.3.4 SKH_BCKFL_1

SKH_BckFl_1 was designed over Pit_SKH_1. This dump has been designed to contain waste from Pit_MR_1 between Years 15 to 20. The waste will partially fill the backfill pit to an elevation of about 3,000 ft, eliminating the potential for formation of pit lakes.

16.3.5 MR_BCKFL_1

MR_BckFl_1 was designed over Pit_MR_1 and is intended to only be filled to the point that potential pit lakes will not form. Waste material from a portion of Pit_NKH_2 and Pit_MR_2 will be placed in

MR_BckFl_1. An additional 690,000 cubic yards of material will be re-handled from the NKH_Dmp as part of reclamation and closure to fill the pit to an elevation of about 2,990 ft.

16.3.6 MR_BCKFL_2

MR_BckFl_2 was designed over Pit_MR_2 and is intended to only be filled to the point that a potential pit lake will not form. Approximately 50,000 cubic yards of material will be re-handled from the NKH_Dmp as part of reclamation and closure to fill the pit to an elevation of about 2,990 ft.

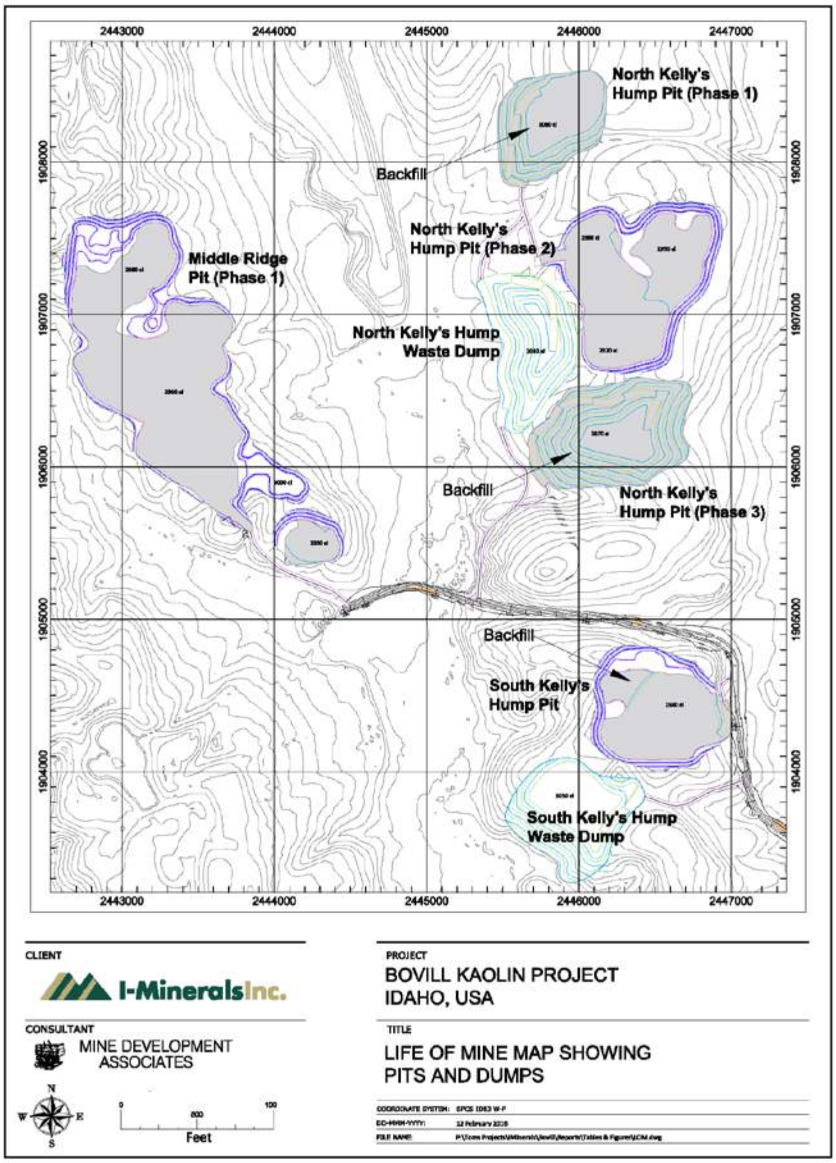


Figure 16-1: Life of Mine Map showing Pits and Dumps

16.4 MINE-PRODUCTION SCHEDULE

Proven and Probable reserves were used to schedule mining and plant production, and Inferred resources inside of the pit were considered waste. The final production schedule uses trucks and excavators as required to produce the ore to be fed into the process plant and maintain stripping requirements for each case.

Table 16-1, Table 16-2, and Table 16-3 show the mine production schedule, a schedule of material to the plant, and the stockpile balance, respectively. Mining was scheduled by pit phase and stockpiling was used to make various materials available so that target blending could be used to maintain product grades to the plant as consistent as possible. In reviewing the various pit reserves, it was found that higher value material was available first in Pit_NKH_3. Mining starts in Pit_NKH_3, and Pit_SKH_1 is started shortly after and mined concurrently to balance the grades fed to the plant.

Subsequent mining progressed into Pit_NKH_1, then Pit_NKH_2, and then Pit_MR_1 and Pit_MR_2. During the life of the mine, at least two pits will be active at any given time.

The stockpile balance is intended to show the material available at any given time. Although the material in stockpile is shown as having been mined in the schedule, in reality the material may be faced up in the pit and left in the ground until required. This will be a balancing act when actual mining takes place. During operations, there will be large stockpiles available at the plant and some material may be stockpiled at the minesite in the event that the various stockpiles at the plant are full.

The current production schedule assumes that mining will occur throughout the year. However, there is an opportunity to mine faster, build stockpiles at the plant, and reduce the mining requirement during wet months (about one month in the fall, and a couple of months in early spring). This would reduce maintenance requirements on haul roads from the mine to the plant during periods where the road maintenance is more expensive due to weather.

Ore delivery to the plant will be stored in two stockpiles: high-halloysite, and high-kaolinite. These stockpiles will be used for blending into the plant. The material types scheduled in this study include high, medium, and low sands based on percent sand of material being mined. This mimics the needs of the different material types to be stockpiled at the plant. Additional study will be needed to best define the material cut-offs to be used for ore control prior to the start-up of operations.

The mining plan assumes that a local contractor will be hired for all mining and haulage activities. Initial mining activity during pre-production ramps up fairly quickly, in order to complete stripping of topsoil and waste material. During pre-production and Year 1, the mining rate is nearly 1 Mt/yr. The mining rate then drops off to about 500,000 t/yr for the following seven years. The mining rate then ramps up again as pits requiring higher stripping are mined.

The ore schedule through the process plant was scheduled by MDA based on the material available from mining. During pre-production, 235,000 tons are sent to the plant. After pre-production and through Year 25, ore is sent to the plant at a rate of 346,000 t/yr.

Halloysite grades are maintained at about 3.6% through Year 4, and then increase to about 4.4%. This is consistent with the targeted production of 12,000 t/yr of halloysite product through Year 4 and 15,000 t/yr beyond Year 4. A total of 44,000 t/yr of kaolinite and 155,000 t/yr of sand products are produced during the first 10 years.

Table 16-1: Mine Production Schedule

Pit		Units	Pre-Prod	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Yr7	Yr8	Yr9	Yr10	Yr11 to 15	Yr16 to 20	Yr20 to 25	Yr26 to 30	Total
Pit_MR_1	Ore Mined	K Tons	-	-	-	-	-	-	-	-	-	-	-	1,033	1,513	1,168	-	3,713
		Hal%	-	-	-	-	-	-	-	-	-	-	-	5.2	4.9	3.5	-	4.5
		K Hal Tons	-	-	-	-	-	-	-	-	-	-	-	54	74	41	-	168
		Kao%	-	-	-	-	-	-	-	-	-	-	-	11.8	11.5	11.1	-	11.4
		K Kao Tons	-	-	-	-	-	-	-	-	-	-	-	122	174	130	-	425
		Snd %	-	-	-	-	-	-	-	-	-	-	-	76.2	76.8	78.9	-	77.3
		K Snd Tons	-	-	-	-	-	-	-	-	-	-	-	787	1,161	921	-	2,870
		NSR $/t	-	-	-	-	-	-	-	-	-	-	-	166.67	164.44	156.83	-	162.67
	Waste	K Tons	-	-	-	-	-	-	-	-	-	-	-	1,288	419	124	-	1,831
	Total	K Tons	-	-	-	-	-	-	-	-	-	-	-	2,321	1,932	1,292	-	5,544
	Strip Ratio	W:O	-	-	-	-	-	-	-	-	-	-	-	1.25	0.28	0.11	-	0.49
Pit_MR_2	Ore Mined	K Tons	-	-	-	-	-	-	-	-	-	-	-	-	-	13	140	153
		Hal%	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	1.7	1.7
		K Hal Tons	-	-	-	-	-	-	-	-	-	-	-	-	-	0	2	3
		Kao%	-	-	-	-	-	-	-	-	-	-	-	-	-	8.2	8	8.1
		K Kao Tons	-	-	-	-	-	-	-	-	-	-	-	-	-	1	11	12
		Snd %	-	-	-	-	-	-	-	-	-	-	-	-	-	84.9	85.1	85.1
		K Snd Tons	-	-	-	-	-	-	-	-	-	-	-	-	-	11	119	130
		NSR $/t	-	-	-	-	-	-	-	-	-	-	-	-	-	147.49	146.80	146.86
	Waste	K Tons	-	-	-	-	-	-	-	-	-	-	-	-	-	121	39	160
	Total	K Tons	-	-	-	-	-	-	-	-	-	-	-	-	-	134	179	313
	Strip Ratio	W:O	-	-	-	-	-	-	-	-	-	-	-	-	-	9.13	0.28	1.04
Pit_NKH_1	Ore Mined	K Tons	-	-	-	-	-	-	19	51	60	83	235	76	-	-	-	525
		Hal%	-	-	-	-	-	-	6	6.7	7.3	8.4	8	8	-	-	-	7.8
		K Hal Tons	-	-	-	-	-	-	1	3	4	7	19	6	-	-	-	41
		Kao%	-	-	-	-	-	-	9.8	10.8	12.1	11.6	11.3	12	-	-	-	11.4
		K Kao Tons	-	-	-	-	-	-	2	5	7	10	27	9	-	-	-	60
		Snd %	-	-	-	-	-	-	77.6	75.3	73.5	73.2	73.4	72.6	-	-	-	73.6
		K Snd Tons	-	-	-	-	-	-	14	38	44	61	173	56	-	-	-	386
		NSR $/t	-	-	-	-	-	-	170.26	173.92	177.95	184.53	181.62	181.67	-	-	-	180.52
	Waste	K Tons	-	-	-	-	-	12	153	65	65	63	26	1	-	-	-	386
	Total	K Tons	-	-	-	-	-	12	172	116	125	147	262	77	-	-	-	911
	Strip Ratio	W:O	-	-	-	-	-	N/A	8.26	1.27	1.09	0.76	0.11	0.01	-	-	-	0.73
Pit_NKH_2	Ore Mined	K Tons	-	-	-	-	-	-	19	85	210	278	642	343	-	372	-	1,949
		Hal%	-	-	-	-	-	-	3.2	3.7	3.9	4.3	5.1	5.5	-	5.4	-	4.9
		K Hal Tons	-	-	-	-	-	-	1	3	8	12	33	19	-	20	-	96
		Kao%	-	-	-	-	-	-	11.7	11.3	10.8	10.9	10.4	10.7	-	10.7	-	10.6
		K Kao Tons	-	-	-	-	-	-	2	10	23	30	67	37	-	40	-	208
		Snd %	-	-	-	-	-	-	79.6	79.4	79.6	79.2	78.5	77.6	-	77.3	-	78.4
		K Snd Tons	-	-	-	-	-	-	15	68	167	220	504	266	-	288	-	1,528
		NSR $/t	-	-	-	-	-	-	157.08	159.39	160.20	162.21	166.23	168.37	-	167.29	-	165.20
	Waste	K Tons	-	-	-	-	-	-	148	323	214	123	82	52	-	75	-	1,017
	Total	K Tons	-	-	-	-	-	-	167	409	424	401	724	395	-	447	-	2,967
	Strip Ratio	W:O	-	-	-	-	-	-	7.92	3.79	1.02	0.44	0.13	0.15	-	0.2	-	0.52
Pit_NKH_3	Ore Mined	K Tons	9	230	201	215	193	188	-	-	-	-	-	-	-	-	-	1,036
		Hal%	2.5	3.4	3.3	4.1	4.7	3.5	-	-	-	-	-	-	-	-	-	3.8
		K Hal Tons	0	8	7	9	9	6	-	-	-	-	-	-	-	-	-	39
		Kao%	17.2	12.2	11.4	12.7	12	13.5	-	-	-	-	-	-	-	-	-	12.4
		K Kao Tons	2	28	23	27	23	25	-	-	-	-	-	-	-	-	-	129
		Snd %	74.3	78.8	79.8	76.8	77	76.4	-	-	-	-	-	-	-	-	-	77.8
		K Snd Tons	7	182	160	165	148	143	-	-	-	-	-	-	-	-	-	806
		NSR $/t	155.48	158.30	157.33	161.52	164.82	158.02	-	-	-	-	-	-	-	-	-	159.92
	Waste	K Tons	144	239	110	27	42	18	-	-	-	-	-	-	-	-	-	580
	Total	K Tons	153	469	311	243	235	206	-	-	-	-	-	-	-	-	-	1,616
	Strip Ratio	W:O	15.71	1.04	0.55	0.13	0.22	0.1	-	-	-	-	-	-	-	-	-	0.56

Pit		Units	Pre-Proc	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Yr7	Yr8	Yr9	Yr10	Yr11 to 15	Yr16 to 20	Yr20 to 25	Yr26 to 30	Total
Pit_SKH_1	Ore Mined	K Tons	10	228	290	198	227	229	142	-	-	-	-	-	-	-	-	1,326
		Hal%	0.2	2.1	3.2	2.8	3.1	2.4	2.7	-	-	-	-	-	-	-	-	2.7
		K Hal Tons	0	5	9	5	7	6	4	-	-	-	-	-	-	-	-	36
		Kao%	5.1	15.7	16.1	14.5	14.5	12.8	14.4	-	-	-	-	-	-	-	-	14.7
		K Kao Tons	1	36	47	29	33	29	20	-	-	-	-	-	-	-	-	195
		Snd %	86.6	74.8	73.6	76.1	75.8	78.5	76.8	-	-	-	-	-	-	-	-	75.9
		K Snd Tons	9	171	214	151	172	180	109	-	-	-	-	-	-	-	-	1,006
		NSR $/t	132.83	150.32	157.35	154.61	156.62	152.38	154.94	-	-	-	-	-	-	-	-	154.30
	Waste	K Tons	203	306	100	52	32	46	12	-	-	-	-	-	-	-	-	750
	Total	K Tons	213	534	390	250	260	275	154	-	-	-	-	-	-	-	-	2,076
	Strip Ratio	W:O	19.96	1.34	0.34	0.26	0.14	0.2	0.08	-	-	-	-	-	-	-	-	0.57
Total Mining	Ore Mined	K Tons	19	459	491	413	420	417	179	137	270	361	877	1,453	1,513	1,553	140	8,702
		Hal%	1.3	2.7	3.2	3.5	3.8	2.9	3.1	4.8	4.7	5.2	5.9	5.4	4.9	3.9	1.7	4.4
		K Hal Tons	0	12	16	14	16	12	6	7	13	19	52	79	74	61	2	382
		Kao%	10.9	14	14.2	13.6	13.4	13.1	13.6	11.1	11.1	11	10.6	11.5	11.5	11	8	11.8
		K Kao Tons	2	64	70	56	56	55	24	15	30	40	93	167	174	170	11	1,028
		Snd %	80.8	76.8	76.1	76.4	76.4	77.6	77.2	77.9	78.2	77.8	77.1	76.3	76.8	78.5	85.1	77.3
		K Snd Tons	16	352	374	316	321	323	138	106	211	281	676	1,109	1,161	1,220	119	6,725
		NSR $/t	143.55	154.33	157.34	158.21	160.38	154.91	156.75	164.83	164.14	167.36	170.36	167.86	164.44	159.26	146.80	162.43
	Waste	K Tons	347	544	210	80	74	76	313	388	279	186	108	1,340	419	320	39	4,724
	Total	K Tons	366	1,003	701	493	494	493	493	525	549	547	985	2,793	1,932	1,873	179	13,426
	Strip Ratio	W:O	17.95	1.19	0.43	0.19	0.18	0.18	1.75	2.84	1.04	0.52	0.12	0.92	0.28	0.21	0.28	0.54

Table 16-2: Annual Ore Delivery to the Plant

Units	Pre - Prod	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11 to 15	Yr 16 to 20	Yr 20 to 25	Yr 26 to 30	Total
K Tons	-	269	346	346	347	346	346	346	347	346	346	1,731	1,732	1,715	140	8,702
Hal%	-	3.6	3.6	3.6	3.6	4.2	3.5	2.3	3.7	4.4	4.4	5.3	5.3	4.2	1.7	4.4
K Hal Tons	-	10	13	13	13	15	12	8	13	15	15	91	91	72	2	382
K Hal Prod Tons	-	10	12	12	13	14	12	8	13	15	15	91	91	72	2	381
Kao%	-	16.9	16	14.1	13.2	14.3	14	9.4	10.5	10.9	10.2	10.9	11.5	11.3	8	11.8
K Kao Tons	-	45	55	49	46	49	48	33	36	38	35	188	200	194	11	1,028
K Kao Prod Tons	-	45	55	48	45	49	48	32	36	38	35	187	199	193	11	1,023
Snd%	-	72.7	73.5	75.5	76.6	74.5	76.1	82.8	80	78.9	79.6	77.4	76.2	77.8	85.1	77.3
K Snd Tons	-	195	254	261	266	258	263	286	277	273	275	1,341	1,321	1,334	119	6,725
K Snd Prod Tons	-	114	149	153	156	151	154	168	162	160	161	784	773	781	70	3,934

Table 16-3: Annual Stockpile Balance

Units	Pre-Prod	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11 to 15	Yr 16 to 20	Yr 20 to 25	Yr 26 to 30
K Tons	19	210	355	422	495	566	399	190	113	128	659	381	162	-	-
Hal%	1.3	1.5	1.8	1.9	2.4	1.6	0.6	0.6	0.8	3.5	6.2	7.5	6.9	-	-
K Hal Tons	0.2	3.1	6.4	8.1	11.6	9.2	2.5	1.2	0.9	4.5	40.9	28.5	11.3	-	-
Kao%	10.9	10.0	10.0	10.1	10.7	10.3	8.6	9.0	9.3	9.9	10.7	13.1	14.6	-	-
K Kao Tons	2.1	20.9	35.3	42.6	53.1	58.5	34.5	17.0	10.5	12.6	70.6	50.1	23.7	-	-
Snd%	80.8	82.4	82.4	82.2	81.2	82.6	85.8	85.6	85.3	81.3	76.6	71.8	70.6	-	-
K Snd Tons	15.6	172.7	292.2	346.7	401.7	467.4	342.6	162.4	96.0	104.0	505.1	273.6	114.4	-	-

16.5 EQUIPMENT SELECTION

Mining is expected to be carried out by a contractor, who will supply all mining and support equipment. Excavators will be used to load 30-ton articulated trucks. The articulated trucks are to be used to haul both ore and waste as required by the mining schedule. Some scrapers will likely be used for initial stripping of about 1.5 to 2 ft of topsoil, which will be placed in long term stockpiles near mined pits and waste dumps, and will be used for reclamation at a later date.

The mining contractor will be required to maintain roads, safety berms, and dumping areas, which will require the use of graders and dozers. The mining contractor will be required to supply the following equipment:

- Excavators – two large excavators with 3 to 4 cubic yard buckets will be required during pre-production and Year 1. This is reduced to one excavator through Year 10.
- Four to five trucks per excavator will be required through the mine life depending on the mining rate and haul distance. These will be 30-ton articulated trucks with a minimum operating width to allow them to haul material on public roads maintained by I-Minerals and the mining contractor.
- One G12 to G14 size grader will be used to maintain roads and safety berms throughout the mine life.
- One D-8 sized dozer will be used for maintaining dumps and pit floors.
- Additional equipment will be used at the contractor's discretion to support operations, including fuel trucks, lube trucks, and maintenance equipment.

16.6 MINE PERSONNEL

The mining contractor will supply personnel for operation, maintenance, and supervision of all mining activities. The contractor workforce will total approximately 13 employees (including supervision) through year 1, and then be reduced to approximately 8 or 9 through year 10. The mine will operate daytime hours only, 5 days per week.

SECTION 17 RECOVERY METHODS

17.1 INTRODUCTION

Processing of the Project's kaolin and halloysite clays, and K-feldspar and quartz fractions is described in this section. Descriptions of the major unit operations, process block flow diagrams, and basic design criteria are provided for the design of the process plant. The current design is an engineering development and refinement of the basic design presented in the Preliminary Feasibility Study. The testwork that forms the basis for design of the proposed processing facilities is discussed in Section 13. The results of this testwork show that the valuable components can be separated and upgraded in a series of conventional unit operations to produce high-purity final products.

17.2 PROCESS DESCRIPTION

17.2.1 PROCESS OVERVIEW

The Project will produce six main products from the run-of-mine (ROM) feed to the plant. The products are listed below, with some produced in a range of final particle sizes:

- Metakaolin
- Standard grade halloysite
- High-purity halloysite
- K-feldspar sand (multiple sizes)
- Q1 quartz sand (multiple sizes)
- Q3 quartz sand

It should be noted that quartz products meeting Q2 grade specifications can be produced from the proposed plant, but have been eliminated from the planned product mix at this stage as a result of limited market demand.

The process comprises four main areas:

- ROM stockpiling and crushing
- Clay/Sand separation, the products of which will feed the clay and feldspathic sand circuits
- Feldspathic sand circuit, to produce separate quartz (Q1 and Q3) and K-feldspar products
- Clay circuit, to produce separate kaolin and halloysite products

The overall process is illustrated in Figure 17-1. Descriptions of the main process areas are provided in the sections below, and block flow diagrams are included in Section 17.4.

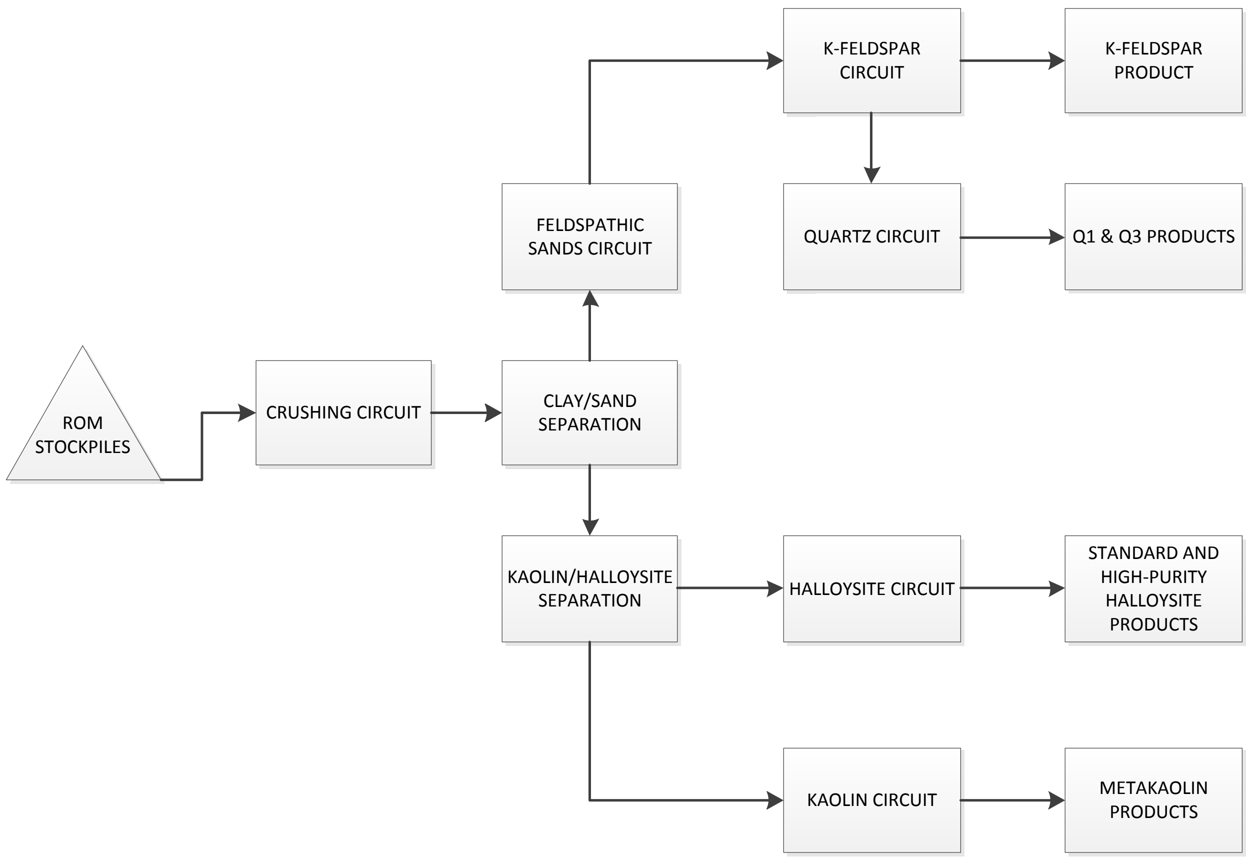


Figure 17-1: Simplified Block Flow Diagram

17.2.2 ROM STOCKPILING AND CRUSHING CIRCUIT SUMMARY

Ore will be delivered to the ROM stockpile by truck from the nearby mining areas. Ore will be fed by front end loader from the stockpile to the crusher feed hopper. The crushing circuit will consist of a single crusher in open circuit. Materials containing various clay and sand from the crushed ore comprise the feed to the process plant.

17.2.3 CLAY / SAND SEPARATION CIRCUIT SUMMARY

The crushed ROM ore will be fed by conveyor to the clay/sand separation circuit. The less dense and finer clay particles will be separated from the denser, larger feldspar and quartz in two spiral classifiers. Additional screening and attrition scrubbing will further liberate clays from feldspar and quartz. Fine sands and residual clay from the separated sands that are not suitable for further processing will be rejected from this system and routed to tailings.

17.2.4 FELDSPATHIC SANDS CIRCUIT SUMMARY

A mixture of K-feldspar and quartz sands, referred to as feldspathic sand, will be pumped from the clay/sand separation circuit directly to the feldspathic sands circuit. The sands will be rod milled in closed-circuit with a hydrosizer for a 30 mesh cut. The sands are then treated in an attrition scrubber, and passed through a hydrocyclone to dewater/deslime them. The hydrocyclone will remove residual clay fines at 200 mesh, which will be routed to tailings. Following the hydrocyclone, the liberated feldspar and quartz will undergo iron flotation, where the product sands sink and the iron impurities are floated away and sent to tailings.

The sands will then be separated into K-feldspar and quartz streams by flotation, with the K-feldspar floating and advancing to the K-feldspar circuit, and with the quartz sinking and advancing to the quartz circuit.

In the K-feldspar circuit, the K-feldspar will be filtered and dried, followed by removal of magnetic material using rare earth magnets (REMs), and fine grinding to the required particle sizes for final K-feldspar products.

In the quartz circuit, the quartz will be split into Q1 and Q3 streams based on market demand. The quartz stream will be ground in a closed-circuit rod mill to reduce particle size prior to flotation.

- The Q1 stream will undergo flotation to remove residual K-feldspar, followed by filtration, drying, removal of magnetic material using REMs, and fine grinding to the required particle sizes for the final Q1 products.
- The Q3 stream will undergo one stage of iron flotation and two stages of spar flotation followed by filtration, drying, and removal of magnetic material for the final Q3 product.

The quartz processing sections of the plant will have the capability to produce varying quantities of the two grades of quartz to meet the market demand for Q1 and Q3 products. The Q1 is subjected to varying levels of product grinding to yield product sizes that will suit various end users requirements. The Q3 product will be marketed at its native particle size at the conclusion of the process, which is expected to be 50-mesh.

17.2.5 CLAY CIRCUIT SUMMARY

Kaolin and halloysite clays from the clay/sands separation circuit are further upgraded using 3 inch diameter hydrocyclones to produce a minus 20 micron cut, with the oversize fraction sent to waste. The halloysite and kaolin are then separated in a fractionation centrifuge, since the halloysite clays have a lower apparent particle density than the kaolin clays.

The kaolin will be conditioned with acid to aid filtration, then filtered and dried. After drying and pulverizing, the stream will be calcined to form metakaolin. The current market for metakaolin is quite strong and therefore, all of the kaolin will be converted to metakaolin.

The halloysite produced from the centrifuge is considered the standard grade at 70%+ purity. This product may be further processed to achieve a high purity grade at 90%+ purity. High-purity halloysite will be produced using differential flotation in a series of batch tanks. Within the differential flotation circuit, the denser kaolin material entrained within the halloysite slurry settles and is recycled to the fractionation centrifuge, thus capturing the kaolin-rich material. The high-purity halloysite remains in suspension and is further treated by magnetic separation to remove magnetic material before acid conditioning, filtration, drying and pulverizing to produce the final product. Both the standard and high-purity halloysite products will be produced in the same equipment train, which will be operated on a campaign basis. Therefore, only one of the two halloysite product grades will be produced at any given time. The proportion of each product will be determined by market variables and operating time to produce the required quantities.

17.3 TAILINGS

Various tailings streams from the sands and clay circuits will be collected and routed to separate thickeners to segregate the respective overflow solutions to allow maximum recycling of water. The sand thickener overflow contains residual flotation reagents and will be recycled only to the sand processing system. The feed to both thickeners will be neutralized with quick lime before entering the respective thickener. Clay thickener overflow will be relatively uncontaminated and will be recirculated to the clay processing sections of the process. The tailings thickeners’ underflow streams will be combined and will be filtered in a pressure filter to produce low-moisture content tailings cake suitable for DST disposal. The tailings filter cake will be collected in a storage bunker for subsequent loading by front end loader and hauling to the DST storage area adjacent to the process plant.

17.4 BLOCK FLOW DIAGRAMS

The process is further illustrated in Figure 17-2 through Figure 17-7.

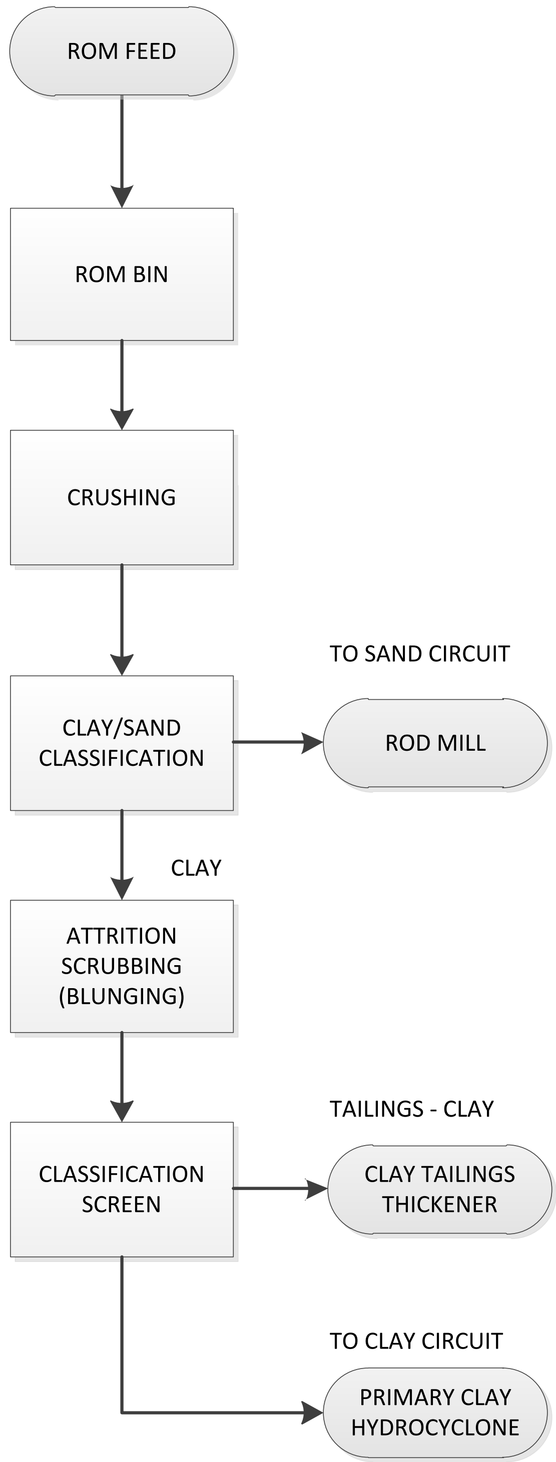


Figure 17-2: Crushing and Clay/Sand Separation Block Flow Diagram

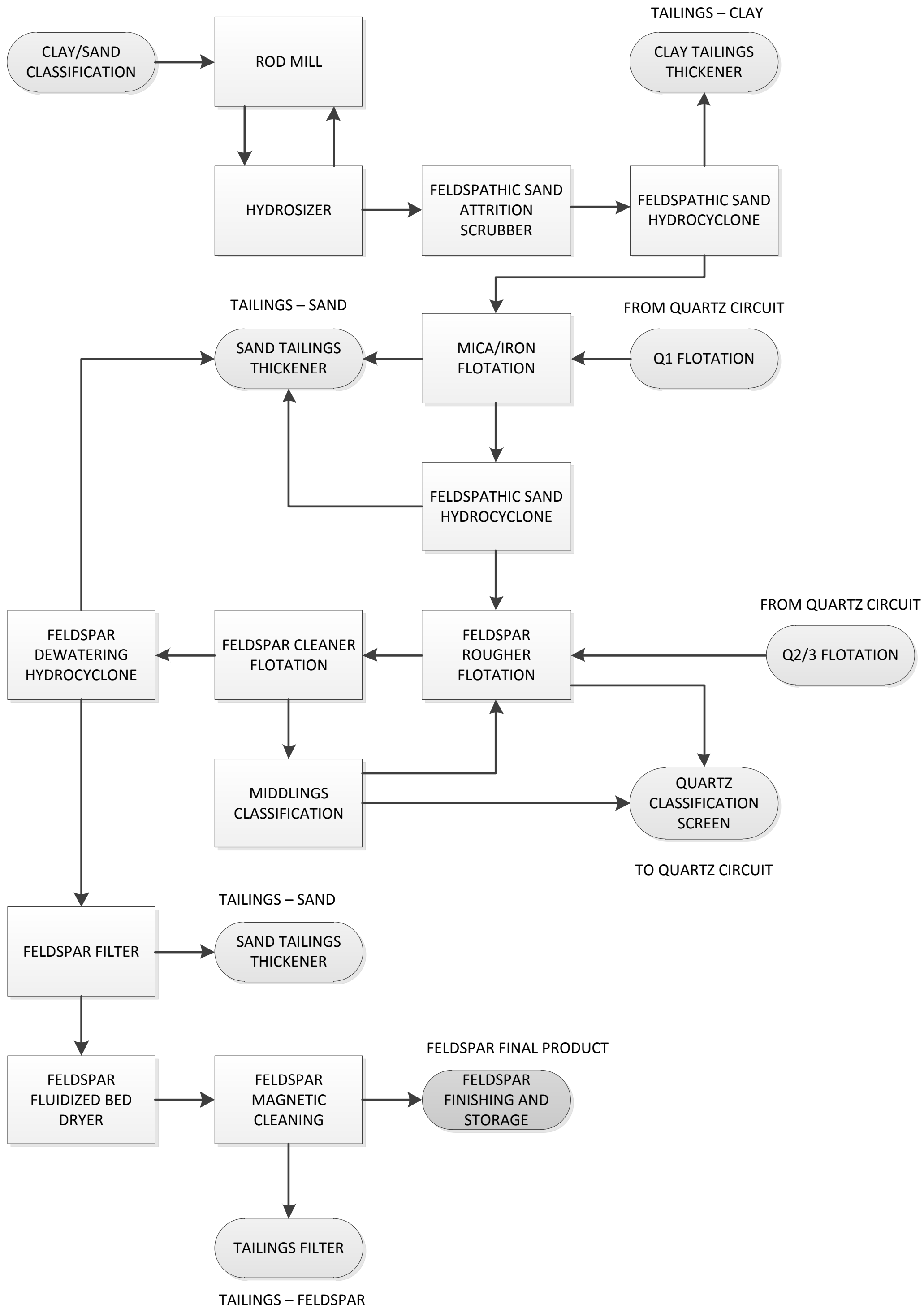


Figure 17-3: Feldspathic Sands and K-feldspar Block Flow Diagram

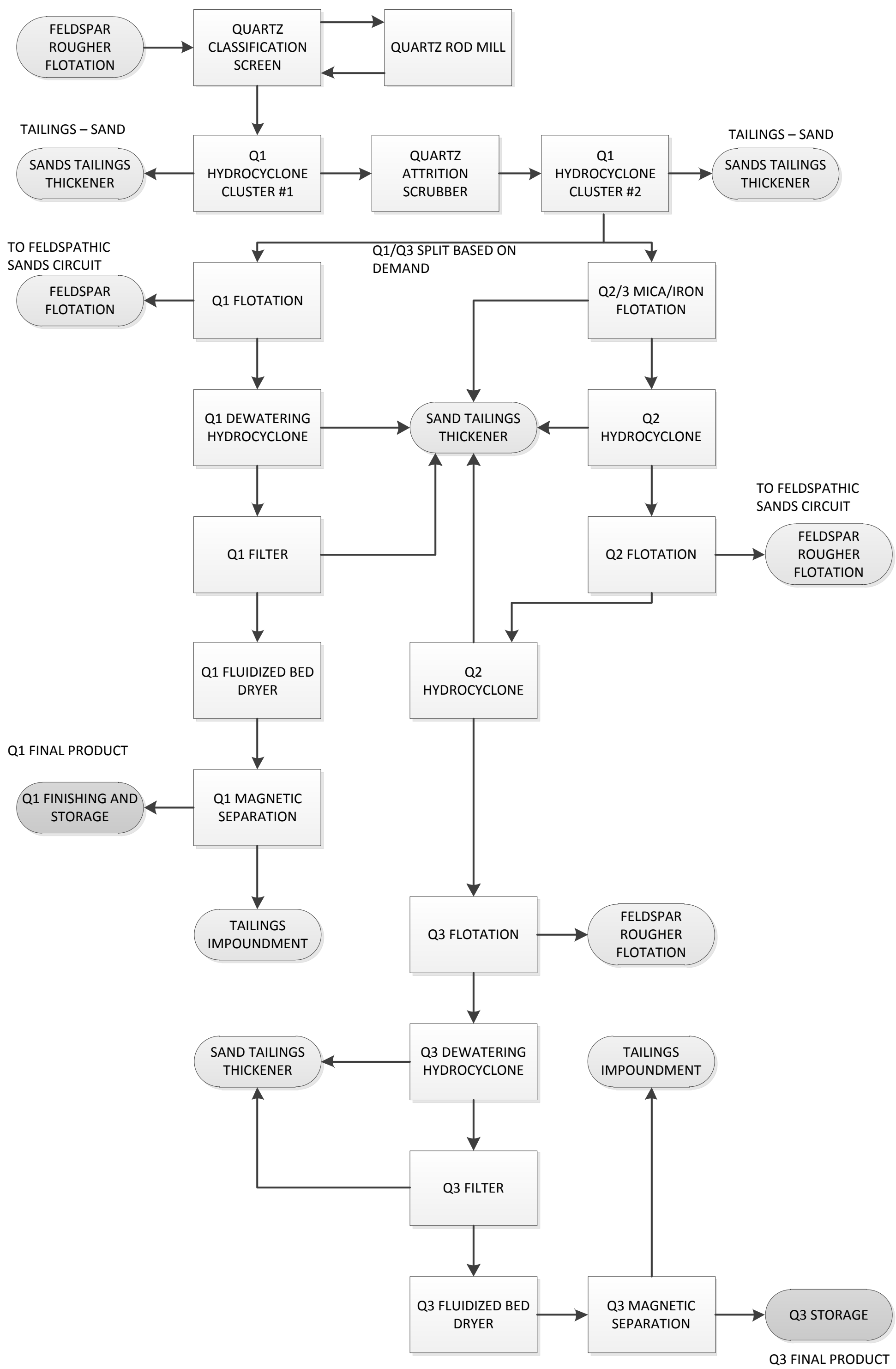


Figure 17-4: Quartz Block Flow Diagram

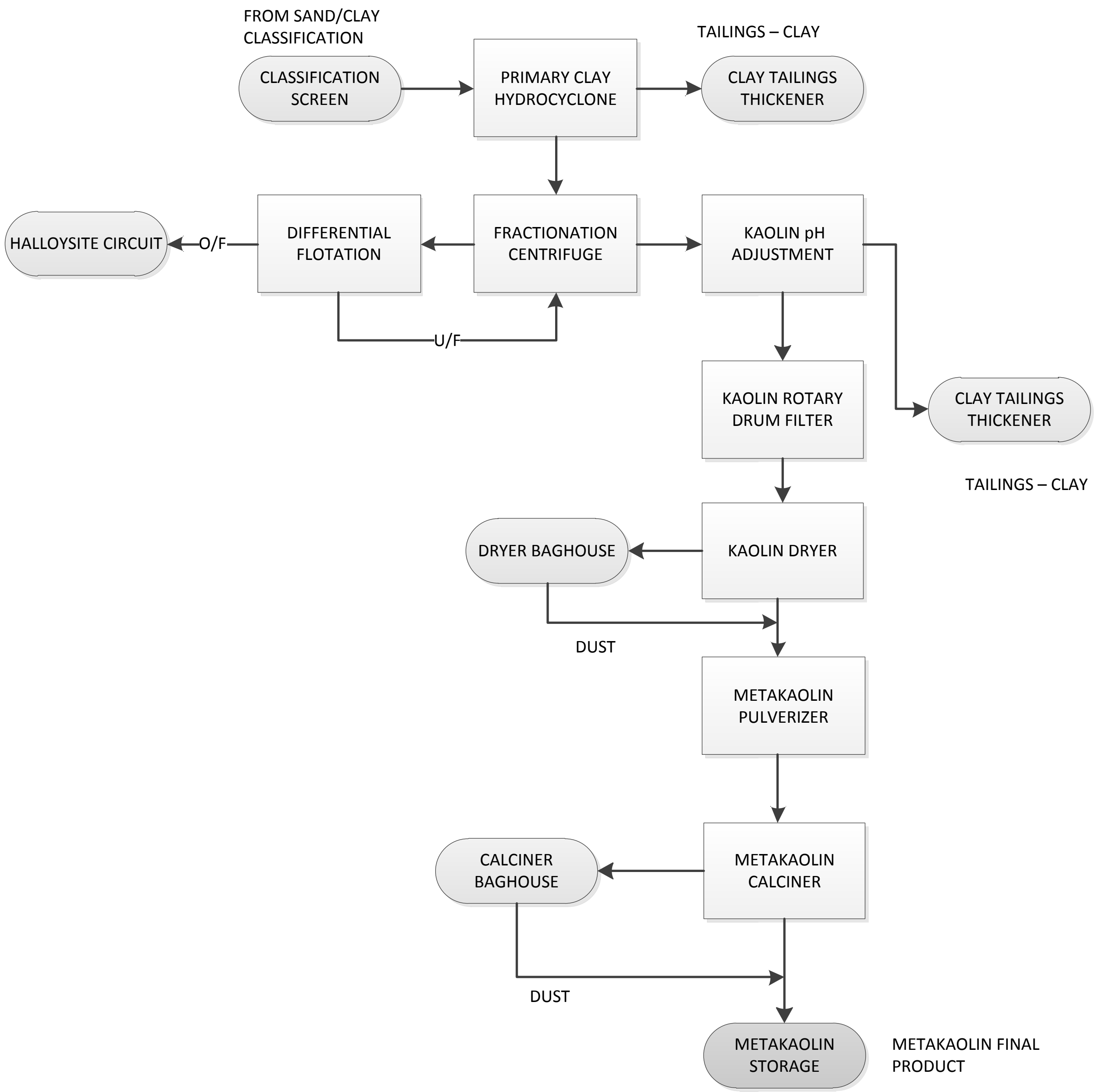


Figure 17-5: Kaolin/Halloysite Separation and Kaolin Block Flow Diagram

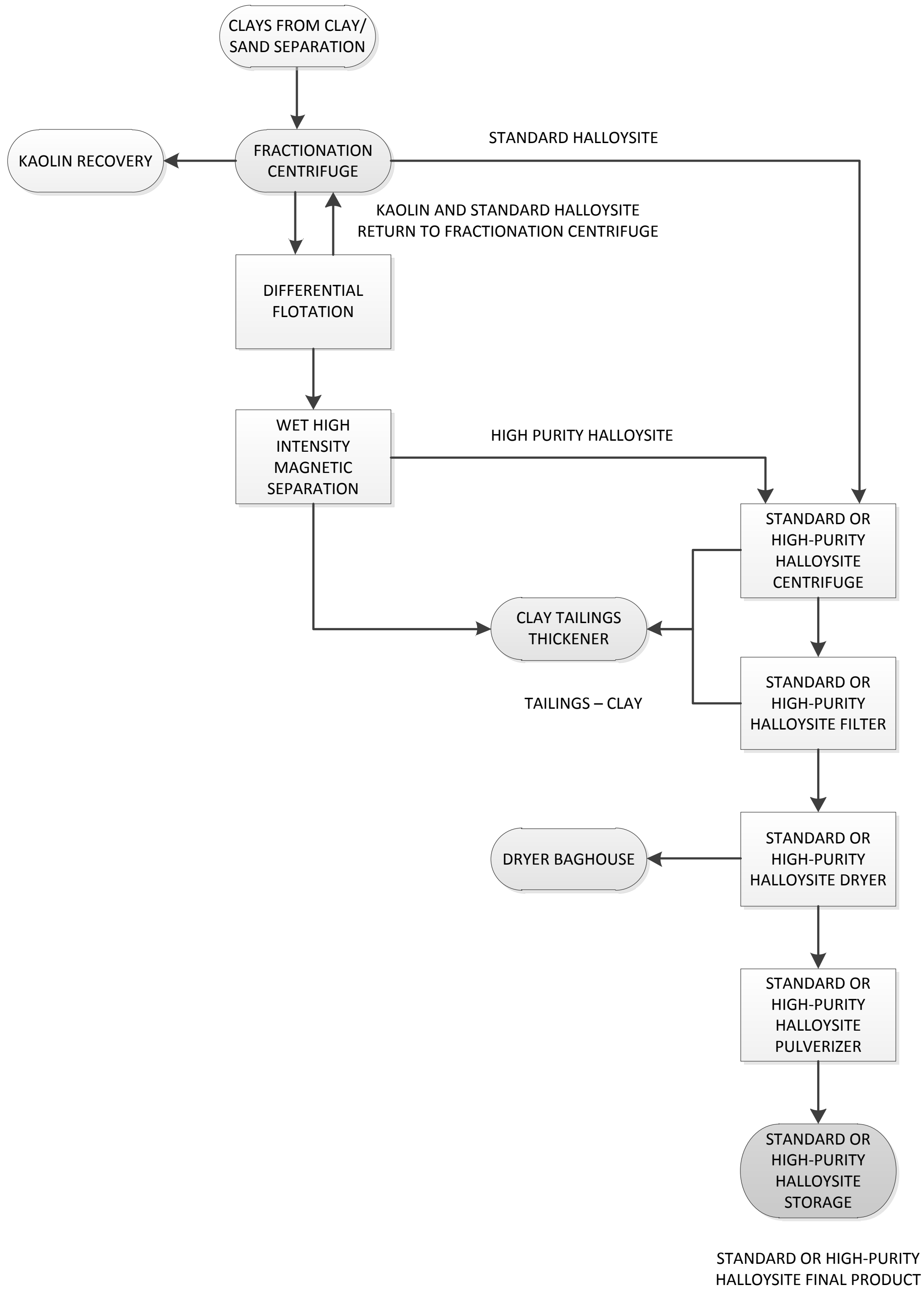


Figure 17-6: Halloysite Block Flow Diagram

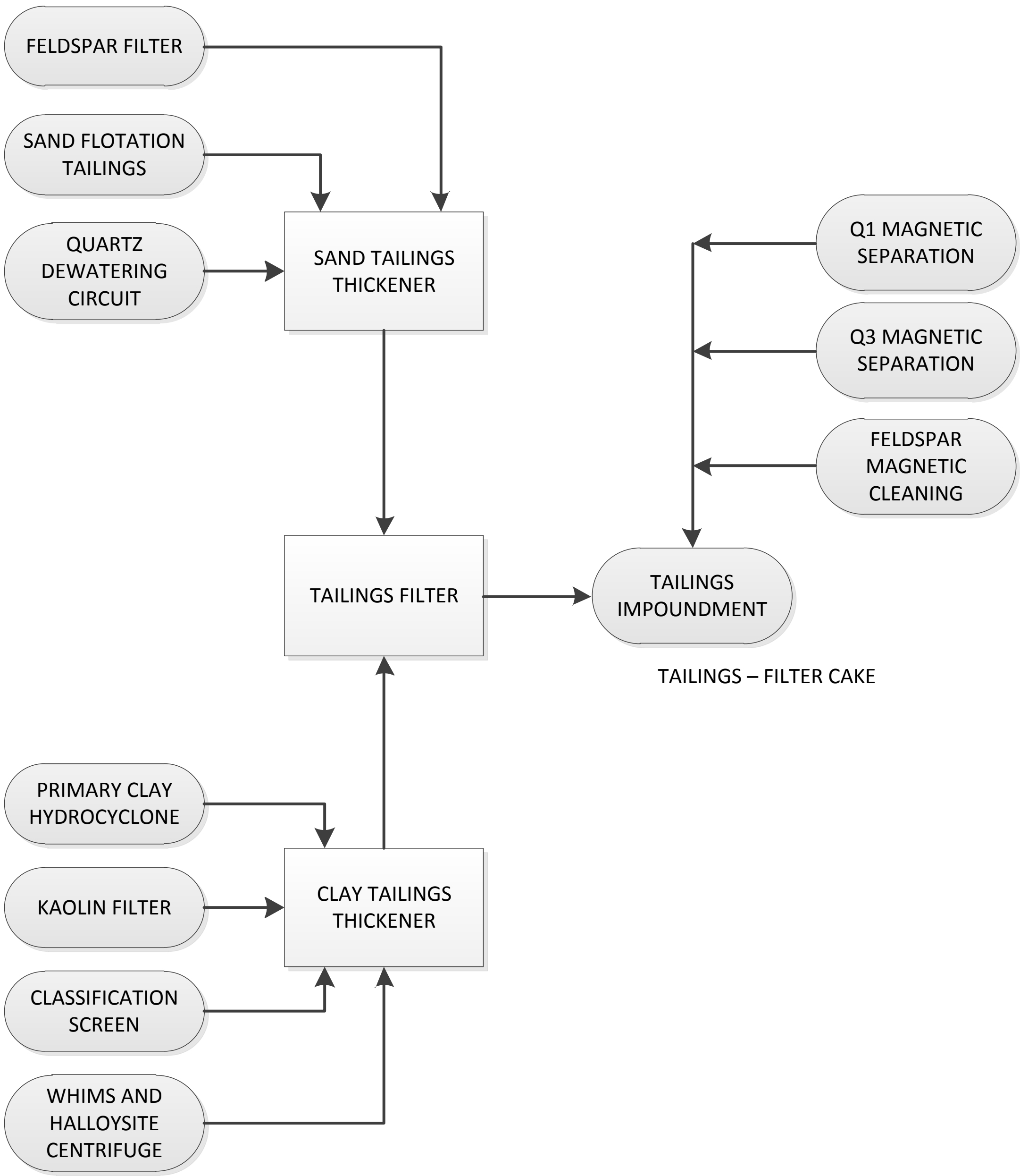


Figure 17-7: Tailings Block Flow Diagram

17.5 GENERAL ARRANGEMENT

The layout of the site and the process plant are shown in Figure 17-8, Figure 17-9, Figure 17-10, and Figure 17-11 below.

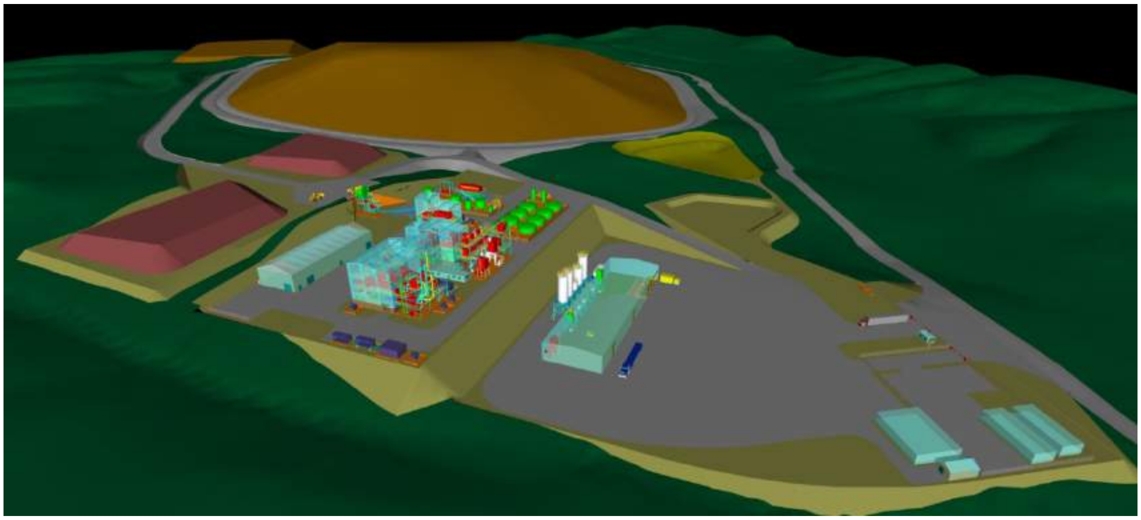


Figure 17-8: Site Isometric View from the East

Site Entry and Administration on lower right, ROM pad central left and DST in background.

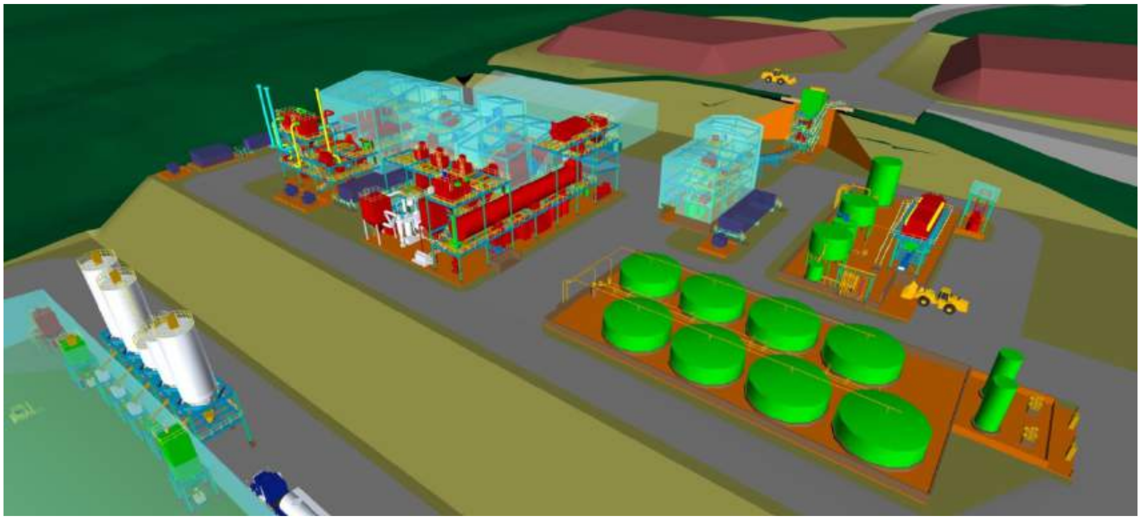


Figure 17-9: Plant Area General View from the North

Main Plant Building center, Differential Flotation Tanks lower right. ROM Bin and Crusher feeding Clay Beneficiation Plant upper right. Thickening and Filtration Center right.

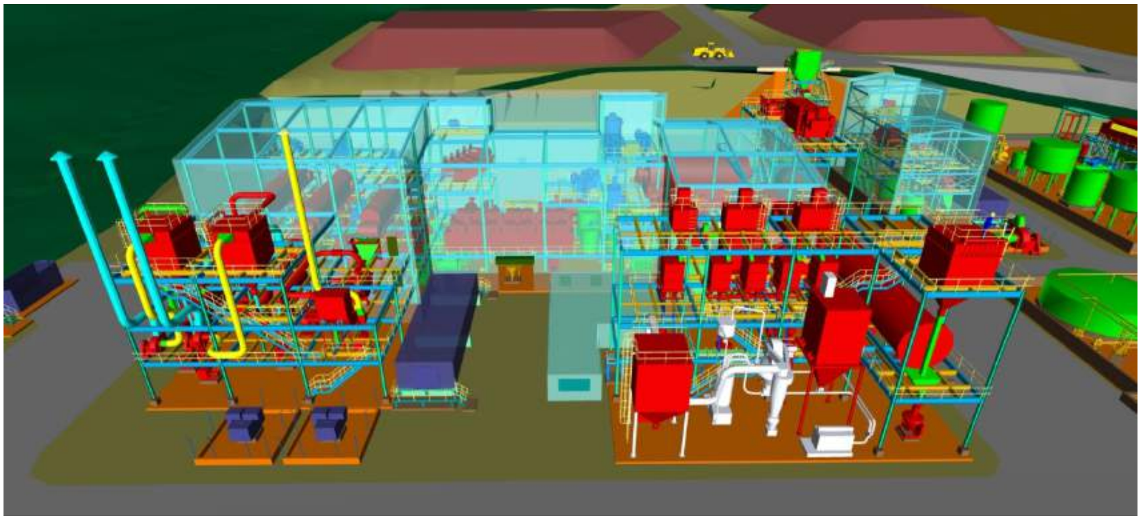


Figure 17-10: North East View of the Main Plant Building

Belt Filters and Fluid Bed Dryers on left. Main MCC and Laboratory in the center. REM's and Calciner Discharge on right. All Thermal Processing Equipment located outside.

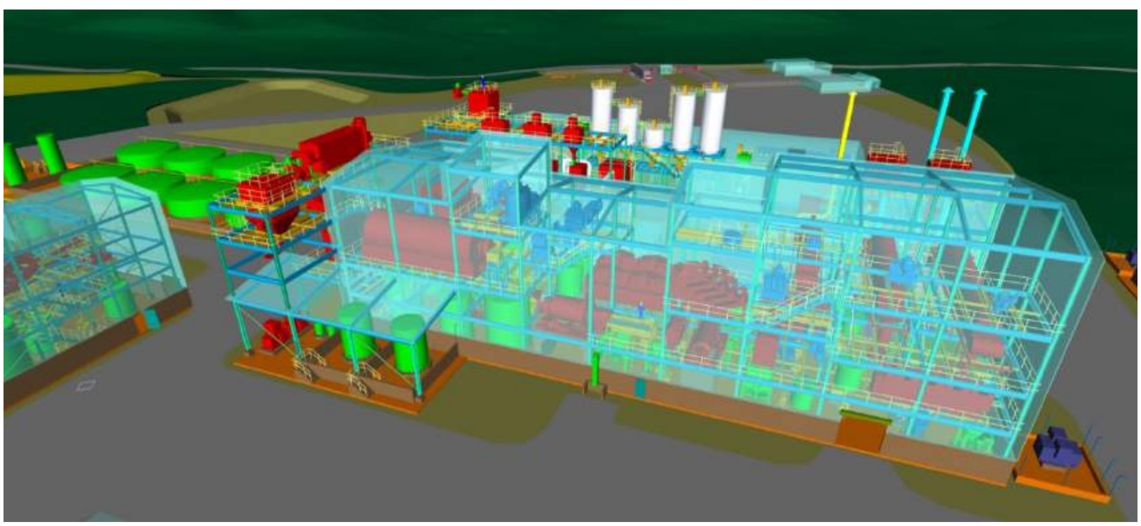


Figure 17-11: South West View of the Main Plant Building

Kaolin Dryer and Pulverizer feeding Calciner on left. Reagent Storage lower left. Mills and Flotation Cells Central. Belt Filters and Fluid Bed Dryers on right.

17.6 DESIGN CRITERIA

The key process design criteria for the plant are shown below in Table 17-1.

Table 17-1: Key Process Design Criteria

Description	Value	Units
Annual Process plant throughput – ROM ore	346,247	t/y
Annual Halloysite production (combined standard and high purity halloysite)	15,432	t/y
Annual Kaolin production (combined kaolin and metakaolin)	40,856	t/y
Annual Potassium Feldspar production (all product sizes)	47,578	t/y
Annual Quartz 1 production (all product sizes)	74,400	t/y
Annual Quartz 3 production	33,600	t/y
Crushing circuit annual operating hours and days	24 / 350	hr/d and d/y
Crushing circuit availability during operating hours	93	%
Process plant annual operating hours and days	24 / 350	hr/d and d/y
Process plant availability during operating hours	93	%

17.7 CONSUMABLES

The main consumables for the Project include electricity, natural gas, process reagents, and process consumables.

17.7.1 ELECTRICITY

The electricity for the process plant will be supplied from the grid. Details of the electrical supply to site are provided in Section 18. The projected electricity consumption of the process plant is stated in Section 21.

17.7.2 WATER

The majority of the water for the process plant will be recycled from the filtration of final products and seepage and runoff from DST. In addition, the ROM feed to the plant will contain significant moisture. Clean fresh water is required for gland seals and other similar requirements. Details of the overall site water management are discussed in Section 18. The amount of fresh water required for the process plant is provided in Section 21.

17.7.3 NATURAL GAS

Natural gas is used in the product dryers and the metakaolin calciner, and is supplied from the grid. Details of the gas supply to the site are discussed in Section 18. The projected natural gas consumption of the process plant is provided in Section 21.

17.7.4 REAGENTS

Reagents for the project include:

- Flotation reagents, used in the feldspathic sands circuit:
    - #2 Diesel fuel
    - Frother CP-102A
    - Custamine 8032
    - Hydrofluoric acid
- Dispersant – added to improve separation of clays from feldspathic sands
- Sulfuric acid – used as a flotation reagent and to condition kaolin and halloysite prior to filtration
- Quick lime – used for pH adjustment following sulfuric and hydrofluoric acid additions
- Flocculant – used in sand and clay thickeners

All reagents will be delivered to site by truck and stored in dedicated tanks or bins. Reagents are delivered to the consumption points by metering pumps, or in the case of quick lime, dry fed using volumetric feeders.

17.7.5 PROCESS CONSUMABLES

Certain materials are consumed in the process. These are primarily wear parts, grinding consumables, and product bags, as listed below:

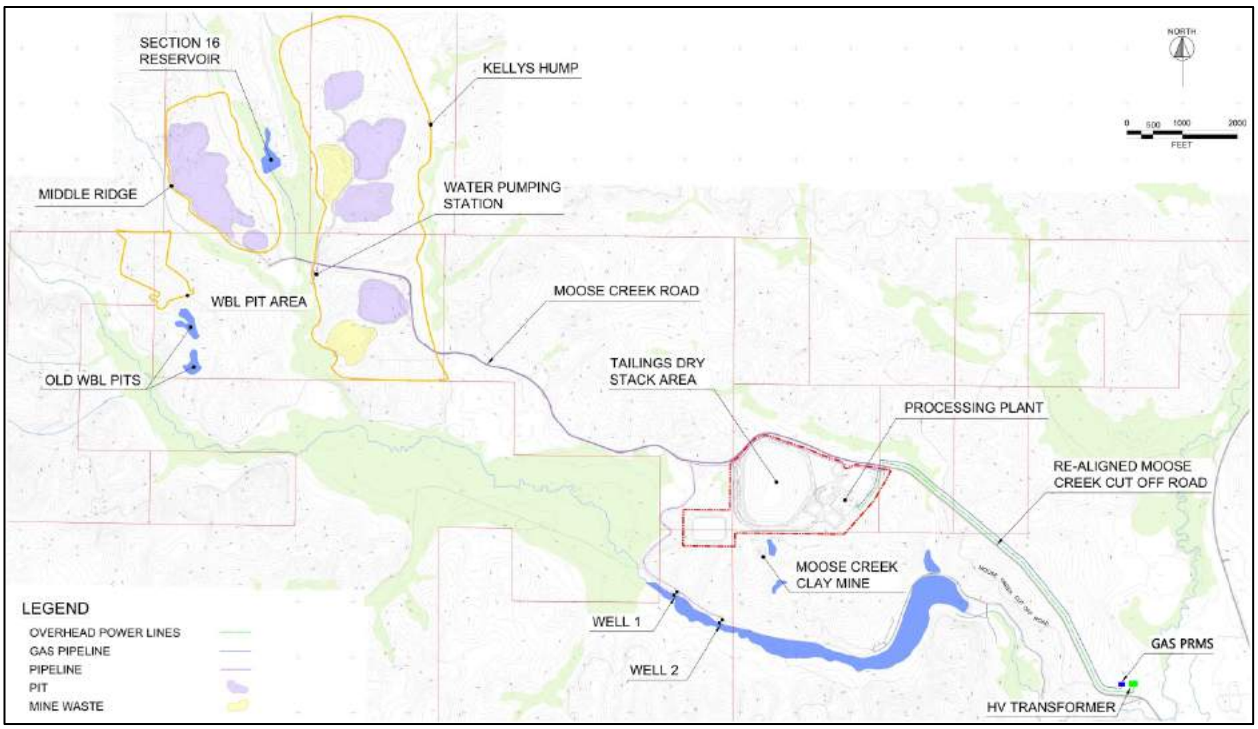
- Impact crusher liners and hammers
- Rod mill liners and grinding rods
- Attrition scrubber liners and impellors
- Product mills liners and grinding media
- Bulk bags for products

SECTION 18 PROJECT INFRASTRUCTURE

18.1 MINE LAYOUT

The project is comprised of two main areas which are shown in Figure 18-1:

- Main plant area - including the ROM pad, processing plant and associated infrastructure, and DST facility
- The mine pits, waste dumps, and water reservoir - located approximately 2.5 miles northwest of the main plant area along Moose Creek Road.



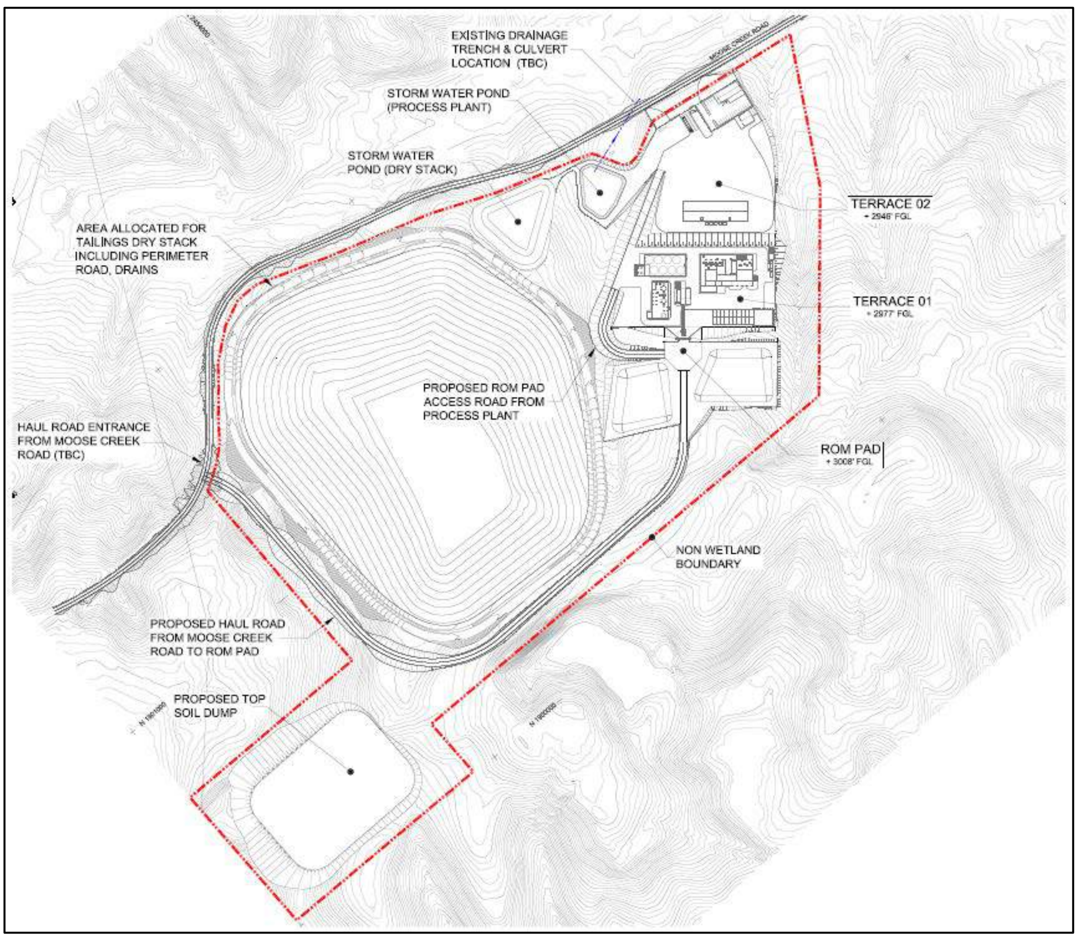
Source: GBM

Figure 18-1: Mine and Infrastructure Layout

18.2 FACILITY LAYOUT

The Project area is bound on the north and west by the St. Joe National Forest, on the east by Idaho State Highway 3 (ID-3), and on the south by Moose Creek Reservoir and Idaho State Highway 8 (ID-8). The main plant area is bounded by wetland delineation restrictions (avoidance of fill in wetlands) and also an adjacent, separately owned State mineral lease to the south.

The Process Plant and associated infrastructure (Figure 18-2) follows an existing ridgeline, with material flowing southwest to northeast from approximately 3,018 ft at the ROM pad, down to 2,946 ft at the product loadout and administration area. This natural topography lends itself to an effective facility layout with good energy conservation, and also allows the majority of the plant equipment to be located on stable, cut ground.



Source: GBM

Figure 18-2: Plant and Infrastructure Layout

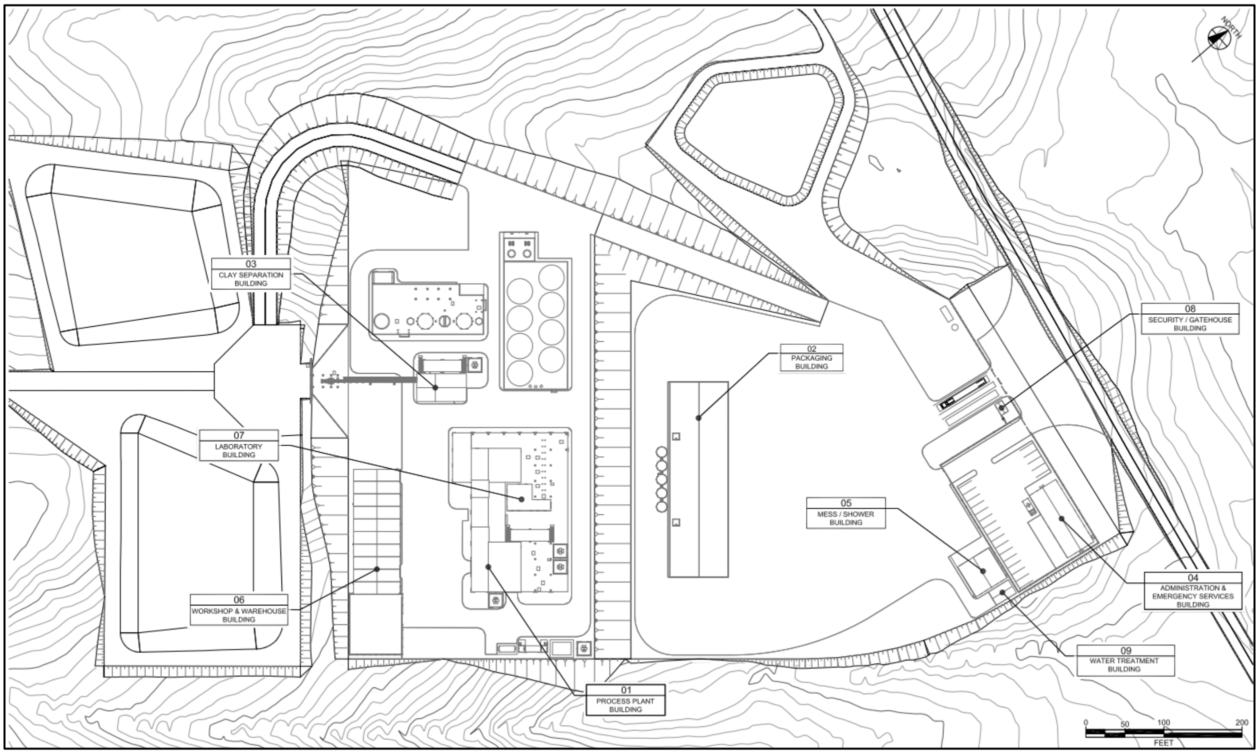
18.2.1 BUILDINGS

The buildings and infrastructure for the Bovill site are summarized in Table 18-1 and depicted in Figure 18-3.

Table 18-1: Building and Structure Details of Bovill Process Plant

Number	Building	Footprint (ft^2)	Description
1	Process Plant Building	10,039	Multi-story, steel-framed building on isolated spread concrete foundation, with concrete industrial ground floor slab. Blockwork wall up to lintel level, galvanized, insulated, color-coated sandwich panel on galvanized cold rolled purlins and runners for wall above and roof. Electric roller shutter doors, along with necessary personnel doors / openings. All necessary electrical, water supply, and sanitation facilities to suit the purpose of the building; all fixtures fixed.
2	Packaging Building	18,750	Single-story, standard prefabricated steel-framed building on isolated spread concrete foundation with concrete industrial ground floor slab. Blockwork wall up to lintel level, galvanized, insulated, color-coated sandwich panel on galvanized cold rolled purlins and runners for wall above and roof. Electric roller shutter doors, along with necessary personnel doors / openings. All necessary electrical, water supply, and sanitation facilities to suit the purpose of the building; all fixtures fixed.
3	Clay Separation Building	2,243	Multi-story, steel-framed building on isolated spread concrete foundation with concrete industrial ground floor slab. Blockwork wall up to lintel level, galvanized, insulated, color-coated sandwich panel on galvanized cold rolled purlins and runners for wall above and roof. Electric roller shutter doors, along with necessary personnel doors / openings. All necessary electrical, water supply, and sanitation facilities to suit the purpose of the building; all fixtures fixed.
4	Administration & Emergency Services Building	3,232	Single-story, standard prefabricated mobile buildings on wheel/supporting studs or frame, sitting on prepared ground/concrete floor as suggested by the manufacturer. All necessary electrical, water supply, and sanitation facilities to suit the purpose of the building; all fixtures fixed.
5	Mess and Shower Building	2,935	Single-story, standard prefabricated mobile buildings on wheel/supporting studs or frame, sitting on prepared ground/concrete floor as suggested by the manufacturer. All necessary electrical, water supply, and sanitation facilities to suit the purpose of the building; all fixtures fixed.

Number	Building	Footprint (ft^2)	Description
6	Workshop and Warehouse	9,600	Single-story, standard prefabricated steel-framed building on isolated spread concrete foundation with concrete industrial ground floor slab. Blockwork wall up to lintel level; galvanized, insulated, color-coated sandwich panel on galvanized cold rolled purlins and runners for wall above and roof. Electric roller shutter doors, along with necessary personnel doors / openings. All necessary electrical, water supply, and sanitation facilities to suit the purpose of the building; all fixtures fixed.
7	Laboratory	2,130	Single-story, standard prefabricated mobile buildings on wheel/supporting studs or frame, sitting on prepared ground/concrete floor as suggested by the manufacturer. All necessary electrical, water supply, and sanitation facilities to suit the purpose of the building, all fixtures fixed.
8	Security Gatehouse	171	Single-story, standard prefabricated mobile buildings on wheel/supporting studs or frame, sitting on prepared ground/concrete floor as suggested by the manufacturer. All necessary electrical, water supply, and sanitation facilities to suit the purpose of the building; all fixtures fixed.
9	Water Treatment Building	600	Single-story, standard prefabricated mobile buildings on wheel/supporting studs or frame, sitting on prepared ground/concrete floor as suggested by the manufacturer. All necessary electrical, water supply, and sanitation facilities to suit the purpose of the building; all fixtures fixed.



Source: GBM

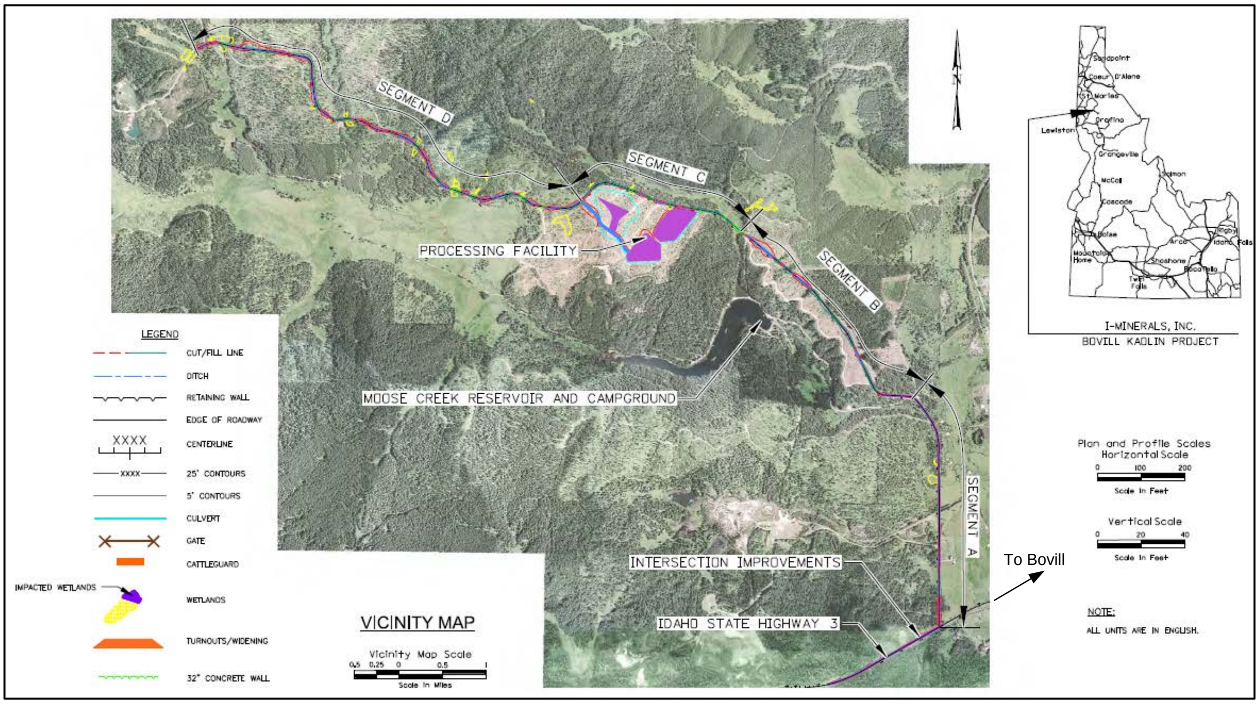
Figure 18-3: Plant Building Layout

18.3 TRANSPORTATION AND LOGISTICS

18.3.1 ROADS

The Project is accessed from the town of Bovill by following highway ID-3/ID-8 west for approximately 0.4 miles, then traveling north on Moose Creek Road for approximately 2.5 miles to the proposed process facility (Figure 18-4).

ID-3/ID-8 is an improved two-lane road, and Moose Creek Road is a maintained, unpaved road providing access to State and Federal lands. Latah County maintains Moose Creek Road from the intersection of ID-3/ID-8 to Moose Creek Reservoir. The IDL maintains Moose Creek Road from the reservoir through the Project site to U.S. Forest Service (USFS) land, as shown in Figure 18-4. Highway ID-3/ID-8 is maintained by the Idaho Transportation Department (ITD).



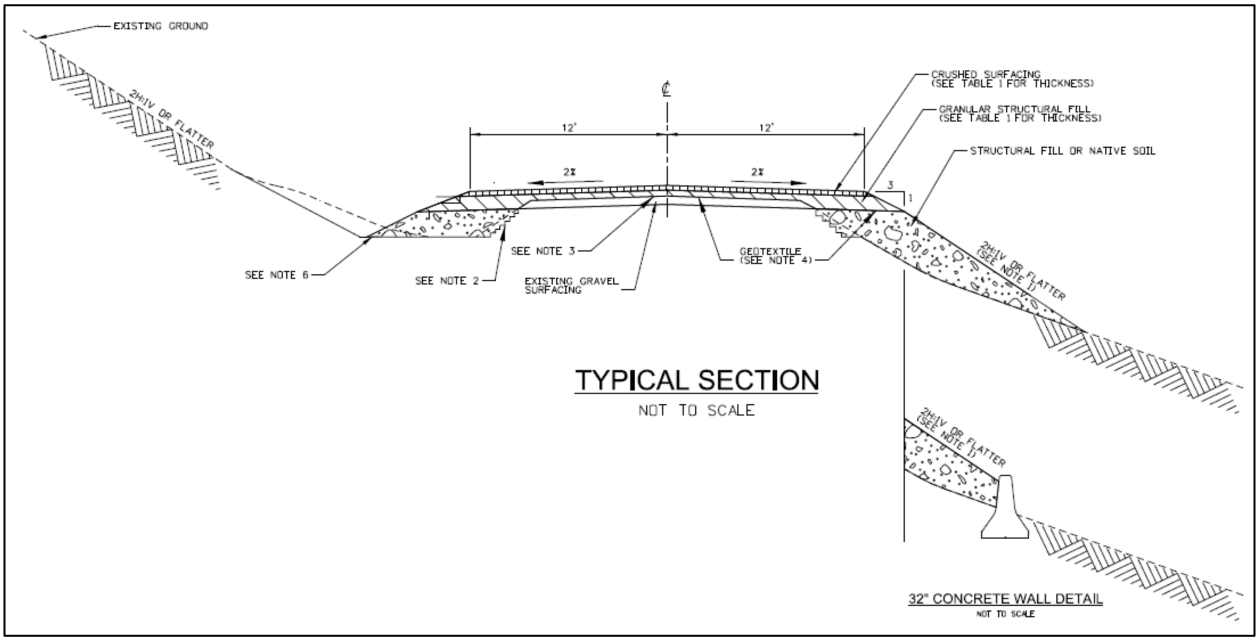
Source: HDR

Figure 18-4: Moose Creek Road Upgrades

To support the Project, the following road development/improvements will be undertaken:

18.3.1.1 IMPROVEMENTS TO MOOSE CREEK ROAD

The existing Moose Creek Road will be widened and realigned (at some locations) from ID-8 to the processing facility, and from the processing facility to the haul roads leading to the pits. Haul trucks will operate from the mine pits, travel along haul road, and then enter onto Moose Creek Road and travel to the processing facility. This section of Moose Creek Road will be widened to 24 ft to allow for two-way traffic with haul trucks (Komatsu HM-300 with 9.5 ft width). The road improvement includes several turnouts and also the realignment of several road segments for improved line of site. The section of Moose Creek Road between the processing facility and ID-8 will also be 24 ft wide to allow for two-way traffic including U.S. Department of Transportation (DOT) approved trucks hauling product from the processing facility to off-site locations. A typical road cross section is presented in Figure 18-5. Concrete walls will be used where required to limit wetland impacts.



Source: HDR

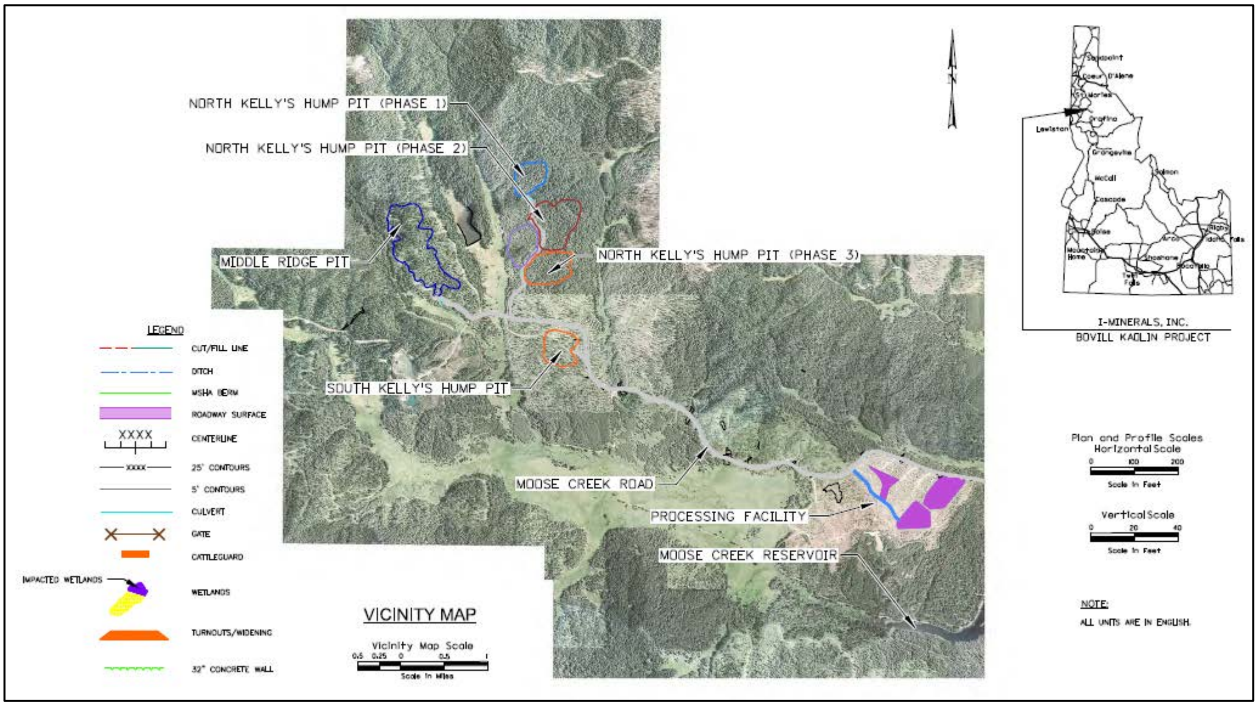
Figure 18-5: Road Upgrade - Typical Section

18.3.1.2 IMPROVEMENTS TO HIGHWAY 8/MOOSE CREEK ROAD INTERSECTION

Improvements will be made at the intersection of Moose Creek Road and ID-8 to facilitate trucks turning onto and from ID-8. The improvement includes a left turning lane for eastbound traffic from ID-8, and an acceleration lane for trucks turning west onto ID-8 from Moose Creek Road.

18.3.1.3 CONSTRUCTION OF TEMPORARY HAUL ROADS

Haul road alignments between Moose Creek Road and the pits/waste dumps have been developed. The alignments incorporate topography and avoidance of wetlands and surface water as shown in Figure 18-6, and have been developed in GIS. The width of haul roads is based on haul truck size and Mine Safety and Health Administration (MSHA) road construction requirements, and is shown in in Figure 18-7.

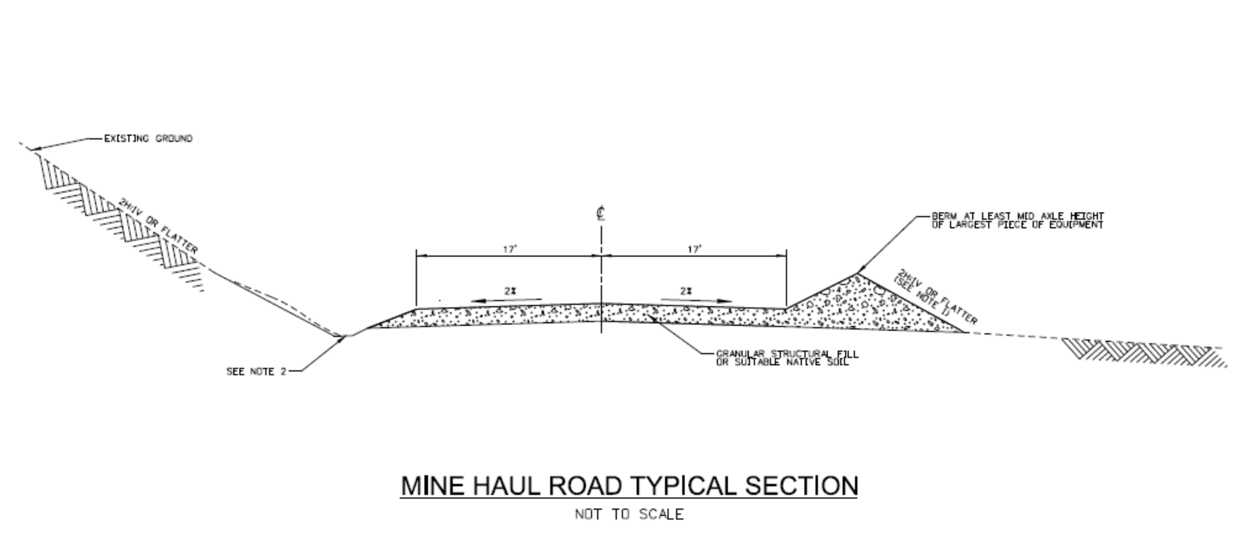


Source: HDR

Figure 18-6: Mine Haul Road Upgrade

18.3.2 ORE TRANSPORT

Transporting the ore between the mining areas will be by Komatsu 300 dump truck. Road upgrades will be performed between the pits and Moose Creek Road, as shown in Figure 18-6, with one segment servicing North Kelly's Hump Pit (Phases 1 through 3), another shorter segment servicing the South Kelly's Hump Pit, and a third segment servicing the Middle Ridge Pit.



Source: HDR

Figure 18-7: Mine Haul Road Upgrade - Typical Section

18.3.3 REAGENT AND SUPPLY TRANSPORT

The Bovill processing plant will consume approximately 2,566,000 pounds per year of reagents, which will be delivered by truck using the National Highway System (NHS).

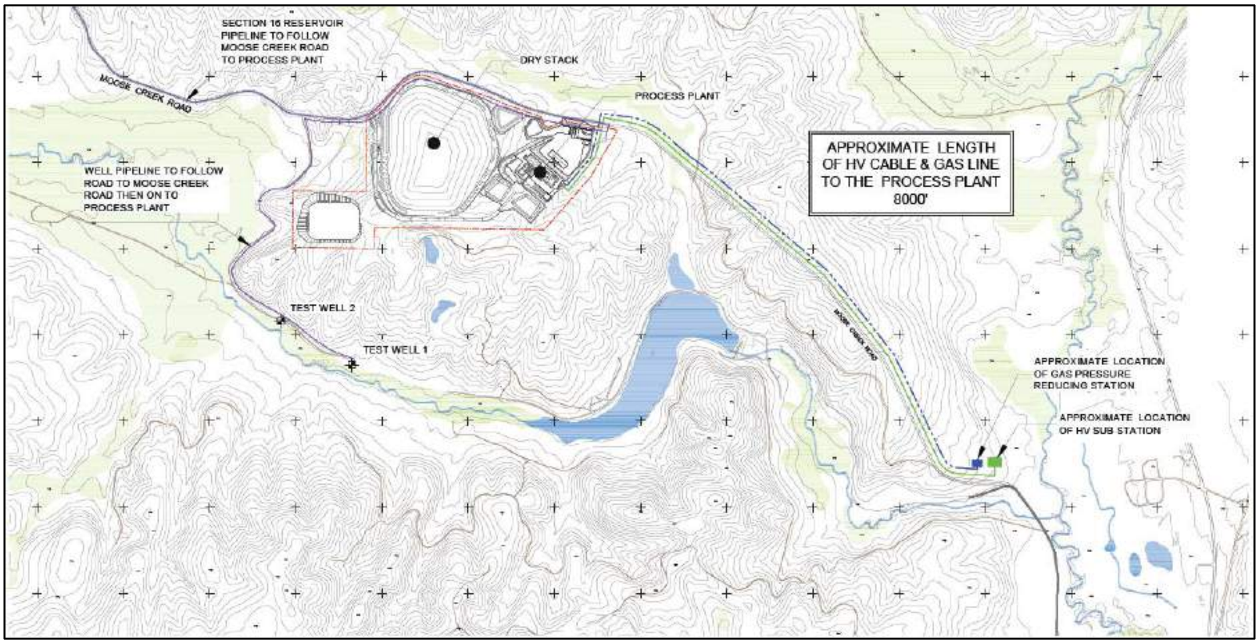
Supplies and spare parts will be delivered to the plant via the NHS using standard road transport vehicles as appropriate for the load including pick-ups, vans and trucks.

All reagents will be supplied from the US. The majority of spare parts will also be US-sourced, with a full suite, including general operating spares and critical insurance spares, held on-site as required.

18.3.4 PRODUCT TRANSPORT

Product will be transported from the site using the NHS, on flat bed or enclosed van trucks and tankers. Most products are expected to be sold in the U.S. Products exported will be loaded into containers and trucked to ports at Lewiston or Seattle.

18.4 SITE SERVICES



Source: GBM

Figure 18-8: Site Services including Supply of Water, Gas, and Electricity

18.4.1 WATER DISTRIBUTION

Approximately 15 gpm of raw water is required at the process plant to account for losses of moisture to product concentrate and tailings. This water will predominantly be provided from run-off from the tailings storage facility directly adjacent to the processing plant, keeping the system 'zero-discharge' as per Section 20 permitting requirements. However, during winter and drier months when run-off is not available, all water will be provided by a surface water reservoir (Section 16 Reservoir, Figure 18-2).

Water will flow by gravity from the reservoir by buried pipeline approximately 1,800 ft to a pump station, and then be screened and pumped into a buried 6-inch HDPE pipe for approximately 1.7 miles to a 50,000 gallon water storage tank at the processing plant. The pump station includes a 10-horsepower diesel pump, with solar-powered instrumentation, and a 500 gallon diesel tank, which will be filled by tanker approximately once per month. Significant cost savings were realized with the diesel option compared to providing electric power to the remote site for a small electrical load. Pump delivery rate for conveying water to the process plant storage tank is 100 gpm.

Potable water will be provided by two wells, PW-1 and PW-2, which are constructed at depths of 120 ft and have static water levels of approximately 30 ft (wells were installed in the fall of 2015 and have been pump-tested to assess production rates, and tested for water quality). Both wells are located approximately 0.5 miles south of the processing facility (Figure 18-1). Each well will be equipped with a 2-horsepower pump to deliver combined total of approximately 10 gpm. A chlorination system will be installed to condition potable water for human consumption. The potable water will be stored in a 16,000 gallon tank. The potable wells are classified as a “non-transient non-community” (NTNC) water system (serves at least 25 persons more than 6 months per year) and will be permitted through IDEQ.

I-Minerals will be submitting "Application for Permit to appropriate the public waters of the State of Idaho" for water rights for surface water (Section 16 Reservoir) and for groundwater. The permit applications will be in the name of IDL with the agreement that IDL allows I-Minerals the exclusive use of these water sources for the duration of the project.

18.4.2 ELECTRICITY

The Project will require a single connection into the existing power network. The process plant and mining related infrastructure have a maximum demand of approximately 4.9 MW and a monthly consumption of approximately 3,183,598 kWh. Electricity will be supplied by Avistacorp. The battery limits for the supply is at the utility substation feeder point, located approximately 2.5 miles from the process plant site. The capital costs for extending overhead lines to the utility substation, and the installation of the utility substation, are included in the tariff costs for electrical supply. 24.5kV overhead lines will be run from the utility substation to the process plant.

Power to the well pumping station, located approximately 0.5 miles south of the processing plant, will be provided by a low-voltage line placed in a trench adjacent to the pipeline.

There will be an 800 kVA emergency generator located at the process plant to take up critical loads and lighting and low-voltage power in case of an outage. Site emergency loads equate to approximately 0.5 MW.

18.4.3 NATURAL GAS

The Project will require one connection into the existing natural gas network. The process plant and related infrastructure have a monthly consumption of approximately 334,549 therms. Gas will be supplied by Avistacorp to a pressure reducing station approximately 2.5 miles from the process plant. The capital costs for extending the pipes to the pressure reducing station, and the installation of the pressure reducing station, are included in the tariff costs for gas supply. An underground gas pipe will run from the pressure reducing station to the process plant.

18.4.4 FUEL SUPPLY, STORAGE AND DISTRIBUTION

Diesel dispensers for both on-road and off-road diesel will be located at the process plant for front-end loaders, pick-up trucks, and other plant vehicles.

A tank farm, containing a 6,000 gallon off-road diesel tank and a 6,000 gallon on-road diesel tank, will supply the dispensers, and also serve reagent diesel used in the process. These tanks will be filled by a diesel tanker.

18.4.5 COMMUNICATIONS

Cell phone coverage will be made available at the site. Internet and landline services will be installed to support the operation. The Mining Contractor will be responsible for communications at the mining areas if required.

18.5 HUMAN RESOURCES

Due to the close proximity of the Project site to local towns, the Project will not require on-site housing for the process plant and mine operations staff. It is anticipated that the majority of the workforce will come from nearby areas with the exception of specialized and management personnel.

18.6 TAILINGS DISPOSAL

The proposed tailings storage facility (TSF) consists of a DST storage facility situated immediately west of the process plant and designed to accommodate approximately 3.4 Mt of filtered tailings produced over the 26-year mine life. The design parameters are summarized in Table 18-2.

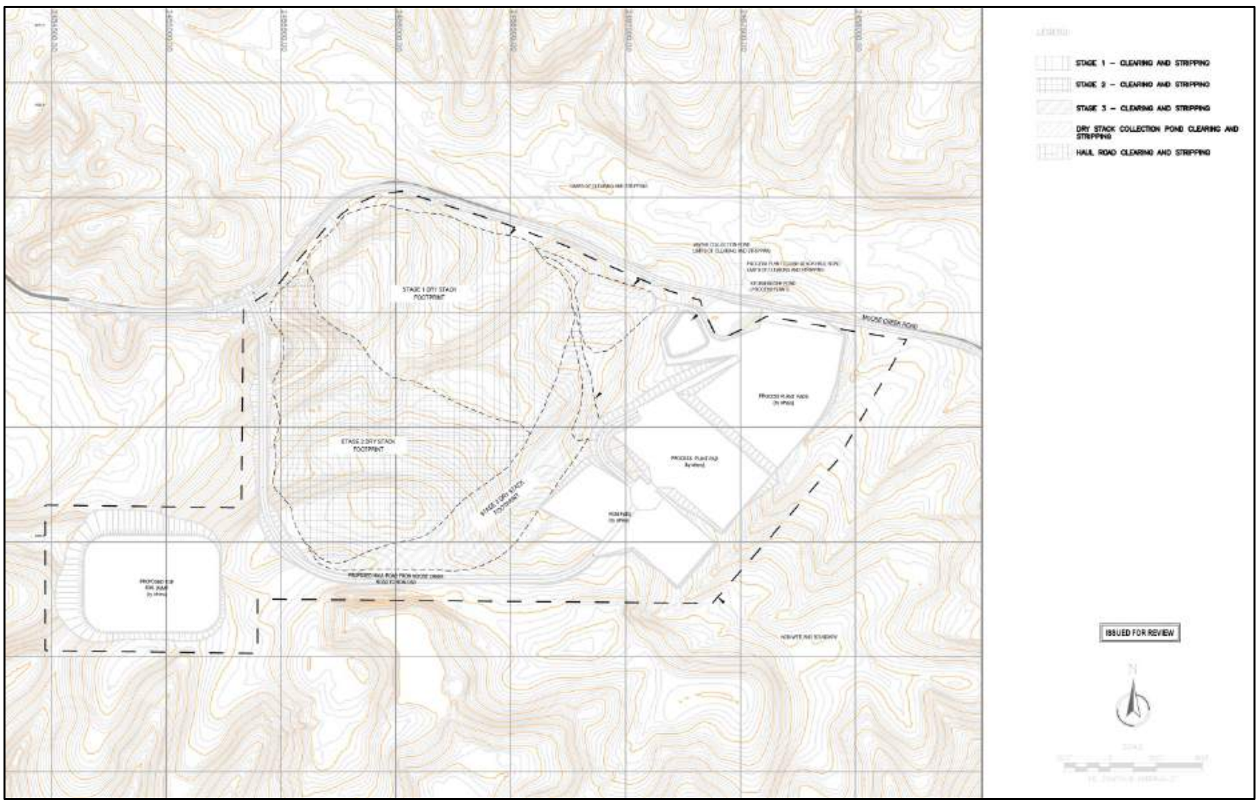
Table 18-2: Tailings Storage Facility Design Parameters

Design Parameter	Value
Design Tailings Storage Capacity	3,400,000 t
Average in situ Tailings Dry Density	92.5 pounds per cubic ft (pcf)
Tailings Production Rate	130,125 t/yr
Design Life	26 yr

The proposed DST facility includes:

- A surface water diversion with incorporated access track
- A geomembrane liner and overdrain seepage collection system
- A perimeter water collection ditch
- A water collection pond and pump to return contact water to the plant.

As depicted in Figure 18-9, the facility will be constructed in stages to suit tailings storage requirements and at full size will encompass an area of approximately 42 acres. The stack slopes will be constructed at 3H:1V in accordance with the closure design concept.



Source: Tetra Tech

Figure 18-9: Tailings Facility Staging Plan

Management of tailings by filtering and stacking the 'dry' solids was identified as the preferred tailings management approach for the Project. The key benefits of the approach involved reduced risk associated with potential failures of the TSF and associated environmental impacts, and reduced water consumption and water management requirements. The risk mitigation benefits included the expectation that the dry stack approach would be favorably received by the regulators and result in more efficient approvals for the Project.

18.6.1 TSF DESIGN CRITERIA

The process plant is expected to generate 16.7 t/hr of tailings (dry) for 7,812 hr/yr over the 26-year design life. This production will result in 130,125 t/yr of tailings (dry) and approximately 3.4 Mt of tailings over the design life.

Table 18-3 presents a summary of the design criteria and the assumptions adopted for the DST facility design. The facility was designed in general accordance with the requirements of the Idaho Mine Tailings Impoundment Structures Rules (Idaho Department of Water Resources) and Best Management Practices for Mining in Idaho (Idaho Department of Lands).

Table 18-3: Summary of TSF Design Criteria and Assumptions

No.	Criteria		
1	**Basic Data**		
	1.1	TSF footprint is constrained by proposed infrastructure, property limits, and topography	
	1.2	Tailings produced at 130,125 t/yr (dry) over 26-year LoM	
	1.3	TSF infrastructure to be constructed in stages to suit tailings storage needs, site constraints and reduced initial and ongoing capital costs	
2	**Stability of DST Facility Slopes**		
	2.1	Static	
		2.1.1	Minimum Factor of Safety (steady-state) - =>1.5
		2.1.2	Material properties adopted based on laboratory testing and site investigation results
	2.2	Dynamic (earthquake)	
		2.2.1	Pseudo-static analysis using Peak Ground Acceleration (PGA) corresponding to a 4,975 yr return period.
		2.2.2	PGA 4,975 yr return period = 0.18g
		2.2.3	Minimum Factor of Safety > 1.1 for 0.5 PGA

No.	Criteria	
3	**Surface Water Management**	
	3.1	Nominal design criteria for runoff collection is 1% chance of occurrence per year (one in 100 years event)
	3.2	Contain, without releasing to the environment, runoff from the design storm on the DST facility with 2 ft of residual freeboard
4	**Control of Potential Seepage From DST**	
	4.1	Tailings containment and seepage control systems must be designed such that the flux from the DST facility is low and does not cause negative impacts to groundwater at the site
	4.2	The unsaturated nature of the filtered tailings and provision of an engineered containment system consisting of a low permeability barrier and a network of overdrains to limit hydraulic head will provide effective protection against negative groundwater impacts
5	**Tailings Deposition**	
	5.1	Filtered (dewatered) tailings will be transported to the stack by truck, dumped, graded, and compacted in place. Stack slopes will be graded to an average side slope of 3H: 1V during operations.
	5.2	Estimated placement moisture content – 22%*
	5.3	Estimated average dry density of tailings in DST facility – 92.5 pounds per cubic foot (pcf)
6	**TSF Closure**	
	6.1	Establishment of a safe, stable and aesthetically acceptable landform.

**All moisture content values in this report are defined in accordance with the conventional geotechnical engineering definition as Weight of Water (Ww)/Weight of Solids (Ws), unless otherwise noted.*

18.6.2 TSF SITE DESCRIPTION

The geology in the TSF area consists of saprolite originating from and underlain by Cretaceous granites (Lewis et. al., 2005). The near surface clays and silts have been locally transported and are of variable thickness with soil-like weathered bedrock present up to 100 ft deep.

A geotechnical site exploration at the TSF site (Strata, 2015) was undertaken to evaluate the subsurface conditions. This work included five geotechnical boreholes, excavation of five test pits, and laboratory testing of select samples. The following subsurface units were identified from the exploration work: Alluvium, Sandy Elastic Silt, Residuum Clay, and Weathered Rock. Laboratory testing included: Natural Moisture Content; Atterberg Limits; Consolidation Potential; Particle Size Distribution, Triaxial Shear Strength, Modified Proctor Density Relationship, and Permeability Tests. In addition, geotechnical testing of a tailings sample was undertaken. The tailings were classified as a non-plastic Sandy Silt with Sand (ML), with a maximum Standard Proctor density of 97.4 lb/ft^3 at an optimum moisture content of 20%.

18.6.3 TSF DESIGN FEATURES

The DST facility components were selected to reduce the risk that tailings contact water would impact adjacent natural waters. The following components are incorporated into the design: (1) diversion of stormwater run-off from areas upstream of the DST facility, and (2) collection of seepage and surface water runoff from the DST facility.

Stormwater run-off from areas upstream of the DST facility will be diverted by a perimeter berm with incorporated access track. Surface water runoff from within the dry stack area will be collected in a ditch aligned inside the perimeter berm. A network of drains will be installed under the tailings stack to collect seepage and convey it to the perimeter collection ditch. The drain network will be comprised of primary and secondary drains (‘overdrains’) arranged in a herringbone pattern on the surface of a geomembrane liner. The perimeter collection ditch is graded to convey runoff and any seepage from the stack by gravity flow to a collection pond located to the east of the stack. The collected runoff and seepage will be pumped back to the process plant for re-use.

18.6.4 TSF CONSTRUCTION

The DST facility will be constructed in three stages to suit tailings storage requirements and facilitate concurrent/progressive reclamation. The phased development of the DST facility footprint allows for deferred capital expenditure and a smaller area for environmental and dust management than if the facility were constructed over the full footprint from the outset.

A summary of the designed storage capacity by stage is provided in Table 18-4. The design life for each stage was calculated based on the expected tailings density at the specified compaction requirements. Over 15% additional capacity is available in the design stack geometry to allow for variation in production and tailings material properties and compaction over the life of the mine.

Table 18-4: TSF Design Storage Capacity and Stage Design Life

TSF Stage	DST Footprint (Acres)	Design Storage Capacity (Mt)	Design Life (Years)
Stage 1	13.6	1.0	8
Stage 2	13.0	1.9	13
Stage 3	3.8	1.0	5+
Total	**30.4**	**3.9**	**26+**

Earthworks foundation preparation will include clearing and grubbing of trees, salvaging of topsoil for future reclamation use, and proof rolling the footprint to ensure suitable foundation capacity. Some modest cuts/fills are proposed to facilitate drainage to the perimeter and smooth out local topographic variations. Any unsuitable materials within the foundation, if encountered, will be removed and replaced with suitable structural fill. These materials may include but will not be limited to historic fill, organic topsoil, soft saturated zones, and other potentially deleterious materials. Fill material, if encountered during construction, will be either removed or re-compacted to subgrade specification. Construction quality control and assurance will include field and laboratory monitoring and testing of material and compaction characteristics.

18.6.5 TSF OPERATION

The dry tailings will be transported from the tailings bunker outside the processing facility to the dry stack by haul truck. This approach was determined to be preferred over conveyor transport due to the operational flexibility and cost savings.

A tailings haul road will be constructed between the plant to the dry stack and an access ramp will be incorporated into the dry stack. The dry tailings will be dumped into heaps, spread into thin lifts, and compacted with a padfoot compactor. A method specification will be developed to determine the maximum lift thickness and the minimum number of compactor passes required. A single haul truck will have capacity to manage the tailings production, and cycle times from plant to stack will increase from approximately 7 minutes to 11 minutes over the facility life.

Dust management will include traffic control outside tailings placement areas and the application of dust suppressant on the interim stack surfaces and haul roads. Dust suppressant will be periodically applied using a hydroseeder equipped with a hose/nozzle and also a cannon sprayer arrangement for application on slopes and flat areas, respectively. To further mitigate potential tailings dust and erosion issues, progressive cover placement will be undertaken during the operational life where possible.

Surface water management on the stack will be achieved through the grading and effective tailings placement. The perimeter rock berm will mitigate erosion of tailings to the perimeter ditch, however, regular maintenance including cleanup of accumulated sediment must be performed during operations.

18.6.6 TSF DESIGN ASSESSMENTS

The engineering analyses conducted for the proposed TSF design were based on a geological model generated from site investigation data, the expected physical and environmental properties, and the proposed operating conditions. The analyses included: geotechnical slope stability analyses, evaluation of liquefaction potential, seepage analyses, hydrotechnical analyses, and collection pond pump design.

The fine grained soil units in the TSF foundation pose potential stability and settlement issues, and it is expected that the foundation soils will consolidate due to DST placement. The estimated factors of safety meet the stability design criteria. Failure through the foundation was found to be the critical mode for both static and pseudo-static analyses. Extensive liquefaction of the foundation soil deposits is not anticipated based on a liquefaction triggering assessment. A transient 2D seepage model for the DST that incorporated consideration of unsaturated and saturated conditions was constructed to evaluate the containment design features (overdrains and liner) and the closure cover requirements.

Hydrotechnical design assessments were undertaken to establish design requirements for the perimeter collection ditch and culverts, and the water collection pond. These assessments included HEC-HMS modeling to estimate runoff flow rates and volumes. The 100-year storm event was analyzed, which contributes 3.8 inches of rainfall in 24-hours. Conservative parameter selection was adopted and the model outcomes are summarized in Table 18-5.

Table 18-5: Hydrotechnical Modeling Results

Configuration	100-yr, 24-hr Peak Flow Rate (cfs)	100-yr, 24-hr Runoff Volume (acre-ft)
Final Stack Geometry (‘ultimate buildout’)	125.4	7.5
Portion of Final Stack Geometry contributing to perimeter collection ditch (1)	62.8	4.4

(1) Because the DST will be graded to split runoff flows reporting to the perimeter, the collection ditch was sized for the larger portion of the stack contributing area.

The design flow rate for each half of the perimeter ditch was 62.8 cubic feet per second (cfs), while the culvert from the ditch to the collection pond was sized to handle 125.4 cfs given that the culvert will drain both portions of the ditch simultaneously. The design volume for the water collection pond was 7.5 acre-ft.

18.6.7 TSF INSTRUMENTATION AND MONITORING

The monitoring program for the dry stack will include periodic and documented visual inspections by operators and technical specialists, geotechnical instrumentation and data collection, and measurements of groundwater flow and quality.

18.6.8 TSF CLOSURE

The closure plan for the TSF will include placement of a cover over the tailings stack and decommissioning of the perimeter collection ditch and pond. The tailings stack cover will consist of a low permeability soil cover to inhibit infiltration and growth media to support vegetation growth. The cover may be placed progressively when perimeter stack slopes meet design grades. This approach can support dust and erosion control during mine operation, and reduce double handling of stripped topsoil as part of construction stages 2 and 3.

The cover design concept adopted for the dry stack involves placement of a 1 ft thick layer of compacted clayey material overlain by a 2 ft thick layer of growth media. The material for this cover will be obtained from the overburden stockpile to be located southwest of the stack. Decommissioning of the perimeter ditch and collection pond will include removal of the geomembrane and re-grading surface drainage. The tailings geochemistry was assessed by others as benign, so the key considerations with respect to closure design relate to geotechnical aspects such as stability and erosion.

SECTION 19 MARKET STUDIES AND CONTRACTS

19.1 PRODUCT MARKETS

Mineral products to be recovered by the Bovill Kaolin Project operation include:

- Quartz
- K-feldspar
- Metakaolin
- Halloysite

Information for this marketing study has been taken from landscaping studies carried out by Charles River Associates, independent studies carried out by DURTEC and First Test Minerals Ltd, the Roskill database, and trade analysis, combined with marketing data supplied by I-Minerals including interviews, meetings and background information from clients. I-Minerals' customer marketing program has been ongoing for over five years, refining the products offered and markets to be served.

19.1.1 QUARTZ

All three grades of quartz are high-purity and low iron, and comparable to existing quartz products currently available in the marketplace from U.S.-based competitors. The grades all range from 99.90% to 99.97% silica (SiO_2). The purest silica grade is aimed at high value markets, including chemicals manufacturing, solar glass, LCD, and lighting glass, while the other grades are potentially aimed at higher volume markets such as ceramics and container glass.

Through extensive market research, I-Minerals identified a potential market of 234,500 t/y, which more than covers the proposed production levels of 108,000 t/yr. The majority of interest is for the TrueQ™1 product, outlined at 126,000 t/yr, which reflects the volume consumed by the glass industry. However, the focus of production will be on higher value applications and interest has also been demonstrated for significant volumes of TrueQ™3. The intermediate grade of TrueQ™2 has been eliminated from the product mix for this project study due to inadequate market development and interest. The product may be reintroduced at a later date if future marketing warrants, and the processing circuit requires this product step anyway.

The high-purity quartz market is very competitive, and I-Minerals will face aggressive competition from existing suppliers in the quartz markets, particularly to supply the high-purity quartz product, TrueQ™3. For sales into container glass and ceramics markets, transportation and logistics to volume quartz purchasers will be critical and form a significant portion of costs, especially to those located in eastern U.S.

19.1.2 POTASSIUM FELDSPAR

The Project will produce high-grade K-feldspar, which gives it advantages over other feldspathic minerals in specialist ceramic and glass applications. Sources of K-feldspar are far less common than other feldspars, and it can therefore command a price premium. There is only one main supplier of high-grade K-feldspar in the U.S. (Pacer), although this material has a lower potassium oxide (K_2O) content (minimum 9.5% K_2O) than the proposed production from I-Minerals (minimum 12% K_2O). Additional domestic demand for K-feldspar is met by imports.

Customer interest is varied, and includes a range of companies from major tableware and glass producers to smaller ceramic mineral suppliers, as well as more specialist applications. I-Minerals identified markets for 39,200 t/yr of its K-feldspar products, Fortispar™K, in the U.S. domestic market, representing over 83% of proposed production. There has also been interest in this product from export markets.

19.1.3 METAKAOLIN

Metakaolin, produced by calcining kaolin at approximately 850°C, is a highly reactive pozzolan suitable for use as a cementing material in concrete. I-Minerals' metakaolin grade meets the specifications and standards for the U.S. concrete industry. Metakaolin particles are nearly ten times smaller than cement particles, which enables the production of a denser, more impervious concrete that is more durable and also has superior mechanical properties than concrete produced with conventional cement. The addition of metakaolin also reduces the setting time for the concrete and the alkali-sulfate reaction. Metakaolin with a lower brightness, as will be produced by I-Minerals, is used in larger volume industrial applications in construction, and in structural concrete, such as bridge decks, tunnels, and cooling towers.

The metakaolin will compete with other pozzolans, such as silica fume and flyash. Silica fume is a much more expensive product, while flyash is cheaper but has limitations. Metakaolin is also produced in the State of Georgia, but this is a much whiter product, and finds applications in more decorative markets such as swimming pools and kitchen work surfaces. However, additional freight costs to the northwestern U.S. will make Georgia metakaolin a more expensive pozzolan in that region.

There has been significant interest in the proposed production from the Project, and a potential market has been identified that more than covers production, particularly in the northwestern U.S. The market identified is 71,451 t/yr, although current production is forecast at 45,000 t/yr. Prospective customers in

Colorado, Montana, and Wyoming have expressed interest in metakaolin, particularly for use in mitigating the effects of alkali-silica reaction. One of the main causes of concrete deterioration in the U.S. is from de-icing salt and marine salt.

19.1.4 HALLOYSITE

Halloysite is derived from the weathering of feldspar to kaolin clays. Halloysite is an alumina-silicate clay mineral, which, in pure form is white, but due to a variety of contaminants, occurs in a range of different shades. Commercial high-quality deposits are relatively rare and are currently mined in China, Turkey, New Zealand and the U.S.

The principal market for halloysite is in the production of porcelain and bone china, but more recently it has been used in technical ceramics for use in molecular sieves and in the manufacture of honeycomb catalysts.

The I-Minerals' halloysite has a unique structure which could be advantageous in securing new markets. It can be used as a carrier for active ingredients in cosmetics, personal care products, and pharmaceuticals; and has applications in nanotechnology, clean technologies, and environmental protection. Halloysite can also be used as a filler in polymers, and in trials, benefits have been demonstrated with its use in compounded polymers (for example nylon-6 and polypropylene). Its addition could be used to enhance flexural and impact strength. I-Minerals' halloysite can also be used in volume market applications, such as animal feed and tile production. In tile production, halloysite produces a tough filter-cake, illustrative of its high green strength that imparts benefits in fast-fired tile production.

The market for I-Minerals' halloysite is one area where there could be significant upside potential when these developments in the life sciences, clean technologies, and nanotechnology are realized. However, many of these markets are currently in research and development, and are still unproven. Therefore, pricing levels and market sizes are speculative for the most part, and are not included as identified markets or for input into pricing models.

I-Minerals has identified markets of 8,566 t for its halloysite grades, accounting for around 70% of its proposed production. Of this, 4,442 t are in North America, with larger volumes identified for fast-fired tiles and animal feed. Another 4,742 t are overseas, mainly in Europe, for higher value sales into polymer compounding. There are other potential market opportunities in South Korea, Taiwan, China, South America, and Europe, but these were not included in the total identified markets.

19.2 COMMODITY PRICES

Unlike many other commodities, such as metals, grain, or oil, there are no fixed terminal or future exchanges, nor price indices, specifically for industrial minerals. Typically, the prices obtained from commodity exchanges can provide a bench-mark or reference point for the industry. However, in the industrial minerals industry, prices are dictated by confidential contracts between buyers and sellers, and are based on a number of factors including grades, quality, quantity, geographical location, and transportation mode (bulk, containers, bagged), and therefore, prices can vary widely with each transaction.

Due to the highly competitive nature of the industrial minerals industry, contract prices are highly confidential and not presented in public documents.

Indicated prices for quartz range widely and depend on a number of factors including both chemical and physical specification, volumes, and transportation mode (bulk, containers, bagged), amongst others. Based on indications from suppliers, prices range from US$120/t to over US$800/t. To achieve an average high-grade quartz price, a composite price was compiled from known data and weighted by the volumes and prices from various end use applications. These include solar glass, LCD, decorative and optical glass, borosilicate glass and lighting glass. This average value excludes the flat glass volume market, which is not I-Minerals' main sales focus, and the identified tonnage for this sector exceeds proposed production levels when cumulatively added to other market sectors. The incremental average value for the high-purity quartz grades is placed at US$295/t, ex-works. These identified markets cover 75% of proposed production assuming that I-Minerals will meet all the necessary specifications for these higher value markets.

Pricing of feldspar is also opaque, reflecting the varying specifications of the material (including alumina, sodium and potassium contents), and their physical characteristics and impurities. K-feldspar prices range from US$200/t to US$350/t. To achieve an average price, a composite price was compiled from known data and weighted by the volumes and prices from various end use applications. The incremental average value for the K-feldspar grades is placed at US$251/t, ex-works.

Historically, metakaolin prices in the U.S. have been based on the high-brightness, white kaolin produced in Georgia. However, I-Minerals will produce a different product which is reflected in its price of US$231/t ex-works, and is based on an acceptance price by all those who committed to a letter of intent.

Pricing of halloysite is also complex, as many of the applications are developing, and there is a wide differential in price level depending on the amount of processing, specification, volume, and end-use industry. For volume applications, such as animal feed, average pricing is US$700-$720/t. For polymer pricing, the indications range between US$2,000-$6,000/t, illustrating the wide variation. For the purposes of pricing the halloysite, a weighted average is used, which would include bulk volumes at lower prices and include allowances for some much lower volume sales at higher values into the identified markets. This method gives an average price of US$1,054/t for the halloysite into potential identified markets across the board.

19.3 TERMS

Mineral products from the Bovill Kaolin Project will be shipped FOB from the processing plant.

SECTION 20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

20.1 INTRODUCTION

This section discusses environmental baseline studies, permitting requirements, social and community impacts, and environmental impacts and reclamation for the Project.

20.2 ENVIRONMENTAL STUDIES

20.2.1 ENVIRONMENTAL SETTING

The Project area is located in the western foothills of the Bitterroot Mountains Physiographic Province, Latah County, in north central Idaho. The area consists of low foothills and ridges alternating with relatively wide, flat basins. The average elevation of the mineral lease area is about 3,000 ft amsl, with a topographic relief of about 200 ft. The Project is located on the west side of the Potlatch River drainage area as shown in Figure 20-1.

The Potlatch River drains south and southwest to the Clearwater River and is part of the greater Columbia River system that flows to the Pacific Ocean at the Oregon-Washington border. In the community of Bovill, approximately 2 miles southeast of the Project area, the average annual precipitation is 37.4 inches and the average total annual snowfall is 103 inches. The average annual maximum temperature is 56.6°F and the average annual minimum temperature is 31.2°F. Available records (February 1950 to February 1975) from the Clarkia Ranger Station weather station (12 miles northeast of the Project area, and at an elevation of 2,900 ft) indicate an average total snowfall ranging from 0.1 inch in October to 37.3 inches in January, with an annual average of 100.9 inches. Average snow depth ranges from 1.0 inch in November to 23.0 inches in February, with an annual average snow depth of 6.0 inches (Western Regional Climate Center (WRCC), 2010 (26)). Soils in the Project area are shallow to moderately deep with loamy to sandy textures and usually contains volcanic ash.

Most of the Project area has been used for mining, grazing, and/or timber harvest; therefore a relatively disturbed landscape is present. Evidence of past mining (primarily associated with clay and feldspar deposits) is found in borrow pits, tailings piles, as well as mine pits. Forested areas primarily occur on slopes and ridge tops and are intensively managed by the IDL for timber production. Forests in the Project area are composed of Douglas fir (Pseudotsuga menziesii), grand fir (Abies grandis), and western red cedar (Thuja plicata). Open wet meadows, occurring primarily in the basins along intermittent and perennial stream channels, are dominated by grassland with intermittent shrubs.

The Project area is located near the headwaters of Moose Creek, in the Potlatch River watershed. The Potlatch River originates northeast of Bovill, Idaho, in the Beals Butte area and runs for 56 miles in a south westerly direction through the southern half of Latah County with roughly 1,900 miles of tributary streams. The Project area is drained by several branching ephemeral streams. Springs in the area are both branching ephemeral and perennial streams.

20.2.2 ENVIRONMENTAL STUDY REQUIREMENTS

To support Project mine and environmental permitting requirements, the following environmental studies/surveys were conducted:

- Wetlands and Vegetative Survey
- Water Resource Assessment (surface and groundwater)
- Threatened and Endangered Species and Wildlife Assessment
- Air Quality Assessment
- Cultural Resources Assessment

20.2.3 SUMMARY OF ENVIRONMENTAL STUDIES

20.2.3.1 WETLANDS AND VEGETATION SURVEY

The following wetland and ordinary high water mark delineations were conducted:

- Updated Wetland and Ordinary High Water Mark Delineation Report, Bovill Kaolin Project, January 2013 (updated November 2014), HDR Engineering (document submitted to the USACE in November 2014) (HDR 2014) (27).
- Wetland and Ordinary High Water Mark Delineation Report Addendum, Bovill Kaolin Project, June 2015, HDR Engineering (HDR 2015c) (28).

The assessments identify wetlands and waters of the U.S. in areas of proposed mining activities (pits, roads, and process facility areas). They also include a list of observed vegetation (both upland and wetland species) in the Project area. The mapping was used by mine planners to avoid or minimize impacts to wetlands and water in the Project area. An important project goal is to avoid the need for an individual Section 404 of the Clean Water Act (CWA) permit. Improvements to Moose Creek Road, however, will require a Section 404(e) Nationwide Permit 14 (linear transportation projects).

The USACE issued a preliminary jurisdictional determination (PJD) (October 8, 2015) (29) based on the submitted assessments and onsite verification visits by USACE personnel in 2013 and 2015. The PJD is an indication that the agency concurs with the findings for jurisdictional wetlands and waters of the U.S. The USACE will complete a final jurisdictional determination (JD) prior to approving any Section 404 permit.

The assessments documented two main wetland community types within the project area: palustrine forested wetland (PFO) and palustrine emergent march (PEM). The PFO wetland community includes western red cedar, Engelmann's spruce (Picea engelmannii), and Sitka alder (Alnus sinuata) in the overstory with an understory of various grasses and forbs such as reed canarygrass (Phalaris arundinacea), sedges (Carex amplifolia and Carex aquatilis), and moss.

The PEM wetlands typically range from inundated areas to seasonally wet meadows. Common vegetation in the seasonally wet meadows typically includes redtop (Agrostis stolonifera), Baltic rush (juncus balticus), bluejoint reedgrass (Calamagrostis canadensis), timothy (Phleum pretense), sedges, and moss. Cattail (Typha latifolia) and common spikerush (Eleocharis palustris) is common at inundated areas.

Upland areas primarily consist of Douglas fir, western red cedar, white pine (Pinus monticola), grand fir, and lodgepole pine (Pinus contorta) in the tree stratum, with a shrub/sapling stratum consisting of snowberry (Symphoricarpos albus), Utah honeysuckle (Lonicera utahensis), and lodgepole pine saplings. Herbaceous vegetation in the upland communities commonly includes elk sedge (Carex geyeri), Idaho fescue (Festuca idahoensis), strawberry (Fragaria virginiana), common yarrow (Achillea millefolium), alpine pussytoes (Antennaria alpina), and fender meadowrue (Thalictrum fendleri).

20.2.3.2 WATER RESOURCE ASSESSMENT

The Project area is located within the Moose Creek watershed (Figure 20-1). Moose Creek is a tributary of the Potlatch River. Moose Creek and many intermittent tributaries contain riparian areas of wet meadow that act as floodways or floodplain fringe during high water periods. However, these surface waters have been greatly modified over the years due to road construction, logging, grazing, and creation of dams and reservoirs. Grazing has also eliminated much of the woody growth along most stream channels, resulting in eroded channels and sedimentation.

The Project is located near several ephemeral streams that feed into Moose Creek. The IDEQ mapping shows these ephemeral streams are part of Moose Creek. Moose Creek, which is listed in the Potlach River Total Maximum Daily Load (TMDL) with the identification code ID17060306CL053_02, is listed as impaired for E. Coli and temperature.

Wetlands occur in the floodway or floodplain fringe of most of the small tributaries in the project area, including the intermittent stream channel located in the mine area. No surface water features are found in or adjacent to the processing plant, the proposed pits, or haul roads.

The geology in and near the Project area is shown on Source: *I-Minerals, 2016*

Figure 20-2 and consists of granodiorite in the uplands and alluvium along the valley of Moose Creek and the larger drainages tributary to Moose Creek. The bedrock wells typically produce between 0 and 10 gallons per minute (gpm), with a few wells producing up to 20 gpm. Well logs and interviews with persons experienced in drilling wells in the area suggest the upper weathered regolith surface of the bedrock is likely the major water bearing zone, with little groundwater being produced from deeper fractures in bedrock. Wells constructed in the shallow alluvium near Moose Creek to support project activities produce from 4 to 12 gpm per well (HDR 2015a) (28).

A geochemical assessment conducted on ore, waste rock, tailings, and overburden associated with the Project indicates that the acid generation capacity from the geologic material is extremely low to non-existent (HDR 2015b) (30). The absence of sulfides in ore, waste rock, tailings, and overburden, indicates that there would be no oxidation of sulfides, and therefore, no acidification of water. In addition, geochemical analyses demonstrate mean concentrations of heavy metals that are not particularly enriched, are consistent with typical granitic rocks, and would not constitute a leaching hazard under normal environmental circumstances (HDR 2015b) (30).

In addition to geochemical assessments described above, groundwater samples were collected from test wells installed near the proposed processing facility in 2015. Analytical results reveal that groundwater quality constituents were below the Idaho groundwater quality standards as defined in Idaho Administrative Procedure Act (IDAPA) 58.01.11 (Tables II and III) (HDR 2015a) (28).

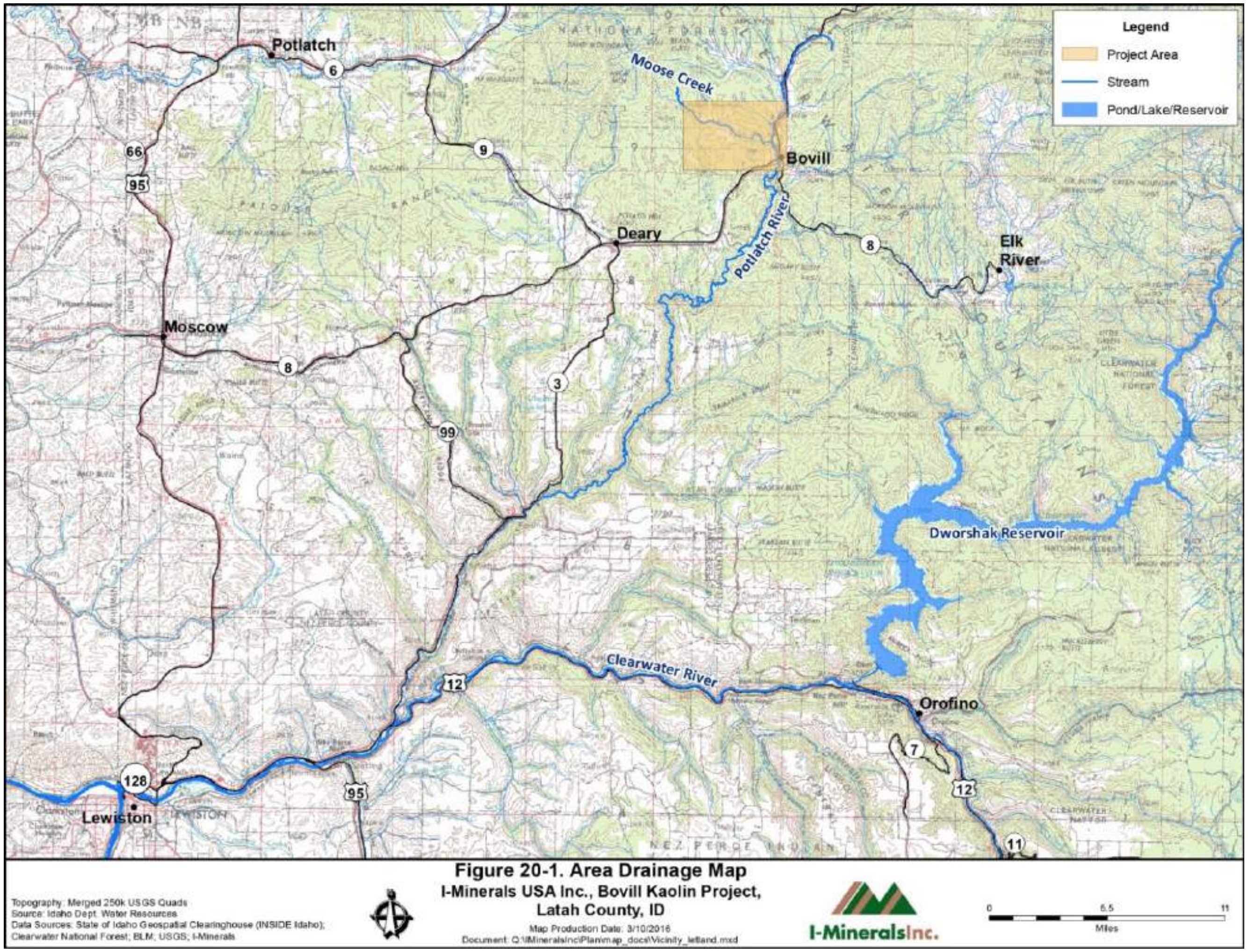
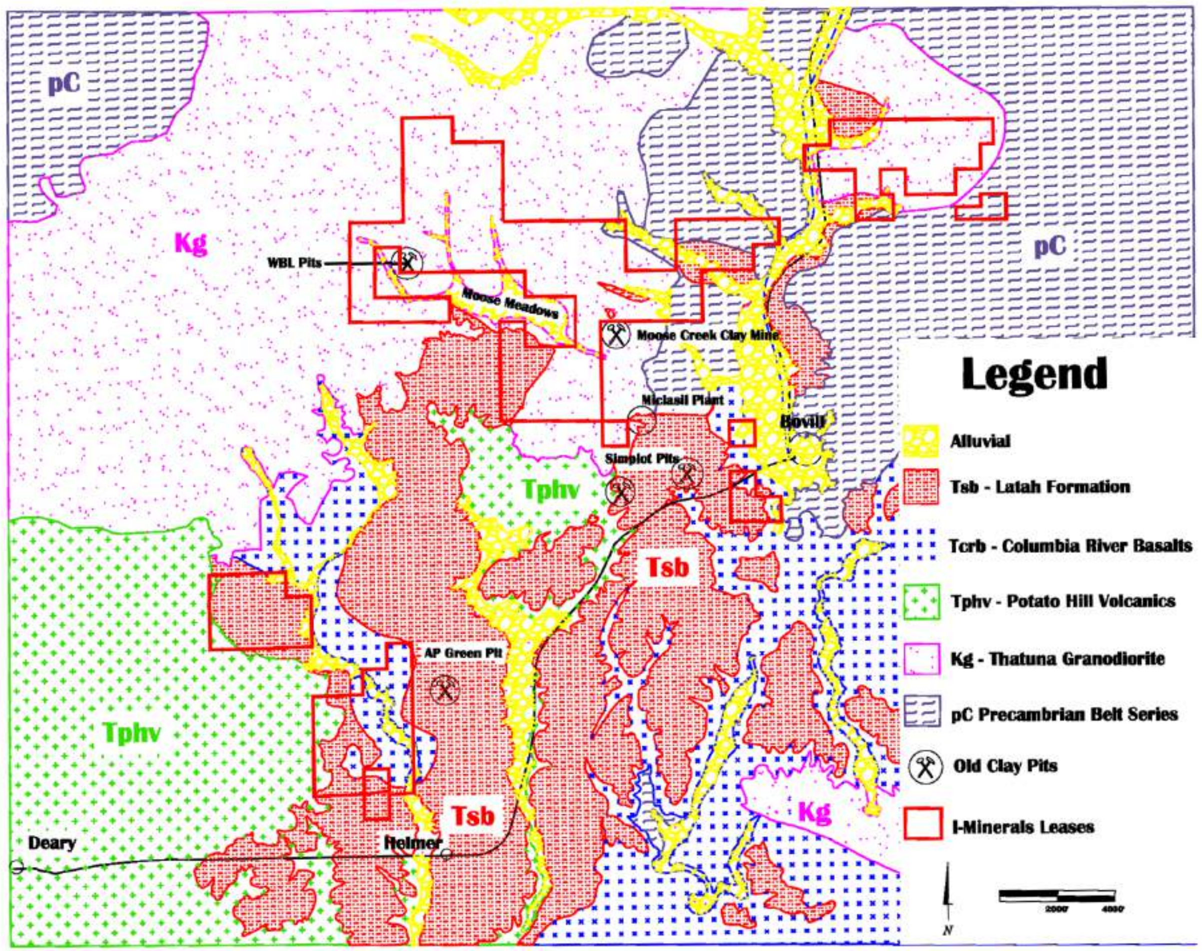


Figure 20-1: Area Drainage Map



Source: I-Minerals, 2016

Figure 20-2: General Geology Map

20.2.3.3 THREATENED AND ENDANGERED SPECIES AND WILD LIFE ASSESSMENT

The Idaho Department of Fish and Game (IDFG) categorize wildlife into big game, furbearers, upland game, small game, birds, reptiles and amphibians, and fish species. The following are representative species from these major wildlife groups and state special status species that occur or are likely to occur in the Project area:

- Big Game Species. Game species known to inhabit the Project area include whitetail deer (Odocoileus virginianus), elk (Cervus canadensis), moose (Alces alces), mountain lion (Felis concolor), Mule deer (Odocoileus hemionus), and black bear (Ursus americanus).
- Furbearers. Furbearer species in the Project area include American beaver (Castor canadensis), bobcat (Lynx rufus), coyote (Canis latrans), muskrat (Ondatra zibethicus), and common raccoon (Procyon lotor).
- Upland Game Species. Ruffed grouse (Bonasa umbellus) and pheasant (Phasianus colchicus) are likely to occur. Blue grouse (Dendragapus obscurus) may also occur.
- Non-Game Species. The most common non-game species known to inhabit the Project area include moles (Scapanus spp.), shrews (Sorex spp.), and ground squirrels (Spermophilus spp.).
- Reptiles and Amphibians. Reptiles and amphibians likely to inhabit the Project area include western toad (Bufo boreas), garter snake (Thamnophis sirtalis), and painted turtle (Chrysemys picta). Other species likely include Columbia spotted frog.
- Birds. The most common birds likely to use Project area habitat include mallard (Anas platyrhynchos), bald eagle (Haliaeetus leucocephalus), osprey (Pandion haliaetus), American robin (Turdus migratorius), mourning dove (Zenaida macroura), red-tailed hawk (Buteo jamaicensis), Canada goose (Branta canadensis), and various songbirds.
- Fish Species. Above Moose Creek Reservoir, Moose Creek becomes dry during summer months in many years; thus, fish species are generally not found in the Project area. Fish species documented in the reservoir and below the reservoir include westslope cutthroat trout (Salvelinus clarki), brook trout (Salvelinus fontinalis), brown trout (Salmo trutta), rainbow trout (Oncorhynchus mykiss), largescale sucker (Catostomus macrocheilus), non-native pumpkinseed (Lepomis gibbosus), bluegill (Lepomis macrochirus), black crappie (Pornoxis nigromaculatus), and largemouth bass (Micropterus salmoides).

The Environmental Conservation Online System (ECOS) operated by the U.S. Fish and Wildlife Service (USFWS) indicates that for the Project area, there are no listed threatened or endangered species or critical habitat as defined under the Endangered Species Act (ESA) (USFWS, 2015) (31). A number of migratory birds are found in the area, including bald eagle, fox sparrow (Passerella iliaca), and short-eared owl (Asio flammeus).

20.2.3.4 AIR QUALITY

An airshed is a geographical area that is characterized by similar topography and weather patterns. In Latah County, air quality is generally good to excellent. However, locally adverse conditions can result from occasional wildland fires in the summer and fall, and prescribed fire and agricultural burning in the spring and fall. All major river drainages are subject to temperature inversions that trap smoke and affect dispersion, causing local air quality problems. This occurs most often during the summer and fall months. For the Project area, there are no active facilities and no sources of air emissions other than dust generation from roads during dry conditions. Air quality permit requirements are addressed in Section 20.3.

20.2.3.5 CULTURAL RESOURCES

In 2007, Dr. Lee Sappington of the University of Idaho completed a study in the general Project area (but not at the exact locations of Project features). Findings from that study indicate no effect on listed or eligible historic sites. The State Historic Preservation Office (SHPO) concurred with this finding (SHPO 2008) (32). Based on the similar conditions found in the Project area, it is anticipated that there will be little, if any, impact to historic resources associated with the Project.

Permitting requirements associated with cultural resources are addressed in Section 20.3.

20.3 ENVIRONMENTAL PERMITTING

Table 20-1 summarizes the environmental permits required for the project, as well as the required studies, impact analyses, potential mitigation and monitoring requirements, and permit status.

Table 20-1: Required Environmental Permits

Permit/Authorization	Studies	Impact Analysis	Mitigation Requirements	Monitoring	Status
Idaho Mine Operation and Reclamation Authorization (IDL).	Description of all mine operation and reclamation plans including tailings storage facilities and water quality management measures.	Analysis of engineering, reclamation, and potential water quality concerns.	Development of water quality management plans including any necessary engineering controls.	As required in the Plan of Operations and Reclamation Plan.	Application package with final plan of operations, reclamation plan, and final mine design to be completed.
Air Quality (IDEQ).	An emissions inventory - Identification of emission sources including location and applied emissions factors for the Project.	Modeling of emissions and identification of expected impacts as compared to ambient air quality standards.	Preparation of Permit to Construct including any identified mitigation measures (air pollution controls) and monitoring needs.	Not required by IDEQ for Permit to Construct.	Emissions inventory, modeling, and permit preparation to be completed.
Clean Water Act, Section 402 National Pollutant Discharge Elimination System (NPDES) for Stormwater (USEPA). Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activity .	Identification of all stormwater discharge sources. As part of the NPDES permit, Endangered Species Act, Section 106 Cultural Resources, and Section 401 Certification are evaluated for stormwater discharges and stormwater related activities.	Identification of stormwater runoff from source areas to waters of the U.S.	Development of stormwater pollution prevention plan (SWPPP) including control measures (e.g., best management practices), inspections, and monitoring.	Monitor stormwater, site inspection, and implementation of best management practices for Project life. Annual reporting to the USEPA.	Notice of Intent and SWPPP to be completed prior to facility startup.

Permit/Authorization	Studies	Impact Analysis	Mitigation Requirements	Monitoring	Status
Clean Water Act Section 404/ Permit to discharge, dredge, or fill material within waters of the U.S. including wetlands, Nationwide Permit 14 (linear transportation projects).	Wetland and Waters of the U.S. delineation studies.	Identification of discharge, dredge, or fill material to waters of the U.S. including wetlands.	Anticipate Nationwide Permit 14 (linear transportation projects) associated with less than 0.5 acres associated with Moose Creek Road improvements. Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification.	As required in the Nationwide Permit 14.	Pre-construction notification for Nationwide Permit 14 will be filed with USACE prior to commencing construction activities. Impacts associated with Moose Creek Road improvements.
Subsurface sewage disposal permit permitted through IDEQ and Idaho North Central Health District per IDAPA 58.01.03 Individual/Subsurface Sewage Disposal.	Soil suitability assessment, Nutrient-Pathogen Study to assess protection of groundwater and surface water for sweater subsurface systems.	Analysis of site suitability for subsurface treatment.	Meet design requirements outline in IDAPA 58.01.03 and in the (IDEQ) Technical Guidance Manual for Individual and Subsurface Sewage Disposal Systems (TGM).	Typically not required, other than routine septic tank maintenance.	System assessment and design to be completed. Preliminary soils assessment shows site is suitable for large soil absorption system.
Potable water supply (human consumption), Public Non-Community Water Supply System permit through IDEQ.	Test wells and pump test, water quality sampling, design.	Assessment for groundwater under the influence of surface water (GWUISW) study.	Possible sand filtration and disinfection to meet GWUISW requirements.	Quarterly water quality sampling to meet permit requirements.	Pump tests and water quality sampling completed. Preliminary results indicate that groundwater is suitable source for potable water supply with disinfection to meet GWUISW requirements.

20.3.1 MINE PERMITTING

The Idaho Surface Mining Act, Title 47, Chapter 15, Idaho Code (IDAPA 2011) (33) requires the operator of a surface mine to obtain an approved reclamation plan and bond. The Bovill Kaolin Project is on state-leased land and as such, a Federal mine permit is not required. As described in Section 20.4, the IDL is the lead agency for surface mine activity in Idaho and is charged with implementing the antidegradation policy for surface mining. In reviewing and approving the mine permit, IDL may solicit comments from other resource agencies, including the IDFG, IDEQ, and Idaho Department of Water Resources (IDWR).

IDL requires that an operation and reclamation plan be submitted as part of the mine permit application process. A list of plan requirements is included in IDAPA 20.03.02 – Rules Governing Exploration, Surface Mining, and Closure of Cyanidation Facilities (33). As part of the permitting process, the permittee must also demonstrate that applicable local, State, and Federal requirements are met. Section 20.2 lists and describes the environmental permit requirements for the Project.

20.3.2 AIR QUALITY PERMITTING

Under IDAPA 58.01.01 – Rules for the Control of Air Pollution in Idaho, there are three types of air quality permits:

- Permit to Construct (PTC) - The PTC program is required for new or modified sources. PTC permits do not expire unless construction has not begun within 2 years of its issue date or if construction is suspended for 1 year. For the construction of a new source, the PTC is required.
- Tier I Operating Permits - A Tier I operating permit (also known as Title V permit) is required for all major sources of air pollution. Tier I Operating permits are required for major sources even if the facility already has a PTC. Tier I permits expire within 5 years.
- Tier II Operating Permits - Tier II Operating permits are issued to facilities when IDEQ has determined that a facility needs an air quality permit to comply with applicable rules, or when an applicant has specifically requested one. The most common type of Tier II operating permit that IDEQ issues are those that the applicants have requested in order to establish synthetic minor emission limits. A Tier II operating permit is generally developed after site startup (often 1 year after operations begin).

Based on emission estimates, the Project will be required to obtain a PTC.

20.3.3 CULTURAL RESOURCES

Section 106 is the portion of the National Historic Preservation Act (NHPA) that is concerned with the review of federal undertakings for their effects on historic properties. A federal undertaking is a project, activity, or program either carried out by or on behalf of a Federal agency, or is a project, activity, or program funded, permitted, licensed, or approved by a Federal agency. For this Project, the only anticipated Federal actions are the stormwater permit (Multi-Sector General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activities) and a Section 404(e) Nationwide 14 Permit (linear transportation projects associated with road widening of Moose Creek Road). Both the MSGP and the Nationwide Permit 14 have streamlined cultural resource assessment requirements that pertain to specific permit actions and, based on preliminary review of both permits, a “no effects” on cultural resources is anticipated.

20.3.4 MIGRATORY BIRD ACT AND BALD AND GOLDEN EAGLE PROTECTION ACT

Migratory birds are protected by the Migratory Bird Treaty Act and eagles are protected under the Bald and Golden Eagle Protection Act. USFWS prohibits taking migratory birds or eagles unless authorized. There are no provisions for taking migratory birds that are unintentionally killed or injured. The Project must comply with the appropriate regulations for protecting birds, and this involves analyzing potential impacts and implementing appropriate conservation measures for all Project activities. See Section 20.4 for further discussion.

20.3.5 SUBSURFACE SEWAGE DISPOSAL

Permit, design, and siting requirements for on-site treatment systems are found in IDAPA 58.01.03 Individual/Subsurface Sewage Disposal Rules (34), and the IDEQ Technical Guidance Manual for Individual and Subsurface Sewage Disposal Systems (TGM). The most common option for disposal of domestic wastewater is a septic tank and a standard subsurface drainfield. The feasibility of drainfield disposal is dependent on soil, geology, surface water, and groundwater characteristics including soil texture and effective soil depth to porous layers, groundwater, and impermeable layers. Drainfield area sizing is determined by the percolation rate, which is a function of soil texture and structure. If a standard drainfield design is not suitable due to site conditions, alternative designs are available and outlined in the TGM.

20.3.6 POTABLE WATER

The potable water supply is classified as a public non-community water supply system and requires permitting through the IDEQ. Two test wells are in place and can provide potable water to support mining activities (some modification of the wells may be required to meet Idaho potable water rules). A water treatment system will be required in order to meet state requirements for potable systems (sand filtration and disinfection for naturally occurring microorganisms).

20.3.7 WATER RIGHTS

An Idaho water right is an authorization to use water in a prescribed manner. For the Project, water is required to support the ore processing (industrial use) and also for potable purposes (drinking water, showers, toilets, laboratory, etc.). I-Minerals has developed and will submit an Application for Permit to Appropriate the Public Waters of the State of Idaho for the Section 16 reservoir and for groundwater wells to support mining activities. The application is in IDL's name. I-Minerals will have an agreement in place with IDL that allows for the exclusive use of these water sources for the duration of the Project.

20.4 ENVIRONMENTAL, SOCIAL, AND COMMUNITY IMPACTS

20.4.1 STAKEHOLDER ENGAGEMENT

The primary stakeholders for the Project are the communities of Bovill and Deary (Figure 20-3). The secondary level stakeholder communities include Troy, Moscow, Lewiston, Fernwood, and Saint Maries. The mining operations will be closest to the community of Bovill, which is located within 2 miles of the Project. The Project is located within Latah County and is in an unincorporated area. I-Minerals held meetings with the citizens of Bovill, Princeton, and Plummer and met with Latah County and Coeur d'Alene Tribe officials regarding the Project. In addition, I-Minerals maintains a publically accessible website (http://www.imineralsinc.com/) that describes the Project and provides a means for stakeholders and the general public to contact I-Minerals.

The primary regulatory agency for the Project is the IDL, which is responsible for mine permitting and the management of the land (the Project area is located on endowment lands owned and administered by the IDL). Other agency stakeholders include IDEQ (air permitting, domestic wastewater disposal, potable water, surface and groundwater quality), IDFG (management of Moose Creek Reservoir and general game and wildlife responsibilities), IDWR for water rights, and the USACE (Nationwide Permit 14). I-Minerals held multiple meetings with agency stakeholders during the course of the mine permit development.

After the mine application package is submitted to the IDL, the director of IDL forwards the application materials to the IDWR, IDEQ, and IDFG for review and comment. At the discretion of the IDL Director, a public notice of the application package may be issued. In addition, non-confidential content of the application will be provided to individuals (through IDL) who request the information in writing, as required by Idaho Public Records Act. The Director may also call for a public hearing to determine if a proposed application complies with IDAPA 20.03.02 – Rules Governing Exploration/Surface Mining/Closure of Cyanidation Facilities (33).

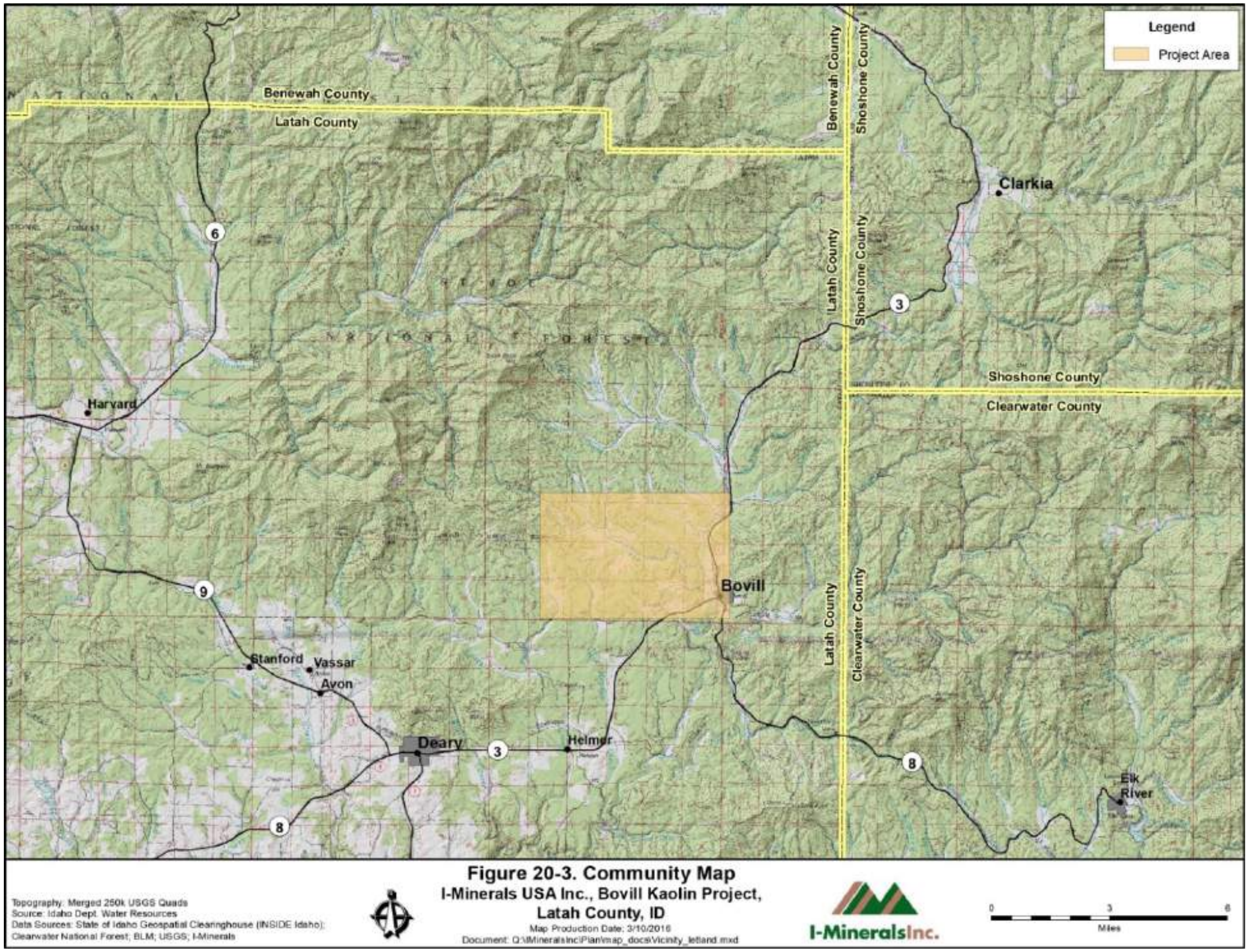


Figure 20-3. Community Map
I-Minerals USA Inc., Bovill Kaolin Project,
Latah County, ID

Figure 20-3: Community Map

In addition to the mine permit through IDL, a public notice to construct (NTC) will be issued by the IDEQ upon the submittal of the air permit application and, depending upon public response, may also request public comment on the draft permit as defined in IDAPA 58.01.01 – Rules for the Control of Air Pollution (35) in Idaho.

20.4.2 IMPACTS - SOCIAL

Latah County had a population of 38,411 in 2014, and population density of 35 people per square mile (U.S. Census Bureau 2015) (36). The county's population grew by 7% between 2004 and 2014, while Idaho's population grew by 17% and the U.S. grew by 9% (U.S. Census Bureau 2015 (36) and Idaho Department of Labor 2015) (37). The unemployment rate in Latah County is 3.9% (April 2015), below state and national averages. The largest employer in the county is the University of Idaho in Moscow (25% of the county's jobs). Also, because of the university, one-third of the County's population is between 18 to 29 years old.

Moscow, the county seat, has a population of 24,767, compared to 507 in Deary, and 255 in Bovill (based on 2014 U.S. Census).

According to a report from Idaho Department of Labor, the 2013 per capita income for Latah County was US$35,274 compared to a state average of US$36,146 and a national average of US$44,765. In Latah County, approximately 20% of families were below poverty level between 2009 and 2013 (U.S. Census Bureau 2015). Approximately 25% of Bovill residents had incomes below the poverty level in 2013.

With construction of the Project, temporary jobs will be created during construction, as well as permanent, high-value mining jobs during operation. In addition, both temporary and permanent employees will indirectly generate employment through local spending. Once operational, the mine is projected to employ up to 80 workers. The economic stability of the communities in Latah County would benefit by having the current workforce living in the communities and employed at the mine. In addition to the direct employment, mine construction would also generate indirect and induced employment of suppliers to the mine and employment due to spending by employees of the mining operations.

Based on the current employment and wage report, Latah County's average hourly wage for a construction laborer is US$14.41, generating an annual salary of approximately US$30,000 (Idaho Department of Labor 2015) (37). Hence, the direct income may increase at peak construction in the Bovill region. Additional temporary indirect income will be generated in construction support industries in nearby Bovill.

The current housing market and community service facilities of the region would likely be sufficient to absorb the increase in the local population (it is anticipated that much of the workforce will come from current Latah County residents). Therefore, no increased demand on the housing market and on the community services is expected as a result of the temporary increases in population during construction and operational phase of the mine. Mine operation would result in the long-term direct and indirect employment opportunities as the mine is expected to be operable for 26 years.

Little public cost is expected to be associated with the project. The increase in employment from the project is not expected to increase population counts substantially. No improvements to public services including police protection, fire protection, medical facilities, schools, utilities and sewerage, and public roadways are anticipated. I-Minerals will arrange for and pay for electricity, natural gas, water, and sewage (on-site treatment and disposal) to be brought to the mine site. It is unlikely that the increase in employment at the mine will cause an increase in public costs.

20.4.3 IMPACTS - ENVIRONMENTAL

Mine related disturbances are summarized in Table 20-2. Disturbances will be reclaimed in accordance with the reclamation plan, which must be approved by IDL prior to commencing mining activities.

20.4.3.1 WATER RESOURCES

I-Minerals has designed a “zero-discharge” facility, meaning that process water is reused or evaporated onsite and is not discharged to surface or groundwater. Therefore, a NPDES permit for process water or wastewater is unnecessary. An industrial MSGP for stormwater will be obtained for stormwater discharges. The MSGP requires implementation of control measures to minimize pollutant in stormwater, therefore minimizing potential impacts to surface water from mine related activities.

The mine will use a DST facility, which greatly reduces the need for tailings water management. The tailings facility will be lined, and stormwater falling directly on the tailings facility will be collected for reuse in processing, thereby providing protection for surface and groundwater resources.

Stormwater control is the main water management requirement for the pits (no springs or groundwater are expected to be encountered within the pits). Upgradient stormwater will be diverted around the pits. Stormwater generated within the pits will be managed through best management practices (BMPs) including conveying stormwater to adjacent stormwater retention structures as defined in the mine SWPPP. As described in Section 16, at closure, pits will be backfilled as necessary to allow stormwater to drain naturally out the lowest crest.

Table 20-2: Summary of Estimated Disturbance and Reclamation for Project

Component	Total Disturbance (acres)	Reclamation/Mitigation
Open Pits		
North Kelly's Hump Phases 1, 2, and 3	44.4	Reclamation per IDL approved reclamation plan.
South Kelly's Hump Phase 1	12.8	
Middle Ridge Phase 1 and 2	36.5	
Waste Dumps		
North Kelly's Hump Dump	10.8	Reclamation per IDL approved reclamation plan.
South Kelly's Hump Dump	10.6	
Roads (access, haul, secondary)		
Moose Creek Road Improvements	30.0 (less than 0.5 acres of wetlands)	Road improvements will remain in place after mining activities cease
Haul and Access Roads	7.91	Reclamation per IDL approved reclamation plan.
Processing Facility		
Processing facilities	19.5	Demolition and reclamation per IDL approved reclamation plan.
Tailings Storage Facility		
DST storage facility and stormwater control features	42.6	Reclaimed per IDL approved reclamation plan.

20.4.3.1.1 THREATENED AND ENDANGERED SPECIES AND WILD LIFE ASSESSMENT

As described in Section 20.3, no threatened and endangered species, nor their habitat, have been identified for the Project area. Mining disturbances are temporary, and followed by reclamation with vegetation suitable for the area. Much of the mine site footprint has been disturbed by past activities including mining, livestock grazing, and timber harvesting. Impacts to wildlife are expected to be minimal.

20.4.3.2 MIGRATORY BIRDS AND EAGLES

To date, no migratory bird nests have been identified in proposed mine disturbance areas; updated surveys will be conducted before mining commences. Most of the Project area is disturbed, having been used for mining, grazing, and/or timber harvest. Forested areas primarily occur on slopes and ridge tops and are intensively managed for timber production. If migratory bird nests are found, I-Minerals will work with the USFWS to obtain the appropriate permits.

20.4.3.3 AIR QUALITY

In general, the mined ore, overburden, and tailings are moist, with minimal potential for particulate matter emissions until the products are dried. Therefore, other than fugitive dust from trucks hauling the ore approximately 3 to 4 miles to the plant, and trucks hauling the products away from the facility, the primary sources of emissions will be from product dryers and a calciner, as well as from bagging/handling operations.

The Project will introduce relatively minor amounts of fugitive dust, chemical vapors in the processing facility, and diesel exhaust. Furthermore, these releases will be minimized and mitigated through pollution control devices designed to meet the IDEQ PTC and Idaho air quality standards.

20.4.3.4 HEALTH AND SAFETY

I-Minerals is committed to the health and safety of its employees and contractors and believes in a zero harm philosophy. To achieve this, policies and procedures will be put in place to maintain a safe and healthy workplace environment in accordance with applicable MSHA standards and regulatory requirements.

20.4.3.5 NOISE

The prevalent pit operation noise source is equipment powered by internal combustion engines (usually diesel). No pit blasting is anticipated. Mining equipment will have exhaust systems design to reduce noise. The pits are in remote areas, mostly operated during daylight hours, and there are no permanent human residences within 3 miles. Noise emitted from within the pits will be partially blocked from receptors due to the lower elevation of the pit compared to the surrounding area.

The majority of the processing plant is indoors, so noise emitted from equipment is blocked by the buildings. Mobile equipment, including trucks and loaders, are mostly outside. The Moose Creek Reservoir campground is located approximately 0.5 miles southeast of the processing facility. The elevation of the campground is approximately 2,900 ft amsl compared to 2,970 ft amsl at the processing facility. Between the campground and the processing facility is forested area that rises to a maximum elevation of 3,049 ft amsl. Thus, noise generated at the processing facility is expected to be partially blocked from campground receptors by the elevated forested area. To further address noise, I-Minerals will install reversing strobe lights on heavy equipment used at the processing plant in place of reversing sirens (backup alarms).

20.5 WASTE MANAGEMENT

Table 20-3 outlines the various types of waste that are expected to be generated by the proposed project and their proposed disposal/recycling methods.

Table 20-3: Summary of Waste Generation and Disposal/Reuse Methods

Description	Number	Where
Solid Waste	Food waste	Expected to be in small quantities (e.g., workers lunches scraps), either sink disposal to on-site domestic septic system or into solid waste containers for removal off-site.
	Cardboard/paper (misc. supplies)	Either recycled or placed in dumpster for off-site disposal at permitted municipal landfill. Solid waste management by contracted company.
	Plastics including water and soda bottles	Plastics and related recyclables will be sorted, stored, and periodically recycled using county recycling facilities.
Liquid Waste	Domestic Wastewater from kitchen and bathrooms (sewage)	On-site septic system, permitted through IDEQ. Sewage will be disposed of in a septic system. The septic tank will be constructed and maintained in accordance with Idaho standards.
Hazardous materials	Waste oil	Waste oil will be collected and stored in DOT approved drums with appropriate secondary containment. Oil will be recycled off-site by licensed hauler and recycler in accordance with IDEQ guidelines.
	Used Tires	Used tires will also be temporally stored onsite and periodically hauled off-site for recycling by licensed recycling facility in accordance with IDEQ guidelines.
	Used Batteries	Used batteries will be stockpiled onsite and periodically shipped off-site for recycling in accordance with IDEQ guidelines.
	Oil rags, filters, and maintenance related items	Oily rags/filters will be separated and stored for recycling. Once a sufficient amount has been collected they will be disposed of at the appropriate site in accordance with IDEQ guidelines.

20.6 REHABILITATION AND CLOSURE

The Idaho Surface Mining Act, regulated by the IDL, requires I-Minerals to post financial assurances for reclamation prior to conducting any surface mining operations. Financial assurances will be in an amount sufficient to complete reclamation as described in the reclamation plan to be submitted by I-Minerals to IDL as part of the permitting process. When the IDL approves the reclamation plan, the agency will determine the amount at the time of permit approval. Mining may commence upon posting of financial assurances.

Mine closure will follow the IDL-approved mine operation and reclamation plan. The overall reclamation goal is to restore the site to beneficial post-mining land use, prevent undue or unnecessary degradation of the environment, and reclaim disturbed areas so they will be compatible with the surrounding landscape. Concurrent reclamation and interim stabilization will be implemented during mining activities. Reclamation activities will follow an adaptive management approach, in that best management practices (BMPs) may need to be modified, removed, or added depending upon observed reclamation success and site conditions.

SECTION 21 CAPITAL AND OPERATING COSTS

The estimates of capital (CAPEX) and operating (OPEX) expenditures for the Project were developed by GBM, with inputs from Tetra Tech, MDA and HDR. All costs are prepared in Q1 2016 and presented in U.S. dollars.

21.1 CAPITAL COST ESTIMATE

The initial and sustaining capital costs were estimated, and divided into categories based on each major area of the project. The estimate accuracy is within ±15%, and appropriate for a Feasibility Study. The overall estimate has been compiled in line with the requirements of an AACE-defined Class 3 Estimate.

21.1.1 INCLUSIONS

The following are included in the Capital Cost Estimate:

- Mechanical equipment costs
- Process plant piping, platework, earthworks, civil, structural, electrical, control and instrumentation, installation and freight forwarding
- Mine operations infrastructure, including workshops, fuel and lubricant facility, administration, and amenities
- Infrastructure associated with the process plant, including storage for reagents and spare parts, process water supply and storage, the mill control room, laboratory, emergency services, mess hall, change rooms, administration building, security and parking lot
- All roads required at the site, including upgrades to Moose Creek Road from Highway 8 to the mill, and all internal access roads
- Tailings storage facility
- Transmission powerline and pipeline from substation and pressure station, which are located at the site boundary, to the process plant
- EPCM costs for the construction of the process plant and infrastructure as per the battery limits
- Insurance
- Utilities required for construction, including water, fuel, and electricity
- All anticipated mining and environmental permits and monitoring costs
- Rehabilitation and closure.

21.1.2 ASSUMPTIONS

The CAPEX estimate also includes the following assumptions:

- All new equipment will be purchased
- Equipment costs are based on selected suppliers that may not be the final equipment suppliers for the project
- The construction is as detailed in the GAs and specifications
- Costing is based on the current design
- Where freight location is unknown; it is assumed that goods will be U.S.-based
- The costs are based on a mine life of 26 years.

21.1.3 EXCLUSIONS

No allowance has been made for:

- Cost escalation
- Currency fluctuations
- Container demurrage costs
- Management reserve
- Mobile equipment; to be leased and included in operating costs
- Mining; responsibility of mining contractor
- Provision of a substation and pressure reduction station.

The contingency estimate allows for unforeseen occurrences within the current scope. The contingency has been estimated per discipline to account for the varying levels of risk. Where sub-consultants have been used their recommended contingency has also been applied. The total contingency for the Project is approximately 15% of the total direct costs.

21.1.4 CAPITAL COST SUMMARY

The total initial capital investment for the Project is estimated to be US$108,123,204. Sustaining capital of US$11,775,070 is required, bringing the total LoM capital investment to US$120,033,272.

The total LoM capital for the Project is reported in Table 21-1. The total expenditure shown accounts for sustaining capital planned to be spent over the 26 years of operation.

Table 21-1: Capital Cost Estimate

Total Capital Investment	Initial Capital (US$000s)	Sustaining Capital (US$000s)	Total LoMCapital (US$000s)
TOTAL CAPITAL INVESTMENT	**108,258**	**11,775**	**120,033**
FIXED CAPITAL TOTAL	**97,773**	**11,230**	**109,548**
DIRECT TOTAL	**65,054**	**11,230**	**76,284**
General	4,059	6,001	10,059
Mining	1,334	84	1,418
Process	50,764	0	50,764
Waste Management	3,167	5,145	8,312
Infrastructure and Utilities	5,731	0	5,731
INDIRECT TOTAL	**32,718**	**546**	**33,264**
Engineering & Procurement	10,200	0	10,200
Construction Management	5,204	0	5,204
Field Indirect	5,314	0	5,314
Contingency	12,000	546	12,546
WORKING CAPITAL TOTAL	**10,485**	**0**	**10,485**
Cash Reserve	9,687	0	9,687
Inventory	798	0	798

21.1.5 SUSTAINING CAPITAL

The processing plant has been designed for the full duration of the expected operating life, and therefore, sustaining capital requirements are limited to the following:

- The TSF has been designed so that the initial investment will be sufficient for the first seven years of operations. Expansions to the TSF will be required in Years 7 and 20 of operation
- The TSF equipment will be replaced/overhauled in Years 9 and 19 of operation
- Sustaining capital for mining is included in the contract mining operations.

21.1.6 MINING CAPITAL COST ESTIMATES

Mining capital costs were developed by MDA, and are summarized in Table 21-2. Costs have been minimized by selecting a contract mining approach and by utilizing the space in the plant facilities for offices. Mobilization, demobilization and provision of mining equipment costs were included in contractor estimates and have been built into the OPEX estimate.

Initial mining capital costs include pre-strip, mine planning software, surveying equipment, other specialized software and supplies.

Sustaining capital was estimated to be the cost of replacing and upgrading surveying equipment and software every five years for the Project LoM.

Table 21-2: Mining Capital Estimate Summary

Cost Component	Initial Capital (US$000s)	Sustaining Capital (US$000s)	Total LoM Capital (US$000s)
Pre-strip	1,108	-	1,108
Equipment	226	-	226
Replacement Items	-	84	84
Total	**1,334**	**84**	**1,418**

Note: US$5.2 M for total upgrade to Moose Creek Rd., half of which is used predominately for hauling. This, and additional haul road costs, have been captured as part of road upgrades capital.

21.1.7 ROAD UPGRADE WORK

As detailed in Section 18, major upgrades to Moose Creek Road are required. These works are planned between Highway 8 and the processing facility, and also between the processing plant and mine area. In addition, new haul roads between Moose Creek Road and the mine pits/waste dumps are also required. A cost summary for these items is detailed in Table 21-3. Sustaining capital for maintenance of haul roads is included as part of the contract mining costs.

Table 21-3: Road Upgrades Capital Estimate Summary

Cost Component	US$000s
Moose Creek Road upgrades	5,187
Mine and waste dump access	543
Contingency	1,393
Total Capital Investment	**7,123**

21.1.8 PROCESS PLANT AND RELATED INFRASTRUCTURE

LoM costs for the process plant and related process infrastructure were developed by GBM and are summarized in Table 21-4. Further definition is presented in Table 21-5.

Table 21-4: Process and Infrastructure Capital Estimate Summary

Cost Component	Initial Capital (US$000s)	Sustaining Capital (US$000s)	Total LoM Capital (US$000s)
Direct costs	54,823	-	54,823
Indirect costs	31,660	-	31,660
Working Capital	-	10,485	10,485
Total	**86,483**	**10,485**	**96,968**

To ensure the desired level of accuracy for the estimate, 74% (US$47.8 million) of the mechanical equipment was based on competitive budgetary pricing, with the remaining 26% (US$16.8million) calculated by using first principles and factored estimates.

All other supply and installation costs including earthworks, concrete, steel, electrical, instrumentation and control systems, piping, and platework were priced from estimated bills of quantities and budget rates obtained from local contractors.

The direct capital costs include:

- All labor required for the project including EPCM activities
- All material and equipment required for construction
- Mechanical, electrical, control, instrumentation, civil/structural works, earthworks and piping installation services
- Transport and freighting services
- Insurance and capital spares
- Construction and installation.

The calculated working capital, accounting for all direct and indirect operational costs, is sufficient to operate the plant for an initial six month period until positive cash flow is achieved.

Table 21-5: Process and Infrastructure Capital Estimate Breakdown

Cost Component	US$000s
TOTAL CAPITAL INVESTMENT	**96,968**
FIXED CAPITAL TOTAL	**86,483**
DIRECT TOTAL	**54,823**
Earthwork	1,189
Buildings	1,437
Civil	4,836
Structural	5,063
Mechanical	28,346
Mobile Equipment	-
Electrical	5,668
Control and Instrumentation	1,825
Piping	2,298
Platework	3,191
Insurance Spares	971
INDIRECT TOTAL	**31,660**
Engineering and Procurement	10,200
Construction Management	5,204
Field Indirect Costs	5,314
Contingency	9,550
WORKING CAPITAL TOTAL	**10,485**
Cash Reserve	9,687
Inventory	798

21.1.9 DRY TAILINGS STORAGE FACILITY

The capital costs for construction and subsequent expansions of the TSF were developed by Tetra Tech and are summarized in Table 21-6.

The capital costs for the TSF include:

- Stack construction fleet equipment (Owner-operated)
- General earthworks and grading

- Geomembrane liner supply and installation, and overdrain installation
- Closure earthworks
- Owner costs, including final design and construction monitoring.

The construction fleet allocated to the TSF includes an articulated haul truck and a roller compactor. Tailings will be spread using a blade on the roller, and there is an allowance in OPEX for using a dozer in the mine fleet for periodic stack shaping and ramp maintenance. The loader required for haul truck loading is accounted for in the process plant costs. A mobile lighting plant and a trailer-mounted hydroseeder for dust and erosion control are also included in the TSF costs. The construction fleet will be replaced two times during the mine life.

Unit costs and construction rates for earthworks are based on estimates provided by regional construction contractors. Costs associated with final design of the TSF are based on Tetra Tech's experience on similar projects.

Table 21-6: TSF Capital Estimate Summary

Description	Initial Capital (US$000s)	Sustaining Capital (US$000s)	Total LoM Capital (US$000s)
Fleet Equipment	595	1,153	1,748
Earthwork and Grading	934	1,005	1,938
Overdrain	260	315	575
Runoff Channel and Berm	666	739	1,405
Runoff Collection Pond	113	0	113
Closure	0	763	763
Mobilization / Demobilization	99	141	240
Subtotal	2,667	4,116	6,783
Contingency	667	1,029	1,696
Indirect Costs	50	50	100
Owner Costs	450	0	450
Total	**3,834**	**5,195**	**9,029**

21.2 OPERATING COST ESTIMATE

The total operating cost for the Project is summarized in Table 21-7 and graphically presented in Figure 21-1.

Table 21-7: OPEX Summary

Area		Avg US$/yr (000s)	Avg. US$/t ROM	Avg. US$/t Product	%
000	**General – Subtotal**	**3,888**	**11.62**	**19.01**	**20.69**
000	General and Administration	2,615	7.81	12.78	13.92
000	General - Utilities - Gas	3	0.01	0.02	0.02
000	General - Utilities - Power	124	0.37	0.61	0.66
000	General - Mobile Equipment lease	168	0.50	0.82	0.89
000	General - Consumables - Raw Water Pumping	3	0.01	0.02	0.02
000	General - Consumables - Diesel	161	0.09	0.15	0.17
000	General - Mobile Equip. Maintenance.	161	0.48	0.79	0.86
000	General - Labor	782	2.34	3.82	4.16
100	**Mining – Subtotal**	**2,960**	**8.84**	**14.47**	**15.75**
100	Contract Mining Cost	2,616	7.82	12.79	13.92
100	Owner's Mining Cost	344	1.02	1.68	1.83
200	**Processing Plant – Subtotal**	**10,652**	**31.83**	**52.07**	**56.70**
200	Processing - Reagents	1,165	3.48	5.69	6.20
200	Processing - Maint. & Operating spares	798	2.39	3.90	4.25
200	Processing - Utilities	3,869	11.56	18.91	20.59
200	Processing - Consumables	1,071	3.20	5.24	5.70
200	Processing - Labor	3,749	11.20	18.33	19.95
300	**Waste Management – Tailings**	**449**	**1.34**	**2.19**	**2.39**
400	**Product Handling – Bulk Bags**	**840**	**2.51**	**4.11**	**4.47**
TOTAL OPERATING COST		**18,789**	**56.14**	**91.84**	**100.00**

Note: Based on nameplate 346,000 tpa throughput

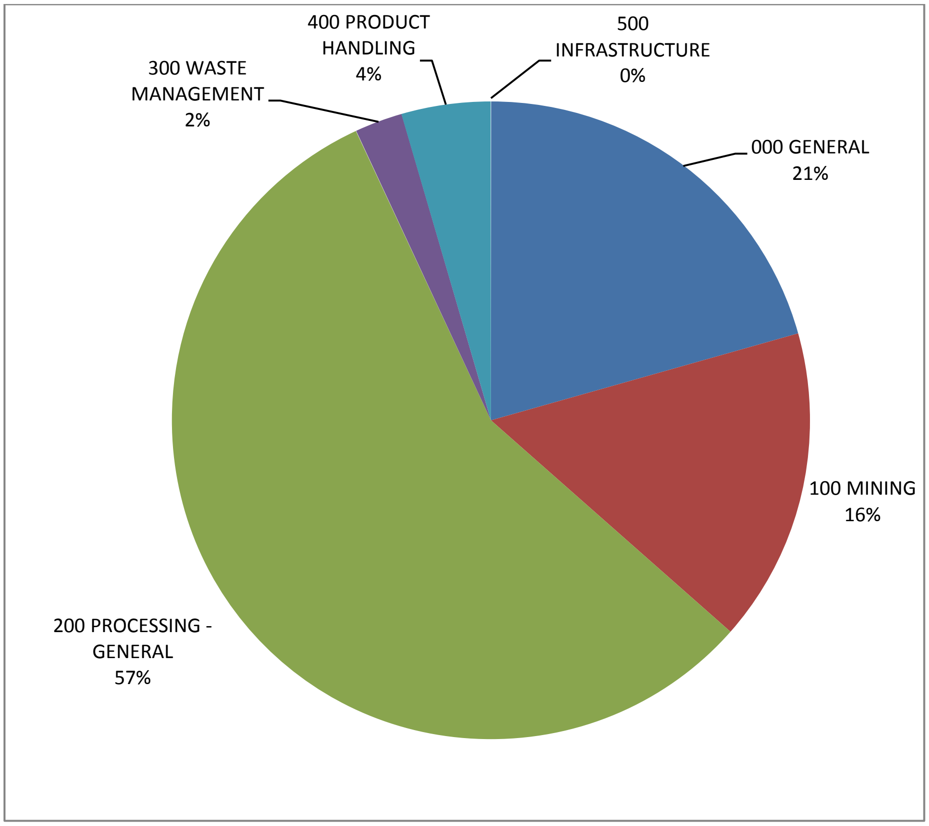


Figure 21-1: Operating Costs by Major Area

21.2.1 LABOR COSTS

Labor costs have been compiled using the rates presented in Table 21-8. These rates are made up of a base salary plus benefits and are applied based on expected employee requirements to maintain and operate the facility and include owner's mining team to oversee contract mining operations.

Table 21-8: Labor Rates

Position	Number of Personnel	Total (US$/yr)
Manager of Operations	1	156,000
Mine Engineer / Assistant Manager	1	117,000
Process Engineer / Metallurgist	1	110,500
Manager Safety, Health and Environment / Geologist / Ore Control	2	97,500
Chemist / Laboratory Manager	1	84,500

Position	Number of Personnel	Total (US$/yr)
Mine Surveyor/Ore Control	1	68,141
Assistant Surveyor/Sampler	1	51,106
Shift Supervisor/Lead Operator	3	73,819
Process Plant Operator	18	65,302
Process Plant Helper	9	45,427
Laborers	6	44,717
Loader Operator/Accountant/Purchasing	8	59,623
Maintenance Supervisor	4	87,069
Mechanics	3	80,850
Helpers	1	63,192
Laboratory Technicians	9	73,819
Receptionist/Security Guard	4	53,661
Tailings Haul Truck and Dozer Operators	4	65,302
Tailings Maintenance Support	2	59,623
Total	79	

21.2.2 CONTRACT MINING COSTS

MDA provided potential mining contractors with production schedules and maps to enable the contractors to provide budgetary quotations, which were used to develop the estimated contract mining costs. These quotations are based on fuel costs of US$1.34 per gallon. The contractor will be required to provide equipment, materials, and personnel to mine the required production. This includes excavators, haul trucks, support equipment, amenities, operators, maintenance personnel and supervision.

The budgetary quotations used for estimating the overall OPEX include variable costs for topsoil stripping, ore mining and waste mining. Fixed costs, including supervision and contractor G&A costs, are currently set at 5% of the variable costs although MDA suggests that the selected contractor's G&A costs be adjusted to a flat charge per month.

MDA used the costs as provided by the contractor for the feasibility cost estimate. However, it is likely that adjustments to costs will be calculated based on indexed fuel and lubricant prices.

The estimate for contract mining is shown in Table 21-9. Contract mining over the LoM is estimated to cost US$68,020,000, or US$7.82 per ton of ore mined. This does not include pre-production mining which was subject to capitalization in the cash-flow model.

21.2.2.1 OWNER'S MINING COSTS

Owner costs include mine operations personnel, materials and supplies, specialized software maintenance and outside services. Personnel salaries were provided by GBM and MDA used these along with the production schedules to develop annual costs.

The total LoM Owner's mining costs are estimated to be US$8,939,000, or US$1.03 per ton of ore mined. This does not include pre-production which was subject to capitalization in the final cash-flow model.

Table 21-9: Mining OPEX

Cost Center	Ore Mined (US$/t)	LoM (US$000s)
Contract Mining - Subtotal	7.82	68,020
Topsoil Stripping	0.08	684
Ore Mining	6.15	53,559
Waste Mining	1.06	9,227
Supervision	0.16	1,377
Contractor G&A	0.37	3,173
Owners Mining Costs - Subtotal	1.03	8,856
Engineering/Geology	0.96	8,356
Materials and Supplies	0.02	150
Specialized Software	0.02	200
Outside Services	0.02	150
TOTAL	**8.84**	**76,876**

21.2.3 PROCESS OPEX

The operating costs for the process plant (Area 200) are based on annual tonnages treated and a 26-year LoM. Total OPEX for the processing area averages US$10,652,000 per year, equivalent to US$31.83/t of ore mined and US$52.07/t of finished products over the LoM. Figure 21-2 illustrates the Area 200 component breakdown which includes:

- Reagents, including delivery to the Project site

- Consumables, grinding media, liners
- Maintenance and operating spares
- Gas, electrical power, and diesel
- Labor

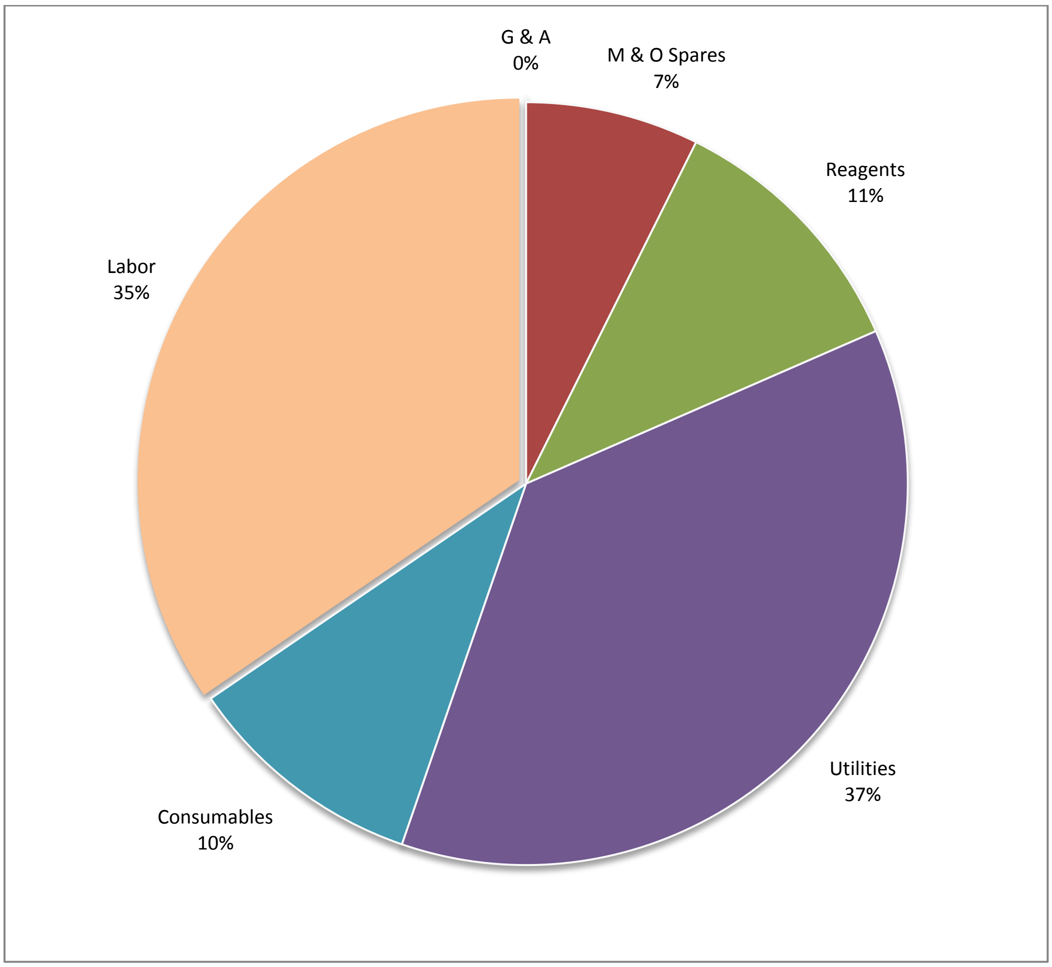


Figure 21-2: Processing OPEX

21.2.3.1 REAGENTS

The reagent unit rates presented in Table 21-10 have been used to estimate the annual costs for the process OPEX.

Table 21-10: Reagent Unit Rates

Commodity	US$/lb
On-Road Diesel Fuel (Flotation Reagent)	0.27
49% Hydrofluoric Acid	1.00
99.5% Sulfuric Acid	0.11
Armaz Custamine 8032 flotation reagent	1.86
Armaz Frother CP-102A	1.39
Quick lime	0.20
Dispersant (sodium hexametaphosphate)	1.30
Flocculant (Magnafloc 336)	2.10

21.2.4 GENERAL OPERATING COSTS

General operating costs (Area 000) include all site wide facilities, including administration, mess, toilets, laboratory, water pumping/treatment, gatehouse, etc.

Total General OPEX amounts to US$3,888,263 per year, equivalent to an average of $11.62/t of ore mined and US$19.01/t of finished products, based on annual tonnages treated and a 26-year LoM.

General OPEX cost components include:

- Mobile equipment lease and maintenance
- On and off road diesel for mobile equipment
- Gas for heating Area 000 buildings
- Electricity for small power and lighting for Area 000 buildings
- Raw water pumping
- G&A costs
- Labor.

As discussed in Section 18, the primary source of raw water for the Project will be the TSF run-off collection pond, which is located adjacent to the processing plant. This philosophy was developed to ensure that the system remains 'zero-discharge' in accordance with the permitting requirements outlined in Section 20.

Although average pumping costs are higher for the Section 16 reservoir than they are for the tailings run-off pond, the operating cost estimate assumes that the total annual water requirement is pumped from the Section 16 reservoir.

21.2.5 TAILINGS OPEX

The dry tailings will be transported to the dry stack by a single haul truck. The dry tailings will be dumped into heaps, spread into thin lifts and compacted with a padfoot compactor. Dust management will consist of using a hydroseeder on the stack surfaces and the plant-site haul roads. Operating costs, as presented in Table 21-11, account for all required labor, equipment, maintenance, and consumables.

Table 21-11: Tailings Operating Costs

Cost Centre	US$/t – Ore Mined	US$ LoM (000s)
Labor	1.08	9,364
Equipment	0.23	2,016
Dust Suppression	0.03	280
Total	1.34	11,661

21.2.6 PRODUCT HANDLING OPEX

Product handling includes the cost of bulk bags for product packaging as shown in Table 21-12. The estimated OPEX for product handling is equivalent to an average of US$2.51/t of ore mined and US$4.11/t of finished products, based on annual tonnages treated and a 26-year LoM.

Table 21-12: Annual Product Handling Cost Detail

	Unit	Units/yr	US$/unit	Avg. US$/yr (000s)
Consumable – Bulk Bags - Subtotal	US$/year			868
HalloPure™	No. of bags	28,625	5.14	147
ULTRA HalloPure™	No. of bags	28,625	5.14	147
Metakaolin	No. of bags	31,639	4.52	143
Fortispar™K-30 (30 mesh)	No. of bags	10,866	3.96	43
Fortispar™K-200 (200 mesh)*	No. of bags	0	0	0

	Unit	Units/yr	US$/unit	Avg. US$/yr (000s)
Fortispar™K-325 (325 mesh)	No. of bags	7,922	5.02	40
TrueQ™ 1 (50 mesh)	No. of bags	32,229	3.96	128
TrueQ™ 1 (200 mesh)	No. of bags	13,502	5.33	72
TrueQ™ 1 (325 mesh)	No. of bags	1,981	5.02	10
TrueQ™ 3 (50 mesh)	No. of bags	34,975	3.96	138

Note: Fortispar™K-200 will be transported by bulk truck, so there are no bulk bag costs for this product.

21.2.6.1 PRODUCT MATRIX

A product matrix was developed based on market research as described in Section 19. Table 21-13 details the average tons per year of each product, which are either bulk-bagged or loaded out in bulk trucks. Changes to the product spread are accounted for in the pricing strategy, which adjusts based on a premium paid for the bulk-bagged products.

The cost of product packaging, including labor, consumables and a proportion of G&A costs, is passed directly to the end user. Changes to the product spread and packaging requirements are expected as markets develop, however, due to this strategy, such changes will have minimal impact on the overall financial performance of the project.

Table 21-13: Production Summary

PRODUCT	AVERAGE TONS PER YEAR	
	Bulk Truck	Bulk Bag
HalloPure™	0	7,500
ULTRA HalloPure™	0	7,500
Halloysite Subtotal	**0**	**15,000**
Metakaolin	30,582	10,194
Metakaolin Subtotal	**30,582**	**10,194**
Fortispar™K-30 (30 mesh)	9,400	9,400
Fortispar™K-200 (200 mesh)	17,600	0
Fortispar™K-325 (325 mesh)	1,544	4,000
K-feldspar Subtotal	**28,544**	**13,400**
TrueQ™ 1 (50 mesh)	29,258	29,258

PRODUCT	AVERAGE TONS PER YEAR	
	Bulk Truck	Bulk Bag
TrueQ™ 1 (200 mesh)	7,000	8,000
TrueQ™ 1 (325 mesh)	0	1,000
TrueQ1 Subtotal	**36,258**	**38,258**
TrueQ™3 (50 mesh)	0	31,750
TrueQ3 Subtotal	**0**	**31,750**
Total Quartz	**36,258**	**70,008**
Total Sand (Quartz and K-feldspar)	**64,802**	**83,408**
Combined Products Total	**95,383**	**108,601**

SECTION 22 ECONOMIC ANALYSIS

GBM prepared a discounted cash flow (DCF) model based on the mine production schedule and CAPEX and OPEX estimates for the mine, processing plant and associated infrastructure.

The key economic inputs are provided in Table 22-1.

Table 22-1: Key Input Parameters

Item	Value	Unit	Notes
Depreciation Method	Modified Accelerated Cost Recovery System (MACRS)	-	Initial capital expenditure
Depreciation Method	Straight line	-	All sustaining capital and losses expensed
Depreciation – Buildings	10	Years	
Depreciation – Plant equipment	10	Years	
Depreciation – Mobile Equipment	10	Years	
Salvage Value	0	US$	
Exploration costs	15.4	US$ millions	70% expensed 30% straight line depreciated over 10 yrs
Depletion	11.0	%	Net Revenue
Federal Tax	35.0	%	Taxable income minus state tax
State Tax	7.4	%	Taxable income
Mining Tax	1.0	%	Net Revenue
Royalty	5.0	%	Gross sales
Base discount rate	6.0	%	

The economic analysis assumes a two-year construction period, after which the plant will be fully commissioned and handed over to operations. The DCF also accounts for a ramp-up period which was incorporated into the mining schedule.

The plant ramp-up period assumes that the plant will achieve 80% of its production capacity 6 months after handover to operations and 100% after 12 months. By incorporating this production ramp-up into the plant schedule, the nameplate capacity for the first year of operations is reduced by 25%. Both I-Minerals and GBM consider this approach necessary based on its direct impact on cash flow and key project indicators.

The clay and sand prices used in the financial model were provided by I-Minerals and Roskill Consulting Group, as discussed in Section 19. Prices are based on marketing studies conducted by I-Minerals' business development team and by external consultants. All products will be sold primarily into domestic U.S. markets.

All products are sold at a constant dollar for the full LoM, however it was considered prudent to increase the Quartz Q3 pricing for the first two years of operation to account for market development.

Table 22-2: Product Pricing

Mineral	Product	Price (US$/t)
Halloysite	Standard Grade	716
Halloysite	High-purity	1,392
Kaolin	Metakaolin	231
Sands	Quartz Q3 (50 mesh)	Year 1: 400 Years 2 – 26: 620
Sands	Quartz Q1 (325 mesh)	350
Sands	Quartz Q1 (200 mesh)	280
Sands	Quartz Q1 (50 mesh)	126
Sands	K-feldspar (30 mesh)	217
Sands	K-feldspar (200 mesh)	270
Sands	K-feldspar (325 mesh)	346

The economic analysis was conducted over a range of discount rates and results are presented in Table 22-3. Sensitivity analyses were conducted on the base case to demonstrate the sensitivity of the Project's NPV to increases or decreases in the operating income, OPEX, CAPEX, recovery, and/or average product price.

Table 22-3: Discounted Cash Flow Model Results

Discount Rate (%)	Post Tax NPV (US$ millions)	Pre Tax NPV (US$ millions)
4	300.6	460.8
6	249.8	385.8
8	208.1	324.4

At a 6% discount rate, the model shows a post-tax NPV of US$249.8 million with an IRR of 25.8%, and payback period of 3.7 years. This result reflects an economically feasible project, and justifies advancing to the next step of development. The annual and cumulative cash flows are reported in Figure 22-1 and Figure 22-2 respectively.

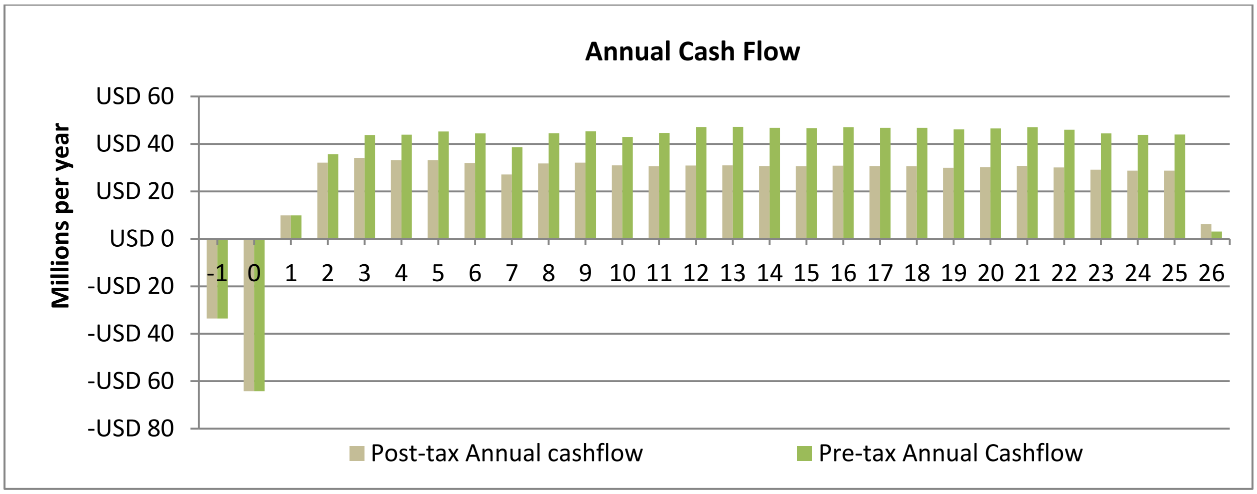


Figure 22-1: Annual Cash Flow at 6% Discount Rate

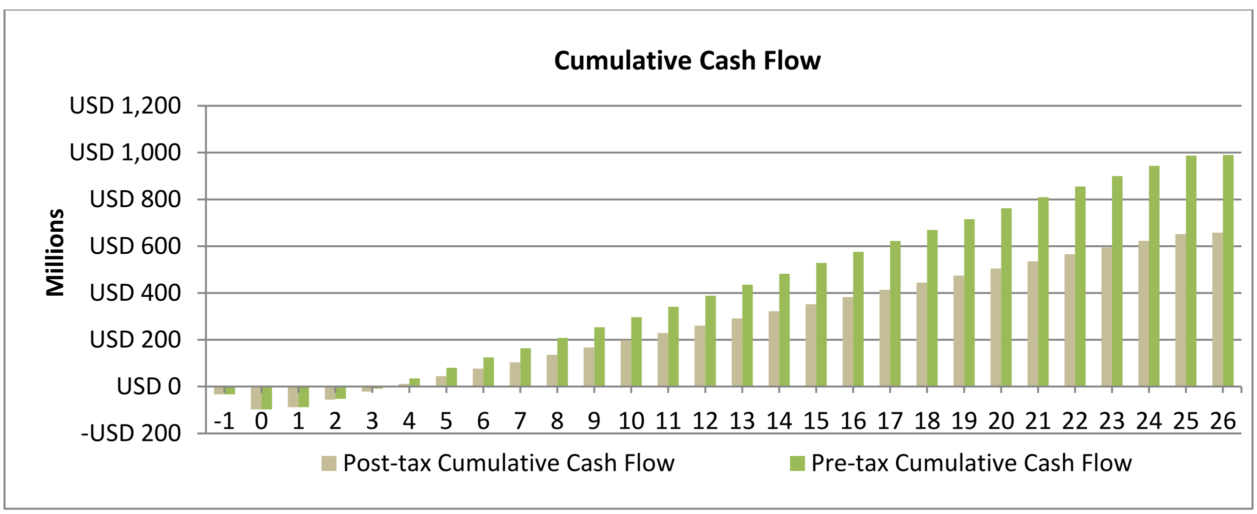


Figure 22-2: Cumulative Cash Flow at 6% Discount Rate

The sensitivity analyses were conducted on the DCF model using a discount rate of 6%. The results of the analysis are shown in Figure 22-3. The Project is most sensitive to product recovery rate and the average product price. The project is less sensitive to CAPEX, process OPEX and mining OPEX. Table 22-4 presents the gradients of the sensitivity parameters investigated in numerical form.

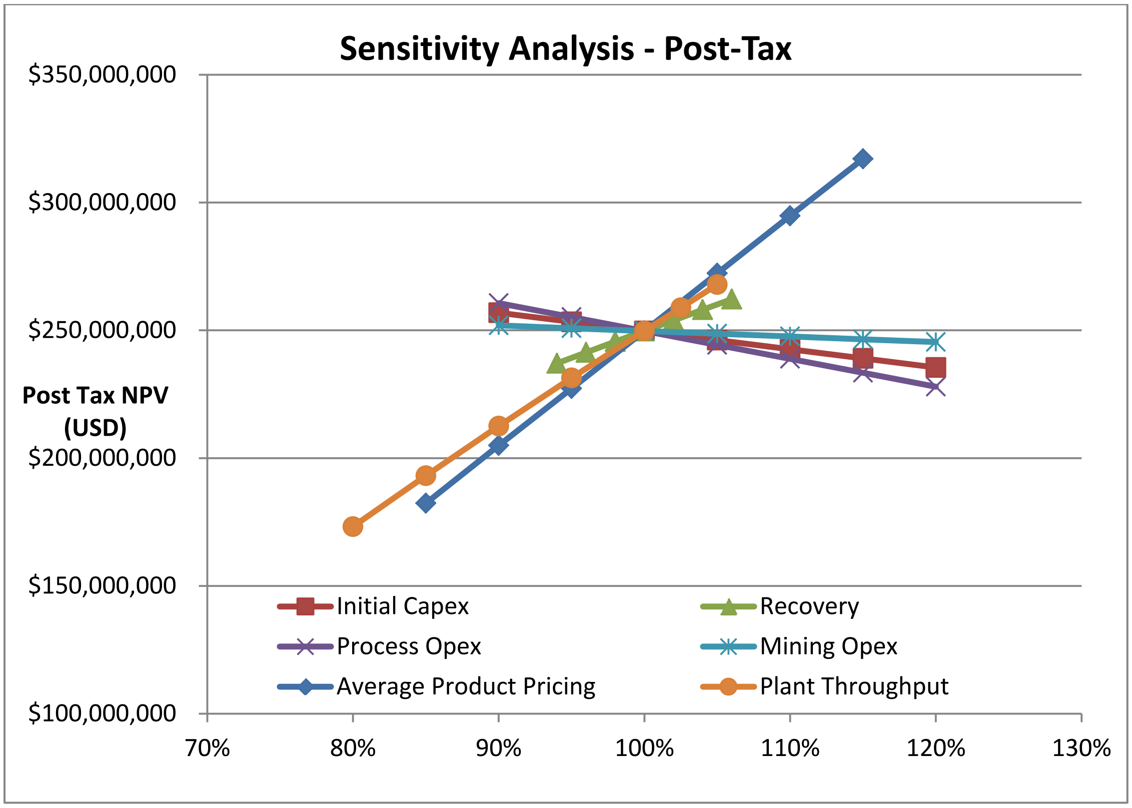


Figure 22-3: Post-tax Sensitivity Analysis at 6% Discount Rate

Table 22-4: Sensitivity Gradients

Parameter	Gradient (%)
Initial CAPEX	-29
Recovery	85
Mining OPEX	-9
Process OPEX	-44
Average Product Price	198
Plant Throughput	178

SECTION 23 ADJACENT PROPERTIES

Hammond Engineering currently operates a small raw clay operation on the old A.P. Green Refractories pit north of Helmer. About 10 years ago, the owner revealed that the operation produced roughly 1,300 t/yr ROM product of clay from the Latah formation, which were sold at a price of US$20/t (fob). The clay was used by Wendt Pottery in Lewiston, Idaho to produce a buff-firing porcelain ceramic body, and by Clayburn Industries as a clay binder for refractories. The owner of Wendt Pottery states that he still uses this clay, about the same amount each year. In 1997, estimated reserves for this property, which are considered historic and were not prepared in accordance with NI 43-101 standards, were 1.65 Mt, and based on 50 ft drill centers. This estimate was extrapolated from an Information Memorandum prepared by A.P. Green that contained tonnages and property information in their effort to sell the operation.

SECTION 24 OTHER RELEVANT DATA AND INFORMATION

There is no other known relevant data or information not covered elsewhere in this report.

SECTION 25 INTERPRETATION AND CONCLUSIONS

GBM considers that the Bovill Kaolin Project has demonstrated, to within ±15% accuracy, the potential to profitably mine and process the various ore deposits. A variety of end markets have been identified for the quartz, K-feldspar, metakaolin, and halloysite products produced by the proposed operation with product pricing typical within the industrial minerals industry.

Of particular note is that all recovered material in the resource estimation contains sufficient sand, kaolinite, or halloysite to be profitably mined. In addition, the current mineral reserve estimate reflects limitations to existing, yet potentially expanding, markets as the mineral resource has the ability to support a larger operation.

Based on the mineral reserves and mine plan, approximately 5.3 Mt of mineral product will be produced over the anticipated mine life of 26 years. The economic analysis returned a post-tax NPV of US$249.8 million and an IRR of 25.8%.

The Project is most sensitive to product recovery rate and the average product price. The project is less sensitive to capital expenditure, process operating cost and mining operating cost.

This result reflects a technically and economically feasible project, which GBM recommends to move to further investment and development.

25.1 MINERAL PROCESSING AND METALLURGICAL TETSING

Extensive metallurgical laboratory and pilot testwork achieved the desired separation of mineral products at appropriate quantities and qualities and demonstrated, that by using the designed process, it is possible to economically recover all mineral products of interest from the Bovill ore.

The processing scheme employs well-known and proven unit operations. Scale-up of the equipment is well understood and the resulting design uses commercially available, industrial-scale equipment.

25.2 EXPLORATION, DRILLING AND DATA ANALYSIS

Exploration programs completed to date are appropriate to the style of mineralization within the Project. Sampling methods are acceptable, meet industry-standard practice, and are adequate for Mineral Resource and Mineral Reserve estimation.

The estimation of the Mineral Resource and Mineral Reserves for the Project meets the requirements of CIM (2014) and conforms to industry best practices. An open-pit mining scenario is appropriate for the style of mineralization and pit shells that have been developed to constrain the estimates. Assumptions that have been used to develop the pit shells are appropriate for the proposed mine plan and processing of ores.

There are no known legal, political, environmental or other risks that could materially affect the potential development of the mineral resources described herein.

25.3 INFRASTRUCTURE

The project site is connected to the NHS. Access road upgrades to allow for two-way traffic of anticipated volume and vehicle size required and have been costed accordingly.

Required utilities, including gas and electricity, are available in the vicinity and have been costed into preliminary supply arrangements with the local utility provider, Avista Corporation. Avista has indicated they have sufficient spare capacity to provide both electrical power and gas to the project.

Process water will be provided from a variety of sources including run-off from the DST and process plant site area. Using water from these sources reduces the requirement for fresh makeup water and ensures the Project adheres to its 'zero discharge' policy. Water quantity from these sources will be diminished during dry and frozen months, so a full capacity water supply (15 gpm) has been designed and costs have been included to provide water as required from the Section 16 Reservoir located approximately 1.7 miles from the process plant site. The Section 16 Reservoir is located on Idaho State lands; I-Minerals will have an agreement in place with IDL that allows for the exclusive use of these water sources for the duration of the Project.

25.4 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

A geochemical assessment conducted on ore, waste rock, tailings, and overburden associated with the Project indicates that the acid generation capacity from the geologic material is extremely low to non-existent (HDR 2015b) (40). The absence of sulfides in ore, waste work, tailings and overburden, indicates that there will be no oxidation of sulfides and, therefore, no acidification of water. In addition, geochemical analyses demonstrate mean concentrations of heavy metals that are not particularly enriched, are consistent with typical granitic rocks and would not constitute a leaching hazard under normal environmental circumstances (HDR 2015b) (40).

Other environmental impacts associated with the Project have been identified and are addressed through mine reclamation (part of the mine permit) and by meeting environmental permit conditions. As identified in Section 20, several environmental permits are required for construction and operation of the facilities.

Mining activities occur on State of Idaho lands; no Federal lands are involved in the Project. Required federal environmental permits are limited to general permits for stormwater (both for mining activities and for construction activities) and a Nationwide Permit 14 permit under Section 404 for fill of wetlands of less than 0.5 acres associated with Moose Creek Road improvements. Stormwater permits require submittal of a Notice of Intent (NOI) and development of a Stormwater Pollution Prevention Plan. For wetlands, the Nationwide Permit 14 requires a preconstruction notification. Both types of permit notifications are required prior to initiating site activities and typically require less than 60-days following submittals for agency acknowledgement or approval.

For state permitting, I-Minerals will submit an Idaho Mine Operation and Reclamation Plan and permit application to the IDL. Typical mine permit processing takes IDL approximately 6 months following application submittal. Preliminary air emission inventory analysis indicates that a Permit to Construct is the appropriate air quality permit for the facility. The air quality permit generally requires approximately 6 months for processing by the IDEQ.

The community of Bovill, Idaho is the nearest community but is sufficiently distant to not be affected by noise or light from the proposed operation. The community attitude on the Project is positive and the general opinion is a desire for the Project to move ahead.

25.5 RISKS, OPPORTUNITIES, AND UNCERTAINTIES

The following overview details key risks that were identified during the risk management workshop conducted during the FS. All key stakeholders were either present or involved via teleconference, including representatives from GBM, I-Minerals, HDR, Tetra Tech, MDA and SRK.

Risk management involves identification, assessment and management of threats and realization of opportunities that may impact any of the objectives of the Project.

25.5.1 RISK EVALUATION

Risks are identified and classified based on the severity and nature of the risk. Risks are then treated in the order of priority. Consequence criteria is specific to the type of risk and each risk is evaluated on an individual basis. Table 22-2 details likelihood versus consequence and the associated risk classification.

Table 25-1: Risk Classification

LIKELIHOOD			CONSEQUENCE				
			1	2	3	4	5
			Very Minor	Minor	Moderate	Major	Catastrophic
	E	Almost Certain	HIGH	HIGH	EXTREME	EXTREME	EXTREME
	D	Likely	MODERATE	HIGH	HIGH	EXTREME	EXTREME
	C	Moderate	LOW	MODERATE	HIGH	EXTREME	EXTREME
	B	Unlikely	LOW	LOW	MODERATE	HIGH	EXTREME
	A	Rare	LOW	LOW	MODERATE	MODERATE	HIGH

Extreme and High ratings require immediate action, moderate risks require action as soon as practicable and low risks are of low priority.

25.5.2 GENERAL PROJECT RISKS AND OPPORTUNITIES

The following section outlines some of the risks identified. Risks that were considered low after mitigation were excluded and only select risks classified as moderate are included. All high and extreme risks have been detailed.

25.5.2.1 RESOURCE DELINEATION DRILLING AT WBL IS NOT AT PAR TO OTHER DEPOSITS

The current drilling density at the WBL deposit is not as uniformly gridded and has wider spacing than the Middle Ridge and Kelly's Hump areas. For this reason the WBL resource is only classified as Indicated and Inferred. The mine plan does not include WBL; if this area is considered for mining in future years, it is recommended to conduct additional infill drilling at WBL before the deposit is mined.

25.5.2.2 INFRASTRUCTURE CONSTRUCTED OVER ORE BODY - HIGH

Consequence: Lost revenue

Causes: Ore has been identified under the proposed processing plant and dry tailings stack locations, however; this location is the most desirable from a construction standpoint.

Mitigation: The selected mine locations have the potential for up to 60 years of ore at current capacity so the inaccessible ore is of little consequence, and therefore, no action is required.

25.5.2.3 GRADE CONTROL PROCESS - MODERATE

Consequence: Loss of potential revenue

Causes: Inadequate grade control

Mitigation: Identify grade protocols and develop adequate procedure

25.5.2.4 ELECTRICAL SUPPLY LINE UPGRADE ISSUES - HIGH

Consequence: Schedule delays and associated implications.

Causes: Current supply line timeline is critical path for providing gas and electricity for commissioning.

Mitigation: Engage Avista Corporation for detailed quote and schedule fast-track to initiate construction as soon as possible.

25.5.2.5 PURCHASE USED EQUIPMENT - MODERATE

Consequence: CAPEX reduction.

Causes: Suitable used equipment has been identified and is available.

Mitigation: Procurement activities should consider the use of quality second hand equipment. Appropriate evaluation should be performed in order to determine if cost savings are worth the risk associated with used equipment (no warranties, etc.)

25.5.2.6 GOVERNMENT FUNDING OF PUBLIC ROAD UPGRADES - HIGH

Consequence: CAPEX reduction

Causes: Road section between ID-3 and Moose Creek Road could be upgraded by Government entities or some funding may be available.

Mitigation: Engage with government agencies, engage lobbyists.

25.5.2.7 NOISE POLLUTION - MODERATE

Consequence: Community complaints, loss of reputation.

Causes: The Moose Creek Reservoir campground contains sites for tent and trailer camping. The campground is approximately 0.5 miles from the processing facility. The elevation of the camp grounds is approximately 2,900 ft amsl compared to 2,970 ft amsl at the processing facility. Between the camp grounds and the processing facility is forested area that rises to a maximum elevation of 3,049 ft amsl. Thus, noise generated at the processing facility is expected to be partially blocked by the elevated forested area. The majority of process plant is contained indoors so noise emitted from process equipment will be minimal. Mobile equipment, including mining trucks and loaders on the ROM pad, have been identified as potential sources with reversing sirens being the primary concern.

Mitigation: Reversing strobe lights are to be installed on heavy equipment that operate afterhours in place of reversing sirens. All modifications will be performed in accordance to MSHA guidelines.

25.5.2.8 404 PERMIT REQUIREMENT- MODERATE

Consequence: Longer and more costly permitting process.

Causes: Wetlands disturbance, additional culverts required for haul upgrade.

Mitigation: Current designs for process plant, DST and access roads do not exceed 0.5 acres of total wetlands disturbance. Moving forward this should form primary design criteria to ensure wetland disturbance stays below 0.5 acres which is covered by the Nationwide Permit 14.

25.5.3 TAILINGS RISKS AND OPPORTUNITIES

Potential risks associated with the TSF design:

The actual ground conditions encountered may not be as interpreted. This geotechnical risk is associated with the need to extrapolate borehole and test pit information across a site, and the fact that ground conditions can change over time, including material properties and groundwater levels. This risk can be mitigated by the recommended geotechnical investigation and assessment for final design.

If the filtered tailings characteristics are significantly different to those tested or expected, particularly with respect to water content and geotechnical properties, issues associated with tailings trafficability, dust generation and stack stability may arise. This risk can be mitigated by advancing the understanding of metallurgical domains and process equipment variation as part of final design.

In the unlikely event that the geochemistry of the tailings is significantly different than assumed, there should be little impact to the capital and operational phases of the DST but there could be significant changes to the closure and reclamation planning.

The TSF design geometry allows for over 15% excess capacity by volume. If the quantity of filtered tailings produced is significantly higher than expected, the scheduled costs will change and additional storage may be required.

Opportunities associated with the TSF design that may be realized with future study:

It may be possible to optimize containment system design features. The presence of natural clayey deposits in the proposed stack footprint and the geochemically benign nature of the tailings presents an opportunity to replace the geomembrane liner with a compacted clay liner. This change could be adopted with additional characterization of potential liner construction materials (including remolded clay strength) and with consideration of potential groundwater contaminant fate and transport.

There is opportunity to optimize the TSF construction staging plan and tailings stacking plan. An increase in the number of construction stages would defer some construction costs and could lower the overall cost of tailings storage. The potential to reduce effort associated with tailings lift thickness and compaction may simplify operations and reduce costs.

There may be an opportunity to adopt a more aggressive progressive reclamation plan. This may assist with material balance of site earthworks and reduce environmental liability associated with tailings dust and runoff water quality.

25.5.4 MINING RISKS AND OPPORTUNITIES

Potential risks associated with mining operations:

The current mining plan includes the use of 30-ton articulated trucks on roads which will share traffic with the public. Potential liability increases where a potential incident between mine and public traffic may exist.

There are many wetlands in the area which reduces the ability to permit proper expansion of roads.

Opportunities associated with the planned mining operations:

MDA has limited reserves to a 25-year mine life. Based on pit optimizations, current resources may be minable for more than 50 years of production. This would require additional studies to convert the resources to reserves.

The mine plan assumes mining operations through the entire year. Additional haulage costs may be incurred during wet weather months due to higher road maintenance requirements. Maintaining reasonable stockpiles at the plant may allow mining operations to shut down during these months and result in operating costs savings.

Mining costs will likely be reduced through contractor negotiations.

SECTION 26 RECOMMENDATIONS

26.1 MINERAL RESOURCE ESTIMATES

As the mining progresses, especially in the first several quarterly periods, I-Minerals should conduct resource reconciliation to the actual mine production. This will provide additional confidence in the resource estimation or identify any areas where modifications are required. Thereafter the model reconciliation should be conducted semi-annually or annually.

26.2 MINING

The hydrogeology of the proposed mining pits has not been well established. The homogeneous nature of the material and the relatively low permeability of the clay sand mixture is not expected to produce significant water production within the pits. However, it is recommended that these assumptions be verified with appropriate study.

26.3 PROCESS PLANT

26.3.1 FINANCIAL PERFORMANCE

The FS capital cost and associated financial performance exceeds minimum threshold criteria provided by I-Minerals. Based on adequate levels of confidence being achieved in all key areas, GBM recommends that the Project advance to the next phase of development with the following key steps required:

- Confirmation Testwork Specification and Management
- Project Planning
- Coordination of Site Utilities Design and Construction.

26.3.1.1 CONFIRMATION TESTWORK SPECIFICATION AND MANAGEMENT

The Project is expected to operate under a zero-liquid discharge philosophy. Therefore, water management and recovery is critical to the development of the Project. A significant portion of the OPEX is related to the natural gas to remove water from the products prior to packaging and sales. Confirmation testwork is required for final equipment selection, and to finalize the water balance around the processing plant.

To date, filtration testing has been performed on the three clay products and tailings material. Filtration and drying of the sand products should also be undertaken to ensure the mass and energy balances of the dewatering and drying circuits are consistent with the conditions to be encountered during routine operation. Further definitional work is required in the areas of dewatering and drying to ensure that plant equipment is suitably designed, and that their utility demands are satisfied. GBM recommends a testwork specification be prepared and the required tests be managed with equipment vendors. Results from these tests should be evaluated and incorporated into the design. It is anticipated that the majority of these tests will be carried out by specific equipment vendors at little or no cost. However, an allowance of US$100,000 for costs associated with these tests, as well as shipping and handling of samples, should be provided for the work to be accomplished prior to, or in the early stages of, basic engineering.

26.3.2 PROJECT PLANNING

Project Planning primarily involves preparation of the Project Management Plan and supporting documents. The planning activities define the significant aspects of the project, including the following documents/items:

- Project Management Plan
- Work Breakdown Structure
- Project Milestones
- Master Level 1 Project Schedule
- Project Engineering Plan
- Procurement Plan including long lead items and identification of suitable used equipment
- Cost Control Plan
- Risk Management Plan

26.3.3 INFRASTRUCTURE

Preliminary requests for proposals have been developed for electricity and gas supply, however, formal contracts should be negotiated and signed as soon as practicable since gas and power supply for commissioning activities and initial operations is currently on the Project schedule's critical path. This is based on the proposed powerline and gasline construction only in summer months and there may be opportunity to optimize the schedule.

26.4 ENVIRONMENTAL ISSUES

It is recommended that I-Mineral proceed in finalizing its Operating and Reclamation Plan and application and submit it to the IDL for mine permitting. In addition, I-Minerals should finalize its emission inventory assessment and air quality modeling and submit a Permit to Construct application to the IDEQ for air quality permitting. The Notice of Intent (NOI) for stormwater permits and the preconstruction notification for the Nationwide Permit 14 (see Section 20 for more details) should be submitted approximately 3 months prior to start of construction and mining activities.

All costs for the above permitting activities are included in the current capital cost estimate.

26.5 TAILINGS STORAGE

The following tasks related to the TSF design would reduce the risks presented in Section 25 and refine the dry stack design if undertaken during future studies:

- Geotechnical exploration and assessment at proposed DST foundation. The investigation scope should include geotechnical boreholes and laboratory testing (consolidation, permeability, strength) to update the geological model. Shear strength measurement (e.g. vane shear testing) and installation of piezometers to assess groundwater conditions is recommended.
- A foundation pre-loading field test is recommended to support the geotechnical assessment. Pore pressure dissipation over time will inform maximum lift placement rates for operation of the filtered tailings stack.
- Depending on the findings of additional geotechnical exploration, geotechnical analyses may include 2D deformation analyses to determine stack shear stresses induced by placement of the tailings and post-earthquake stability analysis.
- Tailings properties should be verified with laboratory testing if possible as part of advancing the process plant design. Filter press performance and efficiency should be verified including the projected water content of tailings delivered to the TSF.
- The construction staging and tailings stacking plan should be reviewed with respect to optimizing operations, maintaining adequate work areas and assessing the potential for concurrent reclamation opportunities.
- A tailings facility Operations, Maintenance and Surveillance Manual should be developed prior to construction.

26.6 PROJECT DEVELOPMENT COSTS

Table 26-1 summarizes costs associated with moving the project forward into the next stage of development.

Table 26-1: Preliminary Cost of Recommended Work

Testwork or Study	Timeframe	Cost (US$)
Confirmation Testwork	Prior to Basic Engineering	100,000 included in Project Planning
Project Planning	Prior to Basic Engineering	400,000 included in CAPEX
Tetra Tech Various	Prior to detailed Engineering	50,000 included in CAPEX

26.7 IMPLEMENTATION SCHEDULE

The implementation schedule for the Project is to provide all services, labor, materials and equipment required to design, procure, install, construct and commission the mine, processing facilities and all necessary infrastructure. It spans the entire life of the Project from the completion of FS to commissioning of the plant and final handover.

This implementation plan commences at the submission of the FS at which time the environmental permitting and financing activities will commence. Upon award of the EPCM contract, a period of 27 months is envisioned to allow for basic engineering, detail design, procurement, construction and commissioning. The implementation schedule is shown in Figure 26-1.

The service contract with AvistaCorp for the supply of electricity and gas will be important to facilitate initial operations. Further negotiations with AvistaCorp, to optimize and firm up their schedule, are recommended.

	Task Name	Duration	Start	Finish
1				
2	EPCM	117 wks?	Mon 4/4/16	Fri 6/29/18
3	Milestones	117 wks	Mon 4/4/16	Fri 6/29/18
21				
22	Conceptual	12 wks	Mon 4/4/16	Fri 6/24/16
73	Preliminary	30 wks	Mon 5/16/16	Fri 12/9/16
118	Detailed	36 wks	Fri 12/9/16	Fri 8/18/17
166				
167	Procurement	107 wks?	Mon 5/23/16	Fri 6/8/18
168	Procurement - Primary Equipment	8 wks	Mon 5/30/16	Fri 7/22/16
213	Procurement - Secondary Equipment	25 wks	Mon 7/25/16	Fri 1/13/17
314	Procurement - Tertiary Equipment	10 wks	Mon 12/12/16	Fri 2/17/17
319	Procurement - Services	24 wks	Mon 5/23/16	Fri 11/4/16
348				
349	Expediting - Primary Equipment	100 wks	Mon 7/11/16	Fri 6/8/18
409	Expediting - Secondary Equipment	62.2 wks	Fri 6/3/16	Fri 8/11/17
483	Expediting - Tertiary equipment	28 wks	Mon 2/20/17	Fri 9/1/17
487	Expediting - Services	80 wks	Mon 6/13/16	Fri 12/22/17
504				
505	Construction	75 wks	Mon 1/23/17	Fri 6/29/18
506	Mobilisation	41 wks	Mon 3/6/17	Fri 12/15/17
509	General 000	44 wks	Mon 2/13/17	Fri 12/15/17
532	Utilities 500	74 wks	Mon 1/23/17	Fri 6/22/18
548	Process Plant 200	54 wks	Mon 6/19/17	Fri 6/29/18
549	CW6 - 210 - Crushing and Stockpiling	53 wks	Mon 6/19/17	Fri 6/22/18
555	CW7 - 220/230 - Milling & Flotation	21 wks	Mon 8/7/17	Fri 12/29/17
561	CW8 - 240 - Product drying	20 wks	Mon 9/11/17	Fri 1/26/18
567	CW9 - 260 - Filtration	10 wks	Mon 12/18/17	Fri 2/23/18
573	CW10 - 270 - Packaging	7 wks	Mon 1/15/18	Fri 3/2/18
579	CW11 - 280 - Tailings and Water handling	9 wks	Mon 2/12/18	Fri 4/13/18
585	CW12 - 201 - Reagents	8 wks	Mon 3/12/18	Fri 5/4/18
591	CW13 - Balance of plant	12 wks	Mon 3/12/18	Fri 6/1/18
593	Commissioning	8 wks	Mon 5/7/18	Fri 6/29/18

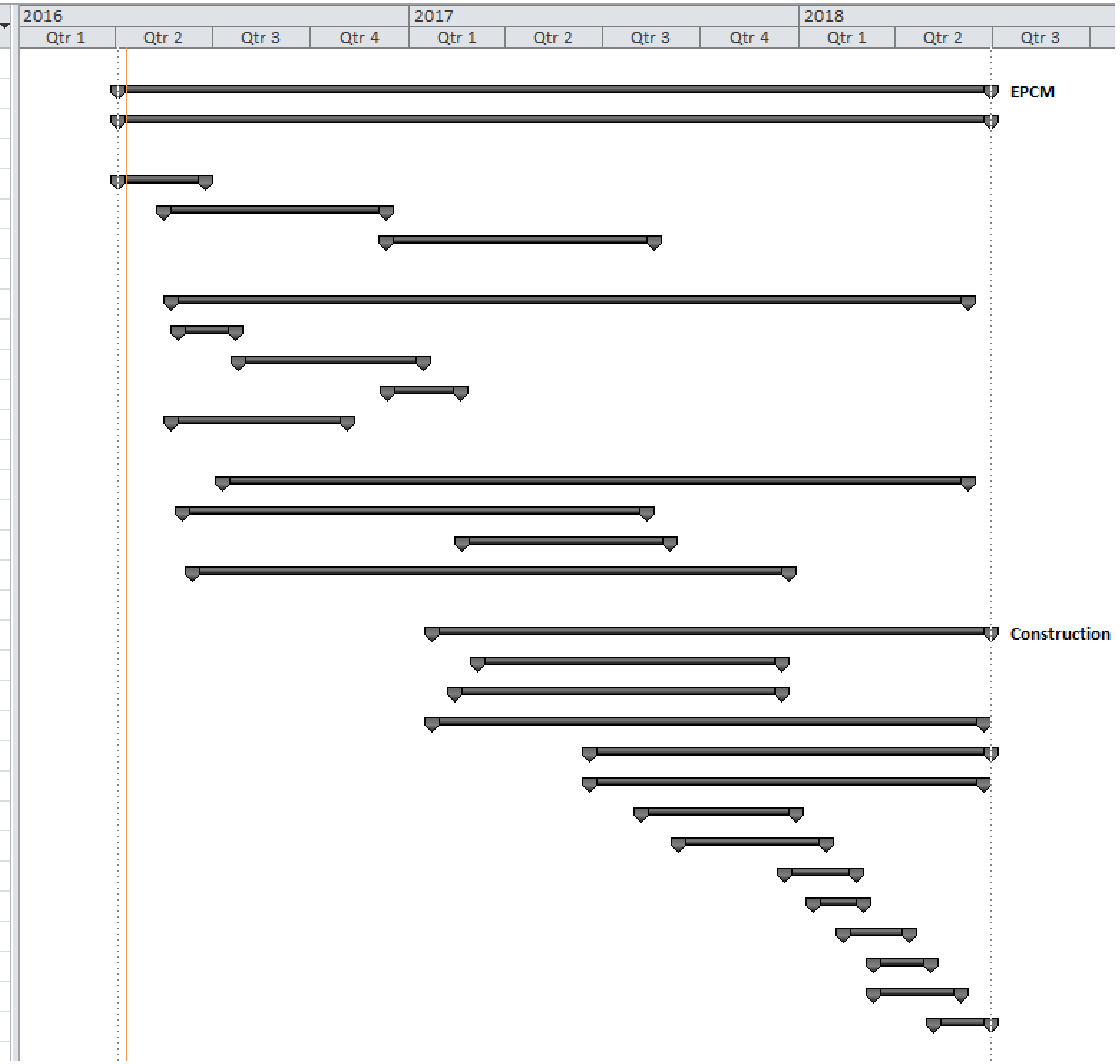


Figure 26-1: Implementation Schedule

SECTION 27 REFERENCES

1. **Hubbard, C.R.** *Clay deposits of north Idaho: Idaho Bureau of Mines and Geology.* 1956. p. 36. Pamphlet #109.

2. **Hosterman, J.W., Scheid, V.E., Allen, V.T., and Sohn, I.G.** *Investigations of some clay deposits in Washington and Idaho: U.S. Geol. Survey Bull. 1091.* 1960. p. 147.

3. **Stephens, E.C.** *Eastern Washington – Idaho clay basin: AIME Transactions v.217.* 1960. pp. 405 – 412.

4. **Hosterman, J.W., and Prater, C.S.** *Clays, in Mineral and Water Resources of Idaho, Idaho Bureau of Mines and Geology Special Report #1.* 1964. pp. 51 – 57.

5. **Miller, R.A.** *Idaho, in Potential Sources of Aluminum, U.S. Bureau of Mines IC 8335.* 1967. pp. 58 – 60.

6. **Kelly, H.J., Carter, G.J., and Todd, G.H.** *Bovill clay and sand deposit, Latah County, Idaho: U.S. Bureau of Mines R.I. 6330.* 1963. p. 56.

7. **Tullis, E.L.** *Contributions to the geology of Latah County, Idaho: Bulletin of the Geol. Soc. of America, v. 55.* 1944. pp. 131 - 164.

8. **Priebe, K.L., and Bush, J.H.** *Bedrock geologic map of the Stanford quadrangle, Latah County, Idaho: Idaho Geological Survey Technical Report 99-8.* 1999.

9. **Clark, J.G.** *Geological evaluation of two feldspar-clay prospects associated with intrusive rocks of the Idaho batholith in Latah County, east of Moscow, Idaho .* s.l. : Confidential Report prepared for Alchemy Ventures Ltd, 2003a. p. 122.

10. **Murray, H.H., Partridge, P., and Post, J.L.** *Alteration of a granite to kaolin – Mineralogy and geochemistry: Schriftenr. Geol. Wiss. 11, Berlin.* 1978. pp. 197 - 208.

11. **Clark, J.G.** *Petrographic and mineralogical characterization of feldspar-quartz ores and products from the Helmer-Bovill project and comparison with selected commercial and prospective commercial feldspar-quartz ores and products.* s.l. : Confidential Report prepared for Alchemy Ventures Ltd, 2003b. p. 170.

12. **Bush, J.H., Odenborg, L.J. and Odenborg, N.D.** *Bedrock map of the Deary Quadrangle, Latah County, Idaho: Idaho Geological Survey Tech.* 1999. Report 99-3.

13. **Swanson, D.A., Wright, T.L., Hooper, P.R., and Bentley, R.D.** *Revisions in stratigraphic nomenclature of the Columbia River Basalt group: U.S. Geol. Survey Bull. 1457-G.* 1979. p. 59.

14. **Kirkham, V.R.D., and Johnson, M.M.** *The Latah formation in Idaho: Jour. Geology, v. 37.* 1929. pp. 483 - 504.

15. **SRK Consulting.** *NI 43-101 Technical Report Helmer-Bovill Project, Kelly's Basin Mine, Latah County, Idaho: technical report published on SEDAR filing system, November 5, 2010.* 2010.

16. —. *NI 43-101 Technical Report on Resources, WBL Tailings Project, Latah County, Idaho: technical report published on SEDAR filing system, January 18, 2012.* 2012b.

17. —. *NI 43-101 Preliminary Economic Assessment, Bovill Kaolin Project, Latah County, Idaho: technical report published on SEDAR filing system, January 18, 2012.* 2012a.

18. **Streckeisen, E.C.** *To each plutonic rock its proper name: Earth Science Reviews, International Magazine for Geo-scientists, Amsterdam, vol. 12, p. 1-33.* 1976. pp. 1 - 33.

19. **Yuan, J.** *Clay mineralogy and its influence on industrial uses of some kaolin clay deposits from south China and eastern Washington – Idaho, U.S.A.: [Ph.D. Thesis] Indiana University,.* 1994.

20. **Ginn Mineral Technology, Inc.** *Kaolinite/Halloysite clay evaluation: Unpublished confidential report prepared for I-Minerals Inc.* 2005. p. 20.

21. —. *Kaolinite/Halloysite clay evaluation, Phase II: Confidential Report prepared for I-Minerals Inc.* 2006. p. 26.

22. —. *Hydrocyclone Evaluation: Confidential Report prepared for I-Minerals Inc.* 2008. p. 30.

23. **Hodgson, C.J.** *Interim report on Bovill kaolin project, Latah County, Idaho: Unpublished confidential NI 43-101 report prepared for Alchemy Ventures Ltd.* 2000. p. 22.

24. **Montgomery, J.H.** *Helmer-Bovill feldspar, clay and silica mineral leases, Latah County, Idaho: Unpublished confidential NI 43-101 report prepared for Alchemy Ventures Ltd.* 2002. p. 76.

25. **Clark, J.G.** *Report on the Helmer-Bovill feldspar, quartz, and kaolin mineral leases, Latah County, .* Idaho : Confidential NI 43-101 Report prepared for I-Minerals Inc., 2004a. p. 73.

26. —. *Petrographic characterization of feldspar and quartz products and residuals from the Blue Lagoons bulk tailings sample and from drill core intervals MC-3, 14-40' and MC-22, 45-80'.* s.l. : Confidential Report prepared for Alchemy Ventures Ltd, 2003c. p. 89.

27. —. *Petrographic/cathodoluminescence characterization of drill core samples from the Alchemy Kaolin 2003 WBL drilling program.* 175 : Confidential Report prepared for Alchemy Ventures Ltd, 2004b.

28. —. *Petrographic/cathodoluminescence characterization of granitoid samples from drillhole MC-3, Moose Creek Basin, Latah County, .* Idaho : Confidential Report prepared for I-Minerals Inc., 2004c. p. 26.

29. —. *Petrographic/cathodoluminescence study of bulk sample feldspar and quartz products from the 2003 exploration drilling program, Helmer-Bovill project, Latah County, Idaho.* s.l. : Confidential Report prepared for I-Minerals Inc, 2004d. p. 89.

30. **GMT.** *Brightness Processing, Middle Ridge Differential Flotation Product Brightness Optimization.* April 2015.

31. —. *Meta-Kaolin, Fine Grinding and Processing Trials.* March-April 2015.

32. —. *Middle Ridge Differential Flotation Product Brightness Optimization.* 2015.

33. **RDi.** *Bovill Rheology and Filtration Results.* 2015.

34. **MRL.** *Summary of Pilot Plant Testing for I-Minerals to Recover Upgraded Quartz.* March 17, 2016.

35. **CIM Council.** *CIM Definition Standards - For Mineral Resources and Mineral Reserves.* 2014.

36. **Western Regional Climate Centers (WRCC).** Meteoric data for Clarkia Ranger Station . [Online] 2010. http://research.jisao.washington.edu/greg/northwest/states/ID/101831.html.

37. **HDR Engineering.** *Updated Wetland and Ordinary High Water Mark Delineation Report, Bovill Kaolin Project.* January 2013 (updated November 2014).

38. —. *Groundwater Supply Investigation, Bovill Kaolin Project.* November 2015. HDR2015a.

39. **United States Army Corps of Engineers.** *Letter from Shane Slate, Regulatory Division to Michael Murray c/o I-Minerals. Preliminary Jurisdictional Determination (PJD) for I-minerals. .* October 8, 2015. .

40. **HDR Engineering.** *Geochemical Assessment, Bovill Kaolin Project.* November 2015. HDR2015b.

41. **United States Fish and Wildlife Service.** *List of Threatened and Endangered Species that May Occur in Your Proposed Project Location, and/or may be affected by your Proposed Project. Letter to I-Minerals November 4, 2015.* 2015.

42. **SHPO.** *Letter from the State Historic Preservation Office Concurring with findings. .* 2008.

43. **Idaho Administrative Procedures.** *IDAPA 20.03.02. Rules Governing Exploration, Surface Mining, and Closure of Cyanidation Facilities.* 2011.

44. —. *IDAPA 58.01.03. Individual/Subsurface Sewage Disposal Rules.* 2011.

45. —. *IDAPA 58.01.01. Rules for Control of Air Pollution in Idaho.* 2006.

46. **U.S. Census Bureau.** [Online] 2015 . http://quickfacts.census.gov/qfd/states/16/16057.html.

47. **Idaho Department of Labor.** [Online] 2015. http://labor.idaho.gov/publications/lmi/pubs/LatahProfile.pdf.

48. **SRK Consulting.** *NI 43-101 Updated Preliminary Technical Report, Bovill Kaolin Project, Latah County, Idaho: technical report published on SEDAR filing system, June 27, 2014.*

49. Industry Standard for Mining Cost Estimating. *Cost Mine.* [Online] http://costs.infomine.com/.

50. **Strata.** *Preliminary Geotechnical Evaluation for Feasibility Bovill Kaolin Project – Kelly's Hump Area Highwall and Waste Slopes Moose Creek Road Bovill, Idaho.* 2015.

51. **HDR Engineering.** *Wetland and Ordinary High Water Mark Delineation Report Addendum, Bovill Kaolin Project.* June 2015. HDR15.

52. —. *Wetland and Ordinary High Water Mark Delineation Report Addendum, Bovill Kaolin Project.* June 2015. HDR2015c.