MINE DEVELOPMENT ASSOCIATES
MINE ENGINEERING SERVICES

Technical Report on the West Desert Zinc-Copper-Indium-Magnetite Project Preliminary Economic Assessment Juab County, Utah

Prepared for

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TABLE OF CONTENTS

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TABLES

FIGURES

APPENDICES

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1.0 SUMMARY

1.1 Introduction

Mine Development Associates ("MDA") has prepared this technical report on the West Desert zinc-copper-indium-magnetite project, located in Juab County, Utah, at the request of InZinc Mining Ltd. ("InZinc"), formerly called Lithic Resources Ltd. The project was formerly called the Crypto project.

The purpose of this report is to provide a technical summary containing an updated mineral resource estimate and an updated Preliminary Economic Assessment ("PEA") of the West Desert project. Note that a preliminary economic assessment is preliminary in nature. It includes Inferred mineral resources that are considered too speculative geologically to have the economic considerations applied that would enable them to be classified as mineral reserves, and there is no certainty that the preliminary assessment will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

This report was written in compliance with disclosure and reporting requirements set forth in the Canadian Securities Administrators' National Instrument 43-101 ("NI 43-101"), Companion Policy 43-101CP, and Form 43-101F1. MDA classified the West Desert resources as defined by the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") in December 2000 and modified in 2005 and 2010, so as to be in compliance with NI 43-101.

1.2 Property Description and Ownership

The West Desert project is located in west-central Utah, approximately 160km southwest of Salt Lake City. The property consists of 198 unpatented lode mining claims; all or part interest in 20 patented mining claims, which are now private land; and one state mineral lease. The property has an aggregate area of approximately 1,924ha and is situated in Sections 7, 9, and 16-21, Township 11 South, Range 14 West, and in Sections 12, 13, and 24, Township 11 South, Range 15 West, Salt Lake Base Meridian. All titles are held either in the name of Lithic Resources Ltd. (now called InZinc) or its U. S. subsidiary, N.P.R. (US), Inc.

The West Desert property is subject to a 1.5% Net Smelter Return ("NSR") royalty interest on all production payable to BCKP Limited, who is also entitled to receive a one-time cash payment of C$1,000,000 upon InZinc's securing financing to bring the West Desert property into production.

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The state mineral lease carries a Gross Smelter Return ("GSR") royalty of 8% for fissionable metalliferous materials and 4% for non-fissionable metalliferous minerals, but none of the current resource is contained within the leased state lands.

1.3 Geology and Mineralization

The West Desert property is located in the Fish Springs Range, one of the roughly north-trending mountain ranges of the Basin and Range physiographic province extending throughout Nevada and western Utah.

The property is underlain by lower Cambrian to upper Devonian dolostones, thin-bedded limestones, and minor interbedded quartzites and shales. This sedimentary package has been intruded by a Late Eocene felsic intrusive complex, which underlies a large part of the property at depth but is not exposed at the surface. In the vicinity of the West Desert deposit, it rises to the bedrock surface in a cupola that sub-crops below shallow Pleistocene gravels.

The Juab fault, a west-northwest-trending, north-dipping normal fault, trends through the middle of the property. The fault is significant enough to have caused a conspicuous left-lateral offset of the Fish Springs Range and is thought to have on the order of 500-600m of net vertical displacement. The north-trending Overland fault along the western margin of the Fish Spring Range, together with a number of lesser sub-parallel faults, are normal with west-side down and represent extensional faulting typical of the Basin and Range Province.

Thin-bedded carbonate rocks near the intrusive complex, particularly those with shaley partings, have been altered to skarn, marble, and siliceous hornfels. More thickly bedded to massive dolostones tend to be converted to marble. Zinc-copper-indium-magnetite mineralization of the West Desert deposit occurs in portions of the skarn.

Two main zones of mineralization have been identified, the Main and Deep zones, neither of which is exposed in outcrop. The two zones are separated by the Juab fault. The Main Zone is hosted within Ordovician carbonate rocks immediately south of the sub-cropping quartz monzonite cupola and north of the Juab fault. Main Zone mineralization has been traced with drilling over a strike length of about 525m, a width of about 150m, and to a depth of 575m and remains open to the west and to depth. The Main Zone has been oxidized to an average depth of about 200m. The Deep Zone is hosted predominantly within Cambrian thinly bedded, shaly limestones immediately south of the Juab fault. Deep Zone mineralization often occurs as proximal skarn, with greater than 50 percent massive magnetite, along the contact with an underlying quartz monzonite intrusion. At least three separate mineralized stratabound horizons have been identified within the Deep Zone over an area of about 330m by 225m and at depths of between about 450m to 750m. They remain open to the west, south, and possibly the east.

Mineralization at West Desert consists of sphalerite with lesser chalcopyrite occurring commonly (but not exclusively) with massive magnetite in both concordant and discordant skarn and replacement bodies. Indium occurs predominantly as lattice substitution in sphalerite.

1.4 Exploration and Mining History

The West Desert project is situated in the historic Fish Springs mining district, from which about 7.9 million kilograms of lead, 1,300kg of zinc, 2,400kg of copper, 500 ounces of gold, and 2.7 million ounces of silver were produced from 1890 to 1953. This mineralization came from oxidized replacement deposits located east and southeast of the current West Desert resource area.

The West Desert project area was at one time or another held or optioned by Kennecott Copper Corporation ("Kennecott"), Pinnacle Exploration Inc. ("Pinnacle"), Utah Construction & Mining ("Utah," later Utah International Inc.), Noble Peak Resources Ltd. ("Noble Peak"), Cyprus Minerals Company ("Cyprus" (in a joint venture with Mitsui Mining & Smelting Co. Ltd.)), Sierra Gigantes Resources Inc., and EuroZinc Mining Corporation. Lithic Resources Ltd. (now InZinc) purchased the property from EuroZinc in 2005 through the purchase of N.P.R. (US), Inc., a wholly-owned subsidiary of EuroZinc, and subsequently expanded the property holdings. The Main Zone was discovered by Utah, and the Deep Zone was later confirmed as a separate zone and expanded by Cyprus. Historic resource estimates were made by Utah in 1976, Cyprus in 1991 and 1993, and Noble Peak in 1995, but all of these were made prior to the NI 43-101 reporting requirements.

Since acquiring the property, InZinc has completed aerial photography and photogrammetry, pole-dipole induced polarization surveying, and helicopter-borne magnetic surveying. In 2007-2008, InZinc completed a program of 10,639m of core drilling in 17 holes. In 2009, they commissioned preliminary metallurgical test work on both sulfide and oxide mineralization, with a follow-up test-work program completed in April 2013 to evaluate the production of magnetite concentrates.

1.5 Drilling and Sampling

Four campaigns of drilling resulting in 75 diamond core and 10 reverse circulation ("RC") exploration holes totaling 38,138m have been carried out on the West Desert property. The drilling was conducted by Pinnacle (1958-1959), Utah (1961-1979), Cyprus (1990-1991), and InZinc (2007-2008). InZinc's drilling totaled 17 core holes for 10,639m

InZinc's samples were analyzed for a suite of 48 elements including zinc, copper, indium, and total iron by ALS Chemex. Total iron, iron-as-magnetite (Davis tube), and magnetite analyses were conducted by AGAT laboratories with check analyses at ALS Chemex. InZinc implemented a quality-control protocol involving a variety of standards and duplicates as well as a blank for all of its sampling on the project.

Indium is present in the West Desert deposit at unusually high levels. However, the historic operators did not assay their drill core samples for indium. Zinc, copper, and iron content was, on the other hand, easily recognized and is more common to all data sets.

MDA has audited the historic database using the available sources and has not identified any systematic problems; however, one deficiency is the lack of original analytical certificates from exploration programs conducted prior to InZinc's ownership. As a result, MDA cannot state that it has checked the historic database using entirely original sources. MDA found no significant issues in its audit of InZinc's entries in the database.

1.6 Metallurgical Testing

InZinc has contracted metallurgical testing of the West Desert project to two metallurgical testing firms in order to support the PEA, with the intent of maximizing the value obtained from copper, zinc, iron, and by-product precious metals. Previous metallurgical test work completed by Cyprus in 1991 focused on zinc flotation. Recent flotation test work completed by G&T Metallurgical Services Ltd. ("G&T") of Kamloops, Canada, in 2009 was focused on copper and zinc flotation. Additional test work by G&T in 2013 evaluated the option of producing an iron concentrate from the West Desert materials.

Kappes, Cassiday & Associates completed a series of leach and concentration tests on a composite of oxide zinc mineralization constructed from samples taken from a variety of InZinc's drill intercepts. The oxide mineralization is not included in the PEA.

The sample materials used in G&T's 2009 test work were drill-core composites representing three sub-sets of sulfide mineralization: copper-zinc, high-grade zinc, and low-grade zinc mineralization. Determination of a Bond ball mill work index, grinding and flotation tests, open-circuit and locked-cycle tests, and preliminary testing to investigate the potential to recover a magnetite concentrate were undertaken in this test program.

The initial testing on the copper-zinc composite, along with subsequent testing on the low-grade zinc and high-grade zinc composites, indicated a similar moderate hardness. Energy requirements were expected to be similar for all three types of mineralization.

Mineral fragmentation analysis of the three flotation composites was completed, and a target primary grind (P80) of 65 microns was selected for flotation test work. Re-grinding of rough flotation concentrates is required and is expected to be in the range of 20 to 30 microns.

Open-circuit bench-scale testing to evaluate the recovery of copper and zinc determined that the use of zinc depressants, ZnSO4 and NaCN, was essential to control the recovery of zinc to the copper concentrate, thereby optimizing the performance of the zinc recovery circuit. The open-circuit test work also indicated that rougher concentrate regrinds were essential for both the copper and zinc circuits in order to optimize the concentrate grades and recoveries. Additional test work for the optimization of the flotation process is still required.

The metallurgical test work that has been completed by G&T confirms that the sulfide zone of the West Desert project will be amenable to processing using a conventional copper-zinc differential flotation process. The open-circuit test work provided the preliminary criteria to develop flotation locked-cycle test procedures. Locked-cycle tests were completed to confirm recoveries and concentrate grades identified by the open-circuit tests. Copper concentrates of approximately 29 percent copper are predicted with a copper recovery of approximately 74 percent. Zinc concentrates of approximately 55 percent zinc are predicted with a zinc recovery of approximately 92 percent. Gold, silver, and indium will be recovered to the copper and zinc concentrates to various degrees. Deleterious elements were not found to be present in the copper and zinc flotation concentrates at penalty levels.

Results of the G&T sulfide flotation test work were consistent with work completed by Cyprus in 1991 that identified the potential to recover zinc to a marketable zinc concentrate. Optimization of the flotation process is required with sample materials more representative of planned mine production.

Metallurgical test work specific to the production of an iron concentrate demonstrated that saleable iron concentrates can be produced from the West Desert materials using traditional magnetic separation techniques. Iron concentrates in the range of 63 to 65 percent iron were produced by G&T, with very high iron recoveries. Iron recoveries of approximately 96 percent were observed. Approximately 30 to 50 percent of run-of-mine production is expected to be recoverable as a magnetite concentrate. It is expected that iron concentrate production will precede the copper and zinc flotation process in order to reduce tonnages seen in flotation, as well as benefit the reagent usage in flotation.

At this time, there appear to be no metallurgical impediments to the further, successful development of the project.

1.7 Mineral Resource Estimation

Upon completion of the database validation process, MDA used a combination of lithology, structural data, and logged sulfide percentages to construct a cross-sectional geologic model which formed the basis for the density model and metal domain models. Individual domain models were made for zinc, copper, indium, and iron. MDA assigned density values to various groups of rocks ranging from a low of 2.45 to a high of 3.97 g/cm^3. The significant range in density values reflects the variable high-sulfide or high-magnetite content within the various lithologies.

Quantile plots of zinc, copper, and iron in percent and indium in grams per tonne were made to help define the natural populations of metal grades to be modeled on the cross sections. The analytical population breaks indicated by the quantile plots along with the geological interpretation were used in the creation of distinct mineral domains. The interpreted cross sections were then sliced to levels on 3m intervals to coincide with the mid-bench block-model levels. The defined metal mineral domains were used to code the drill samples and control the resource estimation.

Mineral domain statistics, and spatial location of higher grades, were made to assess validity of these domains and to determine capping levels. After these analyses, MDA chose to cap 23 samples for zinc, copper, and indium and one sample for iron. Compositing was done to 3m down-hole lengths, honoring all material type and mineral domain boundaries. The 2m by 2m by 3m blocks inside each mineral domain were estimated using only composites from inside that domain.

Two passes using inverse distance (cubed) techniques were made in the estimate: a long pass to ensure filling in all the blocks and a short pass for the Indicated classification. Indium search parameters were particularly long (up to 300m) because of the limited amount of analytical data.

MDA used the relationships presented in the limited Davis Tube data (640 samples) to convert estimated total iron into iron-in-magnetite and magnetite. Because there are relatively few Davis Tube analyses and because the relationships between total iron and magnetite are not particularly well correlated, this imparts some lack of confidence in the total estimated amount of magnetite. High iron grades generally have a much stronger and better correlated relationship between iron and magnetite, mitigating the potential risk substantially.

MDA classified the West Desert resource in order of increasing geological and quantitative confidence into Inferred and Indicated categories. There are no Measured resources within the deposit, primarily due to complexity of the mineralization but also due to limited drill data. The maximum distance criteria for Indicated within the Main Zone are less than that used for the Deep Zone due to the greater variability in domain morphology and metal grades. There are substantially fewer indium analyses than the other metals, which has resulted in a downgrading of the resources to Inferred over a significant portion of the deposit. None of these issues deter from the overall confidence in the global project resource, but they do detract from confidence in some of the accuracy which MDA believes is required for Measured and Indicated resources.

This report assumes that all of the sulfide material would be mined by underground methods (this material includes copper-zinc-indium sulfides plus magnetite and is referred to as “sulfide” material in this report). Near-surface oxide material would be mined by open-pit methods. The stated resources are tabulated on a gross metal value (“GMV”) in U. S. dollars using a cutoff grade of $15/tonne for open-pit oxide material, and $50/tonne for material mined by underground methods. As multiple metals exist, but do not necessarily co-exist on a local scale, the GMV value is used for tabulation. Using the individual metal grades of each block, the GMV grade is calculated using the following formula:

$$GMV = (\%Zn/100*2204.623) + (\%Cu/100*2204.623*3.0) + (In\ ppm/1000*600.0) + (\%Magnetite)/100*115.0)$$

In addition to the individual metal tabulations and the average GMV value, the resource includes a zinc equivalent (“ZnEq”) grade tabulation. The ZnEq grade is calculated using the following formula:

$$\%ZnEq = \%Zn + (\%Cu*3.0) + (In\ ppm*0.027216) + (\%Magnetite*0.052163)$$

The GMV and ZnEq formulas are based on prices of $1.00 per pound zinc, $3.00 per pound copper, $600.00 per kilogram of indium, and $115/tonne of magnetite. No metal recoveries are applied, as this is the *in situ* resource.

A summary of the total combined West Desert resources is tabulated in Table 1.1.

Table 1.1 Summary of West Desert Resources

Indicated Resources: zinc, copper, indium

Type	Cutoff GMV ($)	Tonnes	ZnEq (%)	Zn (%)	Zn (tonnes)	Zn (lbs)	Cu (%)	Cu (tonnes)	Cu (lbs)	In (g/t)	In (kg)
Oxide	15	1,399,000	4.76	3.44	48,200	106,160,000	0.20	2,800	6,200,000	8	11,000
Sulfide	50	13,022,000	6.22	2.16	280,900	619,260,000	0.23	29,500	65,060,000	33	433,000
All	variable	14,421,000	6.08	2.28	329,100	725,420,000	0.22	32,300	71,260,000	31	444,000

Inferred Resources: zinc, copper, indium

Type	Cutoff GMV ($)	Tonnes	ZnEq (%)	Zn (%)	Zn (tonnes)	Zn (lbs)	Cu (%)	Cu (tonnes)	Cu (lbs)	In (g/t)	In (kg)
Oxide	15	6,221,000	4.40	2.95	183,600	404,790,000	0.14	9,000	19,780,000	9	58,000
Sulfide	50	45,986,000	5.57	1.76	807,800	1,780,960,000	0.22	101,900	224,560,000	24	1,102,000
All	variable	52,207,000	5.43	1.90	991,400	2,185,750,000	0.21	110,900	244,340,000	22	1,160,000

Indicated Resources: magnetite, iron in magnetite, total iron

Type	Cutoff GMV ($)	Tonnes	ZnEq (%)	Magnetite (%)	Magnetite (tonnes)	Fe (mag) (%)	Fe (mag) (tonnes)	Fe (%)	Fe (tonnes)
Oxide	15	1,399,000	4.76	9	132,000	6	81,000	9.9	138,000
Sulfide	50	13,022,000	6.22	48	6,186,000	28	3,654,000	31.1	4,050,000
All	variable	14,421,000	6.08	44	6,318,000	34	3,735,000	41.0	4,188,000

Inferred Resources: magnetite, iron in magnetite, total iron

Type	Cutoff GMV ($)	Tonnes	ZnEq (%)	Magnetite (%)	Magnetite (tonnes)	Fe (mag) (%)	Fe (mag) (tonnes)	Fe (%)	Fe (tonnes)
Oxide	15	6,221,000	4.40	15	909,000	9	556,000	13.3	825,000
Sulfide	50	45,986,000	5.57	48	22,044,000	28	13,105,000	31.5	14,480,000
All	variable	52,207,000	5.43	44	22,953,000	26	13,661,000	29.3	15,305,000

West Desert is a polymetallic skarn deposit containing substantial Inferred and Indicated resources. The detailed work completed by InZinc and MDA on the geologic model, and the data defining the model, have resulted in a resource estimate of high quality. There is good potential to increase the size of the deposit by targeting extensions of mineralization primarily to the east, west, and south. A higher classification above Inferred could be attained for a significant portion of the deposit with an increase in the number of indium sample assays. Additional indium assays could also result in an increase in overall indium grade if the tenor of the new sample assays was similar to the existing assay data.

The risk in the resource is mostly related to the deposit type. Skarn deposits often present rapidly changing geometries, grades, and geology. These geologic risks would mostly be alleviated through additional deposit-definition drilling. There is some risk in the resource in the total iron to magnetite conversion due to the limited Davis Tube data, but this risk is mitigated by the relatively close correlation between high-grade iron and magnetite. There should be sufficient sample reject material available from InZinc's 2007-2008 drilling program for selective additional Davis Tube analyses to complement the existing data set, if needed.

1.8 Preliminary Economic Assessment

A PEA was completed on the West Desert deposit for InZinc and is based on the following assumptions:

- An owner-operated, underground mine with a life of 14.8 years operating at 5,000 tpd for the first two years and then expanding to 6,500 tpd (2.3 million tpa);

- Long-term metal prices of $1.00/lb zinc, $3.00/lb copper, $600/kg indium, $105/t iron concentrate (62% CFR Tianjin, China), $1300/oz gold, and $21/oz silver;
- Average grade of magnetite of 63% attracting a $10/t premium to the iron price (net of $115/t for magnetite delivered to Tianjin, China);
- Operation of a magnetic separator and flotation concentrator for the production of iron, zinc, and copper concentrates;
- Near-surface oxide resources are not included in the PEA;
- Construction of surface facilities to support the operation; and
- Transportation of concentrates and supplies along the existing roads from the site to railways located within 90km of the site. Iron concentrates are shipped form a western U. S. port and delivered into spot markets in China.

Using the updated resource estimate, MDA generated an underground mine design and annualized mining schedule. The mining schedule was used as the basis for a technical economic evaluation that incorporates estimates of potential mining revenue and costs.

Note that a preliminary economic assessment is preliminary in nature. It includes Inferred mineral resources that are considered too speculative geologically to have the economic considerations applied that would enable them to be classified as mineral reserves, and there is no certainty that the preliminary assessment will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

1.8.1 Mining Methods

Underground mining methods have been chosen for the West Desert project, based on the depth of potentially mineable mineralization and the selectivity that underground mining allows. Sublevel stoping, using both long-hole and transverse mining methods have been utilized.

Economic parameters have been established to estimate the potential value of the zinc, copper, indium, and magnetite in the resource model. As this is a polymetallic deposit with value available from multiple metals, a Net Smelter Return (“NSR”) value has been calculated for each resource block. The NSR represents payment for concentrates sent off-site for further processing and refining. The NSR considers the metallurgical recovery, metal prices, transportation and treatment costs, and penalties that the smelter may charge. The NSR is also reduced based on a 1.5% royalty to arrive at the NSR value. Metal prices used to calculate the NSR are shown in Table 1.2.

Table 1.2 NSR Metal Prices

Zinc	$ 1.00	$/lb
Copper	$ 3.00	$/lb
Indium	$ 600.00	$/kg
Iron Concentrate	$ 105.00	$/t

The project’s iron concentrate is in the form of magnetite having 63% iron content. It is projected to attract a $10/t premium to the 62% CFR Tianjin long-term benchmark iron ore price of $105/t. Thus, an iron concentrate or magnetite price of $115/t is used in the economic analysis.

An NSR cutoff value, reflecting preliminary estimates of mining and processing costs, was assumed at \$50/t for initial stope designs.

Stope design was completed using Surpac© (version 6.6) software. Sublevel long-hole stoping methods have been selected. Long-hole stopes will be filled with cemented rock fill to provide ground support and control potential ground subsidence. Detailed geotechnical and backfill studies have not been completed and will be required in the future.

The PEA assumes that all material inside of the stope designs is processed and cannot be further separated into waste and ore. The total dilution inside of the stope designs is approximately 20%. Ore loss has been accounted for based on the stope designs. The reported resource has been reduced both by the design and by the application of economic criteria. In total, 68% of the Indicated and 49% of the Inferred resource (by tonnes) have been captured by the designed stopes. No additional unplanned dilution or ore loss has been accounted for.

A high-level study was completed to determine the best method for haulage of material from the underground to the surface. Options considered included truck haulage, conveyor haulage, or shaft haulage. For the purpose of this PEA, the conveying option has been selected.
The development design assumes use of a primary decline for access, a single ventilation shaft for ventilation and egress, and a conveyor decline (with a conveyor hanging from the back) that can also be used for egress as required. In addition, ore passes, ventilation raises, ramps connecting sublevels, and lateral development have been designed to allow access into and operation of the mine. Designs also include equipment shops, warehouses, and a crusher station.

MDA has used the basic development to determine a simplified ventilation network. The ventilation parameters used are based on other similar projects of this size. Since the mine will have a reduced number of trucks used for haulage due to the conveyor system, the ventilation requirements are reduced. Ventilation studies need to be advanced further at the next level of study.

The bulk of the development access is in footwall dolomite zones assumed to have good strength. Additional costs have been added to the first 50m of each decline to account for support requirements near the portal. The mineralized zones are assumed to have medium rock-strength characteristics. Estimated costs include cable bolting in the hanging wall to control dilution due to sloughing of waste from the hanging wall. Geotechnical parameters will need to be confirmed with detailed rock-mechanics studies at the next level of study

The study assumes that minimal water is generated from underground workings and is pumped and re-cycled to the process plant. Due to the arid climate at West Desert, any additional water requirements for processing may need to be identified during detailed hydrology and water-balance studies working up to a pre-feasibility study.

Table 1.3 shows the potentially mineable resources and includes the reported internal waste. It should be noted that “potentially mineable resources” are not reserves and do not have demonstrated technical and economic viability. Resources above cutoff are Indicated and Inferred blocks that are above a \$50.00/t NSR cutoff within the designs. Resources below cutoff are Indicated and Inferred blocks that are below a \$50.00/t NSR cutoff but are reported as resources (above a GMV cutoff of \$50.00/t).

Internal waste is material that is not classified as a resource and dilutes the total potentially mineable resources using zero grade and metal content.

Table 1.3 PEA Potentially Mineable Resources and Dilution

	Above Cutoff		Internal Dilution: Below Cutoff		Internal Dilution: Internal Waste
	Indicated	Inferred	Indicated	Inferred	
K Tonnes	7,862	20,557	803	1,881	2,895
Zn %	3.07	3.23	0.62	0.73	-
K Lbs Zn	532,787	1,464,691	10,910	30,384	-
Cu %	0.27	0.33	0.14	0.16	-
K Lbs Cu	47,527	148,465	2,457	6,808	-
g In/t	41.17	31.22	22.79	22.01	-
Kg In	323,669	641,746	18,308	41,393	-
Magn%	51.43	50.08	24.15	23.02	-
KT Magnetite	4,043	10,295	194	433	-

Equipment requirements were determined for development, production, and to support mining operations. The PEA assumes that a contractor would complete the initial development in the pre-production period. Owner mining equipment would be purchased at the start of production. The total life-of-mine equipment includes the initial equipment and the replacement equipment required every four to five years to maintain availability.

The production schedule was created using MineSched© (version 8.0) mine-scheduling software. The development and production schedules were integrated to ensure that the development requirements were met prior to production in any given area.

The production schedule is based on a 5,000 tonnes per day rate or 1,825,000 tonnes per year for the first two years. Once additional underground development is completed, production is expanded to 6,500 tonnes per day or 2,372,000 tonnes per year. Test stoping would be done during the pre-production periods to prove up stoping techniques. Primary production would not commence until development of the main decline, conveying decline, and ventilation shaft are complete and connection is made with a lateral to provide secondary egress. At that time, production would start to build stockpiles on the surface and ramp up productivity.

1.8.2 Recovery Methods

All of the metallurgical test work completed on the West Desert materials indicate they will be amenable to processing using a conventional copper and zinc differential flotation process. The process flowsheet will include crushing and grinding facilities to generate a magnetite plant feed with a nominal P_{80} of 65 microns. Magnetite will be recovered prior to flotation, and on average about 50 percent of the ore mass will be recovered as an iron concentrate (magnetite). The tailings from the magnetite recovery process will be thickened and ground in order to ensure that target grinds in flotation are meeting the P_{80} target of 65 microns.

For ores with sufficient copper to operate an economic recovery process, zinc depressants will be added to the grinding mill to minimize zinc recovery to the copper rougher concentrate. Copper rougher concentrate will be reground to 15 microns prior to three stages of copper cleaner flotation to produce a concentrate grading 29 percent copper.

Tailings from the copper flotation circuit will be fed to the zinc flotation circuit. $CuSO_4$ will be added to the slurry to activate the zinc (sphalerite) for flotation. Zinc rougher concentrate will be reground to 35 microns prior to three stages of zinc cleaner flotation to produce a concentrate grading 55.0 percent zinc.

Concentrates from the flotation process will be thickened and filtered to provide dry concentrates that will be shipped to the respective smelters.

1.8.3 Project Infrastructure

On-site project infrastructure will include a tailings facility, waste dumps, borrow pits, electrical distribution, access roads, and buildings. Tailings storage facility ("TSF") designs rely on previous designs developed by Knight Piésold (Nilsson *et al*., 2010).

Three waste dumps have been designed to provide storage of development waste. Two of these are located near the portal entrances of the main and conveyor declines. The third is located north of the conveyor decline.

Aggregate from a borrow pit will be mined at surface, crushed, and delivered underground for backfill. A conceptual design, placing the borrow pit north of the main decline, provides approximately 20 million tonnes of material. At this time, the quality of this material is not known, and additional studies are required.

Electrical power will be supplied underground, typically at 4,160V, using a ring system though the main and conveyor declines. Power centers with step-down transformers will be located to provide power to drills, bolters, fans, and pumps in active mining areas and to fixed facilities, including the maintenance shop, crusher room, and warehouse.

Various buildings will be constructed around the site. Most of these would be pre-fabricated buildings, where applicable. The buildings would include: administration, safety and security, warehouse, mine and mill operations and dry facility, and a small office within the explosives storage facility.

Primary access to the property is via the Brush Wellman Highway, which is a paved road originating in Delta, Utah. This leads to a public gravel-surfaced road, which currently crosses the property between the TSF and the plant. This portion of public access would be re-routed around the west side of the property, and a portion of the old public access would be used to access the site.

The study includes the estimated costs of transporting three concentrates: magnetite, zinc, and copper. All concentrates would be loaded into over-the-road trucks on site. Copper concentrate would be hauled directly to the Kennecott smelter in Salt Lake City, Utah. Zinc and magnetite concentrates would be hauled by truck to an off-site rail load-out facility. The off-site load-out facility will be located near Delta, Utah, although an alternative and equidistant site could be located near Wendover, Utah. From there, zinc concentrate would be loaded onto railcars for transport to the Teck smelter in Trail, B.C. Magnetite concentrate would be loaded onto railcars and delivered to a port facility near San Francisco, California (possibly Stockton, Richmond, or Oakland), from which it would be shipped to Tianjin, China.

1.8.4 Environmental Studies and Permitting

The West Desert deposit is located on undeveloped fee land, and although the property includes some peripheral federal lands and a state mineral lease, any development related to mining is expected to be located on existing fee land or lands converted to that status. As a result, the majority of the regulatory requirements would be administered at the state level.

InZinc currently holds exploration permits from the U.S. Bureau of Land Management and the Utah Division of Oil, Gas and Mining as well as a Small Mine Permit from the latter agency. No environmental studies were necessary for these permits, nor have any been carried out by InZinc on the project to this point.

Since the project is at the level of a Preliminary Economic Assessment, the exact details of any further development have not been finalized. However, the current study indicates that development activities may include underground mining, minor open pit mining, mineral processing facilities, a tailings facility, and water production from a groundwater source.

InZinc retained Enviroscientists, Inc. of Reno, Nevada, to provide an independent assessment of the permits and approvals that would be required for continued exploration and any subsequent construction and operation of a mine at the West Desert project. Their report indicates that the following major environmental permits would be necessary from the state of Utah to construct and operate the project:

1. Large Mine Operating Permit;
2. Ground Water Discharge Permit;
3. Pond Construction Permit;
4. Dam Permit;
5. Air Quality Permit, and
6. Water Rights.

Various environmental and cultural studies would be necessary to supply the baseline data required for these and other lesser permits.

1.8.5 Capital Costs

Capital cost estimates have been made for the mine, process plant, and facilities. The total capital is summarized in Table 1.4.

Table 1.4 Project Capital Cost Estimate

	Units	Initial	Sustaining	Total
Underground Development	K USD	$ 39,488	$ 65,878	$ 105,366
Project Development	K USD	$ 2,000	$ 5,000	$ 7,000
Facilities	K USD	$ 5,250	$ -	$ 5,250
Mining Equipment	K USD	$ 1,153	$ 49,777	$ 50,930
Process Plant	K USD	$ 123,062	$ -	$ 123,062
Tailings	K USD	$ 12,300	$ 20,870	$ 33,170
Contingency, Indirects, and EPCM	K USD	$ 64,139	$ -	$ 64,139
Total Capital Costs	K USD	$ 247,392	$ 141,525	$ 388,916

1.8.6 Operating Costs

Operating costs have been estimated for the life of the mine. All operating costs prior to production in year one have been capitalized. Total life-of-mine operating costs and cost per tonne are summarized in Table 1.5.

Table 1.5 Operating Cost Estimate

	K $US	$/t
Underground Mining Cost	$ 883,955	$ 26.00
Processing Cost	$ 415,799	$ 12.23
Tailings Cost	$ 8,500	$ 0.25
G&A Costs	$ 88,532	$ 2.60
Total Operating Cost	$ 1,396,785	$ 41.08

1.8.7 Economic Analysis

This economic analysis includes operating and capital costs, revenues, and associated tax treatments based on an annual schedule. This PEA has been developed to be NI 43-101 compliant. Note that a preliminary economic assessment is preliminary in nature. It includes Inferred mineral resources that are considered too speculative geologically to have the economic considerations applied that would enable them to be classified as mineral reserves, and there is no certainty that the preliminary assessment will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

Key outcomes of this financial analysis indicate that the potentially minable resources support a 14.8 year mine plan with production commencing at 5,500 tpd and increasing to 6500 tpd after year two of operations and sustained thereafter (Table 1.6).

Table 1.6 Financial Model Results
(Values in K US$)

Model Parameter	Life-of-Mine Value
Production Summary	
Zinc Concentrate Produced	1,547 k dmt
Copper Concentrate Produced	238 k dmt
Iron Concentrate Produced	14,867 k dmt
Financial Results (US$000's)	
Gross Revenue	$ 4,589,731
Freight	$ (1,099,439)
Smelter Charges	$ (752,045)
Revenue from Sales	$ 2,738,247
Royalty	$ (42,074)
Net Revenue	$ 2,696,173
Operating Costs	
Mining	$ 883,955
Milling and Tails Storage	$ 424,298
G & A	$ 88,532
Operating Costs	$ 1,396,785
Capital Costs (US$000's)	
Mine Equipment	$ 50,930
Plant Equipment, Tailings, and Facilities	$ 161,482
Contingency, Indirects, and EPCM	$ 64,139
Underground Development and Pre-Production	$ 112,366
Total Capital	$ 388,917
Pre-Tax Cash Flow	$ 910,471
After-Tax Cash Flow	$ 694,423
Discounted After Tax Cash Flow (NPV8%)	$ 258,079
C1 Direct Cash Cost (per lb of payable zinc)	$ (0.04)
C2 Production Cost (per lb of payable zinc)	$ 0.45
C3 Fully Allocated Cost (per lb of payable zinc)	$ 0.50

Financial results were evaluated based on net present value ("NPV"), internal rate of return ("IRR"), and payback period. The results were calculated for both after-tax and pre-tax and are shown in Table 1.7.

Table 1.7 PEA Net Present Value and Internal Rate of Return

		After-Tax	Pre-Tax
NPV (5%)	K $US	$376,732	$507,082
NPV (8%)	K $US	$258,079	$356,593
NPV (10%)	K $US	$198,070	$280,529
IRR	%	23.2%	26.8%

The construction period is estimated at two years, and the production period is estimated at 14.8 years. The after-tax payback is 5.71 years when considered from the beginning of construction, or 3.71 years after completion of construction.

1.9 Conclusions and Recommendations

This report provides an updated NI 43-101-compliant resource for the West Desert project that adds the magnetite resource to the previously reported (Nilsson *et al.*, 2010) zinc-copper-indium resource. The resource is supported by additional sampling and analysis of drill core by InZinc in 2013.

West Desert is a polymetallic skarn deposit containing substantial Inferred and Indicated resources. The deposit, the data defining the deposit, and the resulting resource estimate are considered high quality. However, skarn deposits often present rapidly changing geometries, grades, and geology. These risks, imparted into the deposit and resource estimate, should be mitigated with continued deposit definition resulting from additional drilling.

Indium is present in the West Desert deposit at unusually high levels. However, not all historical operators of the project recognized this, and in some cases they did not assay their drill-core samples for indium. Zinc, copper, and iron content was, on the other hand, easily recognized and is more common to all data sets. Resource analysis is a function of data and their spatial distribution. As such, the confidence level or classification of the West Desert resource is strongly influenced by the constituent with the fewest number of assays. To counteract the current downgrade in classification due to the limited indium data, removing the indium from the current *in situ* resource has the potential to improve the amount of Indicated resources by up to 75% with a minimal (approximately 10%) reduction of the overall grades (on a GMV basis). Therefore, two solutions are available to InZinc in the future. These may include the removal of indium as a resource constituent or additional sampling to improve indium assay distribution. Both solutions represent potentially positive improvements to the resource classification.

This report also summarizes resources contained in the near-surface oxide portion of the West Desert deposit. These resources have not been included in the economic analysis, and further metallurgical work to determine the viability of these resources is recommended.

Magnetite mineralization is generally more extensive and continuous than the associated zinc and copper mineralization at West Desert. The addition of magnetite does not increase the complexity or cost of mining the zinc and copper resources. In fact, where magnetite co-exists with appreciable zinc and copper, it significantly increases the NSR value of the resource. The combination of these factors positively impacts the "potentially mineable resources." The underground mining designs applied in this study, including sub-level long-hole stoping, are based on limited geotechnical information. MDA recommends detailed geotechnical studies to support these applications in advanced studies.

Metallurgical results provide confidence in the ability to produce iron, copper, and zinc concentrates from the West Desert project materials. Additional test work will be required to confirm and optimize the metallurgical process with more representative drill core from the project. Future test work will need to provide a simulation of the entire proposed flowsheet, including the recovery of iron minerals prior to flotation, and to evaluate the impact of significantly reducing the flotation tonnage and the corresponding increase in flotation feed grades. Key metallurgical parameters requiring additional work include primary grind optimization and copper flotation reagent conditions. Iron, copper, and zinc concentrates have shown a consistent ability to be within standard market specifications for their respective markets.

In this study, potentially mineable resources (above cut-off) at West Desert comprise 7.86 million tonnes of Indicated and 20.56 million tonnes of Inferred material (undiluted). Magnetite represents approximately 50% of this material. The magnetic-separation process will recover approximately 97% of the magnetite as a high-quality iron concentrate. The flotation feed tonnages are expected to be reduced by approximately 50 percent through the removal of magnetite, which will correspondingly double the zinc-copper grade of the flotation feed when compared to the mine production grades. Based on the resource model, the grades of mine production should range from 6.7% to 2.7% zinc and 0.7% to 0.3% copper over the 14.8 year production period.

On a per tonne operating cost basis, the magnetite recovery process is expected to add approximately $0.75 to the baseline grinding, flotation, and dewatering costs for the project. In comparison, the estimated cost to discard waste to the tailings storage facility is $0.25/tonne. The process costs to produce all three concentrates are estimated at $12.23/tonne milled. The incremental cost to produce magnetite is a fraction of the market value of magnetite concentrates and should make the option of producing a magnetite concentrate very attractive to the project. These estimates demonstrate the efficiency and cost effectiveness of processing a magnetite concentrate and the resulting cost benefits of waste reduction at West Desert.

West Desert has the potential to produce three concentrates. In this study, zinc concentrates represent the highest value, containing approximately 1.6 billion pounds payable metal (with associated indium) over the life of the mine. Copper concentrates are estimated to contain 147 million pounds of payable metal over the life of the mine. Iron concentrates, at an estimated 63% iron grade, would total approximately 15 million tonnes over the life of the mine. No deleterious elements are identified at penalty levels in the concentrates.

Zinc and copper concentrates are produced at a large number of mines and treated at a variety of smelters and refineries around the world. Global markets for iron concentrates were about 2.1 billion tonnes annually as of November 2012. Market research suggests a trend towards higher demand for quality iron concentrates, particularly in China, as higher energy costs and new environmental policies are implemented. MDA recommends marketing and transportation studies, including the development of potential domestic U. S. markets for the magnetite concentrates, be initiated at the next step of advancement. The inclusion of a magnetite (iron) concentrate to the product stream adds significant volume and potential complexity to the transportation and marketing of products. However, proximity to roads, power, rail, and the potential services/support and labor pool available in the nearby Salt Lake City area are important positive factors in this regard.

At this level of study, the potential for a larger, multi-commodity revenue stream generated from the three concentrate products over an extended period (14.8 years in this study) is financially attractive. Currently, deposit complexity is highlighted as a potential risk. MDA recommends additional drilling to improve deposit definition.

Substantial underground resources at West Desert remain open for expansion to the east, west, and south. There is also potential for the discovery of new zones beyond these extensions.

West Desert is a project meriting substantial amounts of additional exploration and development work.

MDA recommends that InZinc undertake a two-phase approach to further develop the deposit:

Phase One:

1) resource expansion drilling and exploration drilling on the flanks of the deposit;
2) infill drilling and sampling to upgrade resource classification (incorporating advanced metallurgical sampling and detailed geotechnical data collection);
3) baseline environmental and hydrological studies; and
4) a concentrate marketing and transportation study.

The estimated budget for Phase One is $4.95 million.

Phase Two:

Advance to pre-feasibility study ("PFS") once maximum resource thresholds/classifications are achieved along with requisite metallurgical and geotechnical data. Budgetary estimates for a PFS are dependent on the ultimate size of the deposit and any resulting changes in metal zonation or geometry.

2.0 INTRODUCTION AND TERMS OF REFERENCE

Mine Development Associates ("MDA") has prepared this technical report on the West Desert zinc-copper-indium-magnetite project, located in Juab County, Utah, at the request of InZinc Mining Ltd., formerly called Lithic Resources Ltd. until the name was changed effective February 19, 2014; the company is referred to as "InZinc" in this report. InZinc is a public company based in Vancouver, British Columbia, Canada, which trades on the TSX Venture Exchange. The project was formerly called the Crypto project. The West Desert property is held by InZinc through its U. S. subsidiary, N.P.R. (US), Inc. ("NPR").

This report was written in compliance with disclosure and reporting requirements set forth in the Canadian Securities Administrators' National Instrument 43-101 ("NI 43-101"), Companion Policy 43-101CP, and Form 43-101F1.

2.1 Project Scope and Terms of Reference

The purpose of this report is to provide a technical summary containing an updated mineral resource estimate and an updated Preliminary Economic Assessment ("PEA") of the West Desert project. Note that a preliminary economic assessment is preliminary in nature. It includes Inferred mineral resources that are considered too speculative geologically to have the economic considerations applied that would enable them to be classified as mineral reserves, and there is no certainty that the preliminary assessment will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

This report has been prepared by Thomas L. Dyer, P.E., Senior Engineer for MDA; Paul Tietz, C. P. G., Senior Geologist for MDA; and Jeffrey B. Austin, P. Eng., President, International Metallurgical and Environmental Inc., who are qualified persons under NI 43-101. Major contributions to the report have been made by Chris Staargaard, P.Geo., President of InZinc. Mr. Staargaard is not independent of the issuer, and his contributions to the report were under the full supervision of Mr. Tietz and Mr. Dyer. The updated Mineral Resources were estimated and classified under the supervision of Mr. Tietz; no Mineral Reserves are estimated. The PEA was prepared under the supervision of Mr. Dyer. There is no affiliation between Messrs. Dyer, Tietz, or Austin and InZinc except that of an independent consultant/client relationship.

The updated Mineral Resources reported herein for the West Desert project are reported to fulfill the requirements stipulated in NI 43-101. Other resource estimates presented in Section 6.2 are reported for historic purposes only and do not necessarily meet the reporting requirements of NI 43-101. MDA prepared a previous technical report on the West Desert project that included a mineral resource estimate for zinc, copper, and indium (Tietz *et al.*, 2010). No further drilling has been conducted since the effective date of that report, but the mineral resource estimate described in Section 14.0 of this report has been updated to include magnetite. A previous PEA based on MDA's 2010 mineral resource estimate was prepared for InZinc (then Lithic Resources Ltd.) in 2010 by Nilsson *et al.* (2010). The current PEA described in this report is based on the updated mineral resource estimate described herein.

The scope of this study included a review of pertinent technical reports and data provided to MDA by InZinc relative to the general setting, geology, project history, exploration activities and results, methodology, quality assurance, interpretations, drilling programs, and metallurgy. MDA has relied on the data and information provided by InZinc for the completion of this report, including the supporting data for the estimation of the Mineral Resources. In compiling the background information for this report, MDA relied on information provided by InZinc and on other references as cited in Section 27.0.

The authors' mandate was to comment on substantive public or private documents and technical information listed in Section 27.0. The mandate also required on-site inspections and the preparation of this independent technical report containing the authors' observations, conclusions, and recommendations. Mr. Tietz, accompanied by Peter Ronning (consultant acting on MDA's behalf), conducted a site visit on March 26, 2008, which included a review of the drilling and sampling procedures. Mr. Tietz conducted a second site visit June 9 through 13, 2008, during which the drilling results and project geology were reviewed with InZinc personnel.

MDA has made such independent investigations as deemed necessary in the professional judgment of the authors to be able to reasonably present the conclusions discussed herein.

The effective date of this report is March 17, 2014. The effective date of the resource estimate is January 10, 2014.

2.2 Frequently Used Acronyms, Abbreviations, Definitions, and Units of Measure

In this report, measurements are generally reported in metric units. Where information was originally reported in Imperial units, MDA has made conversions according to the formulas shown below; discrepancies may result in slight variations from the original data in some cases.

Linear Measure		
1 centimeter	= 0.3937 inch	
1 meter	= 3.2808 feet	= 1.0936 yard
1 kilometer	= 0.6214 mile	
Area Measure		
1 hectare	= 2.471 acres	= 0.0039 square mile
Capacity Measure (liquid)		
1 liter	= 0.2642 US gallons	
Weight		
1 tonne	= 1.1023 short tons	= 2,205 pounds
1 kilogram	= 2.205 pounds	

Currency Unless otherwise indicated, all references to dollars ($) in this report refer to currency of the United States.

Acronyms and abbreviations that appear in report:

AA	atomic absorption spectrometer
Ag	silver
ASL	above sea level
Cd	cadmium
CIM	Canadian Institute of Mining, Metallurgical, and Petroleum
cm	centimeter
core	diamond drill drilling method
Cu	copper
^oC	degrees Centigrade
CFR	cost and freight
ddh	diamond drill holes
EPCM	engineering, procurement, and construction management contract
FA-AA	fire assay with an atomic absorption finish
Fe	iron
ft	foot/feet
GSR	gross smelter return
g	grams
g Ag/t	grams of silver per metric tonne
ha	hectares
hp	horsepower
ICP-AES	inductively coupled plasma-atomic emission spectroscopy analytical technique
ICP-MS	inductively coupled plasma-mass spectroscopy analytical technique
ICP-OES	inductively couples plasma-optical emission spectrometry analytical technique
IP	induced polarization geophysical survey
IRR	internal rate of return
k dmt	thousand dry metric tonnes
kg	kilogram
km	kilometers
kW	kilowatt
kWh	kilowatts per hour
LHD	load-haul-dump loader
m	meters
Ma	million years
mm	millimeter
mW	megawatt
MWh	megawatts per hour
NPI	net profits interest
NPV	net present value
NSR	net smelter return
oz	ounces
PEA	Preliminary Economic Assessment
Pb	lead
QA/QC	quality control/quality assurance
RC	reverse-circulation drilling
t	tonnes

tpa	tonnes per annum
tpd	tonnes per day
TSF	tailings storage facility
V	volt
XRF	X-ray fluorescence
Zn	zinc

3.0 RELIANCE ON OTHER EXPERTS

The authors are not experts in legal matters, such as the assessment of the legal validity of mining claims, private lands, mineral rights, and property agreements. The authors did not conduct any investigations of the environmental or social-economic issues associated with the West Desert project, and the authors are not experts with respect to these issues.

MDA has relied on InZinc for the information in Section 4.0. The land-status information in Section 4.2, the State of Utah mineral lease information in Section 4.3, and the permitting/environmental information in Section 4.4 were taken from an independent report on land status and mineral rights prepared for InZinc by North American Exploration, Inc. (Gatten, 2014); Mr. Gatten is a licensed professional geologist in the state of Utah with significant experience in land and permitting issues. The authors offer no professional opinions with respect to the provided information.

MDA has relied in InZinc for information concerning environmental studies, permitting, and social and community impact described in Section 20.0. InZinc based much of this information on an independent May 19, 2013 letter report to InZinc from Enviroscientists, Inc. of Reno, Nevada.

4.0 PROPERTY DESCRIPTION AND LOCATION

The authors are not experts in land, legal, environmental, and permitting matters. The information presented in this Section 4.0 is based entirely on information provided to MDA by InZinc, including an independent report on land status and mineral rights prepared for InZinc by North American Exploration, Inc. (Gatten, 2014). The land-status information in Section 4.2, the State of Utah mineral lease information in Section 4.3, and the permitting/environmental information in Section 4.4 are taken primarily from the Gatten (2014) report. MDA presents this information to fulfill reporting requirements of NI 43-101 but expresses no opinion regarding the legal or environmental status of the West Desert property or any of the agreements and encumbrances related to the property.

4.1 Location

The West Desert property is located in western Juab County, west-central Utah, U.S.A., approximately 160km southwest of Salt Lake City (Figure 4.1). The project lies on the northwestern edge of the Fish Springs Range and includes the Fish Springs historic mining district.

The property is located within the Fish Springs SW 7½’ quadrangle and the Fish Springs 30’ by 60’ topographic map. The project area lies about 4km south of the U. S. Air Force’s Deseret Test Center. The Fish Springs Wilderness Study Area is adjacent to the southern boundary and southeast corner of the West Desert property (Figure 4.2). Gatten (2014) noted that the Fish Springs National Wildlife Refuge is located about 5 to 6km east of the West Desert property on the opposite side of the range in an entirely different watershed and groundwater resource area.

Figure 4.1 Location of the West Desert Project
(Provided by InZinc Mining Ltd., 2014)

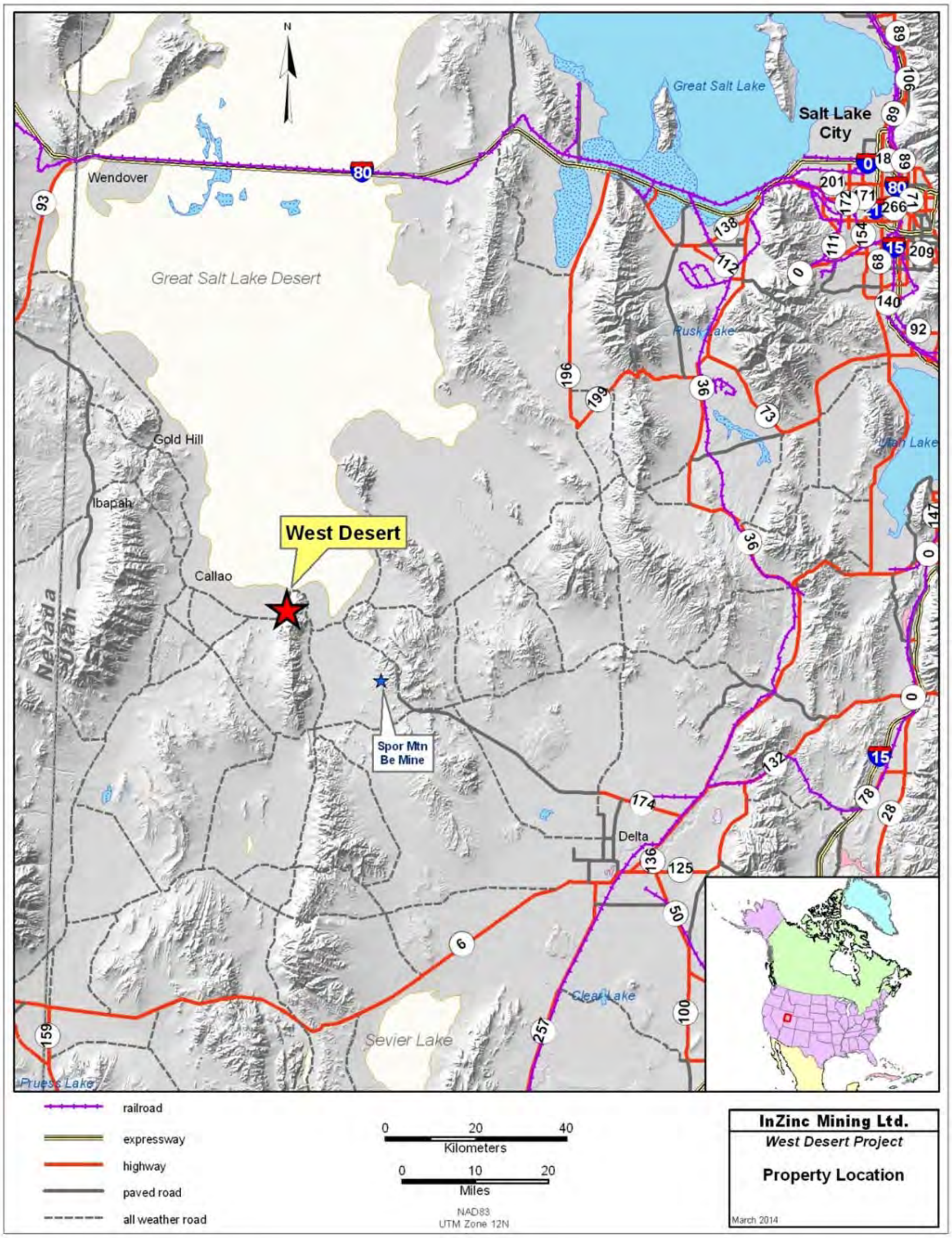
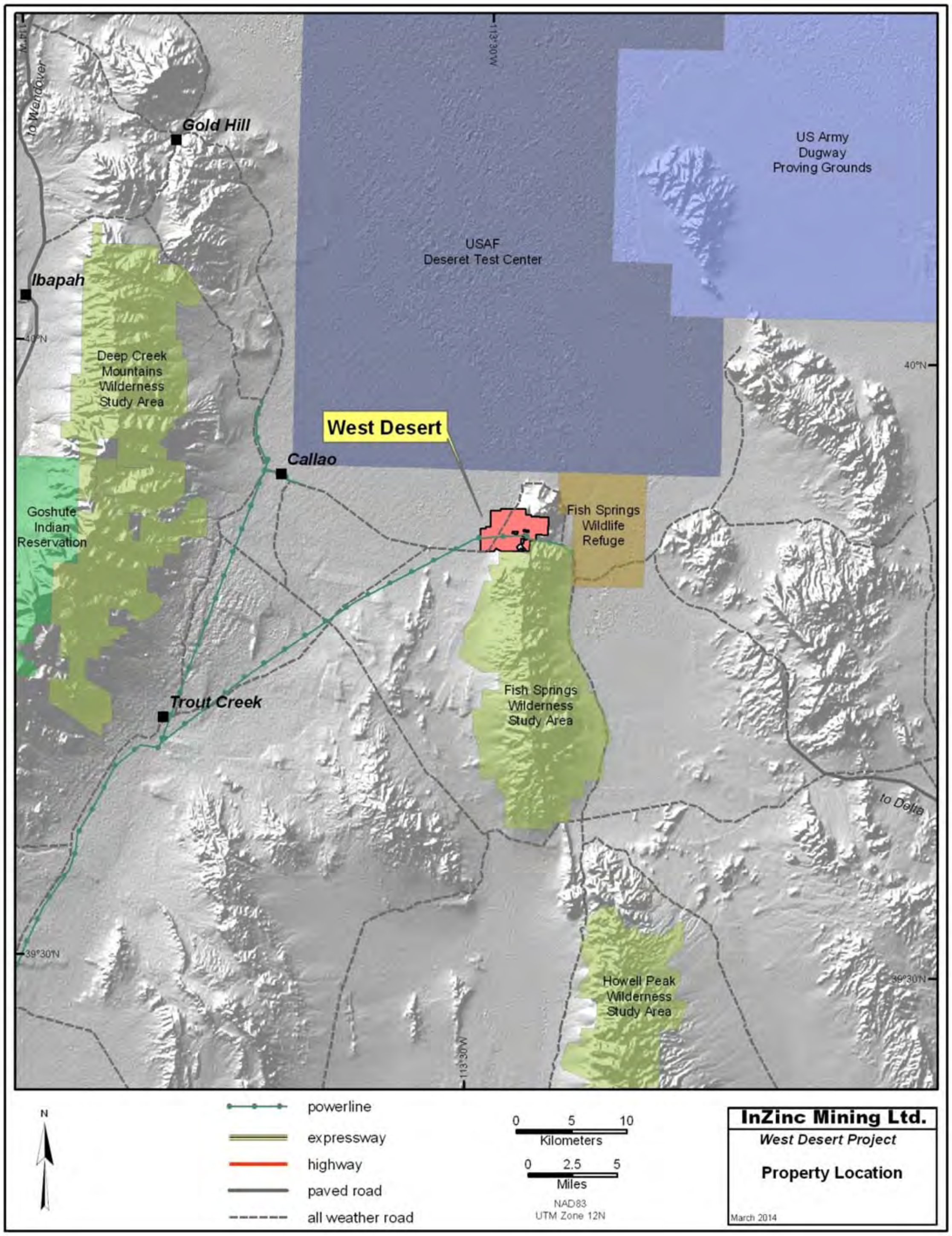


Figure 4.2 Land Status in the Vicinity of the West Desert Property
(Provided by InZinc Mining Ltd., 2014)



4.2 Land Area

The West Desert property consists of a single contiguous group of unpatented and patented lode mining claims and one Utah state mineral lease (Figure 4.3; Appendix A) situated in Sections 7, 9, and 16-21, Township 11 South, Range 14 West, and in Sections 12, 13, and 24, Township 11 South, Range 15 West, Salt Lake Base Meridian. All titles are held either in the name of Lithic Resources Ltd. (now called InZinc) or its U.S. subsidiary NPR. InZinc reports that there is no record in their files of the property boundary and claims having been surveyed. The property comprises 198 unpatented mining claims, all or part interest in 20 patented mining claims (private land), and one state mineral lease with an aggregate area of approximate1y 1,924ha, allowing for some overlap.

The 198 unpatented claims, which comprise approximately 1,553ha, are located on public land administered by the U. S. Bureau of Land Management ("BLM"). They are the 40 Crypto Zn, 63 Crypto, and 95 Pony claims. Unpatented claims can be held indefinitely and require an annual maintenance fee of $140 to be paid to the BLM each year on September 1 in order to remain in good standing. Gatten (2014) reported that the annual maintenance fees for the 198 unpatented claims have been paid for the 2012-2013 year, that the claims are valid until September 1, 2014, and that the claims are considered "active" and in good standing by the BLM. InZinc purchased 40 of the unpatented claims as part of the original land package they acquired and staked the remaining 158 claims themselves.

The 20 patented claims, which include both surface and mineral rights, are now considered private or fee land and as such are administered by the state of Utah. These 20 patented claims comprise 133.7ha in the core of the historic mining district. Through NPR, who is the owner of record, InZinc has 100% interest in 15 of the patented claims and a part interest in the five additional patented claims (Appendix A) (Gatten, 2014). According to InZinc, the patented claims may require varying but generally nominal annual property tax payments due in November of each year. InZinc represents that the annual property tax payments for the patented claims have been paid for the current year.

The Utah state mineral lease ML 48312, which comprises 247ha, is administered by the state of Utah School and Institutional Trust Lands Administration ("SITLA"). NPR entered into the lease June 16, 1999 (Gatten, 2014). Leases are typically for 10 years initially, during which time they require an annual payment of $1 per acre due on July 1 of each year to remain in good standing. Following the initial 10-year period, the leaseholder may apply to extend the lease for another 10-year period based on evidence that significant work has been done to develop the property. Extended leases are subject to minimum advance royalties of $3 per acre per year in addition to the annual lease payment of $1 per acre per year. Mineral production or processing on state leases is subject to payments of royalties as summarized in Section 4.3. The state lease that is part of the West Desert property was due to expire July 1, 2009, but InZinc applied for and was granted an extension for an additional 10 years. The new lease requires advance royalty payments of $3 per acre per year in addition to the standard fee of $1 per acre per year; the total annual cost to hold this lease is now $2,448. Gatten (2014) reported that "*all payments are current and the lease is active. The terms of the lease extend to June 30, 2019, but can be extended further if a mine is in production.*"

Gatten (2014) opined that "*this work confirms that the property is as represented and that InZinc Mining, Ltd. and N.P.R. (US), Inc.* [are] *the owner. The unpatented mining claims are valid and in good* *order. The Exploration and Small Mine permit*[s] *are also in good standing and are valid through June, 2014. The patented mining claims are owned by N.P.R. (US), Inc. and the state metalliferous minerals lease is also held by N.P.R. (US), Inc*."

The holding costs of the West Desert property in 2014 are estimated by InZinc at about $30,600.

Within or impinging on the West Desert property boundary, there are 11 full and partial claims held by other parties as shown on Figure 4.3.

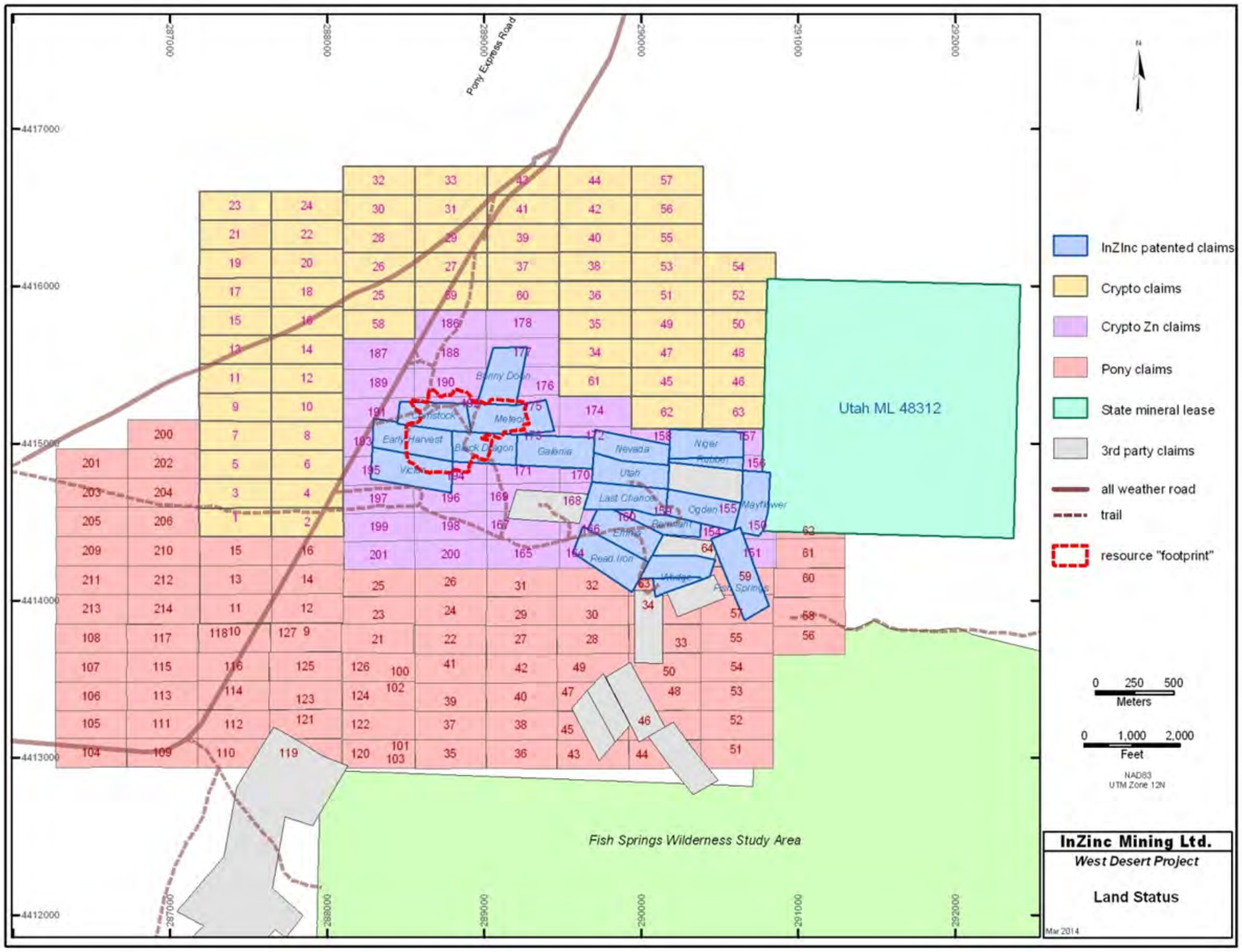
4.3 Agreements and Encumbrances

The information in this section has been provided by InZinc or has been taken from Gatten (2014).

The West Desert property is subject to a 1.5% Net Smelter Return ("NSR") royalty interest on all production payable to BCKP Limited ("BCKP"); on June 29, 2012, BCKP acquired beneficial ownership of 100% of the outstanding common shares of Vaaldiam Mining Inc. (formerly Vaaldiam Resources Ltd.; Vaaldiam Mining Inc. news release, June 20, 2012), which was the successor company to Noble Peak Resources Ltd., a previous owner of the property. BCKP is also entitled to receive a one-time cash payment of C$1,000,000 upon InZinc's securing financing to bring the West Desert property into production.

The state mineral lease carries a Gross Smelter Return ("GSR") royalty of 8% for fissionable metalliferous materials and 4% for non-fissionable metalliferous minerals, payable to SITLA and based on any ores produced from the leased lands and sold by the lessee (Gatten, 2014). None of the current resource is contained within the leased state lands.

Figure 4.3 Property Map for the West Desert Project
(Provided by InZinc Mining Ltd., 2014)



4.4 Environmental Permits and Potential Liabilities

4.4.1 Permits

The following information on the status of permits is taken directly from the land report by Gatten (2014) with minor editorial changes to conform to the style of this report and with a summary table and figure added by InZinc.

Certain permits are required by the State of Utah to explore for minerals and conduct mining operations. These are administered by the Utah Division of Oil, Gas and Mining ("DOGM") and the BLM and include exploration, small mine (less than five acres disturbance), and large mine permits. In addition to DOGM regulation, the BLM also monitors field and reclamation activities conducted on federal lands.

NPR currently holds four permits in regards to the exploration and mine development of the West Desert property. These permits are:

Exploration Permit E/023/0105. This permit was approved by DOGM on July 12, 2007 to allow for an extensive drilling program that has been conducted on the property. Terms of the permit extend until June 2014; the permit is currently being reviewed by DOGM, and paper work has been filed to extend the permit through the current year. A reclamation contract is in place which includes a surety amount of $23,350.

Small Mine Permit S/023/0103. This permit was approved by DOGM on April 6, 2009 and covers 5.0 acres of land located in the NW/NW and NE/SE of Section 18. The permit was updated and approved on September 13, 2010. The purpose of the permit is "*for surface disturbances prior to pit development*." Permit fees have been paid through June 2015, and a reclamation contract is in place which includes a surety amount of $41,330.

Surface Management Notice UTU090263. This permit was issued by the BLM and allows a total of 1.0 acres disturbance for drilling operations to be conducted within lands located on the border of Sections 17 and 18. The permit was issued 1/21/14 and is in good standing until1/21/15. A reclamation contract is in place which includes a surety amount of $9,970.

Right of Way Notice UT 088565. This permit was issued by the BLM and allows a total of 1.0 acres disturbance for a right-of-way crossing BLM ground to an established campsite located in part of Township 11 South, Range 14 West Section 19. The ROW was granted on 10/28/2011 and is in good standing.

The particulars of the permits are listed in Table 4.1 and illustrated on Figure 4.4.

Table 4.1 Summary of Permits in Effect on the West Desert Project

Permit	Land Status	Approval Date	Bond Amount	Authorized Disturbance	In Good Standing Until
Notice of Intention/Exploration Permit E0230105	Private Surface and Mineral rights	7/12/07; renewed 2/3/09	US$23,350	5 acres	06/2014
Small Mine Permit S0230103	Private Surface and Mineral rights	4/6/09	US$41,330	5 acres in Section 18	06/2015
Surface Management Notice UTU-090263	Public Surface rights, Mining Claims over Public Minerals rights	1/21/14	Joint with E0230105	1.0 acres in Sections 17-18	1/21/15
Right of Way Notice UT 088565	Access to and use of serviced campsite	10/28/11	n/a	1.0	12/31/21

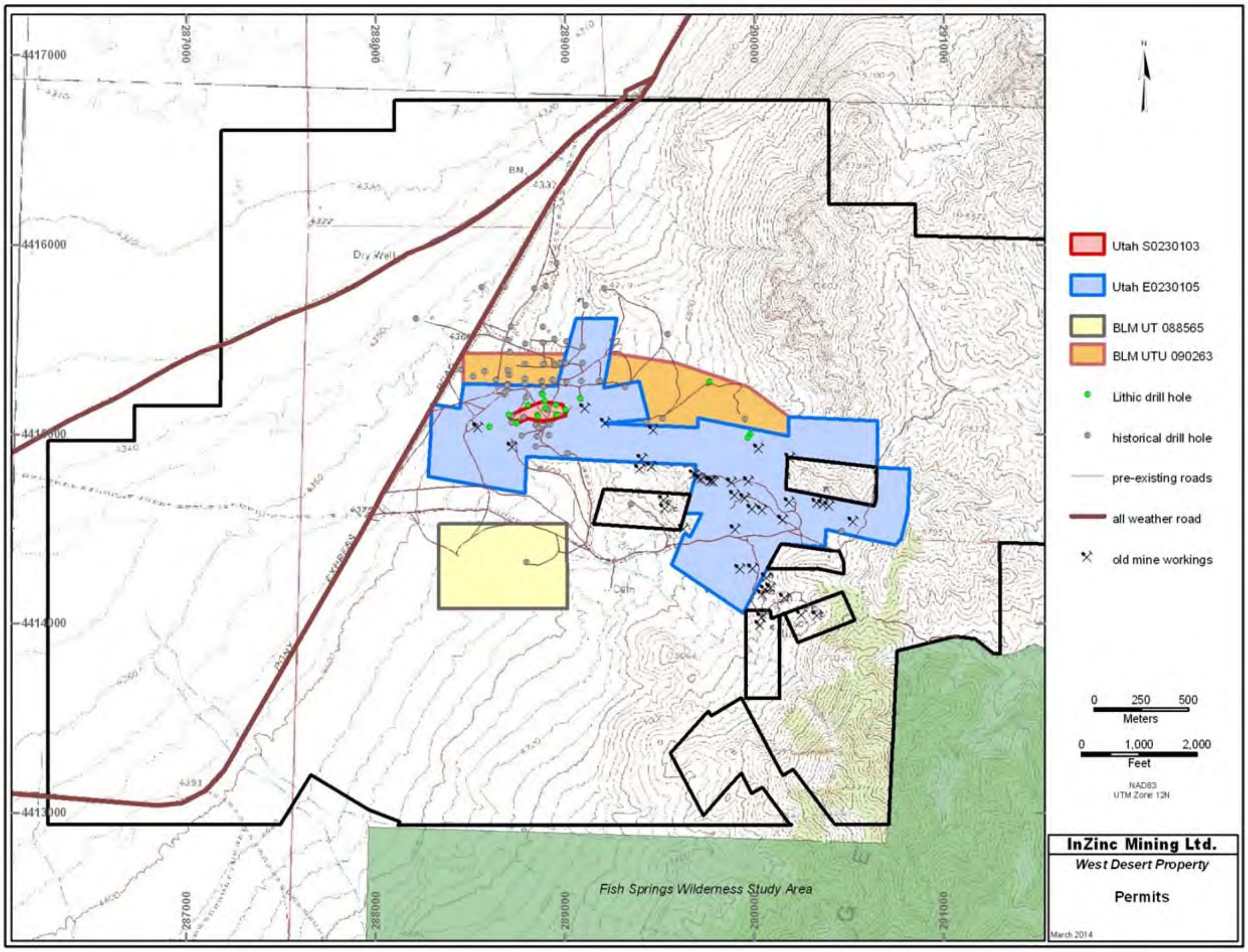
4.4.2 Potential Liabilities

According to Gatten (2014), environmental liabilities on the West Desert property are limited to the reclamation of areas disturbed by InZinc's exploration activities. A long history of mining and exploration on and around the property prior to InZinc's purchase of the property in 2005 is evidenced by the presence of numerous mine workings including shafts, adits, and pits as well as waste dumps and debris from historic mining activities and settlements associated with those activities. Responsibilities in such areas of historical mining are governed by The Utah Code under Title 40 "Mines and Mining", and Chapter 8 the "Utah Mined Land Reclamation Act", which was enacted in 1975. Section 4 of Chapter 8 states that:

> *"lands not subject to reclamation ("Lands Affected") by a current Operator are defined in (13) (b) as "all lands shall be excluded .....that would (i) "be includeable as land affected, but which have been reclaimed in accordance with an approved plan, as may be approved by the board" and (ii) "lands in which mining operations have ceased prior to July 1, 1977".*

The last recorded mining activity on the West Desert property dates from the 1950s. Based on The Utah Code, all of the historical workings in the project area are considered "lands not subject to reclamation," as these operations all predate July 1, 1977. Accordingly, they are not included in any reclamation work required to be performed by InZinc on the West Desert property (Gatten, 2014). However, InZinc's exploration activities have avoided and will continue to avoid or mitigate any impacts in accordance with applicable permits and regulations.

Figure 4.4 Location of Permits in Effect on the West Desert Project
(Provided by InZinc Mining Ltd., 2014)



5.0 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

5.1 Access

The West Desert property is located approximately 160km southwest of Salt Lake City and can be accessed from that direction via state route 36, from which the Pony Express Road and other county-maintained gravel roads lead to the property. The property is located 125km northwest of Delta, Utah, and can be also accessed from that direction via the paved Brush Wellman Road and other county-maintained gravel roads. Numerous old drill and mining roads provide excellent access to most of the property.

5.2 Climate

Climatic conditions on the property are those of the arid desert, typical of the Great Basin area in Nevada and Utah. Average daytime temperatures range from 33ºC in July to 1ºC in January, with pronounced temperature variations between night and day. In general, precipitation does not exceed 15cm per year and occurs mainly as afternoon cloudbursts during the summer and as snowfall between October and May.

Surface exploration can be carried out year-round on the property, although winter storms can occasionally deposit enough snow to limit access for a few days at a time. Mining could be carried out year-round.

5.3 Local Resources and Infrastructure

The nearest significant supply point is Delta, located approximately 125 road-km southeast of the property, which has a population of about 3,200. The state capitol, Salt Lake City, and surrounding Salt Lake County, with a population of 1.2 million, is about 160km northeast of the property. InZinc established a small trailer camp on the property during its exploration program, as did previous property owners. Various ranchers in the area have heavy equipment such as bulldozers and excavators available for contract work, and unskilled labor is available in local settlements.

The nearest rail line runs through Delta; another runs parallel to Interstate Highway 80 north of the property and can be accessed at the town of Wendover, Utah, approximately 120km north-northwest of the property. The closest air strip with the capacity to land small fixed-wing aircraft is located at the small ranching community of Granite Ranch, approximately 25km southwest of the property.

A single-phase 14kV electrical transmission line owned by the Mt. Wheeler Power cooperative in Ely, Nevada, crosses the West Desert property from the west, and three-phase electrical power is available at the ranching community of Callao about 20km to the west. A 1.8 gW coal-fired generating station owned by Intermountain Power is located immediately northwest of Delta and supplies Mt. Wheeler Power through a 230kV transmission line passing south of the property at a distance of about 70km. PacifiCorp’s 525 mW Currant Creek natural-gas-fired generating plant is located at Mona, 90km directly east of the West Desert property.

There is no surface water on the property. An old water well established in the 1960s was used for exploration drill water at the time. Subsequent exploration campaigns either supplemented this source with or relied on water purchased from landowners in Callao or Granite Ranch and trucked to the site. InZinc currently has water rights on the property and has re-furbished two existing water wells for future use.

5.4 Physiography

The West Desert property lies on the southern margin of the Great Salt Lake Desert and on the northwestern pediment slope of the Fish Springs Range, one of the generally north-trending mountain ranges of the Basin and Range physiographic province that covers western Utah and most of the state of Nevada. The Fish Springs Range is about 5km wide by 30km long and is 1,830m in elevation at its crest. The West Desert property includes flat valley floor at an elevation of about 1,200m on the west side of the property, which slopes up to fairly rugged cliffs and ridges with a maximum elevation of about 1,800m on the eastern side of the property. To date, work has concentrated on and around a minor east-west-trending spur extending west from the main range, at elevations of between 1,300 and 1,500m above sea level ("ASL").

Vegetation is typified by scattered low brush and grassy patches with intervening areas of bare ground. Mainly desert species are dominated by various grasses, sagebrush, greasewood, rabbit brush, shadscale, blackbrush, mormon tea, leadbush, and prickly pear cactus. The principal bird and animal species observed in the property area include various songbirds, rodents, jackrabbits, lizards, and snakes, while coyotes, deer, owls, and raptors are reported to have been seen elsewhere in the Fish Springs Range. Local ranchers occasionally run cattle in the area seasonally, but a lack of water precludes maintaining any livestock on a continuing basis.

Figure 5.1 shows the northern end of the Fish Springs Range. The West Desert resource is located at the foot of the mountains within the center of the image.

Figure 5.1 View Looking East toward the West Desert Property

6.0 HISTORY

6.1 Exploration History

The following information has been taken from a summary of the project's history apparently compiled by staff of Utah International in late 1973, from information provided by InZinc, and from additional sources as cited.

Silver-lead mineralization was discovered in the area of the present day West Desert property in 1890 by C. C. Van Alstine, and the Fish Springs mining district was organized the following year (U.S.G.S. Mineral Resource Data System). Between 1890 and 1953, high-grade lead-silver ores were mined from oxidized, carbonate replacement deposits in small underground operations, mainly the Utah and Galena mines and to a much lesser extent, the Emma, Vulcan, Last Chance, and Meteor mines. The total production from the Fish Springs district between 1890 and 1953 is recorded at 7,850,929kg of lead, 1,271kg of zinc, 2,436kg of copper, 508 ounces of gold, and 2,658,220 ounces of silver from 18,415 tonnes of ore (Perry and McCarthy, 1976).

In 1953, Professor M. L. Jensen of Yale University, working for Kennecott Copper Corporation ("Kennecott," which for this report also includes Bear Creek Mining Company, Kennecott's U.S. exploration subsidiary), conducted a ground-magnetometer survey over the district, which revealed a strong magnetic high over the present property area. The survey was conducted with a portable Schmidt-type vertical-intensity magnetometer as part of a program of vehicle magnetics along county roads in Utah. Kennecott conducted grid magnetics and geologic mapping in the summer of 1954. In March 1955, Jensen recommended that Kennecott acquire the property; in March 1957, Frank Howd staked 35 claims in his name but on behalf of Kennecott. Between 1953 and 1957, Kennecott completed ground gravimetric, induced polarization ("IP"), and magnetic surveys as well as geochemical sampling and geologic mapping on the property. Kennecott dropped the claims in 1958. Kennecott's holdings did not include the Utah mine, which was owned by the LDS church through the Utah Mine Company, who had leased it to a John Fritch in 1953 in a 20-year lease-purchase option.

Upon learning that Kennecott was going to drop their claims and with Kennecott's permission, Jensen and M. P. Erickson re-staked the ground as the Crypto claims in the summer of 1958 on behalf of Pinnacle Exploration Inc. ("Pinnacle"), a subsidiary of Callahan Mining Corp. Robert Keeny, on behalf of former Kennecott employee Spenster M. Hansen, also located Golden Boy claims on the same ground at about the same time. At some point in 1958 or 1959, Pinnacle also completed a lease-purchase agreement with Fritch, the leaseholder of the Utah mine property. Pinnacle added new claims to the property in 1958 and 1959. Kennecott quitclaimed all rights to all Crypto claims to Jensen and Pinnacle in August 1958, apparently to circumvent the problem with the potentially conflicting claims of Spenster Hansen, according to the Utah International summary.

In July and August of 1958, Pinnacle conducted heavy-metal geochemical sampling, geological mapping, and a VLF-EM geophysical survey on the West Desert property. The heavy-metal geochemical sampling was not considered helpful, but the geophysical survey did identify several clustered EM conductors. According to the Utah International summary, Hansen probably drilled two holes, perhaps rotary holes, also in the summer of 1958, but there is no record of where they were located or the results of the drilling. In the summer of 1959, Pinnacle drilled two core holes totaling

228.6m (C-1, C-2). According to the Utah International summary, Pinnacle's holes eliminated an EM anomaly; although no magnetite was encountered, some iron oxide zones assayed weak Pb, Cu, and Ag.

In August 1961, Utah Construction & Mining ("Utah"), a predecessor company to Utah International Inc. (also referenced further as "Utah"), leased the Crypto claims and the Utah mine lease from Pinnacle, after carrying out a ground-magnetic survey with an Askania magnetometer to test the property's potential to host an economic magnetite deposit. There was no prior connection between Utah International and the Utah mine located on the property. In 1965, after Pinnacle defaulted on its agreement with John Fritch, Utah made a new and separate lease-purchase option agreement with Fritch for the Utah mine property. In 1967, Pinnacle's interest in the Crypto claims and the Utah mine lease was quitclaimed to Utah. In 1973 following considerable legal argument, the Utah Mine Co. conveyed ownership of the Utah mine to Fritch, who then immediately transferred it to Utah. Between 1961 and 1985, Utah completed various geological, geochemical, and geophysical surveys, including detailed ground magnetics and IP-resistivity. In addition, Utah drilled 39 core holes totaling 16,555.8m and eight reverse circulation ("RC") holes totaling 609.5m. The Main Zone sulfide zinc and oxide deposits were discovered during this time. In addition to their surface work, Utah also carried out underground mapping and sampling on two levels of the historic Utah mine (Shaw and O'Toole, 1975; Shaw, 1979; Hehn, 1979-1983).

Noble Peak Resources Ltd. ("Noble Peak") purchased the property from Utah in 1985 and compiled the existing drill-hole data, carried out a small soil and rock geochemical survey, and sampled the old drill core and mine dumps for their potential to support a silver-leaching operation.

In 1990, a joint venture between Cyprus Minerals Company ("Cyprus") and Mitsui Mining & Smelting Co. Ltd. ("Mitsui") obtained an option to earn a 50% interest in the property from Noble Peak. In the second half of 1990, Cyprus completed 15.3 line-km of gradient-array IP-resistivity and 3.2 line-km of dipole-dipole IP surveying along with surface geological mapping. The gradient-array IP-resistivity survey was conducted by Great Basin Geophysical with a line spacing of 122m and a dipole spacing of 61m. It located the main West Desert anomaly, its continuation to the east toward and under the Galena and Utah mines, and a new doughnut-shaped anomaly in the northeastern quadrant of the survey area (Cyprus/Mitsui Joint Venture Geologists, 1990). The dipole-dipole IP survey confirmed the presence of most of the major IP anomalies from the gradient survey. Cyprus re-logged 7,620m of Utah's diamond drill core and constructed detailed geological cross-sections. By the end of 1991, Cyprus had completed 17 diamond drill holes totaling 9,434.6m and two RC holes totaling 670.6m (Cyprus/Mitsui Joint Venture Geologists, 1990; Bernardi and Ohlin, 1991a, 1991b). Two of the diamond core holes (CCC-6B and CCC-10A) were wedges off existing holes that were discontinued due to significant down-hole deviation. Among other things, this drilling confirmed the presence of and expanded the Deep Zone. Mitsui left the joint venture in 1991. Also in 1991, after completing 14 of the diamond drill holes (CCC-1 to CCC-12, including the two wedge holes) and the two RC holes (RCCC-1 and RCCC-2), Cyprus completed a "pre-feasibility study" based on a preliminary resource estimate and some bench-scale metallurgical test work on both the oxide and sulfide mineralization; their metallurgical testing is described in Section 13.0. They subsequently drilled an additional three core holes (CCC-13 to CCC-15) into the Deep Zone and extended known mineralization. Cyprus dropped their option on the property from Noble Peak in 1993.

In 1994, Noble Peak carried out a small prospecting and surface-rock-geochemical program to investigate the possibility of zone(s) of gold enrichment. According to InZinc, at some point between 1993 and 1996 the original unpatented Crypto claims were allowed to lapse; in March 1996, North American Exploration staked 54 Crypto Zn claims on behalf of Noble Peak, 40 of which have remained active and are part of the current property. In 1998, Noble Peak changed its name to Vaaldiam Resources Ltd. ("Vaaldiam"), began to concentrate on diamond exploration, and optioned the property to Sierra Gigantes Resources Inc. ("Sierra"). Sierra carried out an "enzyme leach" soil-sampling survey prior to dropping their option due to financing difficulties.

EuroZinc Mining Corporation ("EuroZinc") purchased the West Desert property from Vaaldiam in 2001 by purchasing a 100% equity interest in N.P.R. (US), Inc., a Nevada corporation and wholly owned subsidiary of Vaaldiam whose sole asset was the mineral title to the West Desert property. Other than compiling some of the historic results in a computer database, EuroZinc did not conduct any work during their tenure.

InZinc purchased N.P.R. (US), Inc. from EuroZinc in 2005, thereby acquiring the West Desert property. At the time of InZinc's purchase, the property included 40 unpatented mining claims (the Crypto Zn claims in Appendix A), partial or complete interest in 17 patented claims, and the state mineral lease, all of which were held in the name of NPR. Since then, InZinc has staked an additional 158 claims (the Crypto and Pony claims) and purchased interests in three more patented claims. InZinc's exploration is described in Section 9.0, and the list of claims and the lease that comprise the property is in Appendix A.

6.2 Historic Mineral Resource Estimates

A number of historic resource estimates for the West Desert project have been made by various parties over the years and are summarized below. Where tonnages were originally reported in Imperial units, they have been converted to metric based on conversion factors listed in Section 2.2. The following information on these historic estimates is presented for historic information only and in the interest of full disclosure. The reader is cautioned that these historic resource estimates were made prior to the implementation of NI 43-101 reporting requirements, do not conform to those requirements, and should not be relied on as being indicative of a resource or a reserve with demonstrated economic viability. Where terms later defined in NI 43-101 were used in the historic record, such terms have been enclosed in quotation marks. The authors have not done sufficient work to classify these historic estimates as current mineral resources or mineral reserves, and InZinc is not treating these historic estimates as current estimates. These historic mineral resource estimates are superseded by the current mineral resource estimate described in Section 14.0.

6.2.1 1976 Estimate by Utah International Inc.

In 1976, Utah used a sectional approach to estimate what they termed a "proved resource" (Gorman and Jones, 1981). All of the mineralization included would be located in what is now termed the Main Zone between depths of 15 and 500m below surface. Fifteen separate zones involving four types of mineralization were outlined based on a 3.05m mining width and a minimum recovered metal value (Zn, Ag, Cu) of $35/ton. Metal prices were current as of 1975, and estimated mill-recovery factors were 95% for sphalerite, 70% for sulfide-oxide material, and 50% for other minerals. Mill-recovery cutoff was 1% for Zn. Zinc mineralization was considered "oxide ore" if the ZnO/Zn ratio was greater than 0.1.

"Protore" was defined as material comprising the "transition between barren and sulfide/oxide ore." Zones were geologically constrained by dikes and faults. Table 6.1 summarizes their estimate.

Table 6.1 Summary of 1976 Historic Resource Estimate by Utah International Inc.
(From Shaw, 1976)

Zone	Tonnes	% Zn	% Cu	gpt Ag	% Cd	% Pb	% Fe
oxide	1,492,000	9.11	0.21	33.6	0.094	0.210	24.00
sulfide	3,067,000	7.87	0.16	4.1	0.070	--	20.33
copper	103,000	2.26	3.44	35.3	0.016	--	8.95
"protore"	1,037,000	5.14	0.10	15.4	0.040	--	24.17
Total w/o protore	4,661,000	8.14	0.25	14.4	0.076	0.067	21.25
Total w/ protore	5,698,000	7.60	0.22	14.4	0.070	0.055	21.79

Note: Tonnage and silver grade have been converted to metric units; tonnes rounded to nearest thousand.

6.2.2 1991 and 1993 Historic "Geological Reserve" Estimate by Cyprus Minerals Company

Cyprus made a number of estimates of "geologic reserves" during their tenure on the property. In late 1990 after drilling the first three of their core holes, Cyprus estimated that the "geologic underground zinc sulfide reserves" at West Desert were 3.75 million tonnes grading 7.87% Zn (at a 2% Zn cutoff), 0.234% Pb, and 0.117 oz Ag/ton (Cyprus/Mitsui Joint Venture Geologists, 1990). This estimate was based on review of all available assay and geologic sections as well as plan-level maps that had been generated by prior operators combined with the results of their own early drilling. Open-pit oxide "reserves," which were based solely on the work of prior operators, were estimated to be 2.8 million tonnes averaging 7% Zn (Cyprus/Mitsui Joint Venture Geologists, 1990). Cyprus continued to update the "reserves" as they completed successive phases of drilling (Bernardi and Ohlin, 1991a, 1991b).

Cyprus estimated a "geological reserve" at West Desert using a cross-sectional method; details are given in Cyprus/Mitsui Joint Venture Geologists (1990). Sections were spaced at distances of 61.0 to 91.4m, and blocks were extended along section halfway between drill intercepts or to a maximum of 91.4m up or down dip in cases where no other drill intercepts were present. Blocks were then extended between sections to either half the distance to the adjacent section or to a maximum of 45.7m at the limit of drilling. Blocks were also constrained by geological features such as faults and dikes. Criteria used in the estimation were a cutoff grade of 2% Zn and a density factor of 9 cubic ft/ton (3.56 g/cm^3). No other elements were included.

Following the first part of their Phase III drilling in 1991, Cyprus re-calculated the "underground sulfide zinc reserves" for West Desert (Bernardi and Ohlin, 1991b). This 1991 "geological reserve," which was described in summary and commented on by Roscoe Postle and Associates in early 1993 (Agnerian, 1993), incorporated mineralization in both the Main and Deep zones based on 25 core holes that intersected mineralized zones but did not include significant zinc mineralization encountered in three of the last four core holes drilled later in 1991 by Cyprus to test extensions of the Deep Zone. Drill-hole spacing of the 25 holes used was 91 to 152m (Agnerian, 1993). Subsequently in 1993, it appears that Cyprus re-estimated the resource and included the results of the three additional holes (Rockingham, 2001). Both estimates are summarized in Table 6.2.

Table 6.2 Summary of 1991 and 1993 "Geological Reserve" Estimates by Cyprus Minerals Company

(Modified from Cyprus/Mitsui Joint Venture Geologists, 1990; Bernardi and Ohlin, 1991b; Rockingham, 2001)

Year	Zone	Tonnes	% Zn	gpt Ag	% Pb
1991	oxide	2,803,000	7.00	na	na
	sulfide	4,901,000	8.52	8.74	0.214
	Total	7,704,000	7.97	na	na
1993	oxide	2,803,000	7.00	na	na
	sulfide	5,442,000	8.68	na	na
	Total	8,245,000	8.11	na	na

Note: Tonnage and silver grade have been converted to metric units; tonnes rounded to nearest thousand

6.2.3 1995 Historic "Geological Resource" Estimate by Noble Peak Resources Ltd.

In 1995, Noble Peak commissioned an independent estimate from B. Henderson, who used a sectional approach to calculate a "geological resource" (Henderson, 1995). Blocks were defined on section for every drilled interval grading better than 2% zinc, ultimately including 34 drill holes. Blocks were extended halfway to adjacent drill holes along section or, if no other holes were present within 91.4m, to a maximum of 45.7m. These blocks were categorized as "probable." "Possible" blocks were added to the sections along which no drill information was available but where from adjacent sections it appeared likely that a zone of mineralization would occur. The dimensions of the "possible" blocks were proportional to those of the adjacent "probable" block, and the grades were the same. The blocks were then extended laterally to halfway between sections except where a dike or fault was present, in which case the block was terminated. An effort was made to group blocks into zones and/or "lenses" of mineralization, resulting in 20 lenses in eight zones.

According to Tindale (1997), "*Henderson's reserve calculations expanded on the Cyprus calculations to include isolated intercepts in the Utah and Cyprus holes which in most cases could not be directly correlateable to assumed zones of mineralization*." He further noted that "…*Henderson's calculations do highlight the great quantity of zinc mineralization present in the Crypto deposit*…"

Cumulative tonnage and grade figures were calculated for all blocks assigned grades of over 2% Zn and then for all blocks assigned grades of over 4% Zn. The results of these calculations are summarized by "category" and also in terms of sulfide *vs.* oxide mineralization in Table 6.3.

Table 6.3 Summary of 1995 Historic "Resource" Estimate by Noble Peak Resource Ltd.
(From Henderson, 1995)

	Tonnes	% Zn	% Cu	gpt Ag	gpt Au
2% Zn cutoff					
Total	15,693,784.0	6.17	0.271	13.97	0.170
"probable"	11,791,055.3	6.12	0.286	13.66	0.140
"possible"	3,902,728.7	6.29	0.226	14.93	0.259
oxide	5,065,530.1	6.11	0.427	23.31	0.141
sulfide	10,628,253.8	6.19	0.197	9.52	0.184
4% Zn cutoff					
Total	12,460,030.4	7.02	0.271	14.46	0.167
"probable"	9,094,430.9	7.09	0.285	14.02	0.122
"possible"	3,365,599.6	6.82	0.239	15.66	0.288
oxide	4,093,436.4	6.90	0.433	25.52	0.110
sulfide	8,366,594.0	7.07	0.191	9.05	0.194

6.3 Previous Mineral Resource Estimate

MDA prepared the first mineral resource estimate of the West Desert project meeting NI 43-101 reporting standards, which was described in a 2010 technical report (Tietz *et al*., 2010). This estimate included zinc, copper, and indium, but not magnetite. The updated estimate described in Section 14.0 includes magnetite.

7.0 GEOLOGIC SETTING AND MINERALIZATION

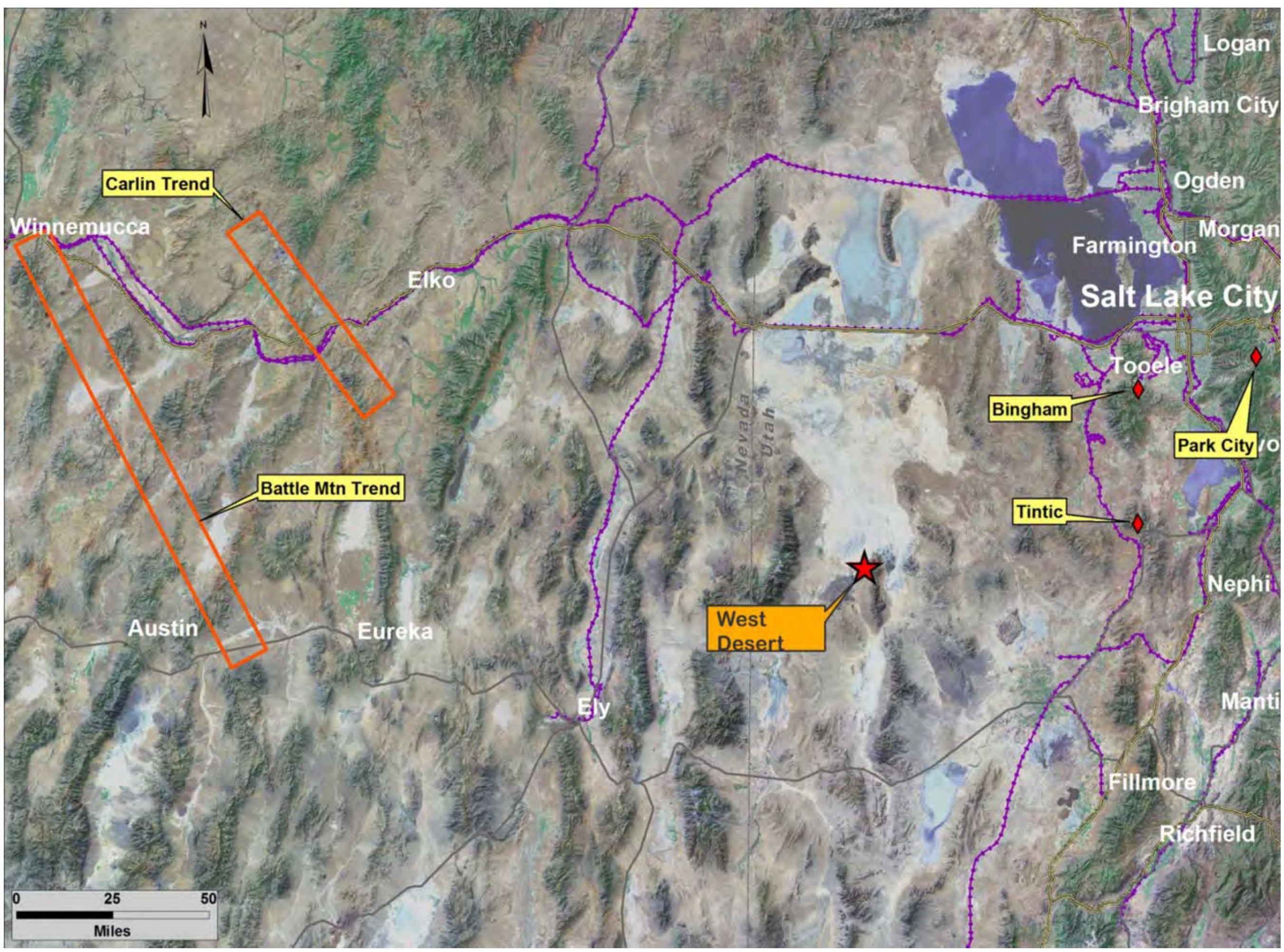
7.1 Geologic Setting

7.1.1 Regional Geology

The following information on the regional geology is largely taken from Stokes (1986).

The West Desert property is located on the northwestern edge of the Fish Springs Range, which is in turn located in the northeastern part of the Basin and Range Province of the southwestern United States (Figure 7.1). The Basin and Range physiographic province is characterized by generally north-trending fault-bounded mountain ranges and intervening basins that formed during regional Tertiary extension. The province is bounded on the east by Utah's Wasatch Range lying just east of Salt Lake City and on the west by the Sierra Nevada in eastern California.

Figure 7.1 Physiography of the Eastern Basin and Range Province



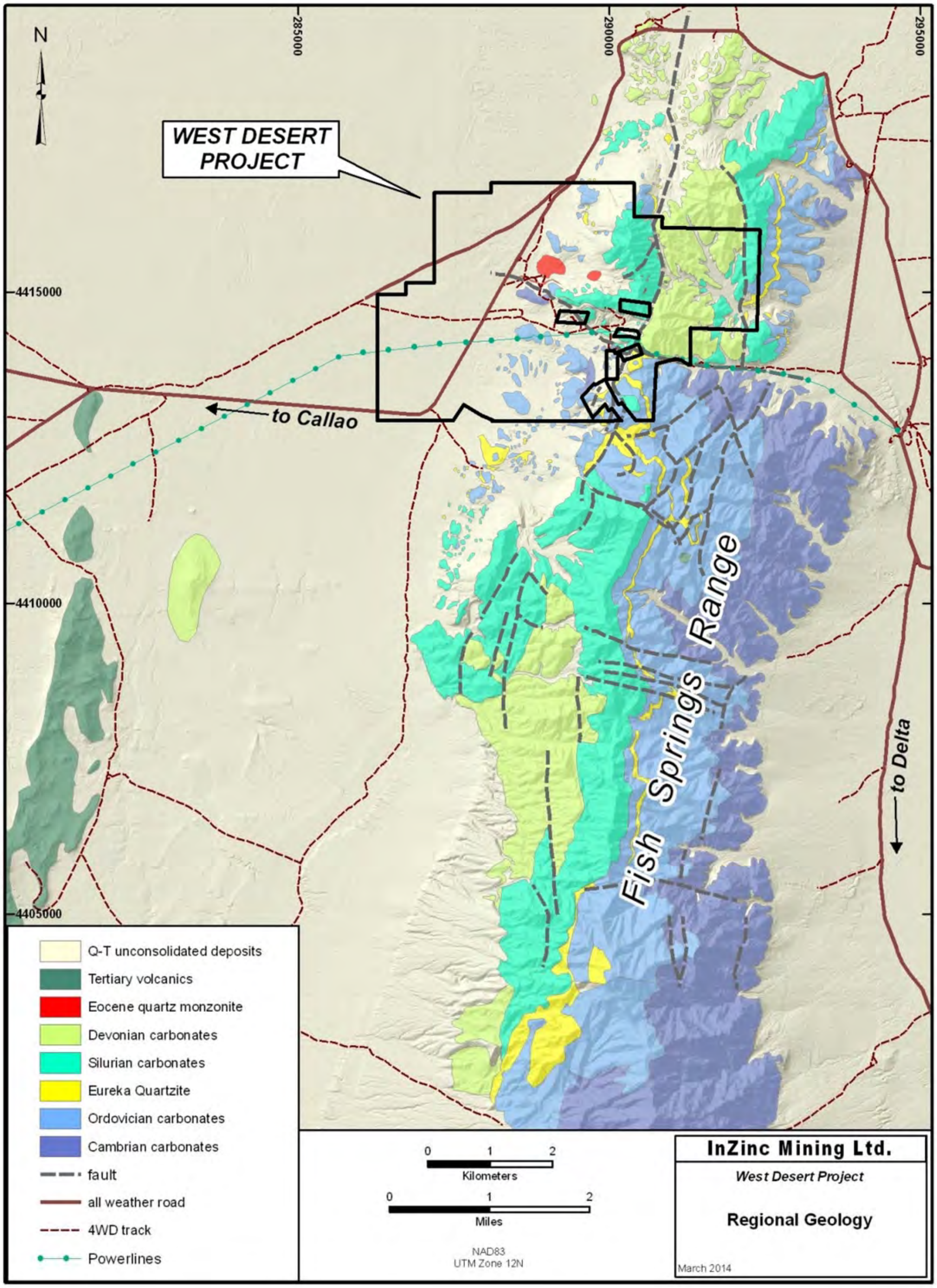
From Cambrian through Early Triassic time, western Utah was the site of marine deposition of shelf deposits in the Cordilleran geosyncline. East-directed Paleozoic compressional deformation that affected central and northeastern Nevada did not reach into west-central Utah. Mesozoic sedimentary rocks younger than the Early Triassic are only rarely exposed in western Utah, which appears to have been part of a poorly defined highlands area extending into Nevada at that time. The first intrusive igneous activity in western Utah since the Precambrian is marked by Jurassic intrusions with dates ranging from 140 to 152 Ma in the House Range, Silver Island Mountains, Gold Hill area, and Newfoundland Mountains that are unusual in being located in an extensive sedimentary basin. Late Cretaceous to early Tertiary folding, thrust faulting, and uplift of the Sevier and Laramide orogenies affected central and northeastern Utah but in western Utah have only limited exposures, e.g. Deep Creek Range near the Nevada border. Intermediate volcanic and intrusive activity was widespread in Utah during the middle Tertiary with exposures of these units in the ranges to the east and west of the Fish Springs Range. Intrusive rocks presumed to be Late Eocene in age found in the Fish Springs Range may be early examples of this igneous activity. A separate and distinct volcanic center was located in the approximate center of Juab County with exposures in Desert Mountain, Key Mountain, and the Thomas Range. Less extensive mafic volcanism also occurred during the late Cenozoic in western Utah.

7.1.2 Local Geology

Generally speaking, the Fish Springs Range is a north-trending horst comprised of lower Cambrian to upper Devonian platformal sedimentary rocks that have been homoclinally tilted to the west at generally moderate dips (Hintze, 1980; Lindsey *et al*., 1989) (Figure 7.2). The sedimentary package, which exceeds 3,500m in total thickness, consists mainly of carbonate rocks, with minor interbedded shales and quartzites. Scattered quartz monzonite intrusive complexes and rhyolite dikes and occasional andesitic plugs intrude the sedimentary rocks locally and are presumed to be Late Eocene age. Tertiary volcanic rocks of latitic, shoshonitic, and rhyodacitic composition are found along with younger alluvium in basins adjoining the Fish Springs Range.

The general structure of the Fish Springs Range is relatively simple, the dominant element being a series of northerly trending extensional faults related to the development of the Basin and Range Province. Most are normal with west-side down and small to moderate displacements. Other than the Juab fault described below, faulting and/or folding are of minor significance within the northern end of the Fish Springs Range as evidenced by regional mapping to date.

Figure 7.2 Geology of the Fish Springs Range Showing the West Desert Property
(Provided by InZinc Mining Ltd., 2014)



7.1.3 Property Geology

The following description of the West Desert property geology is synthesized from various Utah (Hehn, 1979-1983; Shaw, 1979; Shaw and O'Toole, 1975) and Cyprus (Cyprus/Mitsui Joint Venture Geologists, 1990; Bernardi and Ohlin, 1991a, 1991b) reports, together with observations and interpretation by InZinc personnel and consultants. The property is predominately underlain by a sequence of lower Cambrian to upper Devonian platformal carbonate units, mainly dolostones with lesser, generally thin-bedded limestones and minor interbedded quartzites and shales (Figure 7.3 and Figure 7.4). From youngest to oldest, the stratified rocks include the following divisions:

Lower Devonian Sevy Dolomite *– light gray, fine-grained, thin- to medium-bedded, banded dolostone*

Middle Silurian Laketown Dolomite;

Thursday Member – interbedded dark to pinkish gray, medium to coarsely crystalline dolostone;

Lost Sheep Member – light olive gray, fine to medium crystalline dolostone in lower portion; medium dark gray dolostone with 10% chert as nodules and stringers;

Harrisite Member – thick-bedded, medium dark gray, finely crystalline dolostone with 10-15% dark brown chert as nodules and stringers;

Bell Hill Member – banded, light to dark gray, finely to coarsely crystalline dolostone

Upper Ordovician Ely Springs Dolomite;

Floride Member – light gray, thin to medium bedded, finely crystalline limestone;

Lower Member – also known as Fish Haven Dolomite – medium-bedded, medium gray, finely crystalline limestone in lower portion; dark gray, cliff-forming dolostone which may be attenuated in places in upper portion.

Middle Ordovician Eureka Quartzite *– thin- to thick-bedded, shattered, white to light gray, mediu- to fine-grained orthoquartzite and quartz sandstone;*

Watson Ranch Quartzite – yellowish-brown, friable, calcareous sandstone with fucoidal markings

Lower to Middle Ordovician Pogonip Group;

Deadman Springs Dolomite – thin- to medium-bedded, light reddish brown, sandy dolostone;

Kanosh Shale – olive-gray shale with interbedded fossiliferous, thin-bedded limestone;

Juab Limestone – medium- to thick-bedded, medium gray, cliff-forming limestone;

Wah Wah Limestone – very thin- to medium-bedded, medium gray, silty limestone with interbedded, siltstone and intraformational conglomerate;

Fillmore Formation – thin-bedded, medium gray intraformational conglomerate interbedded with light olive-gray, silty shale;

House Limestone – thin- to medium-bedded, light bluish gray, finely crystalline limestone.

Lower Ordovician to Upper Cambrian Notch Peak Formation *– medium- to thick-bedded, dark gray, cliff-forming dolostone with some thin interbeds of medium to light gray limestone near top*

Upper Cambrian Orr Formation;

<u>Sneakover Limestone Member</u> – medium to light gray limestone in bottom portion; thin- to medium-bedded silty limestone in upper portion;

<u>Corset Spring Shale Member</u> – greenish shale with interbeds of thin-bedded dark grey limestone;

<u>Johns Wash Limestone Member</u> – medium to dark gray limestone; upper portion dolomitic;

<u>Candland Shale Member</u> – olive-gray shale interbedded with dark grey, fossiliferous, nodular limestone;

<u>Big Horse Limestone</u> – medium gray, partly oolitic in lower portion; thin-bedded in middle portion; dark gray, mottled, partly bioclastic in upper portion; medium-gray, thin- to medium-bedded near top.

Figure 7.3 Stratigraphic Column for the West Desert Property
(Modified from Bernardi and Ohlin, 1991b; provided by InZinc Mining Ltd., 2014)

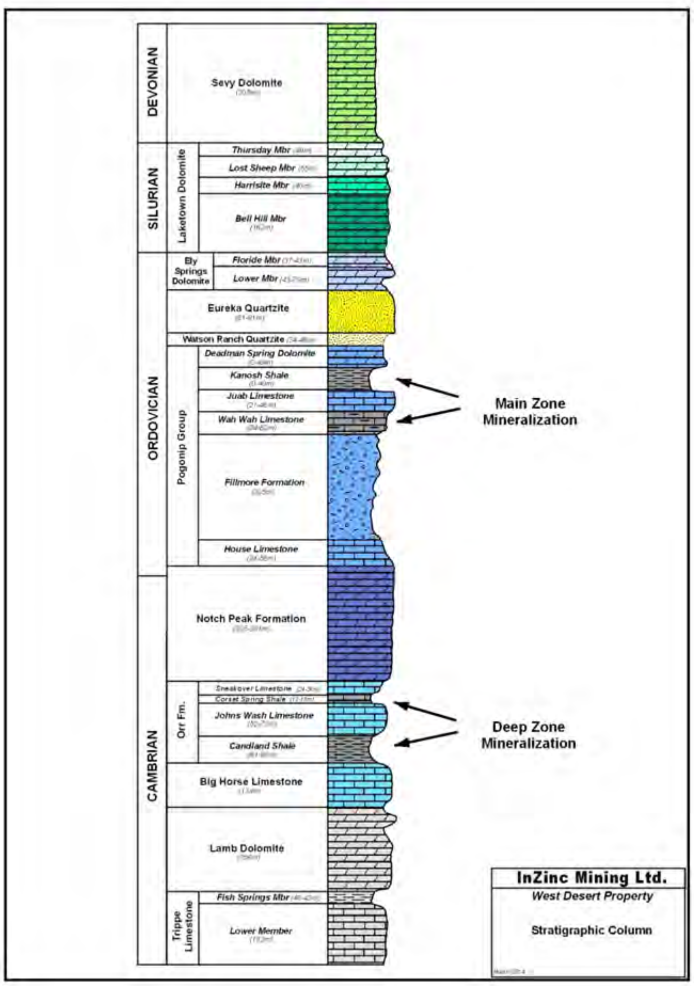
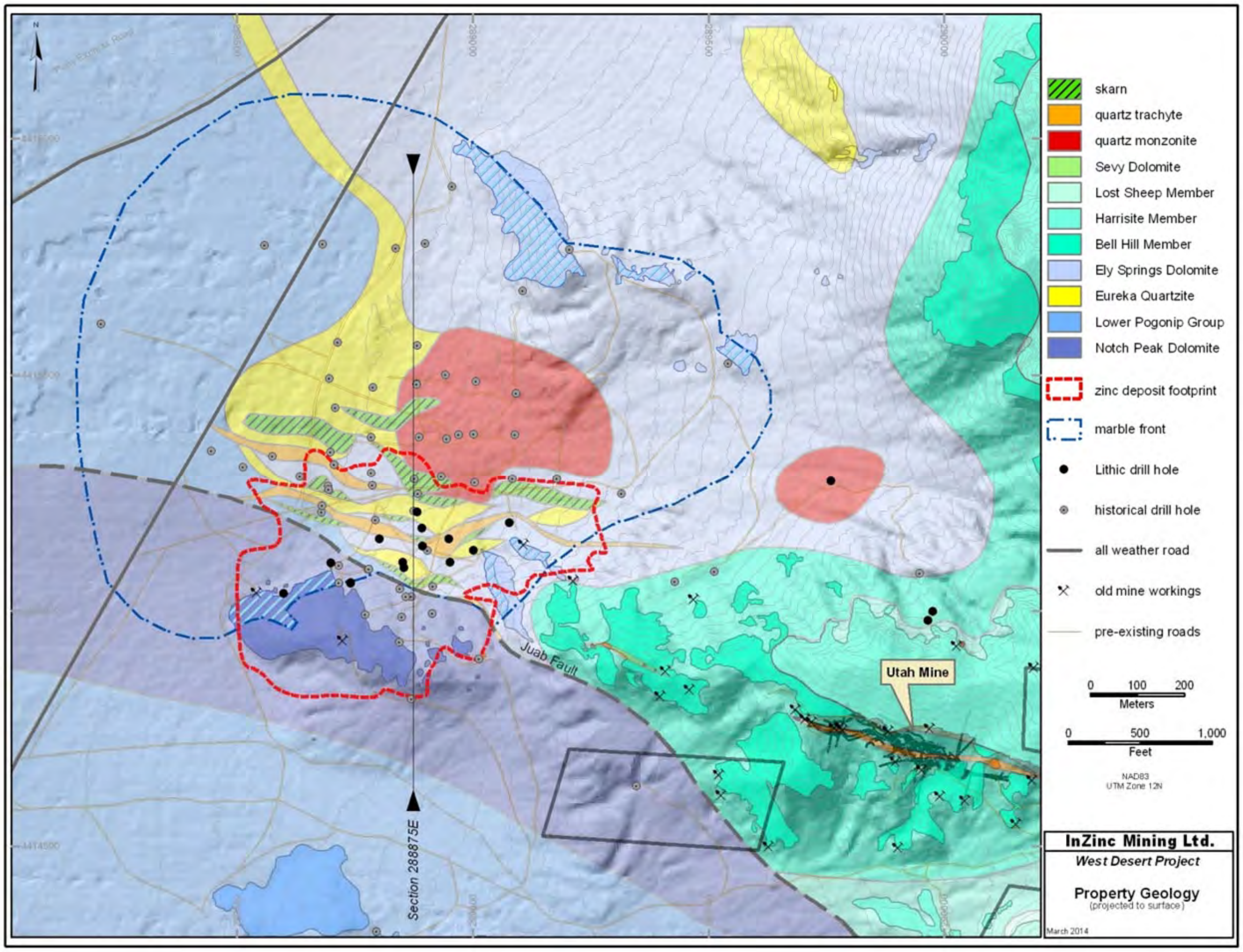


Figure 7.4 Geologic Map of the West Desert Zinc Property
(Provided by InZinc Mining Ltd., 2014)



Outcrop mapping and observations by InZinc geologists coupled with mapping and core logging by Utah and Cyprus geologists indicate that where exposed at the surface, the sedimentary rocks strike northerly and have a shallow to moderate westerly dip. In some places, minor northerly trending folds result in a degree of flattening or even dip reversals to the east.

A number of faults have been mapped or are postulated to exist on the property, the most obvious being the Juab fault, a west-northwest-trending, north-dipping normal fault that trends through the middle of the property. The fault is significant enough to have caused an apparent left-lateral offset of the Fish Springs Range and is thought to have on the order of 500-600m of net vertical displacement, although no discrete planar feature has been identified in core and post-intrusion thermal healing of the structure is evident. The north-trending Overland fault along the western margin of the Fish Spring Range, together with a number of lesser sub-parallel faults, are normal with west-side down and represent extensional faulting typical of the Basin and Range Province. Various other lesser faults with varying orientations have been interpreted on the property in the past, but the evidence for them is not as clear.

Drilling has revealed that the sedimentary package has been intruded by a Late Eocene (38.5 ±1.0 Ma, K/Ar) felsic intrusive complex which underlies a large part of the property at depth but is not exposed at the surface. In the vicinity of the West Desert deposit, it rises to the bedrock surface in a cupola which sub-crops below shallow Pleistocene gravels. Two main phases have been identified so far: a grey, medium-grained, equigranular to weakly porphyritic biotite quartz monzonite and a pinkish buff, medium-grained, equigranular biotite quartz syenite.

Various dikes ranging in composition from porphyritic quartz trachyte to rhyolite are exposed in outcrop or have been observed in drill core and are thought by InZinc geologists to be related to the same intrusive event as the quartz monzonite. The most obvious is the so-called Utah dike, which averages about 15m in width at the surface and can be traced for over a kilometer easterly from the West Desert deposit through the area of the Utah mine. Other east-trending dikes of similar composition, some up to 30m wide, have been intersected in drilling.

Thin-bedded carbonate rocks near the intrusive complex, particularly those with shaly partings, have been altered to skarn, marble, and siliceous hornfels. More thickly bedded to massive dolostones tend to be converted to marble. Although dips are shallow to moderate where observed in outcrop, drilling has shown that bedding attitudes in the immediate vicinity of the intrusion have been disrupted such that they can have very steep dips. This has probably resulted from stoping and doming by the intrusion, although drag on the Juab fault may also have been a factor. Thin-bedded limestones of the Orr Formation immediately south of the Juab fault have been folded at depth such that dips near the fault are close to vertical.

Zinc-copper-indium-iron mineralization of the West Desert deposit occurs in portions of the skarn, while molybdenite mineralization occurs both as disseminations in the skarn and in more classic, porphyry-style quartz-pyrite veinlets superimposed on the quartz monzonite intrusion. High-grade lead-zinc-silver mineralization, including that exploited in the historic Utah and Emma mines, occurs in structurally controlled replacement zones in carbonate rocks peripheral to skarn.

The western half of the West Desert property is mostly overlain by Pleistocene lacustrine deposits from glacial Lake Bonneville, which show wave-cut terraces at a number of levels where they lap against the Fish Springs Range.

7.2 Mineralization

The most significant mineralization discovered to date on the West Desert property consists of sphalerite with minor chalcopyrite occurring in a series of concordant to discordant magnetite-bearing skarns and replacement bodies in carbonate rocks south of and adjacent to the quartz monzonite intrusive complex. Two main types of skarn have been distinguished on the basis of mineralogy, generally reflecting the chemistry of the host rock. The most common type is magnesian, consisting of humite ± magnetite ± phlogopite along with lesser spinel, periclase, actinolite, forsterite, and tremolite. Humite and forsterite may be partly retrograded to serpentine, brucite, and/or talc. Phlogopite may be partly altered to chlorite, while periclase may be converted to brucite. Magnetite in the deposit is very abundant and often massive. In some cases, it contains relatively high levels of MgO and may be more properly named magnesioferrite, a Mg-rich member of the magnetite group of minerals. However, levels of MgO are variable, and the term "magnetite" will be used for the remainder of the report.

A second and less common type of skarn is more calcareous in composition. It generally exhibits a less disrupted character, with preserved bedding replaced by alternating bands of reddish brown grossularite garnet separated by bands of fine-grained diopside and potassium feldspar, probably reflecting a protolith of thinly bedded limestone with shaly partings. Magnetite is occasionally present.

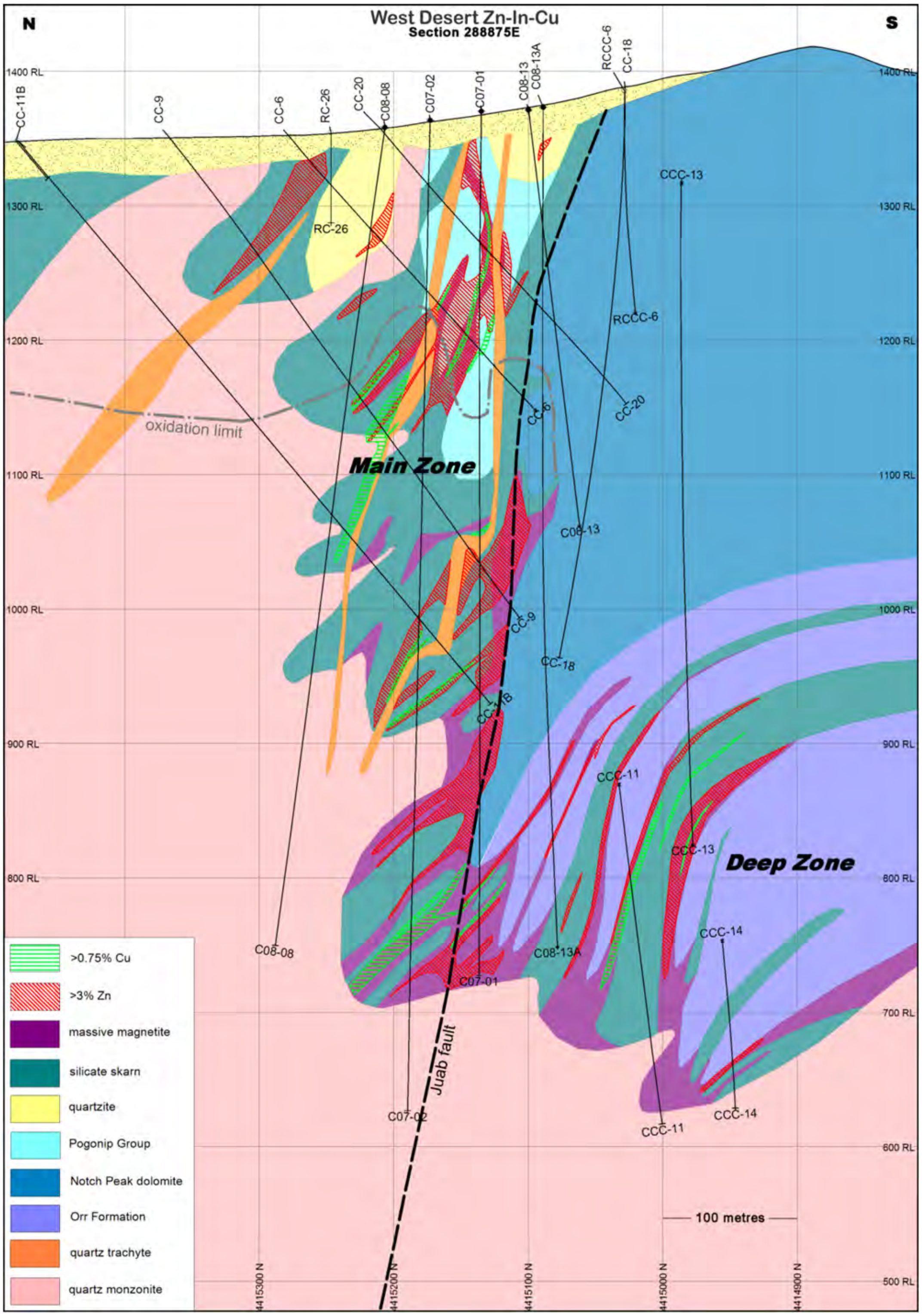
Two main areas of zinc mineralization have been found, the Main and Deep zones, neither of which is exposed in outcrop. The two zones are separated by the Juab fault. Figure 7.5 illustrates a typical cross-section in the West Desert deposit area.

7.2.1 Main Zone

The Main Zone occurs in Ordovician Pogonip Group carbonate rocks, and possibly in some Ely Springs Dolomite, situated within the hanging wall north of the Juab fault and immediately south of the sub-cropping quartz monzonite cupola. The Main Zone is bounded on the south by the Juab fault and the weakly mineralized and skarn-altered footwall Notch Peak Formation. In the western part of the deposit, sphalerite-chalcopyrite mineralization occurs in irregular bodies of humite-phlogopite skarn, with or without magnetite. Magnetite abundance declines in the eastern part of the zone, and the proportion of coarse-grained phlogopite increases as does the amount of pyrite. The overall abundance of pyrite and other iron sulfides such as pyrrhotite in the West Desert system is very low.

Sphalerite in the Main Zone is medium to coarse grained and red-brown to brown in color. Petrographic work shows that it typically occurs as relatively coarse aggregates up to about 1cm across composed of roughly equant anhedra with a mosaic texture. Individual grains are generally 0.1 to 1mm in size but can range up to 5mm in diameter. Sphalerite also occurs intermixed with or interstitial to magnetite. Sphalerite often contains small amounts of chalcopyrite and lesser (?) pyrrhotite as tiny grains along crystal grain boundaries, randomly or crystallographically oriented arrays of grains within a single sphalerite grain, or as irregular anhedra. Chalcopyrite inclusions in sphalerite may be partly altered to bornite or, rarely, chalcocite. Very small amounts of pyrite and pyrrhotite are found scattered throughout zones of sphalerite mineralization.

Figure 7.5 Cross-section of the West Desert Deposit: Looking East
(Provided by InZinc Ltd., 2009; see figure 7.4 for the section location)



Where it does not occur within sphalerite, chalcopyrite tends to be found as disseminated grains and blebs ranging from a few millimeters to a few centimeters in diameter. Copper grades are not directly proportional to those of zinc, its distribution typically only partially overlapping with that of zinc in any given drilled interval. However, there appears to be at least a rough increase in the Cu/Zn ratio with proximity to the intrusion, and discrete zones of copper enrichment are definable.

To date, Main Zone mineralization has been traced with drilling over a length of about 525m, a width of about 150m, and to a depth of 575m and remains open to the west and to depth. Because of strong alteration, probable disruption of bedding by intrusive stoping, and a lack of suitable marker horizons, stratigraphic correlations and the degree of discordancy of skarn and replacement mineralization in this area are difficult to ascertain. In addition, original sedimentary features have been largely obliterated within skarn zones, which may include chaotically disrupted and brecciated textures. However, it appears that bedding tends to dip steeply to the north in the immediate vicinity of the deposit and that mineralization is preferentially developed in more thinly bedded units, probably the Kanosh Shale and Wah Wah Limestone, although portions of the Ely Springs Dolomite may also be involved. More thickly bedded or massive units in the section, particularly dolomitic ones, are more likely to have been marbleized.

The upper part of the West Desert system includes a number of extremely siliceous zones, at least some of which are probably tilted (stoped) blocks of Eureka Quartzite. However, the overall volume of siliceous rock appears to be greater than would be suggested by nearby undisturbed occurrences of this unit, and thus some parts of these zones may represent massive, pervasive silicification of dolostones and limestones resulting in a fractured, dark grey, granular, highly siliceous rock. Quartz-rich zones in the upper portions of the intrusive cupola may, in part, represent partly consumed and dismembered rafts of Eureka Quartzite.

The Main Zone has been oxidized to an average depth of about 250m. Sphalerite and chalcopyrite have been converted to a mixture of smithsonite, hemimorphite, hydrozincite, and zincite, with lesser wulfenite, covellite, franklinite, malachite, and gageite in a matrix of various iron and manganese oxides. The deposit is overlain by Pleistocene gravels ranging in thickness from 2-40m.

7.2.2 Deep Zone

The Deep Zone is located immediately south of the Juab fault and is hosted predominantly within thinly bedded limestones and shaly members of the Orr Formation, probably the Corset Spring Shale and Candland Shale members. Stratigraphic correlations are much clearer here due to less apparent structural complications within the Juab fault footwall. Mineralization also occurs as proximal skarn along the contact of the Orr Formation and the underlying quartz monzonite intrusive. Mineralization consists of coarse-grained, reddish sphalerite with minor disseminated chalcopyrite, pyrite, and/or pyrrhotite that are found in stratabound bodies of semi-massive to massive magnetite intercalated with humite ± periclase skarn, grossularite-diopside-K feldspar skarn, and marble. The marble tends to contain abundant fracture-fillings of magnetite in proximity to massive magnetite layers. Humite within magnetite-rich zones tends to be serpentinized. Significant portions of the massive to thick-bedded dolostones of the overlying Notch Peak Formation have been converted to marble.

At least three separate mineralized horizons have been identified through drilling over an area of about 330m by 225m at depths of between about 450 to 750m. They remain open to the west, south, and possibly the east.

7.2.3 Skarn-Hosted Indium and Molybdenum

Indium is present in significant quantities in the West Desert deposit. Initial petrographic work and energy dispersive X-ray ("EDX") analysis have shown that it occurs in the sphalerite lattice in amounts as high as an exceptional 9% by weight along with minor amounts of cadmium and manganese. Sphalerite with high indium content tends to be green in color and typically shows "chalcopyrite disease" textures; Figure 7.6 shows an extreme example of high-indium sphalerite. Despite its essentially exclusive occurrence in sphalerite, there is not a direct relationship between zinc grade and indium grade. The highest indium grades tend to occur in mineralization with a zinc grade of between 0.5 and 5%.

Numerous intervals of skarn mineralization have been found to contain significant levels of molybdenum, although it is not obvious macroscopically. Petrographic work has shown that it occurs as small scattered laths associated with magnetite grains in partly serpentinized humite, apparently as a primary constituent of skarn.

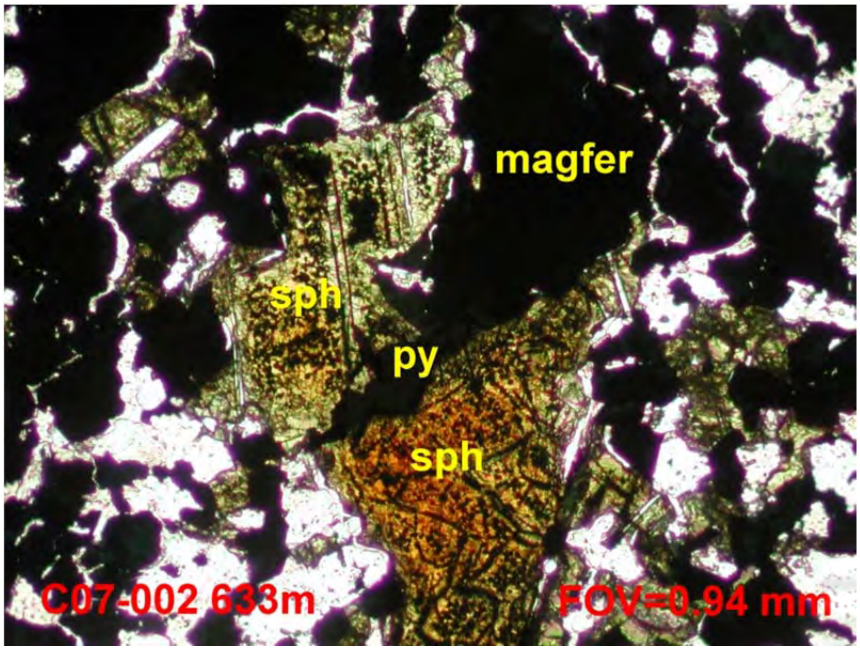
Finally, small amounts of two bismuth minerals tentatively identified as bursaite ($Pb_5Bi_4S_{11}$) and tsumoite (BiTe) have been identified in skarn from the eastern part of the deposit. Analytical data show that in addition to the main elements of interest – Zn, Cu, In, and Mo – trace elements enriched to varying degrees in skarn mineralization include Cd, Ag, Mn, Sn, Co, and Au.

7.2.4 Other Skarn Occurrences

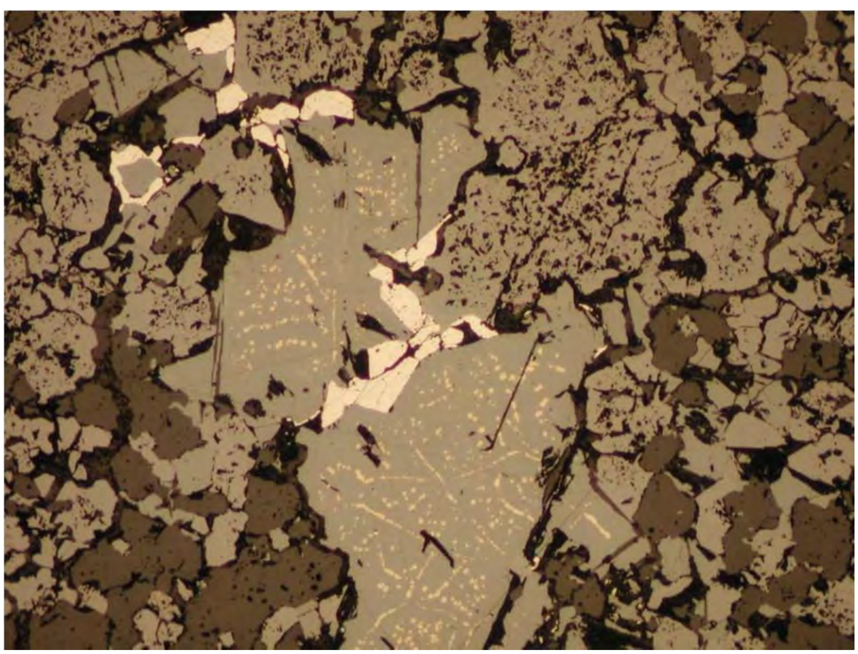
Utah drill hole CC-43 intersected a 3.05m interval grading 7.65% Zn, 3.50% Cu, and 0.100% Mo within a 7.6m interval of semi-massive to massive sulfides at a depth of 889m and a horizontal distance of about 650m to the east of the Main Zone. Pyrite, chalcopyrite, sphalerite, and molybdenite in this interval occur as veins, masses, and strong disseminations in a thinly bedded limestone with shaly partings. A highly siliceous rock immediately above this interval was logged as quartzite, but its biotite and sulfide content as well as its location within an argillically and propylitically altered granite suggest that it may be a highly siliceous intrusive phase. The presence of disseminated magnetite over a 70m interval in the shaly limestone below the sulfide mineralization suggests incipient skarn development, potentially related to the main West Desert hydrothermal system.

Although drilling north of the main intrusive cupola is sparse and generally shallow, several historic drill holes intersected narrow intervals of skarn zinc mineralization in this area, suggesting potential to discover additional resources here.

Figure 7.6 Sphalerite with High Indium Content Exhibiting "Chalcopyrite Disease" Textures
High-indium sphalerite from Main Zone – plane polarized light



High-indium sphalerite (same view as 9.2a) – reflected light



7.2.5 Replacement Style Ag-Zn-Pb

In the eastern portion of the property, silver-rich galena with minor sphalerite and pyrite occur in steeply dipping, structurally controlled, and somewhat discontinuous replacement zones within the Ely Springs and Laketown dolomites. The most significant zone outlined to date is that exploited by the historic Utah and Galena mines, where mineralization occurs in the vicinity of but not immediately adjacent to the Utah dike. A total of about 3,960m of workings on six levels were accessed via the 246.9m Utah shaft. The Galena mine immediately to the west was accessed via the 213.4m Galena shaft and included a total of about 915m of workings, one of which connected with the Utah mine on the 512ft (156m) level. Mine development extended between 152 and 243m to the west and east respectively of the Utah shaft. Minor production of similar mineralization was derived from the Emma mine and to a much lesser extent from a number of small excavations to the southeast, including the Wilson and Carnation mines. Most of the total production from the Fish Springs district between 1890 and 1953 came from the replacement mineralization in the Utah, Galena, and Emma mines (Perry and McCarthy, 1976).

Underground mapping by Utah on the uppermost 269- and 440ft (82- and 134m) levels of the Utah mine indicated that the best mineralization occurred in the central part of the mine where a pipe-like structure with a diameter of approximately 60m resulted from the intersection of fault structures. Mineralization consisted of irregular pods of anglesite, cerussite, smithsonite, covellite, willemite, malachite, hemimorphite, aurichalcite, and wulfenite in a matrix of iron and manganese oxides situated adjacent to, but generally not within structures. The cores of larger masses of ore as well as mineralization below the water table in the deepest parts of the mine showed that these oxidation products were derived from a relatively simple sulfide mineralogy of galena and pyrite with minor sphalerite and chalcopyrite.

Gorman and Jones (1981) noted that silver and lead grades tended to increase with depth and reported that grades above the 440-level (134m level) averaged 5.5% lead and 754g Ag/t, while the grades on the lowermost 812-level (247m level) were 24% Pb and 1,166g Ag/t. A deep drill hole (CC-43) completed by Utah below the Utah workings intersected a 2.87m interval grading 6.8% Zn, 3.8% Pb, and 167.1g Ag/t approximately 230m below the lowermost mine level, indicating that mineralization continues to depth.

InZinc drill hole C08-07A was aimed to test the down-plunge extension of the Utah mine zone between the lowermost mine workings and the intercept in hole CC-43. It unexpectedly intersected unmineralized Eureka Quartzite at the point where mineralization was projected to be present. The Eureka Quartzite is not mineralized elsewhere on the property and is not considered to be a favorable host for the development of skarn or replacement-style mineralization. It is not a thick unit and as a result, the potential for additional Utah zone mineralization in the adjacent carbonate rocks remains.

InZinc drill hole C08-11 intersected a wide interval of replacement-style silver-zinc-lead mineralization to the east of the Main Zone, including a 10.83m interval grading 253.8g Ag/t, 4.28% Zn, and 0.68% Pb. Numerous other intercepts of high-grade silver mineralization within the oxide zone were encountered in historic drilling, including 10.21m grading 207.8g Ag/t, 12.81% Zn, and 0.98% Pb in hole CC-34 and 3.56m grading 361.5g Ag/t, 10.19% Zn, and 12.95% Pb in hole CC-27. These intercepts and others suggest significant potential for other high-grade replacement zones in the West Desert vicinity, similar to but distinct from that mined historically at the Utah mine.

7.2.6 Molybdenum

In addition to disseminations in skarn, molybdenite occurs in porphyry-style quartz-pyrite veinlets; larger, banded, quartz-pyrite veins; and as fracture coatings in the quartz monzonite intrusion underlying the Deep Zone. More intensely mineralized zones in the intrusion tend to be argillically altered and sericitized and include small amounts of oxidized, disseminated pyrite. The general distribution of mineralization on the West Desert property, with a lower molybdenum-bearing zone grading upwards and outwards through copper, zinc, and then lead and silver-rich zones with increasing distance from the quartz monzonite intrusion, suggests that mineralization at West Desert may be related to a large underlying porphyry molybdenum system. Agnerian (1993) reported that hole CCC-15 contained an intersection of 0.5% to 3% MoS_2 over 18.6m.

8.0 DEPOSIT TYPES

The principal mineral deposits thus far identified in the Fish Springs mining district formed as part of a large skarn/carbonate replacement system. In general, skarns are formed when hydrothermal fluids containing silica, various metals, and other dissolved components are introduced into carbonate host rocks, resulting in the formation of calc-silicate minerals such as garnet, diopside, epidote, biotite, chlorite, amphibole, wollastonite, and idocrase. In more magnesian hosts, such as those at West Desert, humite, periclase, and olivine may instead be present. Iron oxides such as magnetite and sulfides such as chalcopyrite, sphalerite, pyrite, pyrrhotite, galena, and arsenopyrite are deposited in the system, along with variable amounts of gold and silver. Skarn deposits are often, but not always, associated with intrusive rocks and are generally, but not always, developed in carbonate rocks. They have been classified into seven types on the basis of metallic affinity: Fe, Au, Cu, Zn, W, Mo, and Sn (Meinart *et al.*, 2005).

As defined by Meinart *et al.*, zinc skarns are usually related to oxidized dioritic to high-silica rhyolitic intrusions that may be barren or contain sub-economic copper and/or molybdenum ± tungsten ± tin deposits. The skarns are mined primarily for zinc-lead-silver ores and commonly contain recoverable copper, gold, molybdenum, and tin and/or tungsten. Mineralization is found in the form of stratabound mantos or cross-cutting, chimney-style replacements in limestone and dolostone, often distal (up to several kilometers) from their genetically associated intrusions. Mineralogical and chemical zonations within the skarns are well developed, but contact-metamorphic aureoles are usually absent or weakly developed. In addition to their metal associations, zinc skarns are generally distinguished from other skarns by a distinctive suite of iron and manganese-rich alteration minerals, including olivine, chlorite, pyroxene, garnet, serpentine, amphibole, pyroxenoids, and ilvaite; by the lack of a significant metamorphic aureole centered on the skarn; and by their occurrence along structural and lithologic contacts.

Carbonate replacement deposits ("CRD") have been described by Megaw (1998), Titley (1993), and others as a broader category of high-temperature, carbonate-hosted massive sulfide deposits within which zinc skarns could be placed, but which would also include systems with no calc-silicate development. Contacts between sulfide mineralization and host rocks are generally very sharp, and replacement textures are typical. They generally display a simple, polymetallic assemblage of galena, sphalerite, chalcopyrite, arsenopyrite, and pyrite or pyrrhotite along with carbonate, sulfate, fluorite, and quartz gangue. They also may contain recoverable molybdenum, tungsten, tin, cadmium, gallium, germanium, and indium. Examples are widespread throughout the Cordillera of North and South America, including the zinc-rich Gilman and Leadville deposits in Colorado, the Midway and Ketza River deposits in Canada, and the Charcas, San Martin, and Bismarck deposits in Mexico.

The principal mineral deposits thus far identified on the West Desert property are related to a felsic intrusion of Late Eocene age. A number of Utah's most significant historic mining camps, from which large-scale mineral production has been derived, are based on carbonate replacement and skarn deposits related to similar felsic intrusive systems of Late Eocene to Early Oligocene age (Krahulec, 2007). Examples include the Main Tintic, Bingham, and Park City districts about 115 to 190km to the east of the West Desert property. In the case of Bingham, the replacement deposits are peripheral and related to the world-class Bingham porphyry copper deposit (Table 8.1). Weaker porphyry systems are also associated with the intrusive bodies at Tintic and Park City.

Table 8.1 Selected Carbonate Replacement Deposit Production in the Western USA
(From Titley, 1993)

District	Production (t)	% Cu	% Pb	% Zn	gpt Ag	gpt Au
Bingham, UT – carb. replacement only	13,476,233	0.44	8.8	3.4	167	2.35
Bingham, UT – all non-porphyry incl. skarn	39,868,000	0.93	4.7	1.9	106	1.85
Tintic, UT	17,521,000	0.90	5.9	1.2	485	4.86
Park City, UT	13,300,000	0.38	8.7	4.5	556	2.28
Gilman, CO	10,586,849	0.90	1.5	8.5	228	1.7

9.0 EXPLORATION

InZinc acquired the West Desert property from EuroZinc in 2005. In continuing the compilation of historic results, InZinc found that all historic drill core had been lost.

Since 2006, InZinc has conducted exploration that included photogrammetry, a helicopter-borne magnetic survey, a pole-dipole IP survey, 10,639m of core drilling, and preliminary metallurgical test work. In addition, the existing computer database was enhanced and corrected using original data records.

InZinc's drilling activities are described in Section 10.0; its metallurgical investigations are described in Section 13.0.

9.1 Photogrammetry

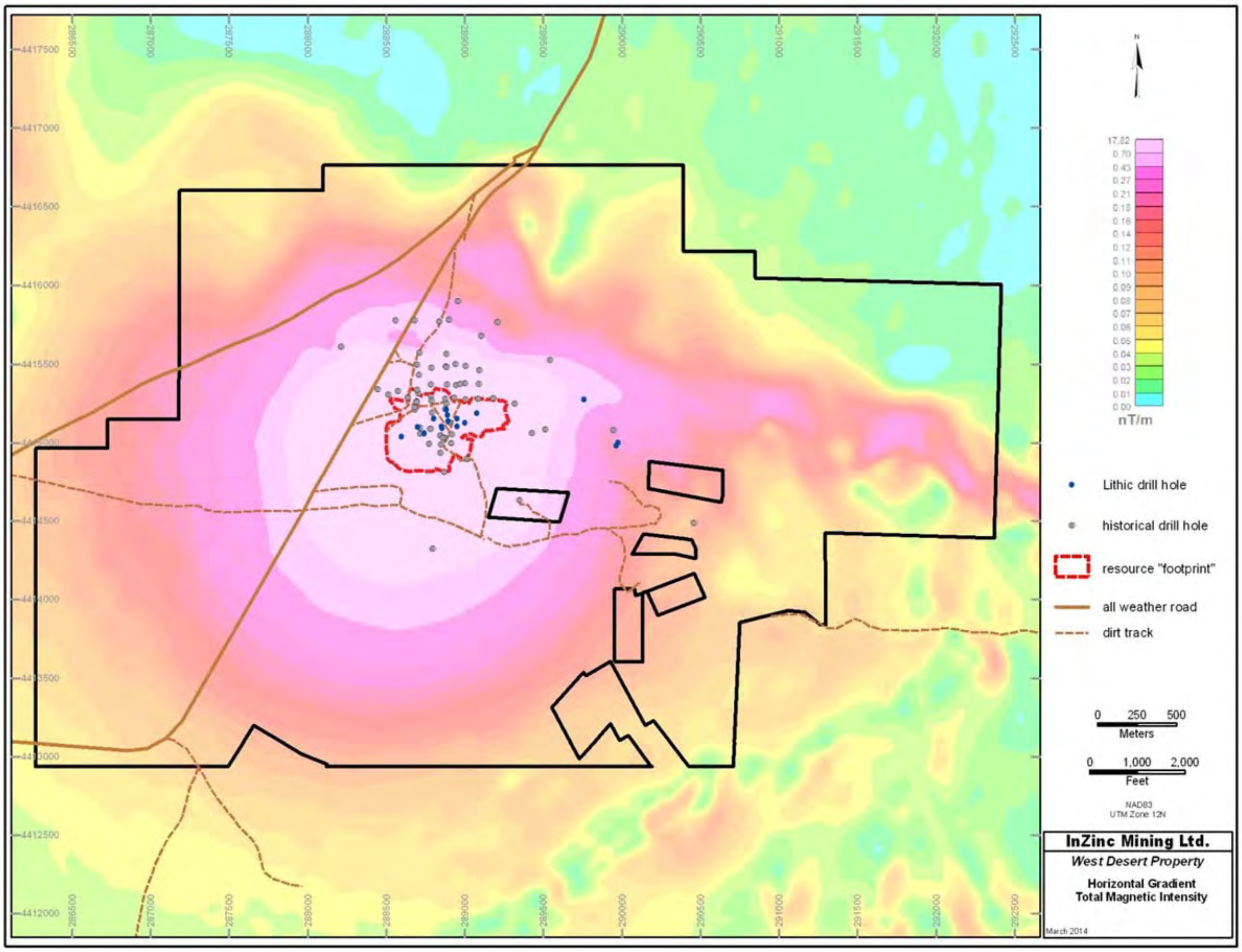
In 2006, InZinc contracted with Eagle Mapping to carry out a program of 1:8,000-scale color aerial photography over the general property area and to construct a detailed (2m contour) 1:2,000-scale topographic map and orthophoto of the central portion of the property. These maps were used as a base for further work.

9.2 Magnetic Survey

In 2006, McPhar Geosurveys Ltd. was contracted to carry out a high-resolution, helicopter-borne magnetic survey of the general property area. Approximately 1,018 line-km of survey were flown at a line spacing of 100m and a mean terrain clearance of 30m for the magnetometer. Deliverables included plots of total field magnetic, reduction to pole, first and second vertical derivatives, horizontal gradient, and analytic signal data.

Figure 9.1 illustrates the calculated horizontal gradient of total magnetic intensity in the property area and shows a massive positive magnetic anomaly centered on the West Desert deposit.

Figure 9.1 Calculated Horizontal Gradient of Total Magnetic Intensity – West Desert Area
(Provided by InZinc Mining Ltd., 2014)

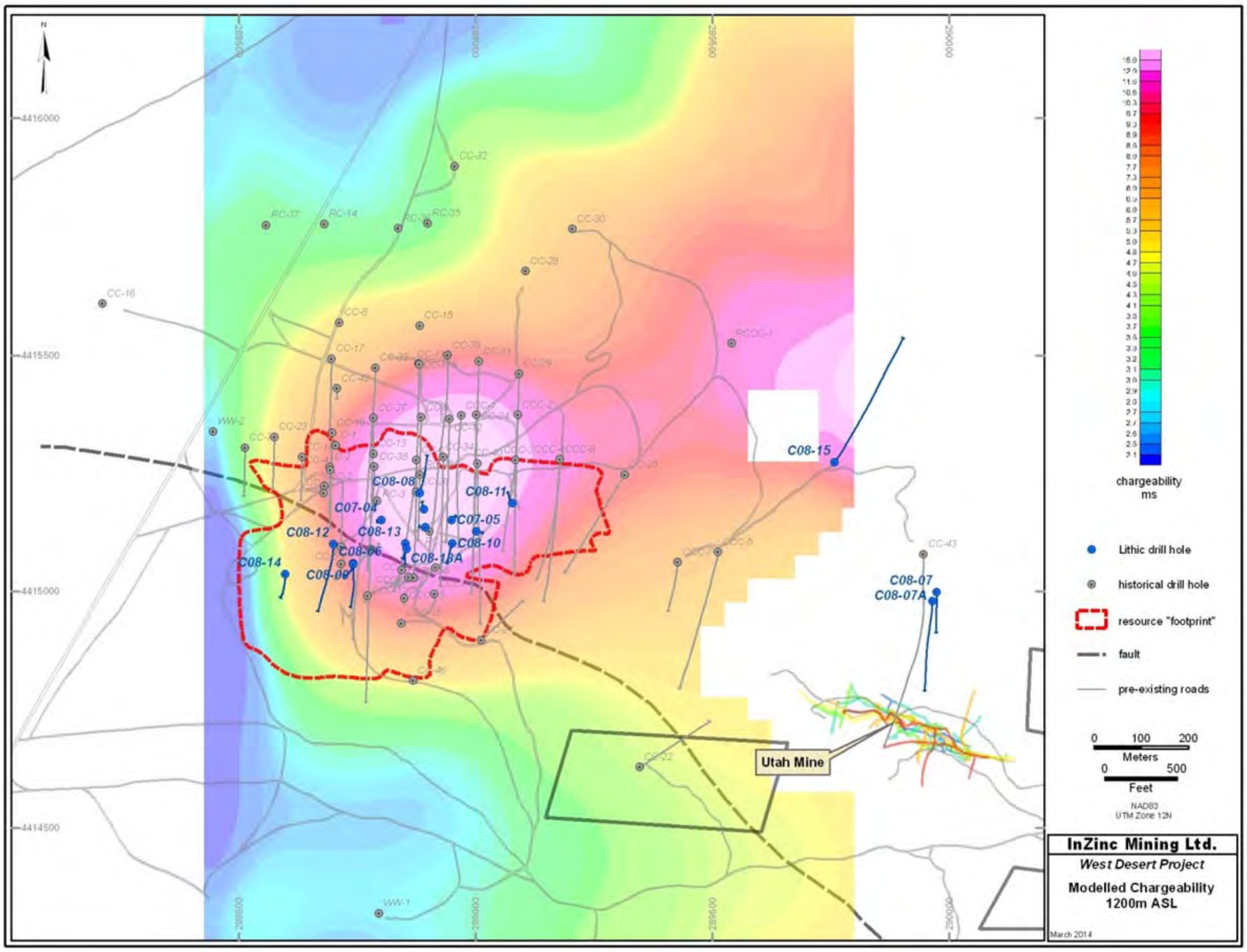


9.3 Induced Polarization Survey

In 2006, Peter E. Walcott and Associates Limited carried out a pole-dipole IP survey over the central part of the property. Approximately 25km of surveying on lines spaced 200m apart were completed using an "A" spacing of 100m. Deliverables included a series of pseudosections and plan views, including modeled data at elevations of 1200, 1300, and 1400m ASL.

The results of the survey showed a distinct chargeability anomaly apparently centered on known zinc mineralization, as well as a separate and similar but somewhat deeper anomaly located approximately 1km to the east. Figure 9.2 illustrates a plan of modeled chargeability values at an elevation of 1200m ASL. InZinc drill hole C08-15 targeted the eastern anomaly and intersected both intrusive rocks and sections of carbonates with varying development of skarn along with geochemically elevated levels of zinc.

Figure 9.2 Plan of Modeled Chargeability in the Central Part of the West Desert Property
(Provided by InZinc Mining Ltd., 2014; elevation is 1200m ASL)



10.0 DRILLING

10.1 Summary

Four campaigns of drilling involving a total of 85 core and RC exploration holes totaling 38,138m have been carried out on the West Desert property. No additional drilling has been conducted since completion of the previous technical report (Tietz *et al.*, 2010). Table 10.1 summarizes the drill-hole data in the database, while Figure 10.1 shows the distribution of holes on the property. Down-hole depths range from a few tens of meters to approximately 1,000m. The majority of these holes were either inclined due south or were vertical and tested the West Desert deposit area on north-south sections at a rough average spacing of about 75m.

Table 10.1 West Desert Mineral Resource Drilling Database Summary

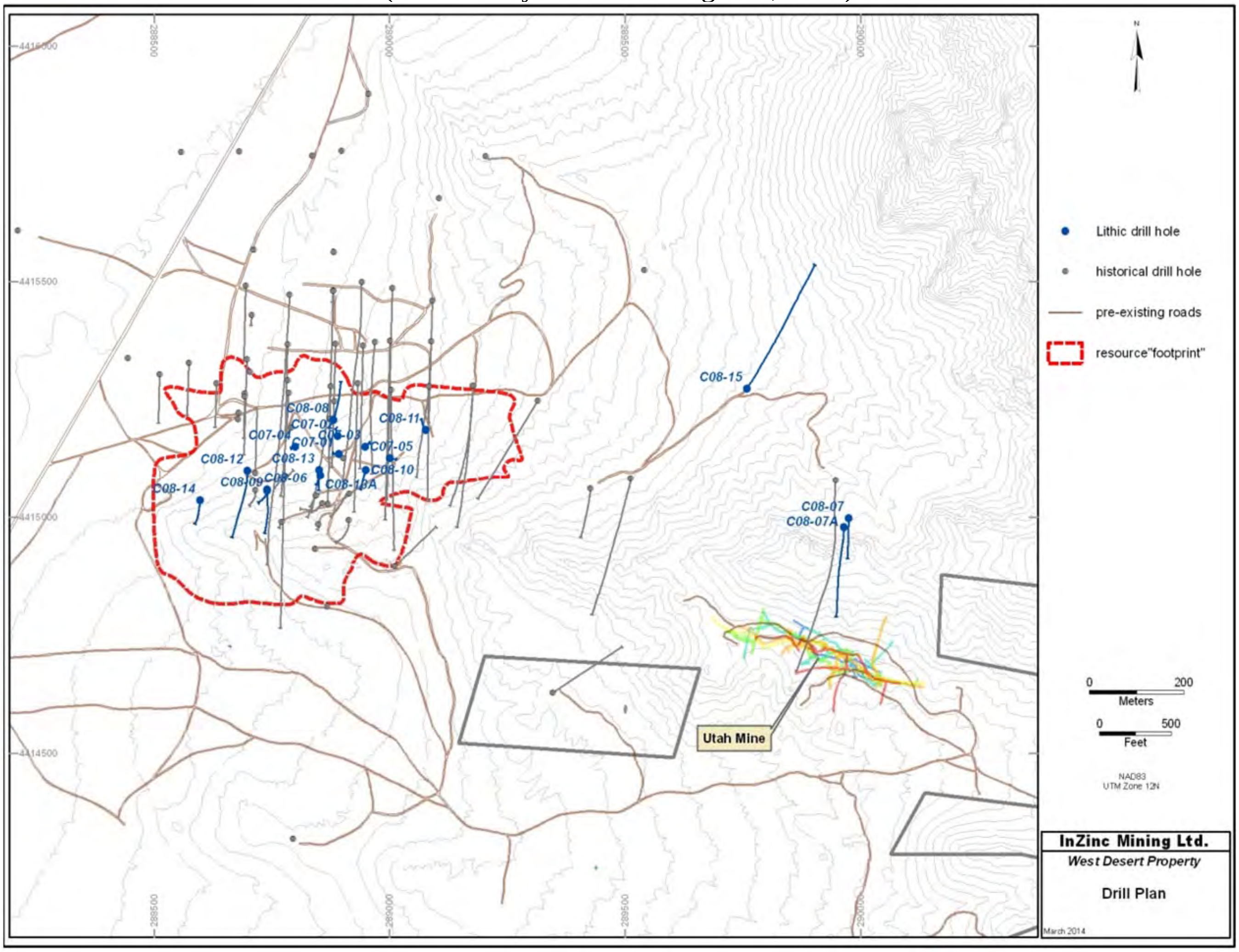
Company	Period	Hole Numbers	Core		RC		Total	
			No.	Meters	No.	Meters	No.	Meters
Pinnacle Mines	1958-1959	C1,C2	2	228.6	--	--	2	228.6
Utah International*	1961-1985	CC1 to 46 RC2-4,14,26,35-37	39	16,555.8	8	609.5	47	17,165.3
Cyprus Minerals	1990-1991	CCC1 to15 RCCC-1, 6	17**	9,434.6	2	670.6	19	10,105.2
InZinc Mining	2007-2008	C07-1 to 5 C08-6 to 15	17***	10,638.9	--	--	17	10,638.9
Totals			75	36,857.9	10	1,280.1	85	38,138.0

* Two Utah holes with prefixes of WW are not included in this table; they are in the database but appear to be water wells and have no assays.
** Includes two holes (CCC-6B and CCC-10A) that wedged off existing drill holes.
*** Includes holes C08-7A and C08-13A drilled from same sites as holes C08-7 and C08-13, respectively, but at different orientations.

10.2 Historic Drilling

Pinnacle's holes were drilled by Kissner Drilling Company of Cedaredge, Colorado, and were collared at BX size, reducing to AX size down the hole. The first few of Utah's holes were drilled by Nichols Drilling Company; the remainder, as well as Cyprus' holes, were drilled by Boyles Brothers. Records are incomplete, but it appears that for the both the Utah and Cyprus drilling, core holes were generally initiated at NQ size or equivalent, reducing to BQ size or further as down-hole conditions required. Apparently for Cyprus' Phase I drilling, it was intended that the upper portions of the angle core holes be drilled with rotary drilling, but that was not successful, and core drilling was used instead (Cyprus/Mitsui Joint Venture Geologists, 1990).

Figure 10.1 Location of Drill Holes on the West Desert Property
(Provided by InZinc Mining Ltd., 2014)



Other than a few of the earliest holes, most of the historic drill holes on the property were surveyed down hole, the method varying between operators (Rockingham (2001) and Agnerian (1993) incorrectly reported that the Utah holes had not been surveyed). Utah's gyroscopic data were collected by Mollen-Hauer Surveying Company, and InZinc has copies of their survey reports. Utah's dip-test data were recorded in an internal corporate memo from 1967, now in InZinc's files. Cyprus' gyroscopic data were collected by Navi-Drill, and InZinc has copies of their survey reports. InZinc personnel were able to locate most of the historic drill collars and surveyed their geographic location using a differential GPS.

Bernardi and Ohlin (1991b) noted that previous holes drilled at inclinations of 55° or less at West Desert tended to shallow, which meant that intercepts could be shallower and further south than originally thought.

MDA has no further details on drilling procedures by previous operators.

10.3 Drilling by InZinc Mining Ltd.

For its 2007-2008 drilling program, InZinc used Connors Drilling LLC of Montrose, Colorado. InZinc's program initially involved one Atlas Copco CS-14 drill. A Longyear 44 drill rig was subsequently added and then replaced with a second CS-14 (see Figure 10.2). Once bedrock was reached, all holes were started at HQ size, producing a 63.5mm-diameter core. When necessary to overcome drilling difficulties, a number of the holes were reduced in size to NQ, a 47.625mm-diameter core.

The core was placed in 1.2m-long, three-run wooden core boxes at the drill site. Drillers measured the core recovery as the core was put into the core boxes. Loaded core boxes were then trucked a few hundred meters to InZinc's on-site core logging, sampling, and storage facility.

Once delivered to InZinc's on-site facility, the core was measured for RQD and core recovery, and core markers were converted to metric units. Subsequently, all core was digitally photographed, wet and dry, in a fixed setup to assure constant exposure, distance, and focus, before being geologically logged and marked for sampling.

The down-hole orientations of the drill holes were measured by a technician from International Directional Services using a gyroscopic instrument not affected by magnetic variations. The instrument was lowered to the bottom of each hole, and measurements were digitally recorded every 15.2m (50ft) as it was raised back up the hole. Recorded data included depth, azimuth, inclination, and temperature. Finally, corrected survey data were derived on site and delivered as a digital file to InZinc's on-site staff.

Figure 10.2 Drilling by InZinc on the West Desert Property
(West Desert resource approximately underlies the center of the image.)

11.0 SAMPLE PREPARATION, ANALYSES, AND SECURITY

11.1 Sampling

11.1.1 Historic Sampling

Utah's samples of core ranged from 0.5 to 5m in length, but the majority were between 1 and 2m. Cyprus' core samples ranged in length from 0.3 to 4m, but the majority were between 1.5 and 2m in length. There are no detailed descriptions of sampling procedures available for either company, but reports of the re-logging of significant quantities of Utah core by Cyprus suggest that Utah had followed the then-current industry standard of splitting the core in half, with one half retained and the other sent to the laboratory. Cyprus used the same standard sampling methodology and, as was standard practice at the time, did not insert quality control samples of their own (pers. comm., M. Bernardi - Cyprus Project Manager). Although no relevant information is available, it should be assumed that Utah also did not insert their own quality control samples.

11.1.2 InZinc Sampling

Samples were selected and marked by InZinc's geologist as the core was being logged. Sample intervals were chosen on the basis of lithology, mineralization, and alteration and ranged in length between a minimum of about 0.5m and a maximum of about 2m. Local employees directly supervised by the geologist then either sawed the core in half using a water-cooled diamond saw or, if the core was fragile, contained potentially soluble minerals, or was otherwise unsuitable for sawing, split it in half using a hydraulic core splitter.

11.1.3 Core Recovery Determinations

11.1.3.1 Historic Core Recovery

All of the historic drill campaigns recorded core recovery data, and the current InZinc data set includes over 12,600 individual core recovery records. The average core recovery for all of the historic drilling is approximately 85%, with 10% of the drill runs having less than 50% core recovery. There is a general correlation within the data set between core recovery and core diameter with the smaller core (AX and BX) having lower recoveries, on average, than the larger NX core. The great majority of the historic drilling is NX-size core.

11.1.3.2 InZinc Core Recovery

Core recovery data were noted by the drillers for all 17 InZinc core holes. InZinc field technicians separately collected core recovery data for the upper half of drill hole C07-01 and the full lengths of holes C07-03 and C08-07A through C08-15. The average core recovery for both data sets is greater than 97% with just 2% and 3% of the drill runs, for the driller and InZinc data sets, respectively, having less than 50% core recovery. The generally excellent core recovery lends confidence to the current resource estimate.

11.2 Historic Sample Preparation and Analysis

Sampling information and analytical data for historic drill holes are only available as recorded in historic drill logs. Although assay certificates were not available for Cyprus' work, it is known that Cyprus' samples were analyzed by ALS Chemex ("Chemex") at their laboratory in Sparks, Nevada (pers.comm, Bernardi, M.) for a suite of elements including Zn, Cu, Pb, Ag, Au, Co, Mn, Mo, Ni, and Fe (Agnerian, 1993).

Drill logs for Pinnacle's two holes included data for Cu, Pb, Zn, Ag, and Au for almost all sampled intervals, as well as sporadic data for Fe, Sn, Mo, and Co. Cyprus' drill logs included assay data for Cu, Pb, Zn, and Ag for all holes, as well as Au, Fe, Cd, and As data for some intervals in some holes. Utah's drill logs included data for Cu, Pb, Zn, and Ag for all holes, as well as sporadic data for Au, Fe, Sn, Sb, Mo, Co, Cd, As, W, Bi, Mn, and Ni. The Utah data set also includes magnetite iron data from Davis Tube magnetic separation analyses.

No information is available regarding details of analytical methods or any security measures that might have been taken with sampling in historic drill campaigns.

There is no information concerning quality assurance/quality control analyses on the historic drill data.

11.3 Sampling Preparation and Analysis by InZinc Mining Ltd.

Following core splitting, samples were placed in fabric bags labeled with a sample number. A tag with the sample number was placed into each bag. Bags were then sealed and stored in a 6m locked storage container of the type used in rail, truck, and ship transport, which had been modified for use in the field. Samples were delivered by InZinc personnel to Chemex's laboratory in Elko, Nevada, on a weekly to bi-weekly basis. At the request of Chemex, samples estimated to contain more than about 10% zinc on the basis of their sphalerite content were segregated and labeled as "high grade" before delivery to the laboratory. A series of "overlimit" protocols was established for Zn, Ag, Cu, Pb, and Mo, in which samples which exceeded the limits of a given analytical technique were automatically scheduled for re-assay with a technique suited for higher-grade material.

Regular samples were dried, weighed, crushed, split, and pulverized at the laboratory in Elko before being analyzed for gold. Analysis was by Chemex's AA23 method of fire assay fusion of a 30g subsample followed by atomic absorption analysis ("FA-AA"). Sample pulps were then sent to Chemex's Vancouver laboratory to be analyzed for Ag, Al, As, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Fe, Ga, Ge, Hf, In, K, La, Li, Mg, Mn, Mo, Na, Nb, Ni, P, Pb, Rb, Re, S, Sb, Sc, Se, Sn, Sr, Ta, Te, Th, Ti, Tl, U, V, W, Y, Zn, and Zr using their ME-MS61 method of combined ICP-MS and ICP-AES technology following a four-acid digestion. The upper concentration limit for most metals of interest was 10,000ppm or 1%. Samples exceeding this limit were re-assayed using one of the techniques described below.

Samples that had been segregated as "high grade" were dried, weighed, crushed, split, and pulverized before being analyzed for gold in Elko using Chemex's AA23 30g FA-AA method. Sample pulps were then sent to Chemex's Vancouver laboratory to be analyzed for Ag, As, Bi, Cd, Cu, Mo, Pb, and Zn using their "ore grade" OG-62 method of combined atomic absorption and ICP-AES technology following a four-acid digestion. Regular samples whose metal contents exceeded the limits of the ME-MS61 method were re-assayed by the OG-62 method. Samples that were found to contain greater than 30% zinc using the OG-62 method were re-assayed using Chemex's ME-CON02 method. Indium was not determined in the OG-62 method, and samples were either re-assayed for indium through ME-MS61 if zinc contents were low enough or through a concentrate method such as ME-CON02 or ME-MS61c if they were too high.

In 2013, a total of 719 pulp samples, including 82 QA/QC samples, were sent to AGAT laboratories in Mississauga, Ontario, Canada for total iron analyses. The total iron analyses were by sodium peroxide fusion and then ICP-OES technology. Included in the analyses were results for Al, As, Ca, Co, Cr, Cu, Pb, Mg, Mn, Mo, Ni, K, Si, S, Sn, Ti, V, and Zn. As a check on these initial total iron analyses, twenty pulps were re-analyzed using four different analytical methods: four-acid digestion with an ICP-OES finish, classical titration, lithium borate fusion with an XRF finish, and sodium peroxide fusion with an ICP-OES finish.

A sub-set of 107of the initial pulps were analyzed for iron-in-magnetite and magnetite using Davis Tube magnetic separation procedures and then duplicate iron analyses by sodium peroxide fusion with an ICP-OES finish

11.4 InZinc Quality-Control Protocol

A quality-control ("QC") protocol involving a variety of standards and duplicates as well as a blank was implemented by InZinc for all samples from the project. Every 11th sample was either a standard (chosen on the basis of mineralization type and expected grade), a duplicate of some type, or a blank.

For the 2007-2008 drilling program, a series of commercially available certified standards was chosen and purchased on the basis of expected types and grade ranges of mineralization, including low- and high-zinc values in oxide and sulfide mineralization (Table 11.1). The standard to be used at any given point was chosen on the basis of the mineralization in nearby core. Standards were stored at Chemex's lab and inserted into the sample stream by Chemex personnel as per InZinc's written directions with each shipment. Standards used are listed in Table 11.1.

Table 11.1 Certified Analytical Standards Used in InZinc 2007-2008 Drilling Program

Sample	Type	Zn	+/-	Cu	+/-	Pb	+/-	Ag	+/-
GBM 396-10	oxide	10,601 ppm	217	2,897 ppm	48.2	1,018 ppm	22.3	11.6 ppm	0.22
GBM 996-7	oxide	110,344 ppm	1,007.7	23,483 ppm	224.3	38,879 ppm	478.8	125.1 ppm	2.12
CDN-FCM-2	sulfide	1.739 %	0.104	0.756 %	0.046	0.479 %	0.038	73.9 g/t	7.3
CDN-HLHZ	sulfide	7.66 %	0.36	0.76 %	0.03	0.815 %	0.06	101.2 g/t	10.8
CDN-HLLC	sulfide	3.01 %	0.17	1.49 %	0.06	0.29 %	0.03	65.1 g/t	6.7
CDN-HLHC	sulfide	2.35 %	0.11	5.07 %	0.27	0.17 %	0.01	111.0 g/t	8.6

(GBM series: Geostats Pty; CDN series: CDN Resource Laboratories):

Several types of duplicates were used as follows:

preparation duplicate:	second, duplicate pulp from the original sample reject was requested
assay duplicate:	duplicate analysis of the first pulp from a given sample was requested
field duplicate:	second half of core collected in the field

Blank material was collected from an outcrop of barren Tertiary rhyolite about 32km south of the West Desert property and inserted into the sample stream at the West Desert site.

The 2013 QA/QC program used the same protocol as for the 2007-2008 drill program including standards, blanks, and three types of duplicates. The two types of standards used were obtained from the Canada Centre for Mineral and Energy Technology.

12.0 DATA VERIFICATION

From the perspective of data verification, there are two classes of data in the West Desert database. First in terms of verifiability, there are data generated by InZinc. MDA was able to verify these through a combination of site visits, visual inspection of the core, discussions with the InZinc employees who originated the information, and checking of original sources such as laboratory certificates and data files.

Second in terms of verifiability are the historic data. Most of these exist in paper records that InZinc inherited from prior operators. These paper records are completely plausible, but most are photocopies of the original documents. One deficiency is the lack of original analytical certificates, even as photocopies, though Cyprus' analytical work was carried out at Chemex (now ALS Chemex), and the records are still available in the latter's files. InZinc has made inquiries in the hope of obtaining permission to get these original certificates from Cyprus' successor but has not been successful. The closest thing to an original source for historic assays is entries in photocopies of drill logs.

No historic drill core or sample material exists for visual inspection or verification sampling. InZinc did not drill specifically designated twin holes, but many of their holes targeted similar locations within the deposit. Results generally indicated good correlation between the geology encountered within the historic and InZinc drilling. The depth to the mineralization and the variability commonplace within skarn systems would make any twin program impractical.

MDA has audited the historic database using the available sources, as described in Section 12.1, and has no reason to suspect that any systematic problems exist. However, MDA cannot state that it has checked the historic database using entirely original sources. Utah and Cyprus (now Freeport-McMoran) were major companies involved in exploration and mining, and there are no indications that industry-standard practices and procedures were not followed in their work on the West Desert project. The authors believe that the historic data are suitable for use in a resource estimate.

12.1 Verification of Historic Data

12.1.1 Assay Table

12.1.1.1 Base and Precious Metals

MDA received a copy of the historic assay table in the form of an Excel(TM) spreadsheet containing 4,347 records for base and precious metals. MDA checked 1,028 or about 24% of the records against the entries in old drill logs. The fields that MDA checked were Ag (oz), Pb (%), Cu (%), Au (oz) and Zn (%). The error rates that MDA found were as follow:

Element	Ag	Pb	Cu	Au	Zn
Error Rate	0.2 %	0.2 %	0.3 %	0.5 %	0.2 %

The errors that MDA identified would not have had a significant effect on the resource estimate. It is assumed but cannot be proven that assay entry errors in the 76% of the historic assay table that MDA did not check would have a similarly insignificant effect.

12.1.1.2 Iron Assays

MDA checked roughly 20% of the historic (pre-InZinc) iron assays in the assay table during a visit to InZinc's office in early November of 2013. Checks were done by comparing the iron values in the assay table to those recorded in copies of historic drill logs or assay lists that are kept on file by InZinc. Original certificates are not available for the historic iron assays. MDA did not find any data entry errors in the assays. Small numbers of other types of issues were identified, as described in the following paragraphs.

In hole CC-1, there are four intervals for which no iron assay had originally been obtained, but an iron value was assigned to each of the four intervals. The assigned value was obtained by averaging the immediately preceding and following iron assays. MDA elected to not use these four assigned values.

In hole CC-13, one iron assay that was present in the historic hard-copy of an assay compilation had not been entered into the database. MDA and InZinc were unable to identify any reason why the assay would not have been used, so it is presumed to have been an unintentional omission. MDA added the assay to the database.

In hole CC-11B, one assay interval is shorter in the historic information than in the database, 1.16 meters compared to 1.37 meters. The shorter interval is also displaced vertically by 1.16 meters. This interval does not contain significant iron. MDA chose to use the interval that was already in the database.

Two intervals in the database, one in hole CC-10 and one in hole CC13, contain iron assays that do not appear in any historic documentation that MDA found. This does not necessarily mean that the assays are wrong, only that they could not be verified. MDA kept the iron values in the database.

12.1.1.3 Davis Tube Analyses

The historic data for the West Desert project include 698 Davis Tube analyses. Original assay certificates are not available. However, the results are summarized in five memoranda dated 1975 and 1976. MDA was able to check 550 of the Davis Tube analyses in the database against results reported in these memoranda. Five records, amounting to about 0.9 percent of those checked, were found to contain minor differences, and these were corrected. No significant differences were identified.

Both MDA and InZinc suspect that the original Davis Tube data were probably reported with two-decimal precision. However, only one-decimal precision is recorded in the historical memoranda and in the project database.

12.1.2 Collar Table

Some earlier workers at West Desert located the drill-hole collars on a project-specific grid. InZinc uses a UTM grid system based on NAD83. InZinc identified as many of the old drill-hole sites as it could in the field, in part by using aerial photographic images to locate former sites. In those cases in which it was able to identify the sites, InZinc re-surveyed the locations using a differential GPS. Of 70 holes in the database drilled by former operators, InZinc was able to re-survey 45 collar locations.

MDA had little means at its disposal to verify the locations of old collars. MDA did do a plausibility check, using a geo-registered ortho-photo obtained from InZinc. MDA checked for plausibility by looking at the recorded location of the drill hole on the ortho-photo, checking the image for evidence of old disturbance suggestive of drill sites or drill-access roads. It was possible to check 67 of the 68 historic drill holes this way, and the locations of all 67 recorded in the current collar table are plausible. The one hole that could not be checked has a recorded location outside the area of the ortho-photo.

12.1.3 Geologic Data Table

The West Desert geology table contains 4,062 lithologic intervals, 3,124 of which are in historic drill holes. MDA checked these against photocopies of the drill logs. All of the checks that MDA did were done on the historic holes. MDA checked the interval limits of 429 records and found that the database differed from the logs in nine instances, none of which would have a significant effect on the geologic model. MDA checked the lithologic coding of 304 records and found differences in six instances, none of which would have a significant effect on the geologic model. It should be noted that differences between interpretations by successions of workers probably account for some of these differences.

12.1.4 Down-Hole Survey Table

As discussed in Section 10.2, other than a few of the earliest holes, most of the historic drill holes on the property were surveyed down hole, and InZinc has survey reports or other documentation of the results from Utah and Cyprus' drilling.

According to information in a table obtained from InZinc (Table 12.1), the down-hole orientations of the historic drill holes were obtained by one of three methods: dip test, gyroscopic, and measured from a paper section.

Table 12.1 Down-Hole Survey Methodology for Historic Drilling

Number of Holes	Down-Hole Orientation Method
11	dip test
26	gyroscopic
4	measured from paper section
27	none (collar only)

InZinc reports that for the Utah holes where dip information is shown as "measured from paper section," InZinc personnel derived the dips by measuring on original Utah sections.

MDA has not verified the down-hole surveys for the historic drill holes.

12.2 Verification of Data Generated by InZinc Mining Ltd.

Data generated by InZinc are the most verifiable, and MDA checked them using different procedures than those employed for the historic data.

12.2.1 Assay Table

12.2.1.1 Base and Precious Metals and Indium

InZinc provided MDA with an assay table for use in modeling. In related work, Giles Peatfield, P.Eng. and a consultant independent of InZinc, compiled an assay table independently of InZinc for use in evaluating the quality assurance/quality control ("QA/QC") data from the West Desert project (Section 12.3). Peatfield received the analytical data in digital form, directly from the laboratories. MDA obtained a copy of the assay table compiled by Peatfield and used tools available in Microsoft Access™ database software to compare the Peatfield and InZinc tables. The only significant difference that MDA found was one indium analysis that was in the Peatfield table and was not in the InZinc table. This was resolved.

12.2.1.2 Iron Assays

The assay table contains 2,288 non-zero iron values in holes drilled by InZinc. MDA was able to check 2,185 of these iron values against those found in copies of original laboratory batch files, obtained from InZinc. No data entry errors were found.

There are three instances in the assay table in which the original iron assay obtained by ICP analysis exceeded the upper detection limit of 50% Fe, and no other iron analysis was obtained. In these cases, an iron value of 50.01% Fe has been used in the database. This is a reasonable choice under the circumstances.

There are 200 instances in which the iron value used in the database was obtained from a sodium peroxide fusion - ICP-OES finish ("fusion analyses"), done by AGAT Laboratories Ltd.("AGAT"). InZinc obtained the fusion analyses by submitting pulps to AGAT in the summer of 2013. In total, InZinc obtained 627 fusion analyses from pulps, but these were only used in the database in those instances in which the original ICP iron assay exceeded the detection limit, or there had not been an original ICP iron assay.

12.2.1.3 Davis Tube Analyses

From the holes drilled by InZinc, 107 samples have Davis Tube analyses. The magnetite and iron-in-magnetite data for these samples were added to the database by MDA, taken directly from original assay certificates.

12.2.2 Collar Table

InZinc's collar table was compiled directly from data transmitted by email from the field, where collar locations were determined using a differential GPS. The InZinc collar table is, in effect, the original. MDA did not independently survey the collar locations.

12.2.3 Geologic Data Table

MDA worked with InZinc in the field during three separate visits and again modeling the geology of the deposit on sections at MDA's office. MDA viewed drill core and otherwise worked closely with InZinc on the geologic model. While the geological interpretations are primarily the product of work by InZinc personnel, MDA gained a high level of confidence in the geological data by working closely with InZinc.

12.2.4 Down-Hole Survey Table

The down-hole orientations of InZinc's drill holes were measured in the field by International Directional Services ("IDS") using a gyroscopic survey instrument. The down-hole survey readings were transmitted from IDS to InZinc's office as digital data files, via email. There is typically one such file for each hole. InZinc compiled its down-hole survey table from those individual data files.

MDA checked InZinc's down-hole survey table by compiling its own down-hole survey table using the individual IDS batch files, obtained from InZinc. MDA did not consider it necessary to request that IDS send the batch files directly to MDA independently of InZinc. MDA used tools available in Microsoft Access™ database software to compare the two down-hole survey tables and found no issues.

12.3 Quality Assurance/Quality Control

No QA/QC data are available for the historic drill data, and it is not known if past operators conducted any QA/QC analyses.

12.3.1 Base and Precious Metals, Indium, Cadmium, Gallium, and Germanium

Section 11.4 describes the QA/QC protocol used for InZinc's core drilling in 2007 and 2008. Every 11th sample was a standard, a blank, or one of three types of duplicates (field, preparation, or assay).

Giles R. Peatfield, a consulting geologist independent of InZinc, reviewed and analyzed InZinc's QA/QC data (Peatfield, 2009). All assay data were sent directly to Peatfield by Chemex. Peatfield's conclusions are summarized here.

As described in Section 11.3, Chemex's ME-MS61 ICP analysis method was used for samples with lower metal contents, and the ME-OG62 method was used for "high grade" samples. Gold was analyzed with the Au-AA23 method (FA-AA).

12.3.1.1 Certified Standards

Sulfide standards with certified values for gold, silver, copper, lead, and zinc were obtained from CDN Resource Laboratories Ltd. ("CDN"). (Peatfield listed three CDN standards, but information provided by InZinc (Table 11.1) indicated there was a fourth CDN standard – CDN-HLHC. InZinc reports that the standard CDN-HLHC was only used once but was inadvertently mislabeled in the dataset used by Peatfield.) Standards from oxidized material with certified values for silver, copper, lead, and zinc were obtained from Geostats Pty. Ltd. ("Geostats"). There were also standards assays for indium, cadmium, gallium, and germanium, although there were no certified values for these elements.

Peatfield concluded from his analysis that the results for the CDN and Geostats standards for silver, copper, lead, and zinc were, in general, acceptable. Although a very small number of results for the standards lay outside acceptable limits, they were not far enough outside to be of serious concern.

The same standards were also analyzed for indium, cadmium, gallium, and germanium. Because there were no certified values for these elements, the results did not address accuracy but rather were a very rough measure of the precision of assays for these elements. Peatfield noted that almost all analyses lay within ±10% of the mean but that the analyses for these four elements were less than optimally precise. He concluded that the levels of these trace elements should be determined in concentrates during metallurgical testing and that specific standards should be in place at that time.

12.3.1.2 Blanks

Peatfield reported that coarse "blank" samples were included in the 2008 core drilling. He noted that assays to date lead one to question if the assumption that the blank material had negligible metal content was, strictly speaking, true.

Peatfield analyzed results of assays for gold, silver, copper, lead, zinc, molybdenum, indium, cadmium, gallium, and germanium and concluded that, on balance, the results for blanks were not perfect but acceptable, especially for zinc, lead, copper, and indium, which are the metals of main interest.

12.3.1.3 Duplicate Assays

Field, laboratory preparation, and assay laboratory (the lab made two analyses of a single pulp) duplicate assays were obtained by InZinc for 2007 and 2008 drilling, and Peatfield made correlation plots for all three types of duplicates and both methods of analyses (MS61 and OG62). He concluded that, in general and especially for the metals of principal interest, the duplicate analyses suggested relatively good precision.

12.3.1.4 Summary

Overall Peatfield concluded that the results of the various quality control procedures show that assay data from InZinc's 2007 and 2008 core drilling are, in general terms, acceptable.

Peatfield noted that establishing sampling and QC protocols for the project was an evolving process and that there are still unresolved procedural issues. He recommended that a more rigorous method of inserting control samples be instituted for future drilling, particularly for sample shipments for "high grade" assays, which need to have controls inserted in regular rotation, perhaps with different standard materials. Insertion of control samples for the drilling programs should be keyed to sample shipments, rather than being established beforehand on the basis of drilling intervals.

Peatfield also recommended that for future drill programs, alternate material should be found for blanks because there are some minor concerns about the levels of a few of the analyzed elements in the rhyolite used as blank material for a the 2007-2008 drilling.

12.3.2 Iron

Analysis of the QA/QC work performed by InZinc on iron was completed by MDA associate Mr. Peter Ronning.

In 2013, InZinc sent 627 pulps from holes drilled by InZinc to AGAT, where they were re-analyzed using fusion analyses. These were intended to be used as checks on the original iron analyses.

Along with the pulps, InZinc sent quality control samples that included:

- 32 standards, each of which was one of two reference materials obtained from the Canada Centre for Mineral and Energy Technology ("CANMET"),
- 10 blanks,
- 20 field duplicates,
- 20 second pulp (preparation) duplicates, and
- 10 assay duplicates.

An evaluation of the results obtained for the QA/QC samples was done by C.F. Staargaard, P. Geo., of InZinc. The review by InZinc concluded that the QA/QC sample results indicate that the fusion analyses are of acceptable quality. MDA has reviewed InZinc's evaluation of the QA/QC data and concurs with the conclusions reached by InZinc. The results are briefly summarized in the paragraphs that follow.

12.3.2.1 Standards

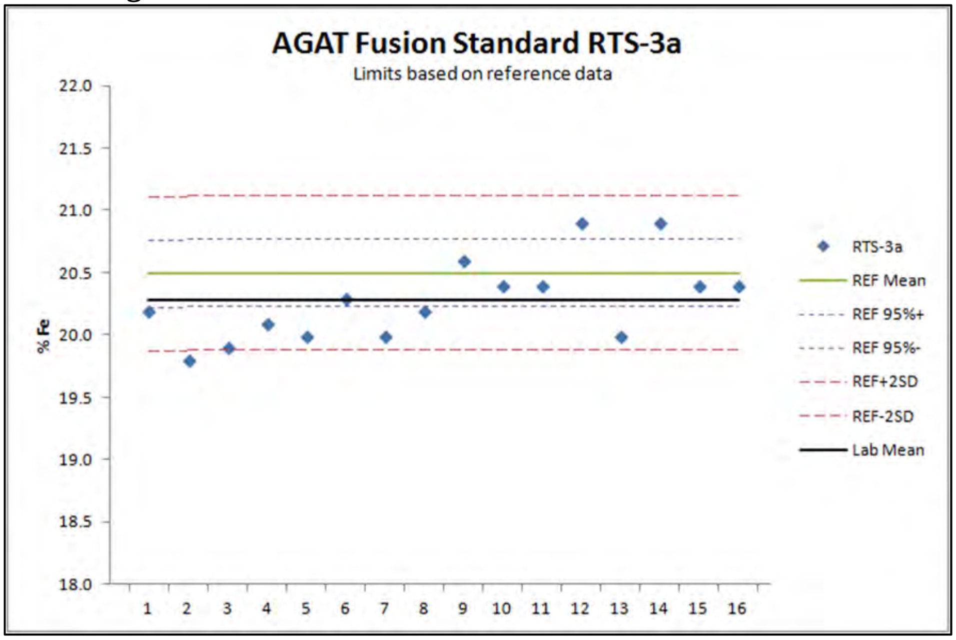
InZinc used two standards obtained from CANMET, whose expected values are set out in Table 12.2.

Table 12.2 Expected Values for CANMET Standards

Standard Identifier	Expected Iron Value Percent		Standard Deviation Percent	
	Mean	95% Conf. Int.	Within Lab	Between Labs
RTS-3a	20.49	0.27	0.31	0.55
SCH-1	60.73	0.09	n/a	n/a

InZinc evaluated the results produced by AGAT for the standards, using control charts that are variations of the common Shewhart-type charts. One such chart is presented in Figure 12.1 as an example.

Figure 12.1 Control Chart for Iron in Standard RTS-3a



Note in Figure 12.1 that InZinc has set the control limits at the expected value ("REF Mean") ± two standard deviations, using the "within lab" standard deviation provided by CANMET. InZinc did a similar chart for RTS-3a using the "Lab Mean" obtained by AGAT, ± two standard deviations as obtained by AGAT, for control limits. No failures were identified using that approach.

Since the specifications on hand for SCH-1 do not include information as to standard deviations, InZinc evaluated the results for SCH-1 using statistics generated by AGAT's data. No failures were identified.

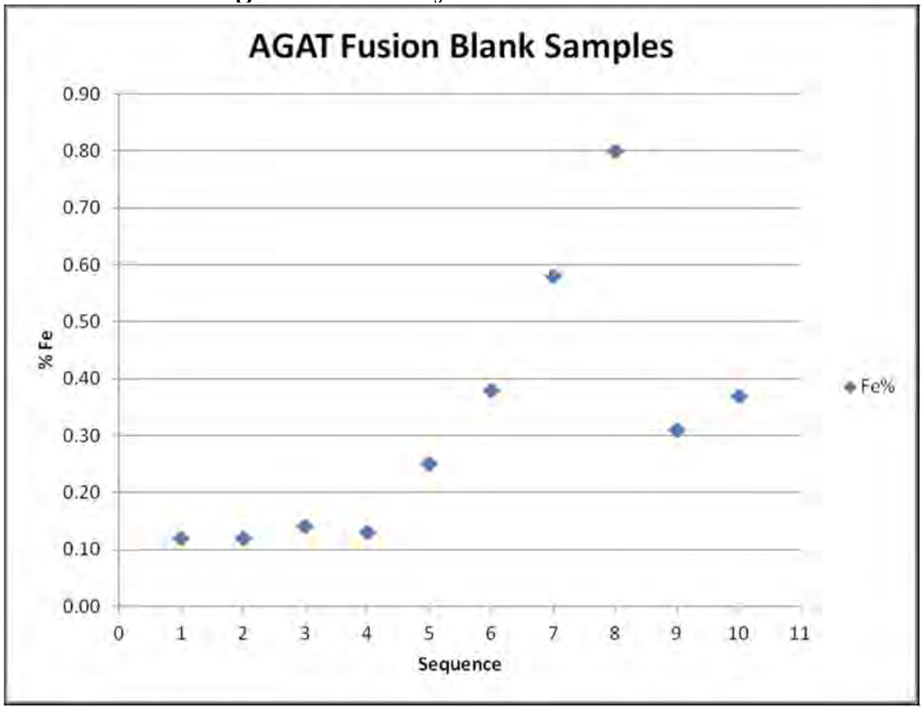
For both standards, the mean of the values obtained by AGAT is slightly lower than the expected value. The difference is greatest in SCH-1, in which AGAT's results average slightly more that 1% Fe lower than CANMET's expected value.

MDA considers the results obtained by AGAT for the standards to be acceptable.

12.3.2.2 Blanks

Figure 12.2 illustrates the assays that AGAT obtained for iron in the blanks.

Figure 12.2 Assays for Iron in Blanks



It is evident in Figure 12.2 that very low iron grades were obtained for the first four analyses of the blank material, and then starting with the fifth analysis, the measured iron grades climbed to about 0.8% Fe, before dropping again to a lower range. InZinc and MDA have no explanation for this, but while the increase in the measured iron grades in the blanks shows contamination, it is not severe enough to have a material impact on a resource estimate.

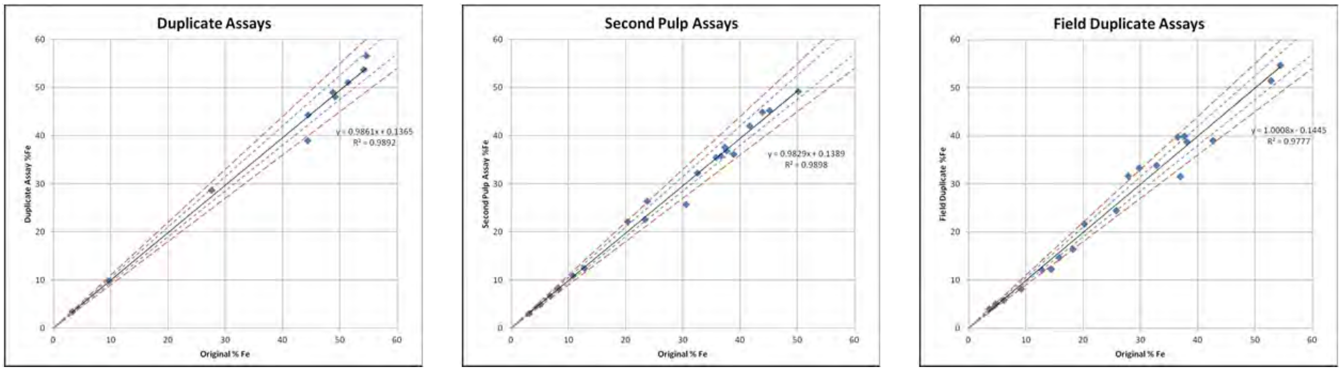
12.3.2.3 Duplicates

InZinc evaluated the three types of duplicates in the iron fusion assay data set using scatterplots, which are shown in Figure 12.3.

The three types of duplicates serve different purposes:

- The duplicate assays test the precision (repeatability) of the AGAT iron assays;
- The second pulp assays test the sample preparation done by ALS when the two separate pulps were originally prepared. The largest part of the variation between the results for the two pulps was most likely introduced during the sample preparation, which includes several stages of particle-size reduction and sample splitting. The precision of the AGAT assay process is also a factor in the variation.
- The field-duplicate assays incorporate variation due to natural geological heterogeneity, sampling error, and variation introduced by the two processes listed above.

Figure 12.3 Scatterplots for Duplicates in Fusion Assay Data Set



Original grades on horizontal axes; duplicate grades on vertical axes; range for all axes is 0 – 60% Fe.
Purple and red dashed lines are ±5% and ±10% envelopes, respectively around y = x.

The scatterplots in Figure 12.3 show that the relationships between the duplicates and the originals are as expected. No causes for concern are evident.

12.3.2.4 Comparison of AGAT Fusion Assays to Original Iron Assays

The original evaluation of the quality of InZinc's assays (Tietz, *et. al.*, 2010) did not cover the iron assays conducted by ALS. InZinc and MDA have compared the AGAT fusion iron assays to the original ALS iron assays, as a way of checking the quality of both, but primarily the latter. The ALS iron assays were done as part of ALS' "ME-MS61" package, which ALS describes as an "ultra-trace level method using ICP-MS and ICP-AES."

The results of the comparison are illustrated in Figure 12.4 and Figure 12.5. It is evident in the figures that the correspondence between the two types of iron assays is good. There is, however, a change in the relationship between the two that takes place at mean iron grades of about 30% Fe. Below 30% Fe, the relative percent difference averages about +5%, the AGAT fusion assay being slightly higher than the ALS ICP assay. Above 30% Fe, the relative percent difference averages about -3%, the fusion assay being slightly lower. This is best illustrated by Figure 12.5.

Figure 12.4 Scatterplot; Iron by AGAT Fusion vs. Iron by ALS ICP

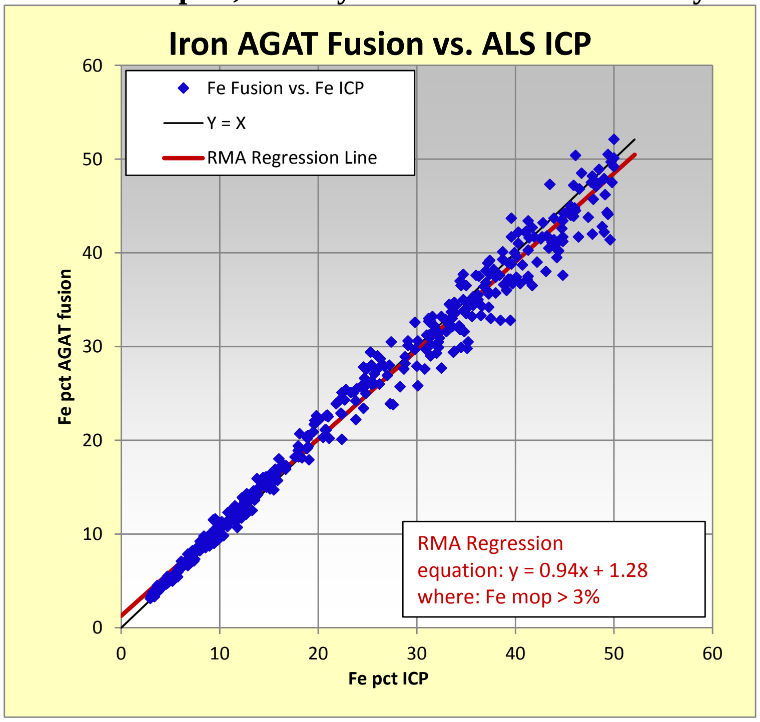
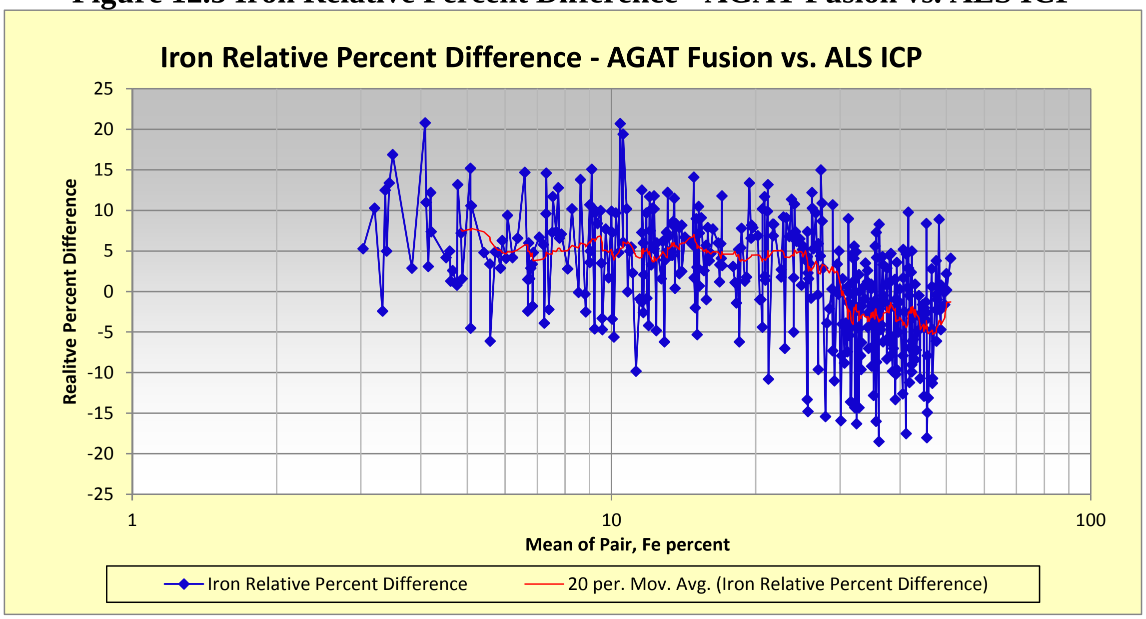


Figure 12.5 Iron Relative Percent Difference - AGAT Fusion vs. ALS ICP



Notes to Figure 12.4 and Figure 12.5:

- Assay pairs where the mean of the pair ("mop") is less than or equal to 3% Fe are not shown, as small differences at low grades produce exaggerated relative percent differences having negligible significance.
- The Relative Percent Difference in Figure 12.5 is calculated as $100\ x\ \frac{fusion\ assay - ALS\ assay}{mop}$.

If the paired assays are divided into two groups, those having means greater than 30% Fe and those having means less than 30% Fe, standard statistical tests, the T-test for the means and the Wilcoxon signed-rank test for the medians, suggest that the difference between the AGAT and ALS iron assays in each group is statistically significant. MDA notes, however, that statistical significance does not equate to material significance in terms of the resource estimate and economic evaluation. Subsequent testing using four different methods, including a new set of fusion analyses, agreed reasonably well with each other and with the original ALS ICP data. The fusion data used in the mineral resource estimate can be considered conservative values.

13.0 MINERAL PROCESSING AND METALLURGICAL TESTING

Jeffrey B. Austin, P. Eng. is the author of Section 13.0 and takes responsibility for the information presented in this section. Sections of this report were updated from the 2010 Preliminary Economic Assessment (Nilsson, *et al.*, 2010).

The word "ore" in this section is used in a metallurgical sense and is not intended to imply the results of economic analysis.

13.1 Metallurgical Sample Composites

Cyprus conducted metallurgical test work in 1991, while InZinc commissioned test work in 2009 and 2013; these programs are described below. Drill core from exploration was used for all test work conducted on the West Desert project. The selection of samples reflected an evolving operational plan and growing geological resource as the test work programs unfolded. Table 13.1 presents a summary of test samples and sample grades, as well as objectives in the various test work programs. Also included in the sample summary table for comparison purposes is the current resource's proposed mine production model grades for the deposit. To the extent known, the samples used in various test work programs best represented the known mineralization at the time of testing and do represent the deposit as a whole.

Table 13.1 Summary of Metallurgical Test Samples

Project Owner	Sample name	Test Work Objectives	Cu %	Zn %	Fe %
Cyprus	K Zone	Zn Flotation	0.12	10.10	40.8
	F Zone	Zn Flotation	0.08	8.98	27.0
	Deep Target	Zn Flotation	NA	10.90	NA
InZinc					
KM 2450	High Zn Comp.	Cu/Zn Flotation	0.19	10.2	20.9
	Cu-Zn Comp.	Cu/Zn Flotation	0.77	10.95	22.0
	Low Zn Comp.	Cu/Zn Flotation	0.16	3.46	38.6
KM 3738	Master Comp.	Magnetite Rec.	0.31	0.99	53.9
Planned Mine Prod.			0.25	2.44	31.3

For the testing in 2009 and 2013, InZinc arranged for the drill-core assay rejects to be delivered to G&T's facilities for testing. The assay rejects had been stored as the individual intervals defined by the drill-core program.

13.2 Historical Test Work

In early 1991, Cyprus completed a small program of bench-scale metallurgical test work to evaluate the potential to produce saleable zinc concentrates from the West Desert mineralized materials. Three composites were prepared from 44 core samples, and traditional zinc flotation testing was completed. Results for sulfide samples were reported by Pacic (1991c), while results for oxide samples were reported by Pacic (1991b).

Three separate composites were prepared from drill core from the project and were used in the flotation to produce zinc concentrates without consideration of producing copper concentrates. The copper content of these three samples was quite low, and zinc to copper ratios were in the order of 30 to 1. Test-work samples used by Cyprus were considered high grade, in the range of 10 to 11 percent zinc (Table 13.1).

Zinc recovery in rougher flotation was typically 98 percent, and final concentrate grades were in the range of 54 to 60 percent zinc. Although locked cycle testing was not completed by Cyprus on these samples, the open circuit test results point to overall zinc recovery being predicted in the range of 94 to 96 percent of overall zinc.

Detailed evaluation of the zinc concentrates produced in the Cyprus test work showed low levels of arsenic, antimony, and mercury. Cadmium and fluorine may be elements of concern in the zinc concentrate, based on the work of Cyprus.

13.3 Metallurgical Testing by InZinc Mining Ltd.

13.3.1 Metallurgical Testing at G & T Metallurgical Services Ltd.

In 2009, InZinc initiated a test work program using the facilities of G&T Metallurgical Services Ltd. ("G&T") of Kamloops, B.C. This test work was looking at the use of traditional flotation test procedures to produce copper and zinc concentrates that could be sold in the marketplace. Based upon diamond drilling by InZinc, the deposit has recoverable values of copper, zinc, indium, and magnetite. Samples were provided by InZinc, and compositing instructions were provided by KWM Consulting. Detailed test results were reported by G&T in 2009 (Report KM2450; Shouldice and Pojhan, 2009).

A follow-up test work program was completed at ALS Metallurgical (formerly G&T) in April 2013 to evaluate the production of magnetite concentrates from the West Desert project (Report KM3738; Pupazzoni and Shouldice, 2013).

A traditional copper and zinc flotation process involves the selective flotation of copper minerals while depressing zinc minerals in order to produce a saleable copper concentrate. The tailings from the copper process become flotation feed for the zinc recovery process, which produces a zinc flotation concentrate. These processes are widely used for the recovery and upgrading of copper and zinc ores.

13.3.1.1 Mineralogical Analysis of KM2450 Samples

Detailed mineralogical analysis was undertaken on the three samples prepared at G&T in order to better understand the liberation issues of the various minerals in the samples. The mineralogical results can be summarized as follows:

1) Gangue mineralization is highly liberated at approximately 80 to 100 microns, including magnetite minerals. This is important when considering the recovery and upgrading of magnetite mineralization from the West Desert project.

2) Sulfide mineralization is less well liberated within the range of 80 to 100 microns for all composites evaluated, and primary grinds in the range of 50 to 65 microns would benefit the flotation process.

3) Fine-grained inclusions of copper will likely limit copper recovery as these inclusions are typically below re-grind sizes anticipated for the process.

Figure 13.1 and Figure 13.2 show two photomicrographs of the copper-zinc composite evaluated by G&T, illustrating the location and occurrence of copper minerals (shown as yellow inclusions in spalerite). Figure 13.1 shows a copper mineral of approximately 25 microns, which should report to a final copper concentrate with appropriate re-grinding. Figure 13.2 shows fine-grained chalcopyrite included within sphalerite with a size of approximately 2 to 5 microns, which is likely to report to a zinc concentrate.

It is important to observe the high degree of separation of the gangue from the sulfide minerals in the photomicrographs.

Figure 13.1 Photomicrograph of Copper-Zinc Composite Showing Copper Mineral (lower center) Included within Sphalerite

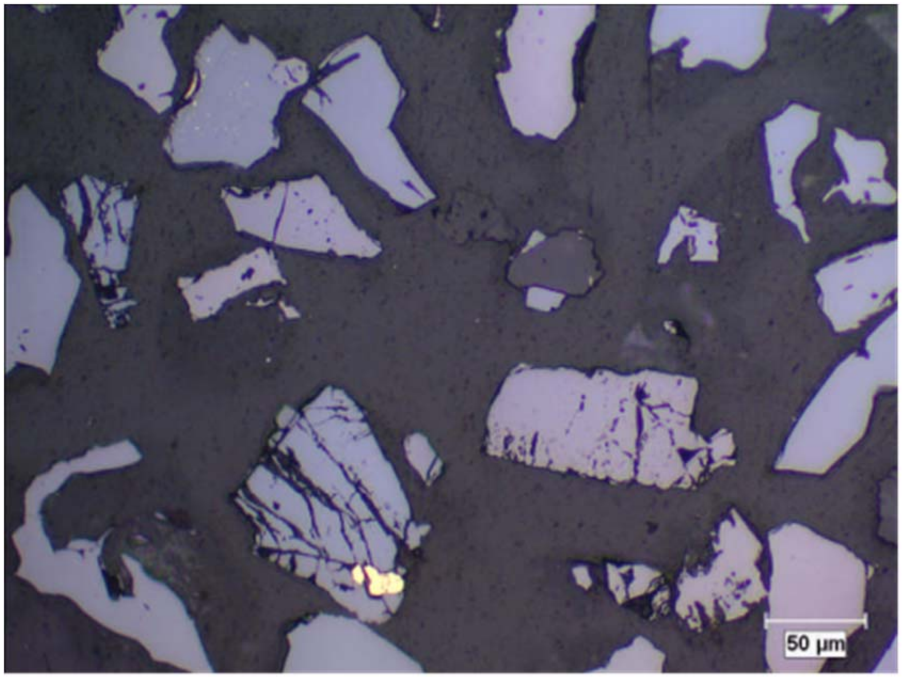
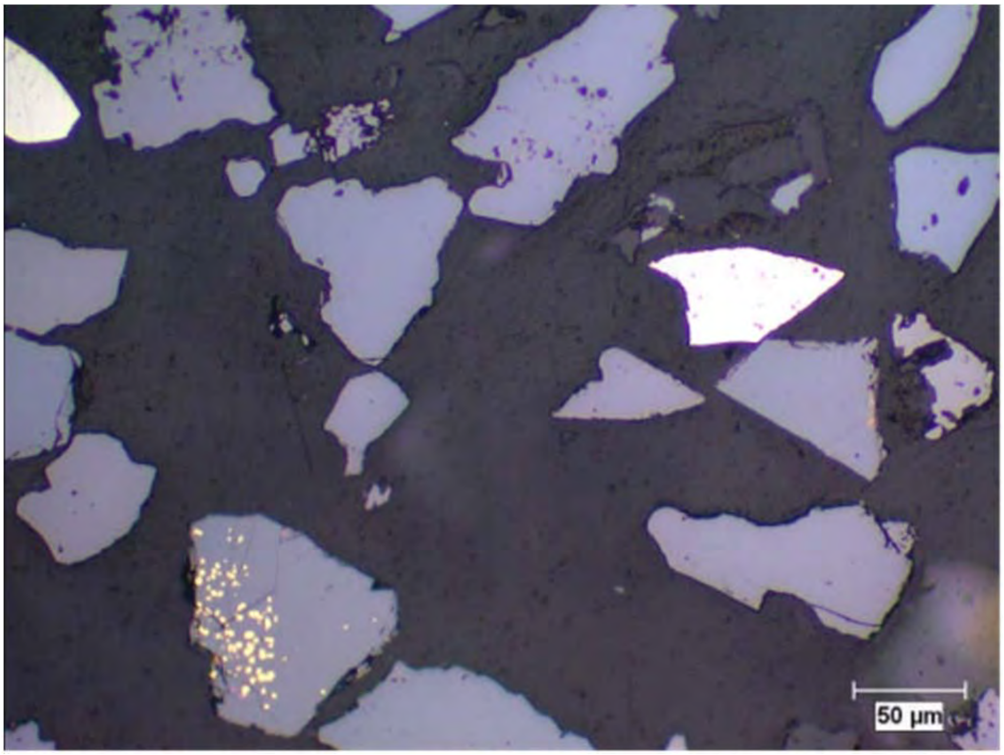


Figure 13.2 Photomicrograph of Copper-Zinc Composite Showing Very Fine-Grained Copper Mineral (lower left) Included within Sphalerite



A summary of mineral liberation data is shown in Table 13.2 for the three composites evaluated in the test program KM2450 (Shouldice and Pojhan, 2009). Some of the low liberation data for copper sulfide minerals ("Cs") are due to the very low grade of the copper minerals within the samples and the low copper to zinc ratios within the samples.

Table 13.2 Summary of Mineral Liberation for KM2450 Composite Samples

Mineral	Cu Zn - 102µm K_{80}				Low Zinc - 98µm K_{80}				High Zinc - 99µm K_{80}				
Status	Cs	Sp	Py	Gn	Cs	Sp	Py	Gn	Cs	Ga	Sp	Py	Gn
Liberated	33	62	19	95	38	51	32	95	25	48	66	37	92
Binary - Ca		16	4	1		11	3	1		3	7	3	2
Binary - Ga	-	-	-	-	-	-	-	-	2		<1	<1	<1
Binary - Sp	36		19	3	17		10	3	23	2		11	5
Binary - Py	1	2		<1	2	1		<1	2	7	1		0
Binary - Gn	16	16	24		32	36	38		34	22	23	32	
Multiphase	15	4	35	<1	11	1	17	<1	15	18	2	14	1

Notes: Cs-copper sulfides, Ga-galena, Sp-sphalerite, Py-pyrite and Gn-non-sulfide gangue.

13.3.1.2 Preliminary Bond Ball Mill Work Index Data

A Bond ball mill work index was completed on the copper-zinc composite to provide preliminary data for sizing of grinding equipment. Results are summarized in Table 13.3.

Table 13.3 Bond Work Index Determination

Test Sample	Bond Ball Mill Work Index
	kWhr/t
Copper-Zinc Composite	13.2

This work index determination characterizes the ore as moderate in terms of hardness or grindability, which is in line with other skarn replacement deposits.

13.3.1.3 Flotation Test Results

A substantial volume of flotation metallurgical test work has been completed on the West Desert materials. The following conclusions can be drawn from the test work programs:

1) All of the materials have been shown to be capable of producing high-grade zinc concentrates at high recoveries of zinc. Additional test work looking at optimizing flotation conditions will likely improve these excellent results.
2) The selection of materials for flotation test work is important because large variations are observed in test samples, including variations in copper-to-zinc ratios, overall feed grades, and overall magnetite grades. This makes the translation of test results to mine and mill production models open to some interpretation.
3) Copper recovery is low due to liberation issues as well as inclusions of fine copper minerals that appear in zinc mineralization. Additional work in this area is recommended.

On completion of the open-circuit tests, locked-cycle tests were completed on all three composites to determine the metal recovery and the composite grades. It is the author's opinion that the results of locked cycle tests demonstrate the potential of the production of copper and zinc concentrates. However, it is also evident that additional metallurgical test work is required to optimize the use of primary grinding conditions, reagent conditions, and flotation conditions. The three locked cycle test results for the composite samples used in the project KM2450 (Shouldice and Pojhan, 2009) are shown in the Table 13.4.

Table 13.4 Summary of Locked Cycle Test Results

Product	Weight %	Assay (percent)			Distribution (percent)		
		Cu	Zn	Fe	Cu	Zn	Fe
Cu-Zn Composite							
Flotation Feed	100.0	0.80	11.0	24.0	100.0	100.0	100.0
Copper Concentrate	1.3	31.4	8.36	24.7	49.6	1.0	1.3
Zinc Concentrate	20.4	1.24	50.4	9.3	31.5	93.6	7.9
Final Tail	78.3	0.19	0.76	27.8	18.9	5.4	90.8

Table 13.4 Summary of Locked Cycle Test Results (continued)

High Zinc Comp.							
Flotation Feed	100.0	0.22	10.7	21.5	100.0	100.0	100.0
Zinc Concentrate	19.2	0.83	53.2	10.2	72.7	95.0	9.0
Total Tail	80.8	0.07	0.66	24.2	27.3	5.0	91.0
Low Zinc Comp.							
Flotation Feed	100.0	0.17	3.63	41.1	100.0	100.0	100.0
Zinc Concentrate	5.4	1.91	55.1	7.5	59.8	82.5	1.0
Total Tail	94.6	0.07	0.67	43.0	40.2	17.5	99.0

Open-circuit bench-scale testing to evaluate the recovery of copper and zinc determined that the use of zinc depressants, ZnSO4 and NaCN, was essential to control the recovery of zinc to the copper concentrate thereby optimizing the performance of the zinc recovery circuit. The open-circuit test work also indicated that rougher concentrate regrinds were essential for both the copper and zinc circuits in order to optimize the concentrate grades and recoveries.

Detailed concentrate assays indicate that there are payable metals that will be recovered to the concentrates, including gold, silver, and indium. A summary of concentrate assays are shown in Table 13.5.

Table 13.5 Summary of Precious Metal Assays for Copper and Zinc Concentrates

Metallurgical Product	Gold g/t	Silver g/t	Indium g/t
Copper Concentrate	16.0	180	NA
Zinc Concentrate	0.5	12	300

13.3.1.4 Magnetite Recovery Test Work

A detailed test work program to evaluate the production of a magnetite (iron concentrate) from the West Desert materials was completed at G&T in 2013 as project KM3738 (Pupazzoni and Shouldice, 2013).

The test sample used in the magnetite recovery test work was lower grade than previous test samples in terms of copper and zinc and higher grade in terms of magnetite content. The sample generated for this test work incorporated zones of mineralization that were dominated by magnetite zones previously outside the proposed mining schedule.

Test work demonstrated the ability to produce iron concentrates with iron grades in the range of 63 to 65 percent iron at very high iron recoveries. Iron recoveries seen in the G&T testing for the recovery of magnetite was in the range of 96 percent of available iron.

The magnetite recovery process will be placed ahead of the flotation process. This option was selected to take advantage of the high degree of liberation of magnetite as well as the flotation chemistry advantages by removing iron minerals from the flotation process. Iron minerals are known to adversely affect flotation chemistry by increasing the consumption of zinc depressants as well as increasing the consumption of zinc activators.

The removal of iron minerals from the flotation feed has the ability to significantly increase the grade of copper and zinc observed in the flotation process. The average magnetite content of the planned mine production is approximately 47 percent, and this will result in nearly doubling the copper and zinc grades reporting to a flotation process when compared to the plant feed grades. Significantly better flotation chemistry is expected following the removal of magnetite from the flotation feed stream.

13.3.2 Oxide Mineralization Tested by Kappes, Cassiday & Associates

A significant and open-ended resource of oxide zinc mineralization has been defined at West Desert. Similar to the methodology used for the sulfide mineralization, a composite of drill-hole intercepts was made from previously crushed assay rejects to complete some preliminary tests to determine the potential to recover the zinc. Kappes, Cassiday and Associates ("KCA") completed a zinc mineral evaluation program and conducted sulfuric acid leaching tests (Albert, 2009).

The preliminary leach tests indicated that copper, zinc, and indium can be extracted from the oxide material using a sulfuric acid leach process. The acid leaching test results indicated extractions of up to 95% of the zinc from the ore into solution. In addition to dissolution of zinc, the leach tests also indicated that 78% of the copper and 37% of the indium were extracted from the ore. There was no work completed to determine the process method and resulting recovery of zinc, copper, or indium from the acid solution.

Additional test work could be expected to improve upon the KCA test results. The oxide material could be expected to be a source of magnetite, similar to the sulfide resource.

The oxide mineralization has not been addressed in the PEA in this technical report.

13.4 Metallurgical Projections

The preliminary test work completed by G&T, as well as some key results from Cyprus' test work in 1991, has been used to develop the metallurgical balance for the West Desert project (Table 13.6). Given that mine production grades will be variable, it is likely that copper concentrate production will be intermittent in nature. Very high zinc to copper ratios or low copper feed grades would result in the cessation of the copper circuit operation. Additional test work is needed, and key parameters in copper recovery need to be better understood before making conclusions about copper circuit performance in detail. Copper concentrate production will be key in recovering precious metals, and additional work in precious metal deportment is also required to better understand this issue.

Table 13.6 is a predicted metallurgical balance for the project, based on expected mine production grades provided by MDA.

Table 13.6 Proposed Average Mill Metallurgical Balance

Process Stream	Wt. %	Assays			Recoveries		
		Zn	Cu	Magnetite	Zn	Cu	Magnetite
		%	%	%	%	%	%
Process Feed	100	2.44	0.25	47.5	100	100	100
Magnetic Conc.	46.1	0.1	0.05	97.0	2.0	4.0	97
Magnetic Tails*	53.9	4.48	0.46	2.6	98.0	96.0	3.0
Copper Conc	0.64	7.6	29.0	-	2.0	74	-
Zinc Conc	4.08	55.0	0.61	-	92.0	10.0	-
Final Tails	49.2	0.20	0.07	-	4	12.0	-

*Magnetic tailings equates to flotation feed.

The copper recovery reported in the metallurgical balance is higher than that reported in test work due to the much more favorable (lower) zinc to copper ratio seen in the projected mine production. Copper metallurgical performance is best observed in the locked cycle test results of the copper-zinc composite in the G&T KM2450 report (Shouldice and Pojhan, 2009) . This test sample has a zinc to copper ratio of 14.2 compared to a ratio of 9.7 for the planned mine production. Concentrate grades shown in Table 13.6 are consistent with those seen in test work over a number of metallurgical test programs for the West Desert project.

Additional metallurgical work with sample materials having metal contents similar to those in the proposed mine production is recommended.

13.5 Future Work

These preliminary metallurgical results will provide the criteria and support for additional test work required for prefeasibility and feasibility studies. Sample selection for future programs should use new core. The grinding program will influence the dimensions of the core, depending on what the other requirements for the core are. The selection of samples should also reflect the various types of mineralization.

The next stage of metallurgical testing should include:

- Grinding work index – SAG, rod mill, ball mills for various ore types
- Detailed flotation test work using samples of simulated iron plant tailings
- Re-grind optimization
- Thickening and filtration test work
- Detailed analysis of precious metal deportment in flotation concentrates.

14.0 MINERAL RESOURCE ESTIMATES

This section describes an updated NI 43-101-compliant mineral resource estimate for the West Desert project. MDA completed the initial NI 43-101-compliant mineral resource estimate in 2010 (Tietz, *et al*., 2010). No estimate of mineral reserves has been made for this report.

14.1 Introduction

InZinc requested that MDA update the NI 43-101-compliant resource estimates on the West Desert zinc-copper-indium-magnetite deposit. No new drilling has been conducted since the 2010 resource model and estimate, but InZinc has collected a significant amount of iron and magnetite analytical data, including abundant historical data, which warrants the inclusion of magnetite in the reportable resource.

As of January 2014, 85 drill holes totaling 38,138m exist in the West Desert deposit area. Because no new drilling has been completed since 2009, the discussion of drilling in the 2010 Technical Report has been repeated in this report in earlier sections. The West Desert drill-hole assay database contains 6,503 zinc assays, 6,505 copper assays, 2,269 indium assays, 4,597 iron assays, and 696 Davis Tube analyses. The Davis Tube analyses determine magnetite and magnetite iron percentage. Other metals are not considered to be economically significant by InZinc and therefore were not estimated.

All of the West Desert sample data were used in developing the geologic and mineral models, estimating the resources, and determining resource classification. However, the reported resource estimates for West Desert are hampered by having substantially fewer indium and, to a lesser extent, iron analyses than zinc and copper. The relatively few indium assays have resulted in a severe limitation to the amount of Indicated material at West Desert.

The work done by MDA for the current resource estimates included assisting InZinc personnel in the geological interpretations. MDA and InZinc worked together on the geologic interpretations on site and with access to logs and core. While MDA constructed the mineral domains, InZinc actively participated in checking and offering suggestions for modification. Those domains were largely defined by the geology, in conjunction with sample assay grades that formed the basis of the resource models. Five models were made:

- Lithologic,
- zinc,
- copper,
- indium, and
- iron.

MDA made three site visits and audited the data derived from drilling. Mr. Giles Peatfield analyzed QA/QC data for base and precious metals, indium, cadmium, gallium, and germanium (see Section 12.3.1), and Mr. Peter Ronning, an associate of MDA, analyzed QA/QC data for iron (see Section 12.3.2).

14.2 Resource Classification

MDA classified the West Desert resources in order of increasing geological and quantitative confidence into Inferred and Indicated categories, as defined by the Canadian Institute of Mining, Metallurgy and Petroleum ("CIM") in December 2000 and modified in 2005 and 2010, so as to be in compliance with NI 43-101. CIM mineral resource definitions are given below:

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

A Mineral Resource is a concentration or occurrence of diamonds, natural solid inorganic material, or natural solid fossilized organic material including base and precious metals, coal, and industrial minerals in or on the Earth's crust in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction. The location, quantity, grade, geological characteristics and continuity of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge.

The term Mineral Resource covers mineralization and natural material of intrinsic economic interest *which has been identified and estimated through exploration and sampling and within which Mineral Reserves may subsequently be defined by the consideration and application of technical, economic, legal, environmental, socio-economic and governmental factors. The phrase 'reasonable prospects for economic extraction' implies a judgment by the Qualified Person in respect of the technical and economic factors likely to influence the prospect of economic extraction. A Mineral Resource is an inventory of mineralization that under realistically assumed and justifiable technical and economic conditions might become economically extractable. These assumptions must be presented explicitly in both public and technical reports.*

Inferred Mineral Resource

An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade or quality can be estimated on the basis of geological evidence and limited sampling and reasonably assumed, but not verified, geological and grade continuity. The estimate is based on limited information and sampling gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

Due to the uncertainty that may be attached to Inferred Mineral Resources, it cannot be assumed that all or any part of an Inferred Mineral Resource will be upgraded to an Indicated or Measured Mineral Resource as a result of continued exploration. Confidence in the estimate is insufficient to allow the meaningful application of technical and economic parameters or to enable an evaluation of economic viability worthy of public disclosure. Inferred Mineral Resources must be excluded from estimates forming the basis of feasibility or other economic studies.

Indicated Mineral Resource

An 'Indicated Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics can be estimated with a level of confidence sufficient to allow the appropriate application of technical and economic parameters, to support mine planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes that are spaced closely enough for geological and grade continuity to be reasonably assumed.

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

Measured Mineral Resource

A 'Measured Mineral Resource' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape, and physical characteristics are so well established that they can be estimated with confidence sufficient to allow the appropriate application of technical and economic parameters, to support production planning and evaluation of the economic viability of the deposit. The estimate is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings, and drill holes that are spaced closely enough to confirm both geological and grade continuity.

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

14.3 West Desert Resource Estimates

14.3.1 Procedures

Modeling and estimation of zinc, copper, and indium were completed in 2009 and initially reported in the 2010 Technical Report (Tietz *et al.*, 2010); modeling and estimation of iron were performed in late 2013 and are described here for the first time.

Upon completion of the database validation process, MDA constructed 11 unevenly spaced cross sections 25m to 100m apart and looking west at 270°. The sections were spaced to best fit the existing drilling. One set of sections was made for each of zinc, copper, indium, iron, and lithology. Drill-hole information, including rock type and metal grades, along with the topographic surface were plotted on the cross sections.

Quantile plots of zinc (%), copper (%),indium (g/t), and iron (%) were made to help define the natural populations of metal grades to be modeled on the cross sections. The plots were reviewed with all metals grouped together, but also with the sulfide evaluated separately from the oxide.

Color-coded assays corresponding to population breaks indicated by the quantile plots along with the geological interpretation were used in the creation of distinct mineral domains. These, in turn, were used to control the estimation. The mineral domains as modeled and drawn on the cross sections are not strict "grade shells" but are created using geologic information for defining orientation, geometry, continuity, and contacts in conjunction with the grades. Each of these domains represents a distinct style of mineralization with unique statistical characteristics. These cross sections were sliced to level plan on 3m intervals to coincide with the block-model block size in that direction. The 11 sliced sections were reinterpreted on 279 3m-separated levels, and these were used to code domain percentages into the block model.

14.3.2 Geologic Background

The West Desert zinc-copper-indium-magnetite deposit occurs as carbonate-rock-hosted, magnetite, sphalerite, and chalcopyrite-bearing skarn mineralization peripheral to the quartz monzonite intrusive basement rock. Stratabound skarn mineralization is preferentially hosted within thin-bedded limestone and minor calcareous siltstone horizons, though proximal skarn does form within the more massive carbonate rocks along the intrusive contact. The extent of the mineralization as currently defined is, on average, 830m vertically, 800m along strike, and almost 400m in width in multiple zones. The deposit strikes roughly 270^{o} and dips variably to the north from 40° to 80° but averages 60°.

There are two relatively distinct areas to the West Desert deposit – the Main Zone north of the Juab fault and the Deep Zone at depth south of the Juab fault. Figure 7.5 presents a cross section showing the relationship of these areas. The Main Zone skarn mineralization and enclosing alteration are often discontinuous due to disruption of favorable bedding horizons by structural complications and intrusive stoping. Observations to date indicate that magnesian skarn is dominant and that massive magnetite is very abundant. However, some high-grade zinc and copper mineralization occurs within high-sulfide skarn with limited or no magnetite content. The Main Zone does extend to the base of the alluvium, where it has been oxidized to a variable depth of between 100m and 200m. The oxide areas have altered metal distributions from the original hypogene mineralization.

The Deep Zone stratabound mineralization is more continuous, and stratigraphic correlations are much clearer within the Juab fault footwall. The stratabound mineral horizons, which can be up to 25m thick, dip steeply to the north immediately above the intrusive contact though become less steep with increasing elevation. Significant thickness of mineralization also occurs as sub-horizontal proximal skarn along the contact of the quartz monzonite intrusive. Calcareous skarn predominates within the Deep Zone, although magnesian skarn is common.

Sulfide mineralization consists of coarse-grained, brown to reddish sphalerite with lesser disseminated chalcopyrite, pyrite, and/or pyrrhotite, with the mineral grade, in general, associated with skarn alteration. In the Main Zone, higher-grade mineralization (i.e., increased sphalerite and/or chalcopyrite content) is associated with pervasive magnesian skarn alteration in which all primary textures generally have been destroyed and there is often evidence of multiple pulses of alteration/mineralization. Deep Zone sulfide mineralization generally occurs in massive magnetite intercalated with humite ± periclase skarn, while the calcareous skarn consisting of grossularite, Fe-rich diopside, and K-feldspar is rarely mineralized. Retrograde alteration, in the form of serpentine or epidote, is common. Decreasing mineralization is generally accompanied by decreasing intensity of skarn development. In the Deep

Zone, fracture-fillings of magnetite in dolomitic marble are common in proximity to intercalated layers of massive magnetite.

Copper grades are not directly proportional to those of zinc, and its distribution typically only partially overlaps with that of zinc in any given drilled interval. However, there appears to be at least a rough increase in the Cu/Zn ratio with proximity to the intrusion, and discrete zones of copper enrichment are definable. Indium is associated with zinc, and petrographic work has indicated that it occurs primarily in the sphalerite lattice. However, there is not a direct relationship between zinc grade and indium grade, and the highest indium grades tend to occur in mineralization with a zinc grade of between 0.5 and 5%.

Iron is primarily associated with magnesian/magnetite skarn within the Main and Deep zones. The Fe-rich skarn was emplaced before the zinc-copper-indium mineralization, and there is often no direct relationship between high-grade iron and the other metals. The massive magnetite within the Deep zone proximal skarn is volumetrically much larger than, and can extend outboard of, the zinc-copper mineralization as it has been defined by drilling to date.

14.3.3 Geologic Model

MDA used a combination of lithology, angles to core axes, structural data, and logged sulfide percentages to construct a geologic model, which formed the basis for the density model used in the estimate and which also guided the zinc, copper, indium, and iron mineral domain models. While all metals are globally spatially related, they are not necessarily locally spatially related, thereby requiring separate domains for each metal. Table 14.1 presents a list of mineral domains and materials defined for this model. The mineral domains for each metal were constructed by MDA but checked for reasonableness by InZinc.

Table 14.1 Coding and Description of the West Desert Mineral Domain Models

Domain Code	Description
101 201 301 401	Zinc: Low-grade associated with weak skarn Copper: Low-grade associated with weak skarn Indium: Low-grade associated with weak skarn Iron: Low-grade weak iron skarn
102 202 302 402	Zinc: Mid-grade associated with moderate skarn Copper: Mid-grade associated with moderate skarn Indium: Mid-grade associated with moderate skarn Iron: Mid-grade moderate iron skarn
103 203 303 403	Zinc: High-grade associated with pervasive skarn Copper: High-grade associated with pervasive skarn Indium: High-grade associated with pervasive skarn Iron: High-grade pervasive iron skarn
99	Unmineralized or discontinuously mineralized country rock outside of the above mineral domains was not modeled due to insufficient assay data

14.3.4 Sample Coding and Compositing

The metal mineral-domain polygons were used to code drill samples. Quantile plots, along with global zone statistics and spatial location of higher grades, were made to assess validity of these domains and to determine capping levels. After these analyses, MDA chose to cap a total of 23 samples for zinc, copper, and indium, and one sample for iron. Descriptive statistics of these sample grades by domain are given in Appendix B.

Compositing was done to 3m down-hole lengths, honoring each material-type and mineral-domain boundary. The 2m by 2m by 3m blocks inside each mineral domain were estimated using only composites from inside their respective domain. Composite descriptive statistics are presented in Table 14.2.

Table 14.2 Descriptive Statistics of Metal Domain Composites

Zinc Composites

Domain	Valid N	Total Length (m)	Median (%)	Mean (%)	Std.Dev.	CV	Minimum (%)	Maximum (%)
101	1221	2932.5	0.34	0.65	0.73	1.12	0.01	4.71
102	526	1224.4	3.77	4.03	2.50	0.62	0.21	15.30
103	153	348.8	14.56	16.66	6.53	0.39	5.65	42.74

Copper Composites

Domain	Valid N	Total Length (m)	Median (%)	Mean (%)	Std.Dev.	CV	Minimum (%)	Maximum (%)
201	940	2189.9	0.14	0.16	0.09	0.61	0.00	0.65
202	352	769.0	0.45	0.49	0.20	0.41	0.05	2.03
203	136	277.4	1.15	1.46	1.01	0.69	0.12	7.30

Indium Composites

Domain	Valid N	Total Length (m)	Median (g/t)	Mean (g/t)	Std.Dev.	CV	Minimum (g/t)	Maximum (g/t)
301	302	665.3	3.82	4.28	2.73	0.64	0.08	21.80
302	570	1510.9	23.41	30.82	22.00	0.71	3.57	167.39
303	79	321.6	136.74	152.29	57.13	0.38	61.83	490.00

Fe Composites

Domain	Valid N	Total Length (m)	Median (%)	Mean (%)	Std.Dev.	CV	Minimum (%)	Maximum (%)
9	1251	2341.0	1.70	2.49	2.90	1.17	0.02	51.50
401	850	1967.7	7.10	7.62	3.41	0.45	0.30	46.30
402	491	1122.6	20.51	20.69	6.02	0.29	3.20	49.60
403	598	1541.2	40.54	41.45	8.15	0.20	10.80	64.70

The iron composites include a domain 9, which consists of the very low-grade drill intervals outside of the modeled iron domain. These composites were used to estimate some dilutionary grade, instead of 0% Fe, into those blocks which contain zinc, copper, or indium mineralization.

14.3.5 Density

The density values used in the updated resource estimate are based on 427 density measurements collected by InZinc from diamond drill core in the West Desert resource area. The samples were grouped according to sulfide concentration, metal domain, and lithology. Because most of the West Desert core is solid and unfractured, no adjustments were made to the mean grades of the measured data.

The density values assigned to the various lithologies and domains are given in Table 14.3.

Table 14.3 List of Density Values Used in Model

Model Code	Density	LG Zn	MG&HG Zn	LG Cu	MG&HG Cu	LG Cu&Zn	MG&HG Cu&Zn
	g/cm^3	g/cm^3	g/cm^3	g/cm^3	g/cm^3	g/cm^3	g/cm^3
Alluvium	1.80						
Carbonate	2.65	NA	NA	NA	NA	NA	NA
Silicified Rock	2.45	NA	NA	NA	NA	NA	NA
Skarn	2.90	2.94	3.06	3.09	3.11	3.02	3.09
Magnetite	3.85	3.89	3.76	3.83	3.97	3.86	3.87
Rhyolite	2.60	NA	NA	NA	NA	NA	NA
Intrusive	2.60	NA	NA	NA	NA	NA	NA

LG = low-grade; MG = mid-grade; HG = high-grade

14.3.6 Resource Model and Estimation

The West Desert resource block model replicates the relatively complex metal distributions and geometries. Because of the rather contorted geometries, two passes using inverse distance to the third power techniques were made in the estimate; a long pass to ensure filling in all the blocks and a short pass for the Indicated classification. Indium search parameters were particularly long because of the limited amount of analytical data.

Correlograms were made in numerous orientations and with numerous lag lengths but dominantly within the plane of mineralization. The zinc and indium structures are similar. Iron correlograms have similar structure to zinc, although with longer major and semi-major ranges. Copper correlograms are distinct. In all cases, the strike continuity is substantially shorter than the dip. The estimation parameters are given in Table 14.4.

Table 14.4 West Desert: Estimation Parameters for Mineral Resources

Description	Parameter
SEARCH ELLIPSOID PARAMETERS: Zinc (Low-Grade)	
Samples: minimum/maximum/maximum per hole (all searches)	1 / 8 / 2
Search Bearing/Plunge/Tilt (all searches)	0^o / -60^o / 0^o
First Pass Search (m): major/semimajor/minor	250 / 250 / 50
High-grade restriction: grade in %Zn and distance in m	(1.5 / 200)
Second Pass Search (m): major/semimajor/minor	70/ 70 / 15
SEARCH ELLIPSOID PARAMETERS: Zinc (Mid-Grade)	
Samples: minimum/maximum/maximum per hole (all searches)	1 / 8 / 2
Search Bearing/Plunge/Tilt (all searches)	0^o / -60^o / 0^o
First Pass Search (m): major/semimajor/minor	200 / 200 / 40
Second Pass Search (m): major/semimajor/minor	70 / 70 / 15
Third Pass Search (m): major/semimajor/minor (Oxide Zone only)	90 / 90 / 15
High-grade restriction: grade in %Zn and distance in m	10.0 / 40
SEARCH ELLIPSOID PARAMETERS: Zinc (High-Grade)	
Samples: minimum/maximum/maximum per hole (all searches)	1 / 8 / 2
Search Bearing/Plunge/Tilt (all searches)	0^o / -60^o / 0^o
First Pass Search (m): major/semimajor/minor	150 / 150 / 40
Second Pass Search (m): major/semimajor/minor	50 / 50 / 10
SEARCH ELLIPSOID PARAMETERS: Copper (Low-Grade)	
Samples: minimum/maximum/maximum per hole (all searches)	1 / 8 / 2
Search Bearing/Plunge/Tilt (all searches)	0^o / -60^o / 0^o
First Pass Search (m): major/semimajor/minor	250 / 250 / 50
Second Pass Search (m): major/semimajor/minor	70/ 70 / 15
SEARCH ELLIPSOID PARAMETERS: Copper (Mid-Grade)	
Samples: minimum/maximum/maximum per hole (all searches)	1 / 8 / 2
Search Bearing/Plunge/Tilt (all searches)	0^o / -60^o / 0^o
First Pass Search (m): major/semimajor/minor	200 / 200 / 40
Second Pass Search (m): major/semimajor/minor	70 / 70 / 15
SEARCH ELLIPSOID PARAMETERS: Copper (High-Grade)	
Samples: minimum/maximum/maximum per hole (all searches)	1 / 8 / 2
Search Bearing/Plunge/Tilt (all searches)	0^o / -60^o / 0^o
First Pass Search (m): major/semimajor/minor	150 / 150 / 30
Second Pass Search (m): major/semimajor/minor	50 / 50 / 10

Table 14.4 West Desert: Estimation Parameters for Mineral Resources (continued)

Description	Parameter
SEARCH ELLIPSOID PARAMETERS: Indium (Low-Grade)	
Samples: minimum/maximum/maximum per hole all searches)	1 / 8 / 2
Search Bearing/Plunge/Tilt (all searches)	0^o / -60^o / 0^o
First Pass Search (m): major/semimajor/minor	300 / 300 / 50
Second Pass Search (m): major/semimajor/minor	70/ 70 / 15
Third Pass Search (m): major/semimajor/minor (Oxide zone only)	90 / 90 / 15
High-grade restriction: grade in ppm In and distance in m	(10 / 40)
SEARCH ELLIPSOID PARAMETERS: Indium (Mid-Grade)	
Samples: minimum/maximum/maximum per hole (all searches)	1 / 8 / 2
Search Bearing/Plunge/Tilt (all searches)	0^o / -60^o / 0^o
First Pass Search (m): major/semimajor/minor	300 / 300 / 60
(high-grade restriction: grade in ppm In and distance in m)	(20 / 200)
Second Pass Search (m): major/semimajor/minor	70 / 70 / 15
High-grade restriction: grade in ppm In and distance in m	(20 / 40)
SEARCH ELLIPSOID PARAMETERS: Indium (High-Grade)	
Samples: minimum/maximum/maximum per hole (all searches)	1 / 8 / 2
Search Bearing/Plunge/Tilt (all searches)	0^o / -60^o / 0^o
First Pass Search (m): major/semimajor/minor	200 / 200 / 40
Second Pass Search (m): major/semimajor/minor	60 / 60 / 20
SEARCH ELLIPSOID PARAMETERS: Iron (Low-Grade)	
Samples: minimum/maximum/maximum per hole (all searches)	1 / 8 / 2
Search Bearing/Plunge/Tilt (all searches)	0^o / -60^o / 0^o
First Pass Search (m): major/semimajor/minor	350 / 350 / 175
Second Pass Search (m): major/semimajor/minor	70 / 70 / 15
High-grade restriction: grade in %Fe and distance in m: long-short	(1.50 / 200-70)
SEARCH ELLIPSOID PARAMETERS: Iron (Mid-Grade)	
Samples: minimum/maximum/maximum per hole (all searches)	1 / 8 / 2
Search Bearing/Plunge/Tilt (all searches)	0^o / -60^o / 0^o
First Pass Search (m): major/semimajor/minor	300 / 300 / 150
Second Pass Search (m): major/semimajor/minor	90 / 90 / 15
High-grade restriction: grade in %Fe and distance in m: short	(10.0 / 40)
SEARCH ELLIPSOID PARAMETERS: Iron (High-Grade)	
Samples: minimum/maximum/maximum per hole (all searches)	1 / 8 / 2
Search Bearing/Plunge/Tilt (all searches)	0^o / -60^o / 0^o
First Pass Search (m): major/semimajor/minor	200 / 200 / 100
Second Pass Search (m): major/semimajor/minor	50 / 50 / 40

Once the total iron was estimated, the estimated total iron value was converted to percent iron that resides in magnetite and to percent magnetite; the latter was used in the determination of cut-off grades and also in the Preliminary Economic Assessment. The conversion used a fixed formula varying by iron domain, lithology, and oxide zone. Those relationships were developed from the relationship found in the 640 Davis Tube analyses coded to iron domains.

MDA classified the West Desert resources by a combination of distance to the nearest sample and the number of samples, while at the same time taking into account amount of underlying data and understanding and use of the geology. The criteria for resource classification are given in Table 14.5. There are no Measured resources within the deposit, primarily due to complexity of the mineralization but also due to limited drill data. The maximum distance criterion for Indicated within the Main Zone is less than that used for the Deep Zone due to the greater variability in domain morphology and metal grades. While MDA is confident that the indium zones do continue as modeled, mostly because of their relationship with zinc (the only identified location of indium metal is in sphalerite), MDA cannot be as sure of the grades estimated due to the many fewer indium assays, and hence the unfortunately small amount of Indicated material. None of these issues deter from the overall confidence in the global project resource, but they do detract from confidence in some of the accuracy which MDA believes is required for Measured and Indicated resources, Without the downgrading for indium, the Indicated resources would be around two times larger than presently reported.

Table 14.5 Criteria for West Desert Resource Classification

Description for All Metals	Criteria
Measured	
None	
Indicated (Main Zone)	
Maximum distance to nearest sample	40m
And	
Minimum number of holes	2
And	
Minimum number of samples	2
Or	
Max. distance to nearest sample	20m
And	
Minimum number of holes	1
And	
Minimum number of samples	2
Indicated (Deep Zone)	
Maximum distance to nearest sample	50m
And	
Minimum number of holes	2
And	
Minimum number of samples	2
Or	
Max. distance to nearest sample	30m
And	
Minimum number of holes	1
And	
Minimum number of samples	2
Inferred	
Those blocks inside the zinc, copper, indium, or iron domains that are not classified as Indicated	

Note: There are no Measured, Indicated, or Inferred resources outside the defined mineral domains.

Because of the requirement that the resource exists "in such form and quantity and of such a grade or quality that it has reasonable prospects for economic extraction," MDA is reporting the resources at approximate economic cutoff grades that are reasonable for deposits of this nature that will likely be mined by some combination of open-pit and underground methods but mostly underground. As such, some economic considerations were used to determine cutoff grades at which the resource is presented. MDA considered reasonable metal prices and extraction costs and recoveries, albeit in a general sense, and dropping it a bit to account for that material that would become economic using internal cutoffs.

There is the potential that a combination of open-pit and underground methods would be optimal. This report assumes that the near-surface oxide material would be mined by open pit, while all of the underlying material, which includes copper-zinc-indium sulfides plus magnetite, would be mined by underground methods (this material to be mined by underground methods is referred to as "sulfide" material in this report).

The West Desert reported resource is summarized in Table 14.6. Oxide and sulfide resources are tabulated separately in Table 14.7. The stated resources are fully diluted to 2m by 2m by 3m (vertical) blocks and are tabulated on a gross metal value ("GMV") cutoff grade of $15 for oxide material expected to be mined by open-pit methods and $50 for material to be mined using underground methods. All material, regardless of which metal is present and which is absent, is tabulated. Because multiple metals exist, but do not on a local scale necessarily co-exist, the GMV grade is used for tabulation. Using the individual metal grades of each block, the GMV grade is calculated using the following formula:

$$GMV = (\%Zn/100*2204.623) + (\%Cu/100*2204.623*3.0) + (In\ ppm/1000*600.0) + (\%Magnetite)/100*115.0)$$

In addition to the individual metal tabulations and the average GMV value, the resource tables all include a zinc equivalent ("ZnEq") grade for each GMV cut-off. The ZnEq grade is calculated using the following formula:

$$\%ZnEq = \%Zn + (\%Cu*3.0) + (In\ ppm* 0.027216) + (\%Magnetite*0.052163)$$

The GMV and ZnEq formulas are based on prices of $1.00 per pound zinc, $3.00 per pound copper, $600.00 per kilogram of indium, and $115/tonne of magnetite. No metal recoveries are applied, as this is the *in situ* resource.

Typical cross sections through the West Desert block model showing zinc, copper, indium, magnetite, and GMV grades are given in Figure 14.1, Figure 14.2, Figure 14.3, Figure 14.4 and Figure 14.5, respectively.

The lower cut-off used for the oxide material ($15 GMV) reflects the potential for open-pit mining scenarios for this near-surface material. Pit cones developed using the stated metal prices, expected recoveries, and costs indicate that the great majority of oxide material at the $15 GMV cut-off can be mined using open-pit methods. The 2m by 2m by 3m block size likely understates the dilution expected from standard open-pit mining methods, but this block size was used to provide the operator the option for evaluating the deposit, either in total or within specific areas, using underground mining methods. For evaluating open-pit methods, a more appropriate larger block size and dilution can be easily achieved by re-blocking. The higher cut-off used for the sulfide material ($50 GMV) reflects the potential for underground mining scenarios for this deep material.

Table 14.6 Summary Table of West Desert Total Resources by $GMV

Indicated Resources: zinc, copper, indium

Type	Cutoff GMV ($)	Tonnes	ZnEq (%)	Zn (%)	Zn (tonnes)	Zn (lbs)	Cu (%)	Cu (tonnes)	Cu (lbs)	In (g/t)	In (kg)
Oxide	15	1,399,000	4.76	3.44	48,200	106,160,000	0.20	2,800	6,200,000	8	11,000
Sulfide	50	13,022,000	6.22	2.16	280,900	619,260,000	0.23	29,500	65,060,000	33	433,000
All	variable	14,421,000	6.08	2.28	329,100	725,420,000	0.22	32,300	71,260,000	31	444,000

Inferred Resources: zinc, copper, indium

Type	Cutoff GMV ($)	Tonnes	ZnEq (%)	Zn (%)	Zn (tonnes)	Zn (lbs)	Cu (%)	Cu (tonnes)	Cu (lbs)	In (g/t)	In (kg)
Oxide	15	6,221,000	4.40	2.95	183,600	404,790,000	0.14	9,000	19,780,000	9	58,000
Sulfide	50	45,986,000	5.57	1.76	807,800	1,780,960,000	0.22	101,900	224,560,000	24	1,102,000
All	variable	52,207,000	5.43	1.90	991,400	2,185,750,000	0.21	110,900	244,340,000	22	1,160,000

Indicated Resources: magnetite, iron in magnetite, total iron

Type	Cutoff GMV ($)	Tonnes	ZnEq (%)	Magnetite (%)	Magnetite (tonnes)	Fe (mag) (%)	Fe (mag) (tonnes)	Fe (%)	Fe (tonnes)
Oxide	15	1,399,000	4.76	9	132,000	6	81,000	9.9	138,000
Sulfide	50	13,022,000	6.22	48	6,186,000	28	3,654,000	31.1	4,050,000
All	variable	14,421,000	6.08	44	6,318,000	34	3,735,000	41.0	4,188,000

Inferred Resources: magnetite, iron in magnetite, total iron

Type	Cutoff GMV ($)	Tonnes	ZnEq (%)	Magnetite (%)	Magnetite (tonnes)	Fe (mag) (%)	Fe (mag) (tonnes)	Fe (%)	Fe (tonnes)
Oxide	15	6,221,000	4.40	15	909,000	9	556,000	13.3	825,000
Sulfide	50	45,986,000	5.57	48	22,044,000	28	13,105,000	31.5	14,480,000
All	variable	52,207,000	5.43	44	22,953,000	26	13,661,000	29.3	15,305,000

Table 14.7 West Desert Oxide and Sulfide Resource Tabulations by $GMV

Project-wide Indicated Oxide Resources

Cutoff GMV ($)	Tonnes	ZnEq (%)	Zn (%)	Zn (tonnes)	Zn (lbs)	Cu (%)	Cu (tonnes)	Cu (lbs)	In (g/t)	In (kg)	Magnetite (%)	Magnetite (tonnes)	Fe (mag) (%)	Fe (mag) (tonnes)	Fe (%)	Fe (tonnes)
10	1,764,000	3.89	2.81	49,500	109,160,000	0.16	2,900	6,410,000	7	12,000	8	135,000	5	85,000	8.2	145,000
15	**1,399,000**	**4.76**	**3.44**	**48,200**	**106,160,000**	**0.20**	**2,800**	**6,200,000**	**8**	**11,000**	9	**132,000**	6	**81,000**	**9.9**	**138,000**
20	1,171,000	5.53	4.00	46,900	103,400,000	0.23	2,700	5,980,000	9	11,000	11	130,000	7	79,000	11.3	132,000
30	950,000	6.56	4.76	45,200	99,600,000	0.27	2,600	5,690,000	11	10,000	13	127,000	8	77,000	13.1	125,000
40	806,000	7.44	5.40	43,500	95,930,000	0.31	2,500	5,480,000	12	9,000	15	125,000	9	75,000	14.7	119,000
50	691,000	8.35	6.04	41,700	91,960,000	0.35	2,400	5,310,000	13	9,000	18	122,000	11	73,000	16.4	113,000
75	486,000	10.69	7.71	37,400	82,560,000	0.46	2,200	4,880,000	15	7,000	23	112,000	14	67,000	20.2	98,000
100	350,000	13.30	9.80	34,300	75,670,000	0.58	2,000	4,450,000	17	6,000	25	88,000	15	53,000	22.0	77,000
150	260,000	16.01	12.07	31,400	69,130,000	0.70	1,800	4,010,000	17	5,000	26	68,000	16	41,000	22.6	59,000
200	205,000	18.21	14.09	28,800	63,560,000	0.81	1,700	3,640,000	18	4,000	23	48,000	14	29,000	20.8	42,000

Project-wide Inferred Oxide Resources

Cutoff GMV ($)	Tonnes	ZnEq (%)	Zn (%)	Zn (tonnes)	Zn (lbs)	Cu (%)	Cu (tonnes)	Cu (lbs)	In (g/t)	In (kg)	Magnetite (%)	Magnetite (tonnes)	Fe (mag) (%)	Fe (mag) (tonnes)	Fe (%)	Fe (tonnes)
10	7,493,000	3.75	2.50	187,600	413,610,000	0.13	9,400	20,650,000	8	63,000	12	920,000	8	569,000	11.5	859,000
15	**6,221,000**	**4.40**	**2.95**	**183,600**	**404,790,000**	**0.14**	**9,000**	**19,780,000**	**9**	**58,000**	15	**909,000**	9	**556,000**	**13.3**	**825,000**
20	5,458,000	4.91	3.31	180,400	397,780,000	0.16	8,600	18,900,000	10	54,000	16	898,000	10	548,000	14.6	795,000
30	4,593,000	5.62	3.81	175,200	386,200,000	0.17	8,000	17,560,000	10	48,000	19	883,000	12	537,000	16.4	752,000
40	4,003,000	6.21	4.23	169,200	373,030,000	0.19	7,600	16,690,000	11	43,000	22	867,000	13	527,000	18.0	719,000
50	3,474,000	6.85	4.66	162,000	357,230,000	0.21	7,200	15,770,000	11	38,000	24	848,000	15	514,000	19.7	684,000
75	2,500,000	8.43	5.79	144,700	319,040,000	0.25	6,300	13,860,000	11	29,000	30	757,000	18	458,000	23.3	582,000
100	1,751,000	10.36	7.19	125,900	277,650,000	0.31	5,500	12,130,000	12	21,000	36	635,000	22	382,000	27.2	477,000
150	944,000	14.57	10.64	100,400	221,370,000	0.46	4,300	9,500,000	14	13,000	42	396,000	25	238,000	31.2	294,000
200	752,000	16.29	12.19	91,700	202,140,000	0.50	3,700	8,220,000	14	10,000	43	324,000	26	194,000	31.7	238,000

Table 14.7 West Desert Oxide and Sulfide Resource Tabulations by $GMV (continued)

Project-wide Indicated Sulfide Resources

Cutoff GMV ($)	Tonnes	ZnEq (%)	Zn (%)	Zn (tonnes)	Zn (lbs)	Cu (%)	Cu (tonnes)	Cu (lbs)	In (g/t)	In (kg)	Magnetite (%)	Magnetite (tonnes)	Fe (mag) (%)	Fe (mag) (tonnes)	Fe (%)	Fe (tonnes)
45	13,519,000	6.07	2.09	282,900	623,610,000	0.22	30,000	66,070,000	33	441,000	47	6,288,000	27	3,709,000	30.5	4,127,000
50	**13,022,000**	**6.22**	**2.16**	**280,900**	**619,260,000**	**0.23**	**29,500**	**65,060,000**	**33**	**433,000**	**48**	**6,186,000**	**28**	**3,654,000**	**31.1**	**4,050,000**
55	12,545,000	6.37	2.22	278,900	614,960,000	0.23	29,000	63,940,000	34	425,000	48	6,075,000	29	3,592,000	31.6	3,967,000
60	12,088,000	6.51	2.29	276,900	610,380,000	0.24	28,500	62,790,000	34	417,000	49	5,961,000	29	3,529,000	32.1	3,884,000
65	11,644,000	6.65	2.36	274,500	605,090,000	0.24	27,900	61,610,000	35	409,000	50	5,839,000	30	3,460,000	32.6	3,796,000
70	11,187,000	6.79	2.43	272,000	599,610,000	0.24	27,400	60,350,000	36	401,000	51	5,693,000	30	3,376,000	33.0	3,695,000
75	10,658,000	6.97	2.53	269,600	594,420,000	0.25	26,800	59,140,000	37	392,000	51	5,482,000	31	3,253,000	33.3	3,553,000
100	8,011,000	7.96	3.18	254,500	561,090,000	0.29	23,100	50,880,000	42	340,000	53	4,243,000	31	2,521,000	34.2	2,742,000
150	3,916,000	10.50	5.28	206,900	456,110,000	0.34	13,300	29,230,000	54	211,000	53	2,056,000	31	1,220,000	34.0	1,331,000
200	2,034,000	12.99	7.56	153,700	338,910,000	0.37	7,500	16,620,000	61	125,000	51	1,034,000	30	612,000	33.0	671,000

Project-wide Inferred Sulfide Resources

Cutoff GMV ($)	Tonnes	ZnEq (%)	Zn (%)	Zn (tonnes)	Zn (lbs)	Cu (%)	Cu (tonnes)	Cu (lbs)	In (g/t)	In (kg)	Magnetite (%)	Magnetite (tonnes)	Fe (mag) (%)	Fe (mag) (tonnes)	Fe (%)	Fe (tonnes)
45	48,337,000	5.41	1.69	815,800	1,798,480,000	0.22	104,000	229,220,000	23	1,131,000	47	22,591,000	28	13,408,000	30.8	14,882,000
50	**45,986,000**	**5.57**	**1.76**	**807,800**	**1,780,960,000**	**0.22**	**101,900**	**224,560,000**	**24**	**1,102,000**	**48**	**22,044,000**	**28**	**13,105,000**	**31.5**	**14,480,000**
55	44,009,000	5.72	1.82	799,900	1,763,510,000	0.23	99,700	219,860,000	24	1,074,000	49	21,562,000	29	12,836,000	32.1	14,128,000
60	41,957,000	5.87	1.89	791,200	1,744,370,000	0.23	97,600	215,160,000	25	1,044,000	50	20,979,000	30	12,504,000	32.7	13,715,000
65	39,979,000	6.02	1.96	783,400	1,727,080,000	0.24	95,400	210,210,000	25	1,017,000	51	20,323,000	30	12,125,000	33.2	13,264,000
70	37,416,000	6.22	2.07	775,900	1,710,640,000	0.25	93,100	205,230,000	26	989,000	51	19,235,000	31	11,485,000	33.5	12,544,000
75	34,768,000	6.45	2.21	767,800	1,692,670,000	0.26	91,100	200,750,000	28	958,000	52	18,003,000	31	10,756,000	33.8	11,737,000
100	23,821,000	7.59	3.02	718,400	1,583,910,000	0.32	75,800	167,160,000	32	762,000	53	12,533,000	32	7,508,000	34.3	8,180,000
150	9,778,000	10.70	5.88	574,500	1,266,470,000	0.43	41,900	92,410,000	38	375,000	48	4,685,000	28	2,773,000	31.4	3,073,000
200	5,415,000	13.07	7.88	426,700	940,630,000	0.50	27,200	59,860,000	43	235,000	48	2,599,000	28	1,535,000	31.4	1,700,000

Figure 14.1 West Desert Block Model Section 288875 - %Zn

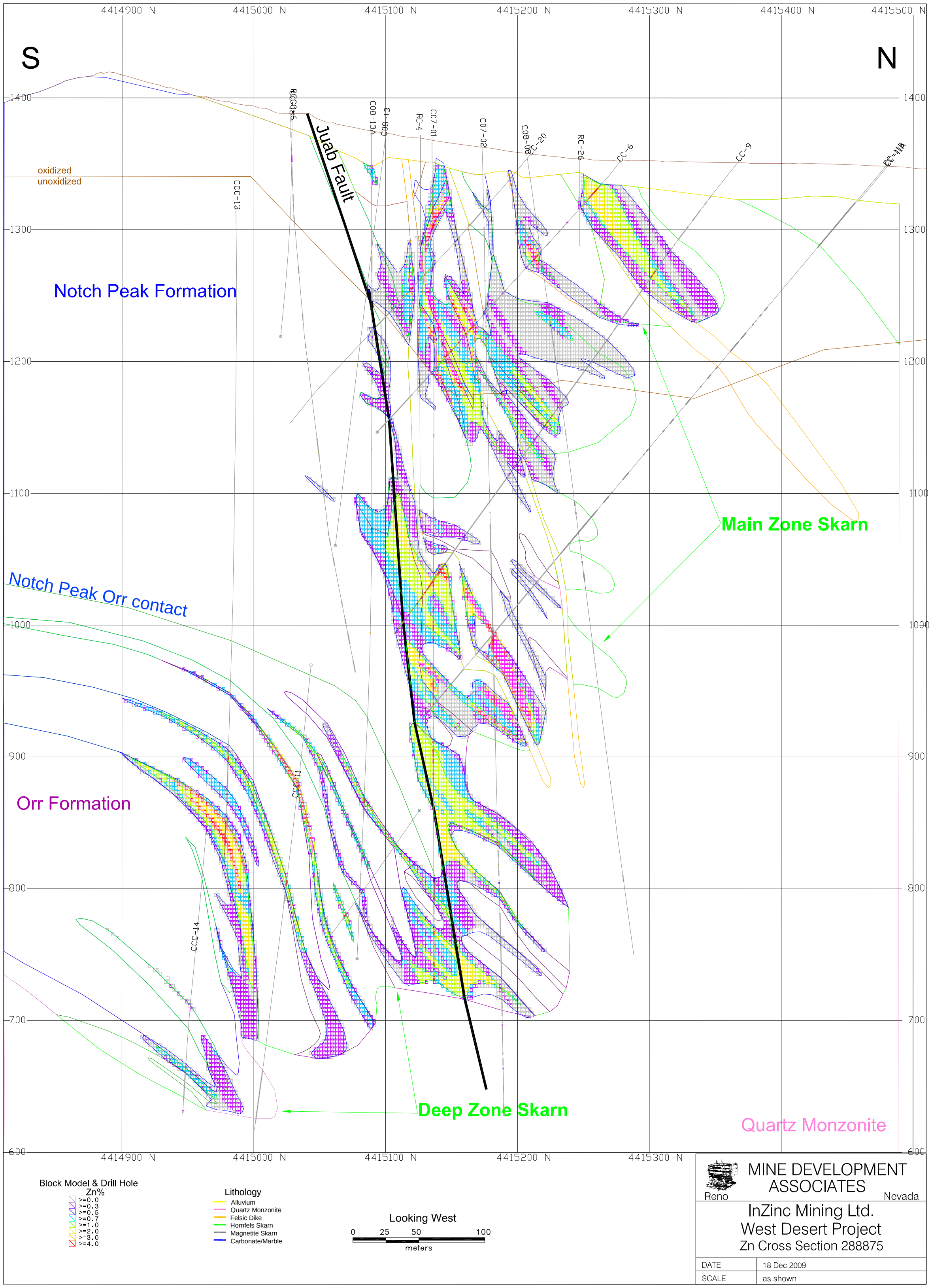


Figure 14.2 West Desert Block Model Section 288875 - %Cu

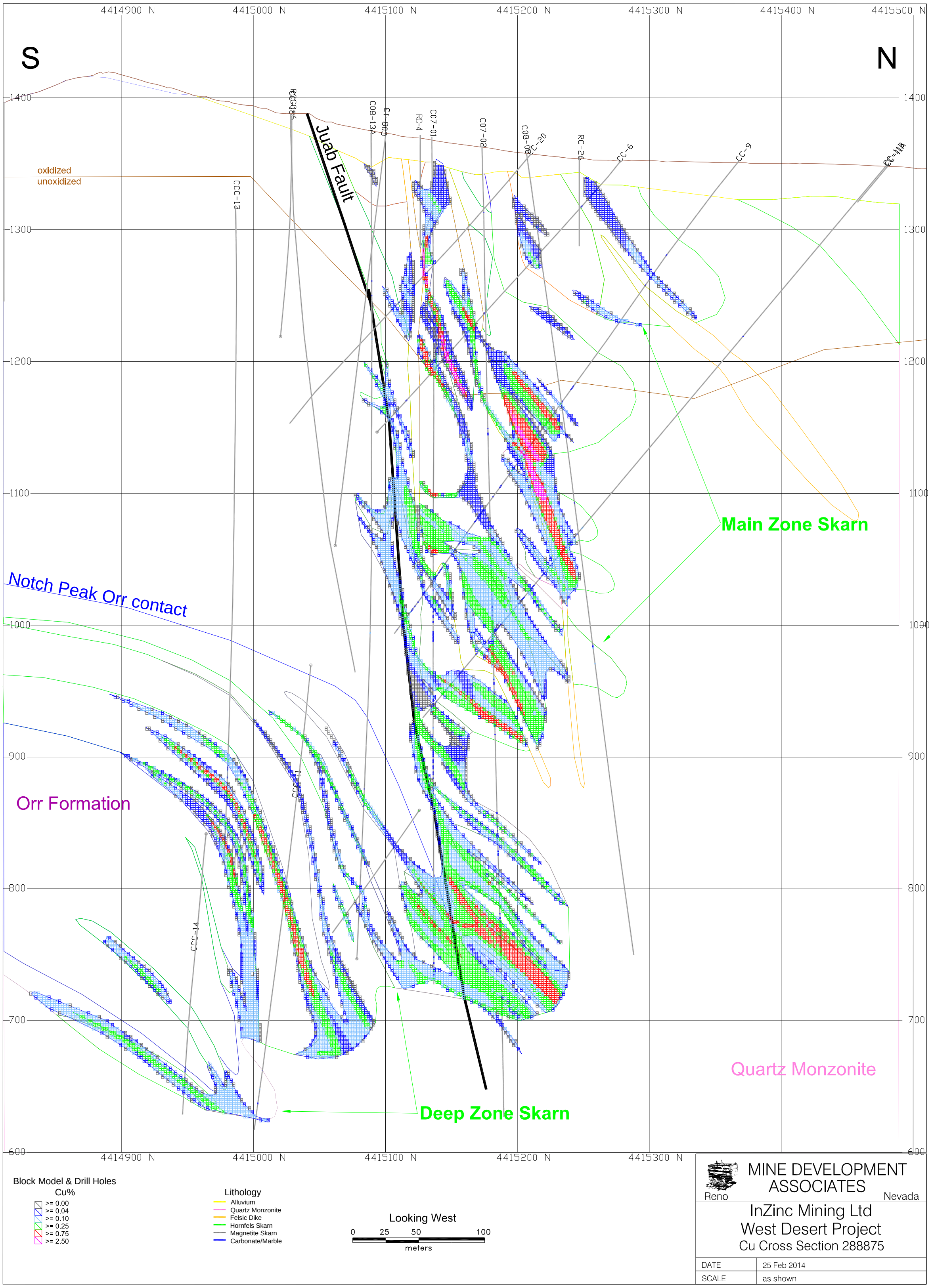


Figure 14.3 West Desert Block Model Section 288875 – ppm In

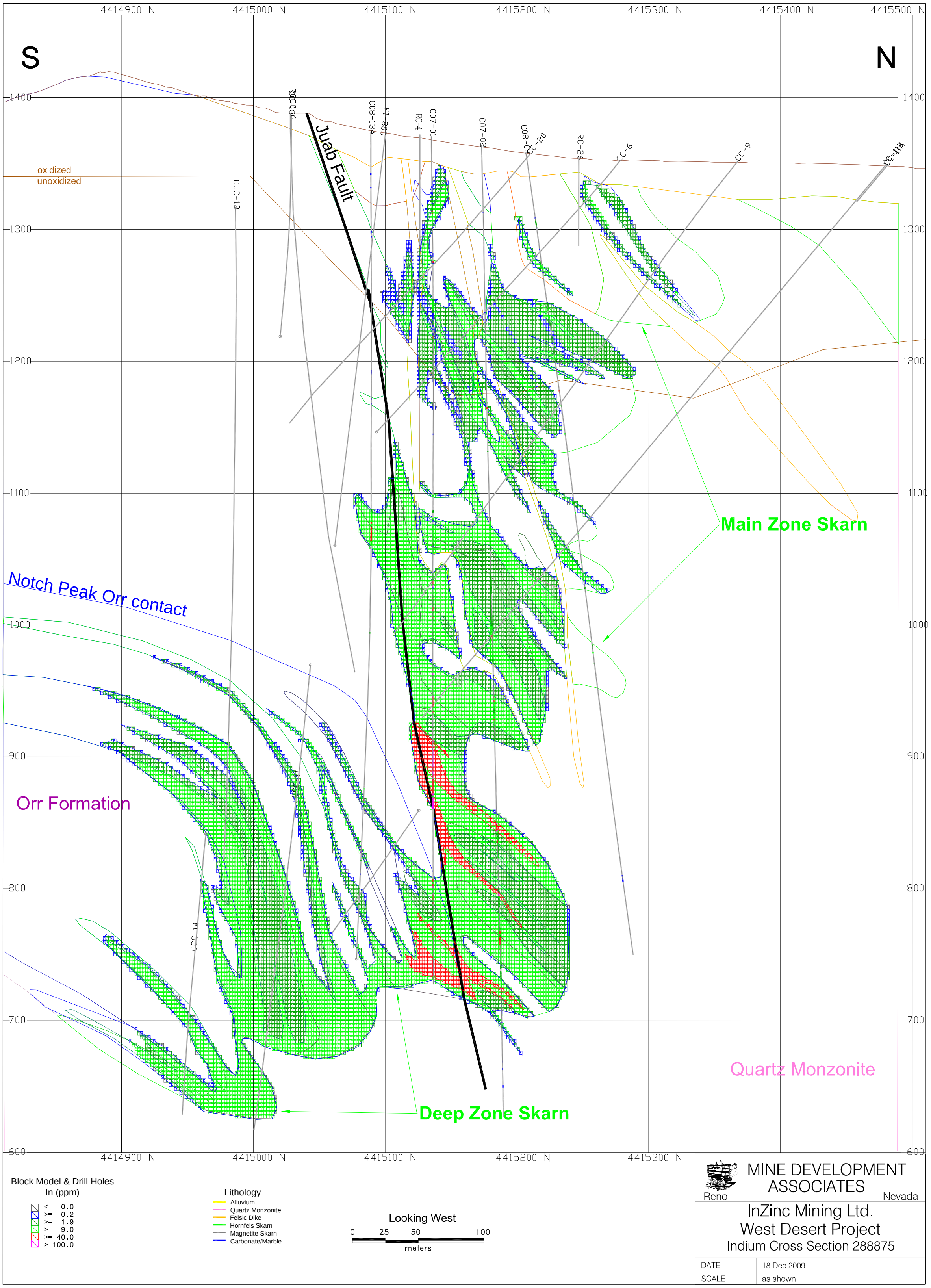


Figure 14.4 West Desert Block Model Section 288875 – % Magnetite

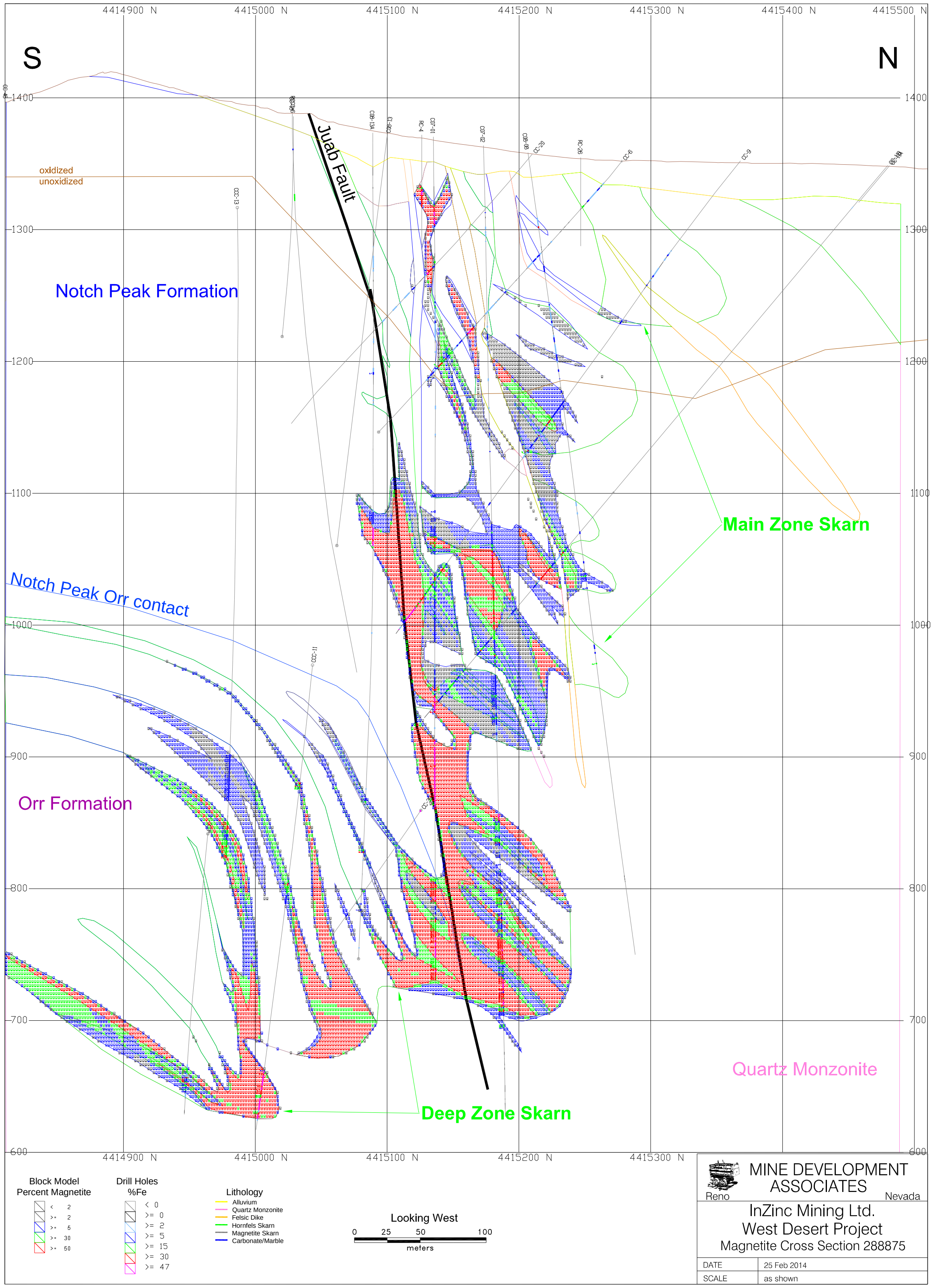
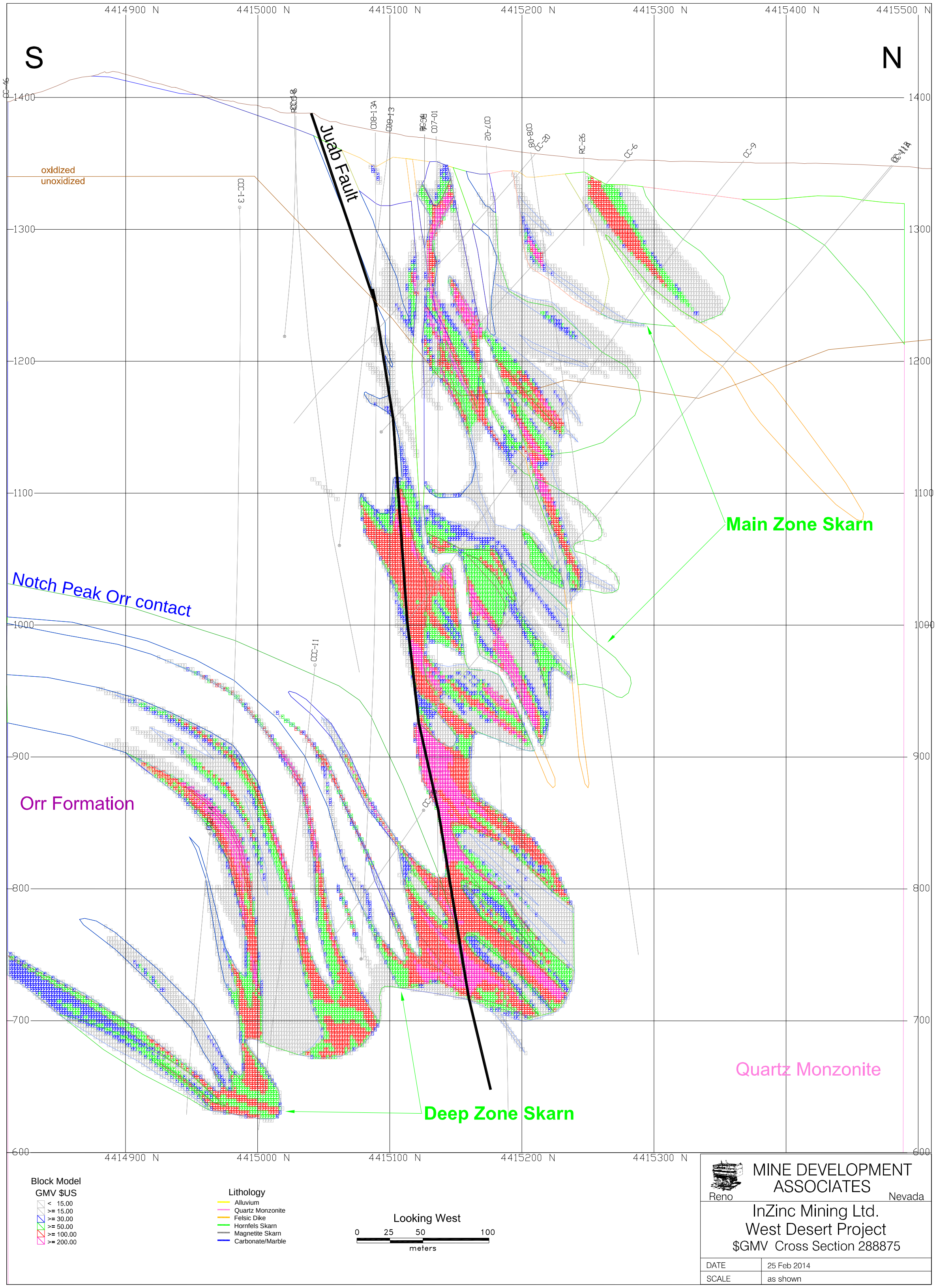


Figure 14.5 West Desert Block Model Section 288875 - $GMV



Checks were made on the West Desert resource model in the following manner:

1. Cross sections with the mineral domains, drill-hole assays and geology, topography, sample coding, and block grades with classification were plotted and reviewed for reasonableness;
2. Block-model information, such as coding, number of samples, and classification, were checked visually by domain and lithology on cross sections and level;
3. Cross-section mineral-domain volumes to level mineral-domain volumes were checked;
4. Nearest-neighbor and ordinary kriging models were made for comparison;
5. A simple polygonal model was made with the original modeled section domains; and
6. Quantile-quantile plots of assays, composites, and block-model grades were made to evaluate differences in distributions of metals.

In the end, it is deemed that the resource estimates are reasonable, honor the geology, and are supported by the geologic model.

14.3.7 Discussion, Qualifications, Risk, and Recommendations

The detailed work completed by InZinc and MDA on the geologic model, and the data defining the model, have resulted in a resource estimate of high quality. The risk is mostly related to the deposit type. Skarn deposits, such as West Desert, often have relatively complicated and rapidly changing grades and geology. This downside would mostly be alleviated through additional drilling. The upside is clearly dominated by the ability to increase the amount of higher-classification material with an increase in indium sample assays. The relatively small amount of Indicated material within the current resource is due to the many fewer samples with indium grades. An increase in indium sample assays would also result in a likely increase in overall indium grade if the tenor of the new sample assays was similar to that of the existing assays. The current high-grade search restrictions used in the resource estimate serve to constrain the higher-grade values, resulting in lower indium grades within the Inferred material. Upgrading the classification of material with additional samples would therefore also likely increase the indium grade of this same material. There is also good potential to increase the size of the deposit by targeting extensions of mineralization primarily to the east, west, and south.

The analytical coverage and estimation of iron are considered good and certainly deserve higher classification than is “allowed” by the less-well-covered indium analyses. The conversion of total iron to magnetite and magnetite iron is based on 640 Davis Tube analyses within the iron domains. MDA used the relationships presented in the Davis Tube data to convert estimated total iron into iron-in-magnetite and magnetite. Because there are relatively few Davis Tube analyses, and because the relationships between total iron and magnetite are not particularly well correlated, this imparts some lack of confidence in the total estimated amount of magnetite. Having said that, the confidence is certainly much higher than what is now represented in the relatively small amount of Indicated compared to Inferred material because of the indium. High iron grades generally have a much stronger and more correlated relationship between iron and magnetite, mitigating the potential risk substantially.

15.0 MINERAL RESERVES ESTIMATE

No Mineral Reserves have been estimated for this report.

16.0 MINING METHODS

Underground mining methods have been chosen for the West Desert project based on the depth of potentially mineable mineralization and the selectivity that underground mining allows. The PEA considers mining by sublevel stoping, using both long-hole and transverse mining techniques.

Note that a Preliminary Economic Assessment is preliminary in nature. It includes Inferred mineral resources that are considered too speculative geologically to have the economic considerations applied that would enable them to be classified as mineral reserves, and there is no certainty that the preliminary assessment will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

Potentially mineable resources have been defined by:

- Defining economic parameters;
- Calculating the NSR for each block;
- Drawing polygons to define stopes on cross-sections each 10m (north and south);
- Building solids from the stope polygons by level;
- Slicing level solids on 20m sections and flagging individual solids into the block model;
- Summarizing economics for each individual solid;
- Flagging stopes with positive values; and
- Summarizing tonnes and grade for the positive value stopes.

It should be noted that "potentially mineable resources" are not reserves and do not have demonstrated technical and economic viability.

The following sections describe the process in more detail.

16.1 Economic Parameters

Economic parameters have been established to estimate the potential value of the zinc, copper, indium, and magnetite in the resource model. As this is a polymetallic deposit with value available from multiple metals, an NSR value has been calculated for each block. The NSR represents payment for concentrates sent off site for further processing and refining. The NSR considers the metallurgical recovery, metal prices, transportation and treatment costs, and penalties that the smelter may charge. The NSR is also reduced based on a 1.5% royalty to arrive at the NSR value.

An NSR cutoff value has been determined to select only those resource blocks that could potentially be mined at a profit. The NSR cutoff value reflects costs required to mine and process a block of material. Costs included in the NSR cutoff value are based on initial estimates of $30.00/t for mining, $3.38/t for expensed development, $15.34/t for processing, and $3.30/t for general and administrative costs. The NSR cutoff was rounded to $50.00 for stope design and scheduling purposes.

Table 16.1 shows the metal prices used in economic calculations and Table 16.2 shows other economic assumptions.

Table 16.1 NSR Metal Prices

Zinc	$	1.00	$/lb
Copper	$	3.00	$/lb
Indium	$	600	$/kg
Iron Concentrate	$	105	$/t

The project's iron concentrate is in the form of magnetite having a 63% iron content and is expected to attract a $10/t premium to the Tianjin benchmark iron ore price. Thus, an iron concentrate or magnetite price of $115/t is used in the economic analysis (see Section 22.0).

Table 16.2 West Desert Economic Assumptions

NSR Economic Assumptions	Recoveries			
Process Stream	**Zn**	**Cu**	**Magnetite**	**Indium**
Magnetic Con	1.0%	1.5%	97.0%	0.0%
Magnetic Tails	99.0%	98.5%	3.0%	100.0%
Copper Con	2.0%	74.0%	0.0%	0.0%
Zinc Con	92.0%	10.0%	0.0%	58.2%
Final Tails	5.0%	14.5%	3.0%	41.8%
Transport Cost ($/t Con)	$ 75.00	$ 22.50	$ 62.50	NA
Treatment Cost ($/t Con)	$ 210.00	$ 70.00	NA	NA
Zinc Price Escalation Base	$ 2,000	NA	NA	NA
Zinc Price Escalation / t	$ 0.06	NA	NA	NA
Refining Cost ($/lb Cu / $/kg In)	NA	$ 0.07	NA	$ 25.00

The metal prices in Table 16.1 and the other economic assumptions in Table 16.2 were used to calculate the NSR value for each block. The NSR for each metal was calculated separately, and then the values were added together to obtain a "total NSR." The NSR for each metal only applied if there was a grade estimated and the block was classified as Indicated or Inferred.

NSR calculations use a factor for each metal. Equation 1 shows the equations used to calculate the NSR factors, and Equation 2 shows the equations used to calculate the NSR.

Equation 1 NSR Factor Calculations

$$Zn = \left(Zn_{rec} * 2204.623 * Zn_{price} * (1 - royalty)\right) - \left(\left(Zn_{treat} + \left(Zn_{price} * 2204.623 - Zn_{escalation\ base}\right) * Zn_{escalation} + Zn_{transport}\right) * \frac{Zn_{rec}}{Zn_{concentrate\ grade}}\right)$$

$$Cu_{fact} = \left(Cu_{rec} * 2204.623 * \left(Cu_{price} - Cu_{refining}\right) * (1 - royalty)\right) - \left(\left(Cu_{treat} + Cu_{transport}\right) * \frac{Cu_{rec}}{Cu_{concentrate\ grade}}\right)$$

$$In_{fact} = \frac{In_{rec} * \left(In_{price} - In_{refining}\right)}{1000} * (1 - royalty)$$

$$Mag_{fact} = \frac{Mag_{rec} * \left(Mag_{price} - Mag_{transport}\right)}{100} * (1 - royalty)$$

Where: *rec* = recovery by metal
price = the metal price in appropriate units
escalation base = price base from which escalation is applied
escalation = escalation in USD/lb of zinc
treat = treatment cost
transport = transport cost
refining = refining cost in USD/lb of copper or USD/kg of Indium
Mag refers to magnetite

Equation 2 NSR Calculations

$$NSR_{Zn} = \frac{Zn_{\%}}{100} * Zn_{fact}$$

$$NSR_{Cu} = \frac{Cu_{\%}}{100} * Cu_{fact}$$

$$NSR_{In} = In\% * In_{fact}$$

$$NSR_{Magnetite} = Magnetite * Magnetite_{fact}$$

$$NSR_{total} = NSR_{Zn} + NSR_{Cu} + NSR_{In} + NSR_{Magnetite}$$

Where: *fact*=NSR factor

16.2 Stope Definition

Stope design was completed using Surpac© (version 6.6) software. Stopes were defined by following a general design method. The steps used are:

- Create a grade shell using an NSR cutoff grade of $50/t;
- Slice the grade shell on 10m eastings through block centers to create polygons (this created small polygons around each block in the grade shell);
- Expand, merge, smooth, and then shrink the polygons (this created unified polygons representing material that could be mined from the $50/t NSR grade shells);
- Draw mineable shapes on 10m easting sections incorporating 4.5m bottom sills and 16.5m stope height (total of 21m between levels or seven 3m block heights);

- Build solids first by level, and then splitting the solids on 20m widths along the eastings;
- Calculate the total value in each solid, and flag those that make a profit; and
- Review non-profitable stopes to determine if they could be refined.

The stopes were then summarized for tonnes and grade and used in production scheduling.

16.3 Stoping Methods

Sublevel long-hole stoping methods have been considered for the West Desert mining as they provide reasonable cost benefits along with reasonable selectivity based on the deposit. Long-hole stopes will be filled with cemented rock fill to provide support and control potential ground subsidence. The total amount of backfilled stopes will depend on geotechnical requirements.

Two basic types of long-hole stoping have been assumed: longitudinal and transverse. The mineralization of the deposit is associated with mineralization of various thicknesses. Longitudinal long-hole stopes are mined where the mineralization thickness is less than 20m. Transverse long-hole stopes are used where the mineralization is wider than 20m. The mining method for longitudinal and transverse long-hole stopes is described in Sections 16.3.1 and 16.3.2.

16.3.1 Longitudinal Long-Hole Stopes

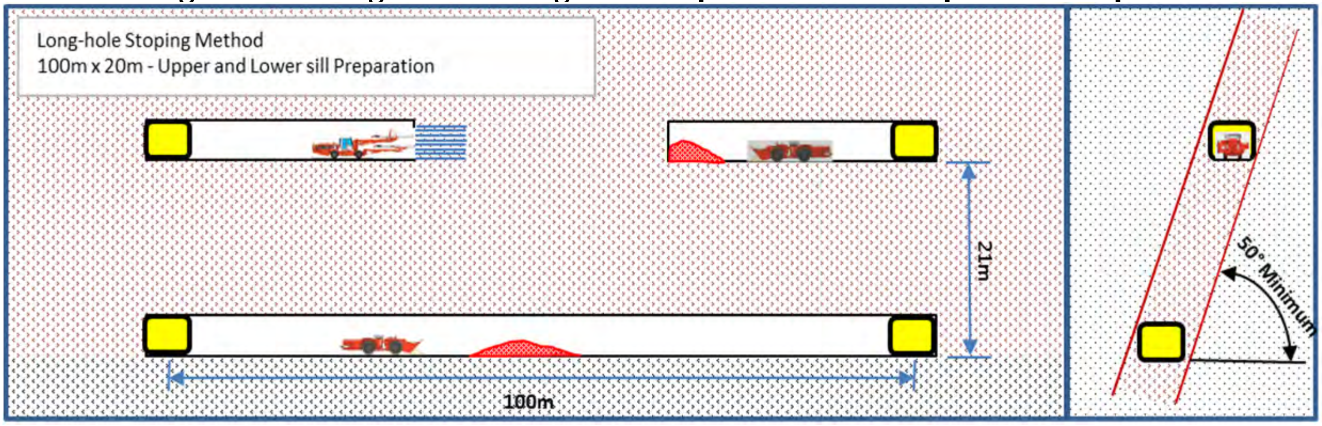
Longitudinal long-hole stopes are mined where the thickness of the mineralized zone is less than the minimum that can be held open based on geotechnical constraints. As the geotechnical constraints still need study, a 20m thickness was assumed.

The primary development is completed to provide access to the deposit with lateral development parallel to the deposit (see Section 16.5 for the description of development). The start of stoping is to develop crosscuts from the lateral development perpendicular into the mineralized zone. Crosscuts are driven on 100m centers or less to maintain a maximum length of 100m of open stope. Future geotechnical studies are needed to determine if this distance can be extended further.

Once the crosscut is in place, a 4m-wide and 4.5m-high drift up to 100m long is driven along mineralization, becoming the bottom sill. Angle holes are then drilled into the walls of the sill and blasted to widen the sill until any potential ore on the sides has been mined. This process is called slashing, and the resulting material is hauled by LHD from the stope.

Another sill is advanced simultaneously at the top of the stope in the same manner, becoming the top sill. The top sill is used for production drilling and blasting, while the bottom sill is used for mucking and haulage. Figure 16.1 shows the development of the top and bottom sills.

Figure 16.1 Longitudinal Long-Hole Stope Bottom and Top Sill Development

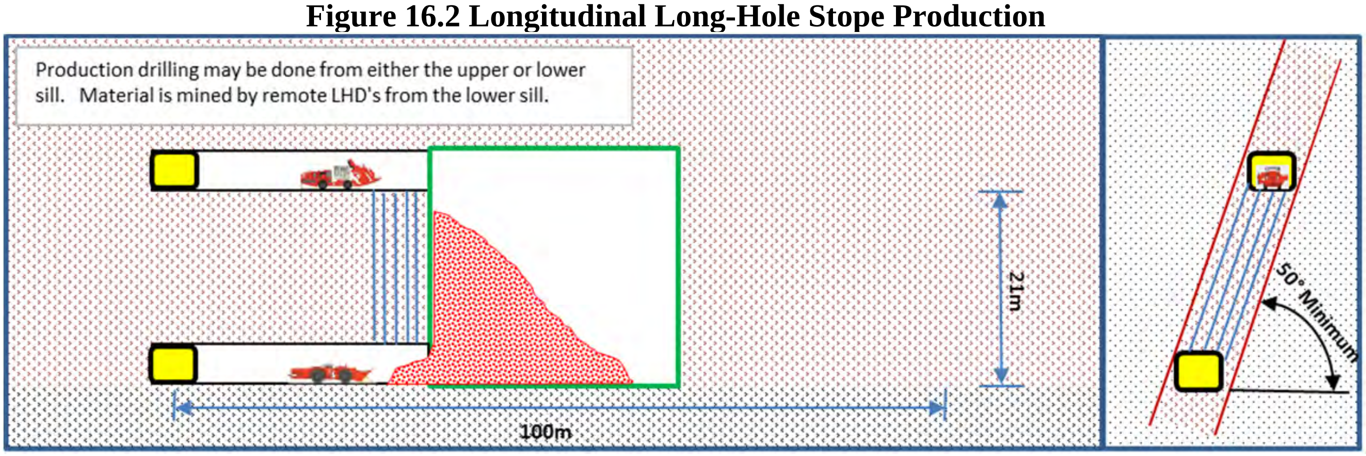


Once the sills are in place, production drilling is conducted. Typically this is done from the top sill, but to reduce dilution, this can be done from the bottom sill, and the top sill can be eliminated.

The top sill production drilling starts by developing a slot cut. The slot cut is essentially a small drift round drilled vertically that can be blasted to create a slot from the top sill to the bottom sill. This is required so that the production blasts have an open area to be shot into. The slot cut will include "burn" holes that are large-diameter drill holes drilled with the production drill that do not get loaded with explosives. Then smaller-diameter drill holes are drilled around these, loaded, and shot. The burn holes act as a free surface for the other blast holes to be shot into.

Production drill holes are then drilled around the slot cut and blasted into the slot cut. Production blasting is done periodically as the stope is mucked from the bottom. Enough material is blasted to keep an inventory of a couple of days. Mucking is done from the bottom sill using remote controlled LHDs, and the material is dropped into ore passes. Production mining from longitudinal long-hole stopes is shown in Figure 16.2.

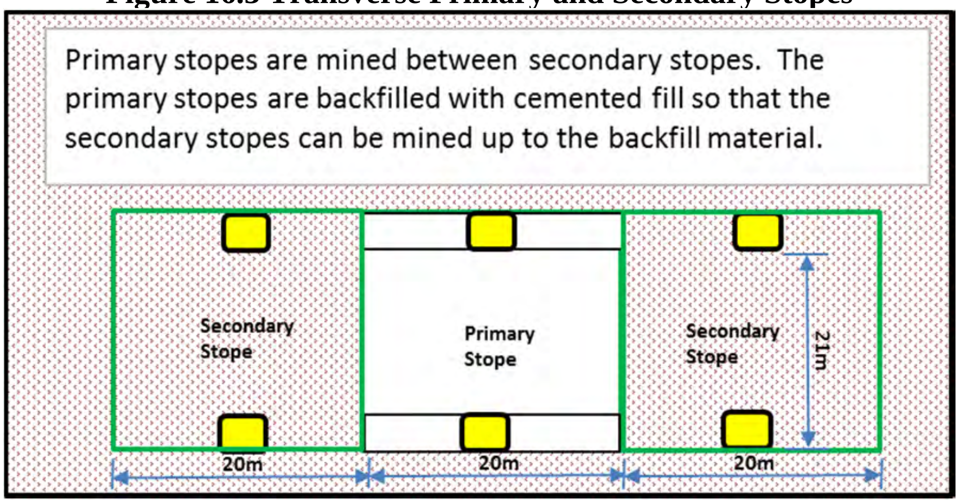
Figure 16.2 Longitudinal Long-Hole Stope Production



16.3.2 Transverse Long-Hole Stopes

Transverse stoping is done where the mineralization being mined is wider than 20m. As with longitudinal stoping, transverse stoping requires a crosscut to be driven across the mineralization perpendicular to its trend, but with transverse stoping, crosscuts are driven every 20m instead of every 100m. The transverse stopes are developed to be 20m wide along the strike of the mineralization, and cross-cuts are driven the full width of the mineralization. In order to get the best recovery of the resource, transverse stopes are developed to be either primary or secondary. The primary stopes are mined first, leaving secondary stopes between the primary stopes, and when complete, the primary stopes are backfilled with cemented rock fill or cemented paste fill. After the backfill has set to a reasonable strength, the secondary stopes are mined up to the backfill. Figure 16.3 shows the relationship of the primary and secondary stopes.

Figure 16.3 Transverse Primary and Secondary Stopes



16.3.3 Backfill

Backfill will be required to ensure underground workings are geotechnically stable while reducing the need to leave large portions of the resource behind in the form of pillars. At the time of this technical report, detailed geotechnical and backfill studies have not been completed and will be required in the future to confirm the parameters to be used for final design work.

This PEA assumes that sufficient support can be created with cemented rock fill such that pillars will not be required. Aggregate will be crushed in a borrow pit on the surface. The aggregate will be sent down a waste raise into the mine, where it will feed into a cemented-rock-fill plant underground. If applicable, some tails may be mixed with the aggregate, potentially reducing the amount of tails directed to the TSF and decreasing the cost of aggregates. The cemented rock fill will be hauled to the stopes by trucks and or LHDs as required.

Alternatively, a paste fill could be generated from tailings on the surface and pumped down into the mine. This would require the conditioning of tailings with cement and other additives on the surface and pumping of the paste into the underground stopes. The total tails generated by the project will likely be much less than required for paste fill. Thus, to generate enough paste fill, the mine may be required to mine, crush, and grind waste material from a borrow pit, which would be costly. For that reason, paste fill has not been used for the PEA; however, it does deserve review in a backfill study.

16.4 Dilution and Ore Loss

Sources of mining dilution and ore loss can be planned or unplanned. Planned dilution and ore loss are due to the design of stope shapes that may capture some internal waste and exclude potential ore. This has been accounted for in the design and geometry of stopes. The PEA assumes that all material inside of the stope designs is processed and cannot be further separated into waste and ore. Thus, the internal waste inside of the designs is internal dilution. The internal dilution consists of material designated as resources that is below the mining or NSR cutoff grade (yet above the resource reporting GMV cutoff) and waste material (material that is not classified as resources). The internal dilution that is considered to be part of the reported resource dilutes the stopes with the metal grades from those blocks. All other internal dilution is considered to have zero grades and does not contribute to revenue generation. The total dilution inside of the stope designs is approximately 20%.

Ore loss has been accounted for based on the stope designs. The reported resource has been reduced both by the design and by application of economic criteria. In all, 68% of the Indicated and 49% of the Inferred resource (by tonnes) have been captured by the designed stopes. This amounts to a total (Indicated and Inferred) resource capture of 53% by tonnage. Because the stope designs concentrate on higher-value resources, the resource capture by the designs on a metal content basis is higher. The stope designs incorporate 85%, 71%, 67%, and 53% of the total Indicated and Inferred metal resources of zinc, copper, indium, and magnetite, respectively.

During mining, the project will experience unplanned dilution and ore loss. Unplanned dilution commonly occurs from collapsing hanging walls or mining of some backfill materials where stopes are being mined against backfilled areas. Unplanned ore loss will come from shutting off of stopes that are over diluted due to collapsing waste into the stope or simply from material left in the stope that cannot be efficiently mucked.

At this level of study, no additional unplanned dilution or ore loss has been accounted for. It should be noted that the block model has been "block diluted," so MDA assumes that this dilution will account for both the unplanned dilution and ore loss. Future studies that seek to define reserves should take into account unplanned dilution, but they should also use the estimated domains and undiluted resource estimates.

16.5 Development

The development design has been completed assuming use of a primary decline for access, a single ventilation shaft for ventilation and egress, and a conveyor decline (with a conveyor hanging from the back) that can also be used for egress as required. In addition, ore passes, ventilation raises, ramps connecting sublevels, and lateral development have been designed to allow access into and operation of the mine. There have also been areas designed to include equipment shops, warehouses, and a crusher room.

Initial development will complete the primary haulage level at the 917m level, approximately 425m below the surface. The main decline, conveyor decline, and ventilation shaft will be connected by developing laterals on the 917m level to provide ventilation and secondary egress prior to production. At the same time, the crusher room, warehouse, and shop areas will also be developed with additional crews working on laterals to link the main haulage ramp to the vent shaft and conveyor decline.

Table 16.3 shows the total development meters by category. The development is shown in Figure 16.4 (plan view), Figure 16.5 (long section).

Table 16.3 Development Meters

	Units	Total
Main Decline	m	1,417
Conveyor Decline	m	3,210
Conveyor Crosscuts	m	180
Total for Main Access	m	4,807
Ventilation Raises	m	1,172
Ventilation Drifts	m	286
Total Ventilation Development	m	1,458
Ore passes	m	655
Crosscuts to Ore passes	m	1,491
Total for Ore Passes	m	2,145
Sublevel Ramps	m	5,422
Lateral Development Drifts	m	21,840
Crosscuts	m	305
Total for Level Development	m	27,566
Shop Drifts	m	87
Crusher Room	m	25
Warehouse Drifts	m	13
Total Miscellaneous	m	125
Total Development Meters	m	36,102

Figure 16.4 Plan View Showing Mine Development

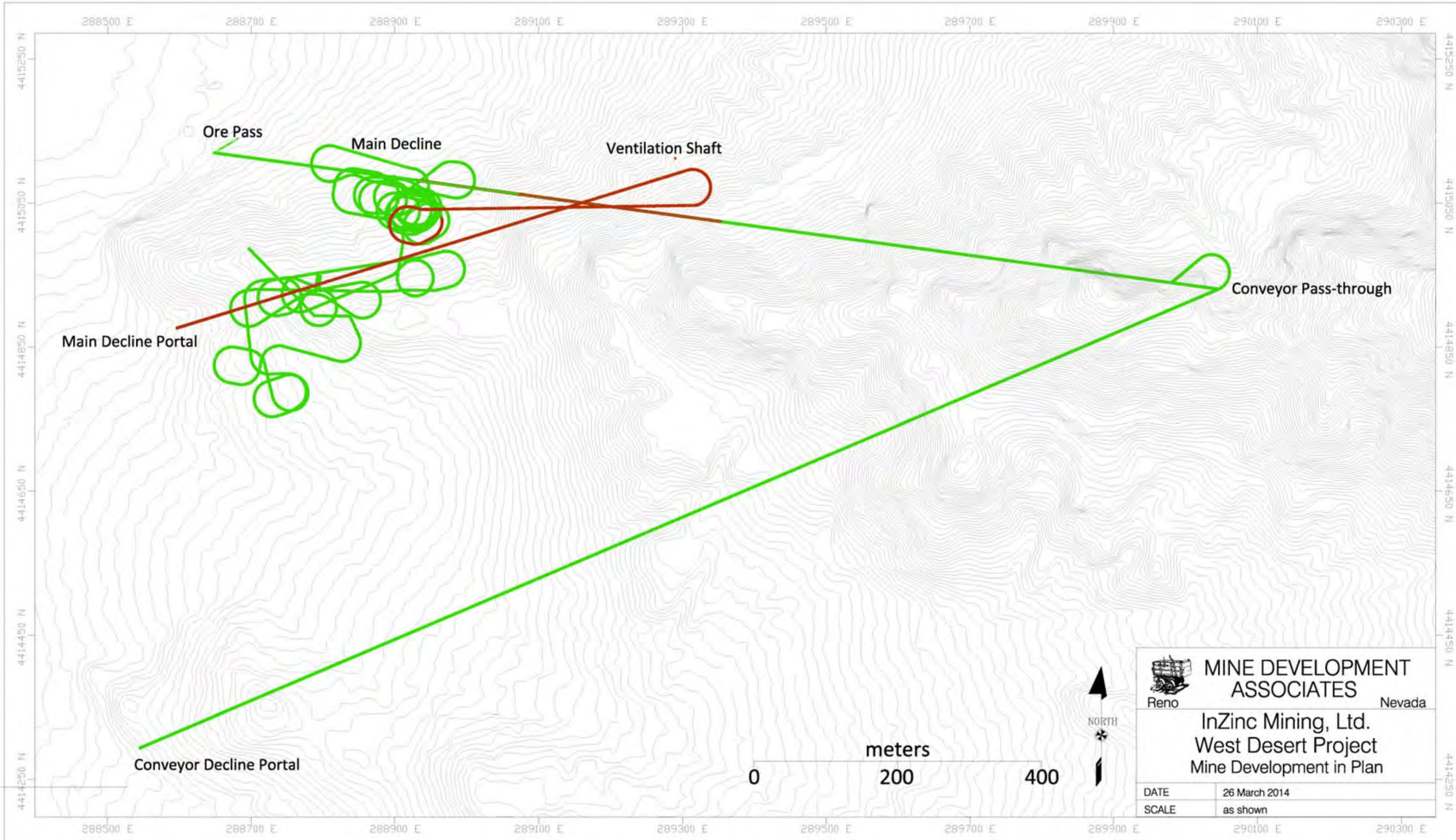
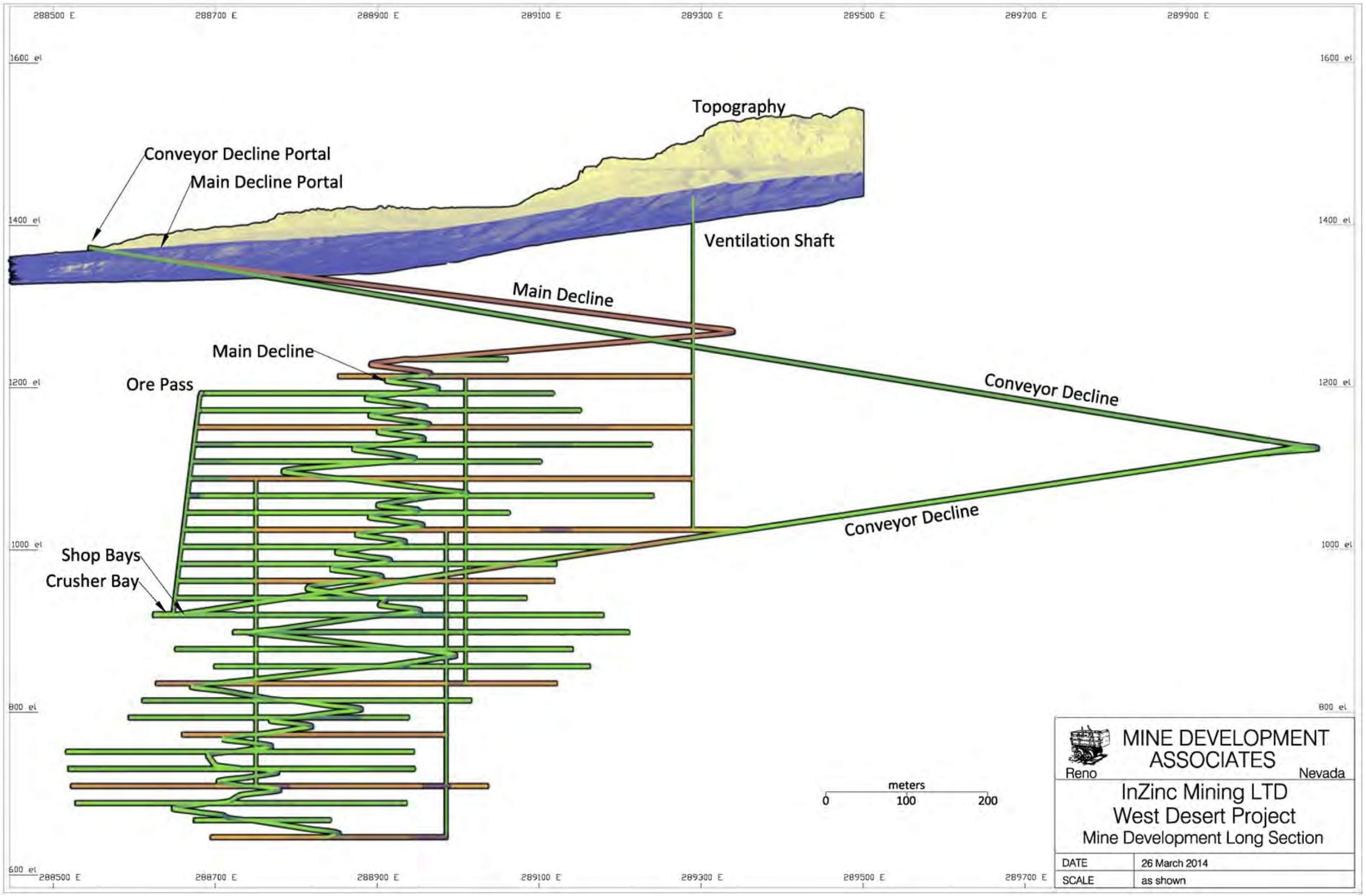


Figure 16.5 Long Section Showing Mine Development



16.5.1 Haulage-Method Selection

A high-level study was completed to determine the best method for haulage of material from the underground to the surface. Options considered included truck haulage, conveyor haulage, or shaft haulage. Truck haulage was eliminated due to:

- Assuming that a dual decline would be required to meet production requirements, there is not a distinct capital-cost advantage between the truck-haulage option and conveying;
- Truck haulage would require additional ventilation to dilute diesel particulates from the air and could adversely affect the health and safety of the personnel; and
- Operating costs for conveying and shaft haulage are significantly lower than truck-haulage costs.

To evaluate the difference between shaft and conveying of material, assumptions for installation and operating costs for both systems were made. These assumptions are shown in Table 16.4.

Table 16.4 Shaft and Conveyor Tradeoff Study Assumptions

Assumptions		Shaft	Conveying
Mobilization	K USD	$ 500	$ 500
Earth Works & Buildings	K USD	$ 250	$ 150
Shaft Depth	m	450	NA
Shaft Drifts / Stations	m	420	NA
Conveyor Decline Length	m	NA	3,210
Development Cost/m	$/m	32,244	$ 3,369
Conveyor Installation Cost/m	$/m	NA	$ 1,000
Haulage Operating Cost	$/t	$ 0.40	$ 0.35

Note that the first 50m of the conveyor decline were estimated using $4,012/m to account for extra support and portal construction costs.

Capital costs considered construction of each system to the 917m level. In each case, the construction would begin in year -2 and last through two years. A shop, warehouse, and crusher station would be located in the vicinity of the load-out system for each option. The capital-cost estimate for each is shown in Table 16.5.

Table 16.5 Shaft and Conveyor Option Capital Estimate

Shaft Capital Costs	**Units**	**Yr -2**	**Yr -1**	**Total**
Mobilization	K USD	$ 500	$ -	$ 500
Earth Works & Buildings	K USD	$ 250	$ -	$ 250
Shaft Sinking	K USD	$ 6,449	$ 8,061	$ 14,510
Shaft Drifts / Stations	K USD	$ 101	$ 1,314	$ 1,415
Hoist	K USD	$ 2,795	$ -	$ 2,795
Hoist Installation	K USD	$ 2,096	$ 2,096	$ 4,193
Total Shaft Capital Cost	K USD	$ 12,191	$ 11,471	$ 23,662

Conveyor Capital Costs

Mobilization	K USD	$ 500	$ -	$ 500
Earth Works & Buildings	K USD	$ 150	$ -	$ 150
First 50m Construction	K USD	$ 200.61	$ -	$ 201
Conveyor Decline Development	K USD	$ 6,583	$ 4,230	$ 10,813
Conveyor w/ Installation	K USD	$ 1,954	$ 1,256	$ 3,210
Total Conveyor Capital Cost	K USD	$ 9,387	$ 5,486	$ 14,873

The capital estimate for the shaft is considerably higher than that for the conveyor system, primarily due to the high cost of shaft development and the cost of hoisting systems. Shaft capital is approximately 59% higher than the conveying-system installation.

Operating costs of $0.35 and $0.40 were assumed for shaft and conveyor haulage, respectively. These were applied to the life-of-mine process schedule. The result is a total of $11.9 and $13.6 million dollars life-of-mine operating cost for shaft and conveying, respectively. The total costs, when added to the capital cost, is $35.6 and $28.5 million for shaft and conveying, respectively. Thus, the shaft option will require about 25% more total cost over the life of the mine, based on the existing resource.

The sensitivity to the operating cost was examined to determine the cost difference per tonne that would be required to make the options financially equal to each other. Based on the capital assumptions, it would require conveying costs to be approximately $0.25/t higher than shaft costs to recover the difference through the life of the mine. This difference does not include discounting. If a 5% discount to the cost streams is considered, then the conveying would have to be $0.40 higher to make the shaft more financially attractive.

In addition, InZinc considers the conveyor option to be more flexible with respect to increasing the throughput rate in the future. This can be done by increasing the utilization or increase the drive speed of the system.

Thus, for the purpose of this PEA, the conveying option has been selected. This is based on the following considerations:

- Conveyor option provides better economics than truck or shaft haulage;
- Conveyor option reduces diesel particulates compared to truck haulage;
- Conveying technologies over the past 15 years have improved, and there has been a broader application of conveying in metalliferous mines, making conveying a proven technology;
- The conveyor system will provide better flexibility for throughput increases in the future;
- Conveyors provide a high mechanical availability (normally better than 90%); and
- Maintenance of a conveyor system generally requires less expertise than shaft maintenance.

16.6 Ventilation

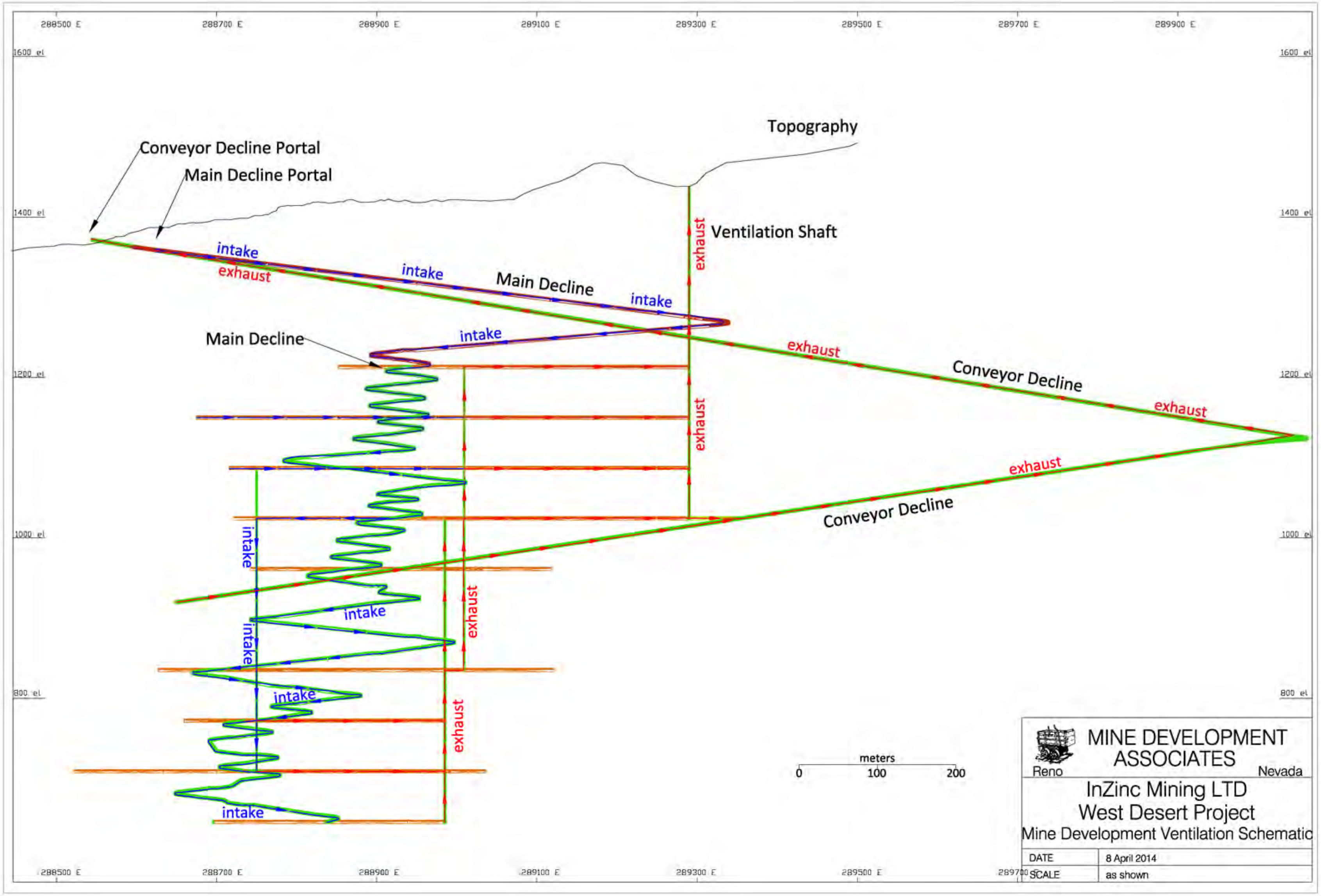
MDA has used the basic development to determine a simplified ventilation network. This network is shown in Figure 16.6. The primary components of the network are the main decline, which is used for an intake, the main ventilation shaft, which is used for exhaust, and the conveyor decline, which is used for additional exhaust. The ventilation shaft would be fitted with two 17,000 cubic meters per minute fans, both using 1,000hp motors. These would be connected in parallel, and it is anticipated that only one would be used at one time. This allows for a backup fan system to ensure a good supply of air for the mine.

The conveyor decline would be fitted with a single, smaller auxiliary fan capable of about 1,300 cubic meters per minute. The concept with the conveyor decline exhaust is to ensure that, should there be any sort of fire within the decline, no smoke would be allowed into the rest of the mine. The conveyor decline would be fitted with an air door so that it could be isolated from the rest of the mine should such a situation arise. This concept also helps to keep dust from the conveyor system from contaminating the mine's air.

In addition to the main exhaust fans, auxiliary fans will be used to force air into active working areas as needed. These fans would be capable of moving around 1,000 cubic meters per minute.

The ventilation parameters used here are based on other projects of this size. Since the mine will have a reduced number of trucks used for haulage due to the conveyor system, the ventilation needs should be less. Ventilation studies will be further advanced at the next level of study.

Figure 16.6 Primary Ventilation Network



16.7 Geotechnical Considerations

The purpose of this PEA is to examine the value of the mine with the addition of the magnetite mineralization. Medium rock strengths have been assumed for this study. The bulk of the development should be in good dolomite zones within the footwall. This study has assumed that 3m rounds can be achieved on a regular basis and that for the bolting in most areas, normal split-set or swelex style of rock bolts with retaining plates will be sufficient for support. Additional costs have been added to the first 50m of each decline to account for additional support requirements near the portal.

The mineralized zones should also provide good rock strength and have been assumed to have medium strength characteristics. Longitudinal stopes would be kept to 100m along strike and a maximum of 20m to 25m wide. Transverse stopes would have similar restrictions with up to 100m in the thickness and 20m to 25m wide parallel to the strike. Costs assume that some sort of cable bolting will be completed in the hanging wall to control dilution due to sloughing of waste from the hanging wall.

The geotechnical parameters need to be confirmed with detailed rock-mechanics studies at the next level of study.

16.8 Hydrology

A minimal amount of pumping is assumed for the PEA. The rock is fairly tight, and the water that is generated from the underground will be used in the process plant. Due to the arid nature of the climate at West Desert, additional water required for processing will have to be sought. Additional hydrology and water balances will be provided from detailed hydrology studies working up to a pre-feasibility study.

16.9 PEA Potentially Mineable Resources

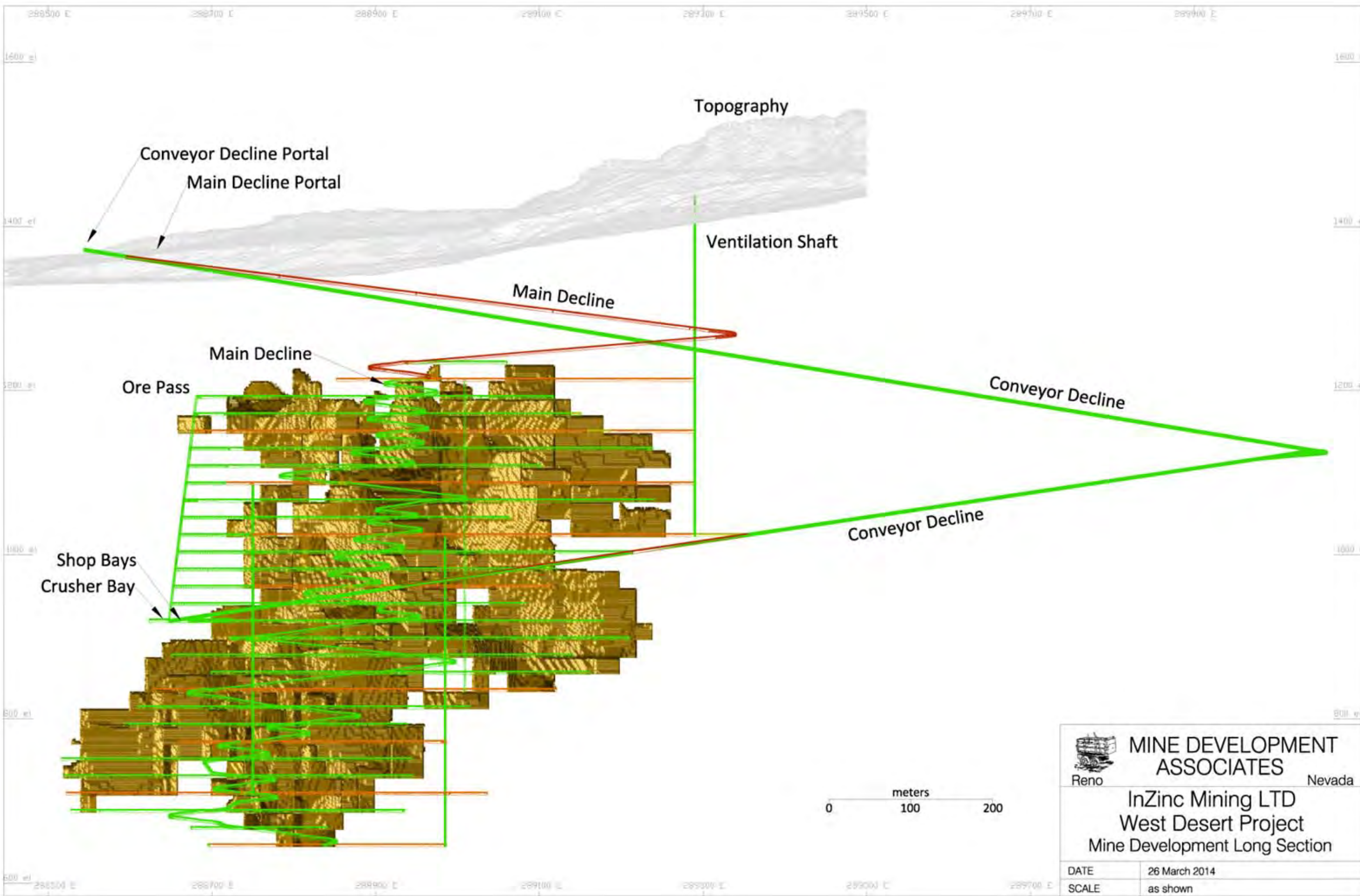
Table 16.6 shows the potentially mineable resources inside of the stope designs and flagged for mining, and includes the reported internal waste. Resources above cutoff are Indicated and Inferred blocks that are above a $50.00/t NSR cutoff within the designs. Resources below cutoff are Indicated and Inferred blocks that are below a $50.00/t NSR cutoff, but are reported as resources (above a GMV cutoff of $50.00/t). Internal waste is material that is not classified as a resource and dilutes the total mineable resources using zero grade and metal content. The total dilution by tonnes is 19.6%.

Figure 16.7 shows a long section of the blocks within the potentially mineable resources along with the development.

Table 16.6 PEA Potentially Mineable Resources and Dilution

	Above Cutoff		Internal Dilution Below Cutoff		Internal Dilution Internal Waste
	Indicated	Inferred	Indicated	Inferred	
K Tonnes	7,862	20,557	803	1,881	2,895
Zn %	3.07	3.23	0.62	0.73	-
K Lbs Zn	532,787	1,464,691	10,910	30,384	-
Cu %	0.27	0.33	0.14	0.16	-
K Lbs Cu	47,527	148,465	2,457	6,808	-
g In/t	41.17	31.22	22.79	22.01	-
Kg In	323,669	641,746	18,308	41,393	-
Magn%	51.43	50.08	24.15	23.02	-
KT Magnetite	4,043	10,295	194	433	-

Figure 16.7 PEA Potentially Mineable Material



16.10 Equipment Selection

Equipment requirements were evaluated based on the equipment that would be required for development, production, and support. The equipment list assumes that a contractor would do the initial development for the pre-production period. Equipment to be purchased for the start of production in year 1 is shown along with the total life-of-mine equipment requirements in Table 16.7. The total life-of-mine equipment includes the initial equipment and replacement equipment. Replacement for major equipment is done approximately every four to five years to maintain availability.

The two-boom jumbos and bolters listed for development will also be used for development for stope sills as required. The development haul trucks will also be shared with production requirements as required.

Table 16.7 Underground Equipment Requirements

Development Equipment	**Yr 1**	**Total**
2-Boom Jumbo	3	7
Bolter	3	7
3 m^3 LHD	2	5
20t Haul Truck	2	4
Scissor Jack	2	4
Production Equipment		
4.6 m^3 LHD	3	8
Prod Drill	2	5
20t Haul Truck	1	4
Anfo Loader	2	5
Support Equipment		
Lube Truck	2	5
Service Truck	3	9
Crane Truck	1	2
Personnel Carrier	2	5

16.11 Production Schedule

The production schedule was created using MineSched© (version 8.0) mine-scheduling software. The development and production schedules were integrated to ensure that the development requirements were met prior to production in any given area.

The initial development contemplates a contractor providing separate construction crews for each decline (main and conveyor) along with a separate crew for the ventilation shaft. An advance rate of 2m per day is used at the start of construction, and then increased to 6m per day after the first three months of construction. This assumes that two 3m rounds per day would be achievable as stable production after the initial three months used to establish portals, dumps, and such.

The ventilation shaft would be constructed as a conventional shaft from the top down. A 4m/day advance rate is used for the ventilation-shaft development. Ongoing development rates would be 4.5m/day for ramps, laterals, and other drifting once owner mining commences in year 1. Raise development is assumed to be contracted and would be done using either conventional means or using raise-boring techniques. Costs used consider the raises to be done conventionally, and a 4m/day rate is used for scheduling.

Production is scheduled based on a 5,000 tonnes per day or 1.8 million tonnes per year for the first two years followed by expansion of production to 6,500 tonnes per day or 2.3 million tonnes per year. Some test stoping would be done during the pre-production periods to prove up stoping techniques. Primary production would not start until development of the main decline, conveying decline, and ventilation shaft was complete and connection is made with a lateral to provide a secondary egress. At that time, production would start to build stockpiles on the surface and ramp up productivity.

The productivity is assumed to be ramped up so that the first year of processing will be at or near full production. In reality, this will require the construction of the process facilities so that they can be commissioned during the last quarter of the pre-production periods. Table 16.8 shows the life-of-mine production schedule for West Desert.

The process production was developed based on the processing parameters provided by International Metallurgical and Environmental Inc. Table 16.9 shows the process production schedule, including detail of material sent to the magnetic separator and resulting magnetic tails that are sent through the flotation plant.

Table 16.8 Mine Production Schedule

	Units	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15	Yr 16	Total
Total Mine	K Tonnes	1,830	1,825	2,372	2,372	2,379	2,372	2,372	2,372	2,379	2,372	2,372	2,372	2,379	2,372	1,854	-	33,998
Production	Zn %	4.07	3.80	3.90	3.71	2.52	3.58	2.81	3.32	2.75	2.66	2.20	1.57	1.28	1.52	1.39	-	2.72
	K Lbs Zn	164,298	153,078	203,829	194,259	132,067	186,990	146,947	173,406	144,100	139,314	114,842	82,128	67,261	79,588	56,665	-	2,038,773
	Cu %	0.36	0.31	0.21	0.17	0.40	0.42	0.31	0.23	0.21	0.25	0.26	0.29	0.23	0.26	0.20	-	0.27
	K Lbs Cu	14,373	12,525	11,018	8,906	21,238	21,784	16,155	11,902	11,189	13,273	13,840	15,021	12,155	13,819	8,059	-	205,258
	g In/t	17.93	17.11	20.57	23.88	25.62	24.89	38.36	43.04	45.85	34.64	32.42	28.70	31.50	33.96	27.37	-	30.15
	Kg In	32,810	31,233	48,802	56,664	60,954	59,050	90,997	102,114	109,072	82,191	76,913	68,080	74,930	80,570	50,737	-	1,025,116
	Magn%	39.69	37.66	30.15	37.95	40.47	37.45	43.40	43.55	49.46	46.62	42.15	47.10	54.19	55.32	55.00	-	44.02
	KT Magnetite	726	687	715	900	963	889	1,030	1,033	1,177	1,106	1,000	1,117	1,289	1,313	1,020	-	14,965

Table 16.9 Process Production Schedule

Material to the Plant	Units	Yr -2	Yr -1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15	Yr 16	Total
Stockpile to	K Tonnes	-	-	1,830	1,825	2,372	2,372	2,379	2,372	2,372	2,372	2,379	2,372	2,372	2,372	2,379	2,372	1,854	-	33,998
Magnetic	Zn %	-	-	4.07	3.80	3.90	3.71	2.52	3.58	2.81	3.32	2.75	2.66	2.20	1.57	1.28	1.52	1.39	-	2.72
Separator	K Lbs Zn	-	-	164,298	153,078	203,829	194,259	132,067	186,990	146,947	173,406	144,100	139,314	114,842	82,128	67,261	79,588	56,665	-	2,038,773
	Cu %	-	-	0.36	0.31	0.21	0.17	0.40	0.42	0.31	0.23	0.21	0.25	0.26	0.29	0.23	0.26	0.20	-	0.27
	K Lbs Cu	-	-	14,373	12,525	11,018	8,906	21,238	21,784	16,155	11,902	11,189	13,273	13,840	15,021	12,155	13,819	8,059	-	205,258
	g In/t	-	-	17.93	17.11	20.57	23.88	25.62	24.89	38.36	43.04	45.85	34.64	32.42	28.70	31.50	33.96	27.37	-	30.15
	Kg In	-	-	32,810	31,233	48,802	56,664	60,954	59,050	90,997	102,114	109,072	82,191	76,913	68,080	74,930	80,570	50,737	-	1,025,116
	Magn %	-	-	39.69	37.66	30.15	37.95	40.47	37.45	43.40	43.55	49.46	46.62	42.15	47.10	54.19	55.32	55.00	-	44.02
	KT Magnetite	-	-	726	687	715	900	963	889	1,030	1,033	1,177	1,106	1,000	1,117	1,289	1,313	1,020	-	14,965
Magnetiic Separation																				
Magnetic	K Tonnes	-	-	724	686	719	898	959	887	1,023	1,027	1,166	1,097	994	1,108	1,275	1,297	1,008	-	14,867
Concentrate	Zn %	-	-	0.10	0.10	0.13	0.10	0.06	0.10	0.07	0.08	0.06	0.06	0.05	0.03	0.02	0.03	0.03	-	0.06
	K Lbs Zn	-	-	1,643	1,531	2,038	1,943	1,321	1,870	1,469	1,734	1,441	1,393	1,148	821	673	796	567	-	20,388
	Cu %	-	-	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-	0.01
	K Lbs Cu	-	-	216	188	165	134	319	327	242	179	168	199	208	225	182	207	121	-	3,079
	Magn %	-	-	97.35	97.22	96.56	97.25	97.44	97.21	97.61	97.61	97.90	97.77	97.55	97.82	98.10	98.14	98.13	-	97.64
	KT Magnetite	-	-	704	667	694	873	934	862	999	1,002	1,141	1,073	970	1,084	1,251	1,273	989	-	14,516
Magnetic	K Tonnes	-	-	1,106	1,139	1,654	1,475	1,420	1,486	1,349	1,346	1,213	1,275	1,378	1,264	1,104	1,075	846	-	19,131
Tails	Zn %	-	-	6.67	6.03	5.53	5.92	4.18	5.65	4.89	5.79	5.33	4.91	3.74	2.92	2.74	3.32	3.01	-	4.79
	K Lbs Zn	-	-	162,655	151,547	201,791	192,316	130,746	185,120	145,477	171,672	142,659	137,921	113,694	81,307	66,588	78,792	56,098	-	2,018,385
	Cu %	-	-	0.58	0.49	0.30	0.27	0.67	0.66	0.53	0.40	0.41	0.47	0.45	0.53	0.49	0.57	0.43	-	0.48
	K Lbs Cu	-	-	14,157	12,337	10,853	8,773	20,919	21,458	15,913	11,724	11,021	13,074	13,633	14,796	11,973	13,612	7,938	-	202,179
	g In/t	-	-	29.66	27.42	29.51	38.43	42.91	39.74	67.45	75.89	89.92	64.45	55.81	53.84	67.86	74.94	59.98	-	53.58
	Kg In	-	-	32,810	31,233	48,802	56,664	60,954	59,050	90,997	102,114	109,072	82,191	76,913	68,080	74,930	80,570	50,737	-	1,025,116
	Magn %	-	-	1.97	1.81	1.30	1.83	2.03	1.79	2.29	2.30	2.91	2.60	2.18	2.65	3.50	3.66	3.62	-	2.35
	KT Magnetite	-	-	22	21	21	27	29	27	31	31	35	33	30	34	39	39	31	-	449
Floatation Circuit																				
Copper	K Tonnes	-	-	17	14	13	10	25	25	19	14	13	15	16	17	14	16	9	-	238
Concentrate	Zn %	-	-	8.96	9.58	14.50	17.10	4.87	6.73	7.13	11.42	10.09	8.23	6.50	4.29	4.34	4.51	5.51	-	7.79
	K Lbs Zn	-	-	3,286	3,062	4,077	3,885	2,641	3,740	2,939	3,468	2,882	2,786	2,297	1,643	1,345	1,592	1,133	-	40,775
	Cu %	-	-	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	29.00	-	29.00
	K Lbs Cu	-	-	10,636	9,268	8,153	6,591	15,716	16,120	11,955	8,808	8,280	9,822	10,242	11,116	8,995	10,226	5,963	-	151,891
Zinc	K Tonnes	-	-	125	116	155	147	100	142	111	132	109	106	87	62	51	60	43	-	1,547
Concentrate	Zn %	-	-	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	55.00	-	55.00
	K Lbs Zn	-	-	151,154	140,832	187,523	178,718	121,502	172,031	135,191	159,533	132,572	128,169	105,655	75,558	61,880	73,221	52,132	-	1,875,671
	Cu %	-	-	0.52	0.49	0.32	0.27	0.96	0.70	0.66	0.41	0.46	0.57	0.72	1.09	1.08	1.04	0.85	-	0.60
	K Lbs Cu	-	-	1,437	1,252	1,102	891	2,124	2,178	1,615	1,190	1,119	1,327	1,384	1,502	1,216	1,382	806	-	20,526
	g In/t	-	-	153.18	156.51	183.65	223.75	354.03	242.23	475.01	451.70	580.60	452.54	513.72	635.86	854.53	776.53	686.81	-	385.69
	Kg In	-	-	19,095	18,178	28,403	32,978	35,475	34,367	52,961	59,430	63,480	47,835	44,763	39,622	43,609	46,892	29,529	-	596,617
Floatation	K Tonnes	-	-	965	1,009	1,487	1,317	1,296	1,319	1,219	1,200	1,091	1,154	1,275	1,185	1,039	999	794	-	17,347
Tails	Zn %	-	-	0.39	0.34	0.31	0.33	0.23	0.32	0.27	0.33	0.30	0.27	0.20	0.16	0.15	0.18	0.16	-	0.27
	K Lbs Zn	-	-	8,215	7,654	10,191	9,713	6,603	9,350	7,347	8,670	7,205	6,966	5,742	4,106	3,363	3,979	2,833	-	101,939
	Cu %	-	-	0.10	0.08	0.05	0.04	0.11	0.11	0.09	0.07	0.07	0.08	0.07	0.08	0.08	0.09	0.07	-	0.08
	K Lbs Cu	-	-	2,084	1,816	1,598	1,291	3,079	3,159	2,342	1,726	1,622	1,925	2,007	2,178	1,763	2,004	1,168	-	29,762
	g In/t	-	-	14.21	12.94	13.72	17.99	19.66	18.72	31.21	35.56	41.80	29.77	25.21	24.02	30.14	33.72	26.72	-	24.70
	Kg In	-	-	13,715	13,055	20,399	23,685	25,479	24,683	38,037	42,684	45,592	34,356	32,149	28,457	31,321	33,678	21,208	-	428,498
	Magn %	-	-	2.26	2.04	1.44	2.05	2.23	2.02	2.53	2.58	3.24	2.87	2.35	2.83	3.72	3.94	3.85	-	2.59
	KT Magnetite	-	-	22	21	21	27	29	27	31	31	35	33	30	34	39	39	31	-	449

16.12 Mine Personnel

At the start of mining, the mining contractor will provide the labor and supervision for the construction period. Table 16.10 shows an estimate of the contractor-provided personnel. An engineering, procurement, and construction management ("EPCM") contract will provide for management oversight of the contractor during the construction period.

A Mine Superintendent, General Foreman, and Mine Clerk would be brought onto the payroll during the pre-production year prior to the start of production. Additional development and production personnel would be brought in at the start of production. During the peak of production and development, the mine will employ approximately 192 people as shown in Table 16.11. The estimate assumes a production and development schedule of seven days per week, 24 hours a day. The schedule assumes two 12-hour shifts per day, with crews working four days on and four days off (thus requiring four complete crews for development and production).

Table 16.10 Contract Mining Personnel Requirements

Superintendent	1
Clerk	1
Shift Foremen	4
Development Miners	16
Development Miners - Shaft	16
Service, Fuel, & Lube	4
Mechanics	6
Welders	4
Mine Surveyors	4
Surveyor Helper	4
Total Contract Personnel	60

Table 16.11 Peak Mining Personnel Requirements

Mine General

Mine Superintendent	1
Mine Clerk	1
Mine General Foreman	1
Mine Shift Foremen	4
Mine Trainer	4
Mine Dewatering	4
Total Mine General	15

Mine Production

Development Miners	24
Development Miners - Shaft	
Production Miners	16
Haul Truck Operators	8
Support Equipment Operators	24
Blasters	16
Blaster's Helpers	16
Total Mine Production	104

Mine Geology

Chief Geologist	1
Ore Control Geologist	2
Sampler	4
Total Mine Geology	7

Mine Maintenance

Maintenance Superintendent	1
Maintenance Foremen	4
Light Vehicle Mechanics	2
Tiremen	4
Shop Laborers	8
Maintenance Planner	2
Service, Fuel, & Lube	8
Mechanics	18
Welders	8
Total Mine Maintenance	55

Engineering

Chief Engineer	1
Mine Surveyors	4
Surveyor Helper	4
Mine Engineer	2
Total Engineering	11

Total Mine Personnel

Mine General	15
Mine Production	104
Mine Geology	7
Mine Maintenance	55
Engineering	11
Total Mining Personnel	192

17.0 RECOVERY METHODS

17.1 Introduction

This section on recovery methods incorporates assumptions, analyses, and findings related to the design of a concentrator facility for the West Desert project of InZinc Mining Ltd.

The processing facilities are designed to process 6,500 tpd of underground mine production, which translates into approximately 2.4 million tonnes annually. The processing facilities are capable of producing an iron concentrate using magnetic separation equipment, as well as two flotation concentrates – copper and zinc.

The proposed processes are traditional, and the technologies are widely used. Sufficient metallurgical test work has been completed using materials from the West Desert project to allow for the completion of this preliminary design of a concentrator.

The word "ore" in this section is used in a metallurgical sense and is not intended to imply the results of economic analysis.

17.1.1 Summary of Process Description

All of the metallurgical test work completed on the West Desert materials indicate they will be amenable to processing using a conventional copper and zinc differential flotation process. The process flowsheet will include crushing and grinding facilities to generate a magnetite plant feed with a nominal P_{80} of 65 microns. Magnetite will be recovered prior to flotation, and on average about 50 percent of the ore mass will be recovered as an iron concentrate (magnetite). The tailings from the magnetite recovery process will be thickened and ground in order to ensure that target grinds in flotation are meeting the P_{80} target of 65 microns. A block diagram of the overall process outlined for the West Desert project is shown in Figure 17.1.

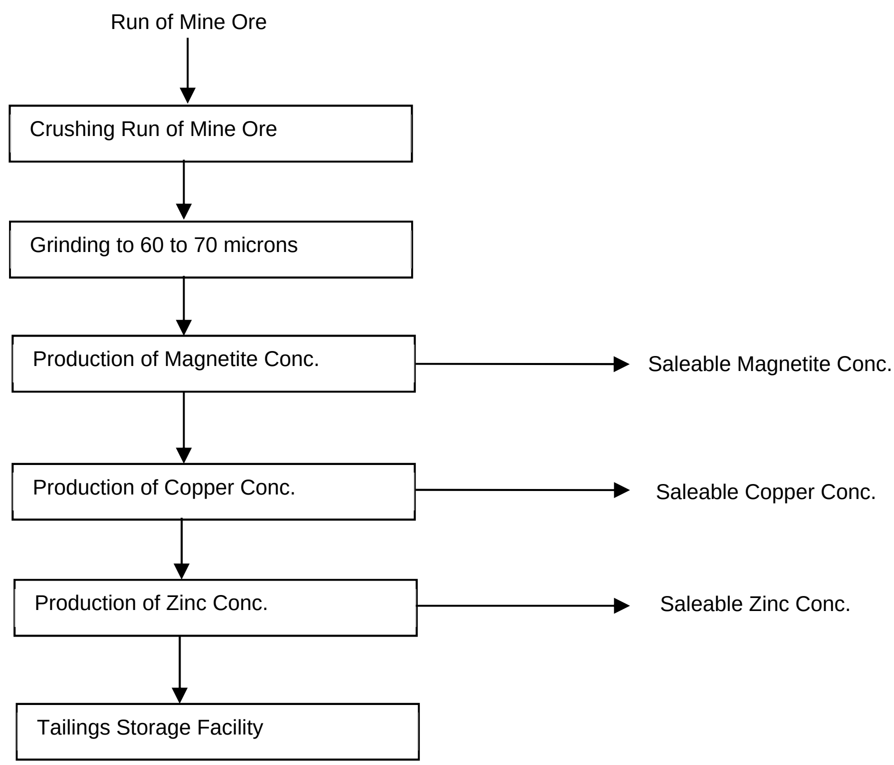
For ores with sufficient copper to operate an economic recovery process, zinc depressants will be added to the grinding mill to minimize zinc recovery to the copper rougher concentrate. Copper rougher concentrate will be reground to 15 microns prior to three stages of copper cleaner flotation to produce a concentrate grading 29 percent copper.

Tailings from the copper flotation circuit will be fed to the zinc flotation circuit. $CuSO_4$ will be added to the slurry to activate the zinc (sphalerite) for flotation. Zinc rougher concentrate will be reground to 35 microns prior to three stages of zinc cleaner flotation to produce a concentrate grading 55.0 percent zinc.

Concentrates from the flotation process will be thickened and filtered to provide dry concentrates that will be shipped to the respective smelters.

The average metallurgical balance for the project is shown in Table 13.6. The key recovery processes are shown in Figure 17.2, Figure 17.3, and Figure 17.4; these process options are typical within industry for the process being proposed.

Figure 17.1 Block Diagram of the West Desert Process



17.2 Design Criteria

17.2.1 Run-of-Mine Production

MDA has provided an estimate of the grades of mine production expected from the underground mining of the West Desert resources. The metal content of the mine production is summarized in Table 17.1.

Table 17.1 Summary of Expected Mine Production Grades

	Magnetite	Cu	Zn
	%	%	%
Average Mine Production	44.02	0.27	2.72

17.2.2 Concentrator Basis of Design

The concentrator design is based on the key data shown in Table 17.2. Variations of feed grade are expected within the mine production schedule; there has been no design consideration for large variations in feed grade or metal ratios.

Table 17.2 Summary of Design Inputs

Parameter	Parameter Value	Comments
Annual Tonnage Processed	2,372,500 metric tonnes	Defined by mine schedule
Daily tonnage processed	6500 metric tonnes	Defined by mine schedule
Crusher Availability	67%	Industry standard
Mill Availability	92%	Industry standard
Magnetite Content	47.4%	Based on resource model
Magnetite recovery	97%	Based on test work
Magnetite Concentrate grade	64 % Fe	Based on test work
Copper content	0.25 % Cu	Based on resource model
Copper recovery	74 %	Revised from test work
Copper Concentrate grade	29 % Cu	Based on test work
Zinc content	2.44 % Zn	Based on resource model
Zinc recovery	92 %	Based on test work
Zinc concentrate grade	55 % Zn	Based on test work

17.3 Concentrator Description

17.3.1 Crushing, Conveying, and Stockpiling

Mine production will be delivered to an underground crushing station by the mine operations group. The run-of-mine material will be crushed to approximately 250mm in order to meet the size requirements of the milling circuit and effective operation of conveying equipment.

The underground crusher is located approximately 500m below surface. An inclined conveyor of approximately 4.8km in length moves crushed material to a live stockpile located adjacent to the milling facilities. The conveyor system is composed to two conveyors, each approximately 2.4km in length. The crusher is sized as a 36 by 48-inch jaw crusher with a closing size of 8 inches.

Crushed material is placed on an 8200t live-load stockpile adjacent to the milling facilities. The live-load stockpile allows for approximately 30 hours of storage capacity of mill feed ahead of the process.

17.3.2 Primary and Secondary Grinding

Crushed material will be reclaimed from the live-load stockpile using two apron feeders which discharge upon a SAG mill feed conveyor. The SAG mill feed conveyor moves material from beheath the live-load stockpile into the SAG mill. The SAG mill feed conveyor moves 294 tonnes per hour to achieve 6500tpd throughput at a 92 percent operational availability.

Primary grinding is done in a 22ft diameter by 11ft EGL SAG mill employing a 3000hp drive motor. The SAG mill has capacity to carry a 15 percent by volume grinding steel in the form of 150mm forged steel balls. Slurry discharge from the SAG mill passes over a classification screen, and the screen underflow is transferred to a cyclone feed pump.

The primary classifying cyclone assembly is designed to produce an overflow particle size distribution with a P80 of 65 microns. The underflow from the cyclone classification process is fed to a VTM 3000, a vertical stirrred mill with a 3000hp motor. Discharge from the VTM 3000 is classified in the primary cyclone assembly, and the VTM 3000 mill is expected to operate with a circulating load of 250 percent.

The cyclone overflow from the classification cyclone will have a slurry density of 35 to 38 percent solids. Cyclone overflow will be transferred to the magnetite recovery plant.

17.3.3 Magnetic Separation

Ground slurry from the classifying cyclones will be fed to a bank of three magnetic separators operated in parallel to generate a rough magnetite concentrate for use in subsequent upgrading. The magnetic separators have been sized as 48-inch diameter by 124-inch long low-intensity (900 gauss) drum separators.

Two stages of cleaner magnetic separation are proposed, with each stage of magnetic cleaning employing two magnetic separators. Cleaner magnetic separators are of identical size and operating parameters as the rougher stage of the plant.

Large volumes of dilution water are used to remove entrained gangue material from the magnetic concentrates. The tailings from the cleaner stages are moved counter-current within the process to provide circulating loads of water and intermediate products.

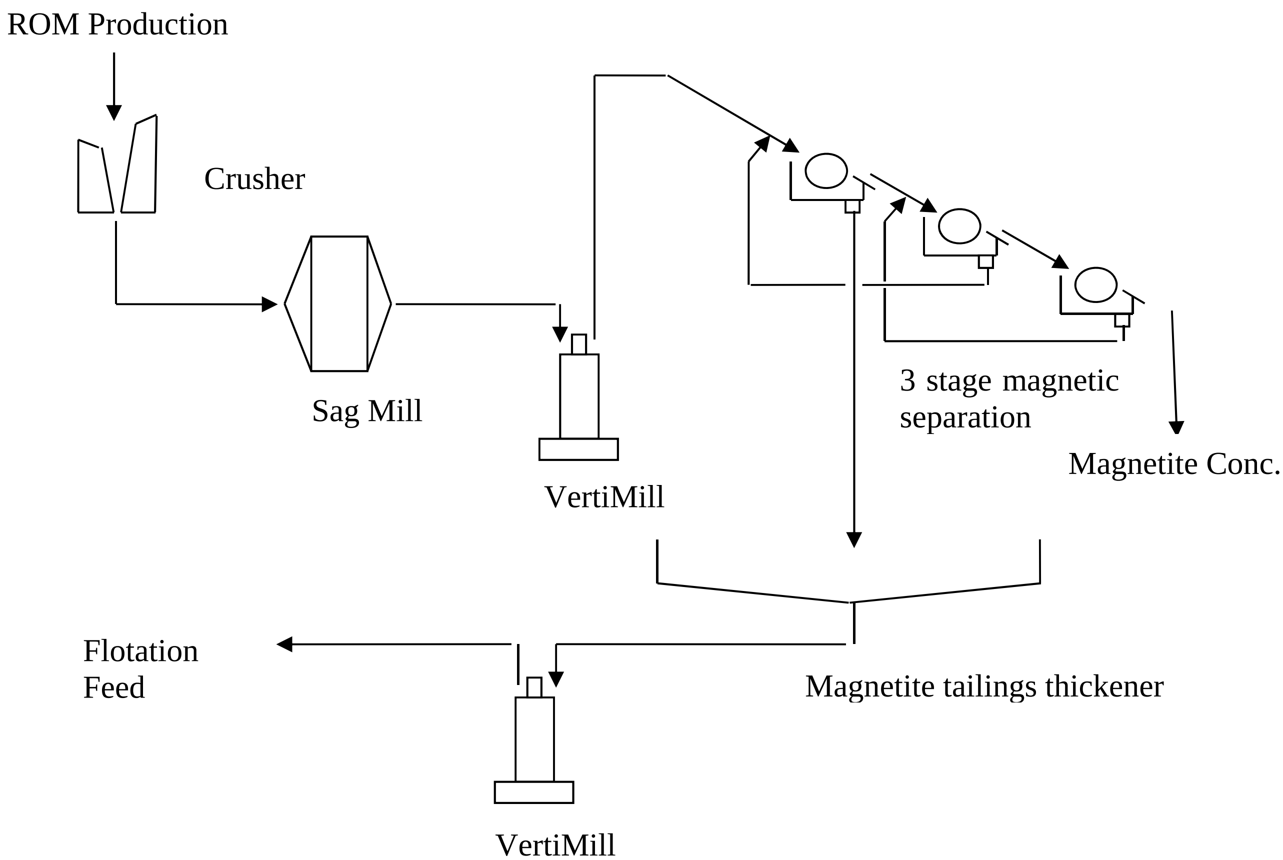
Tailings from the magnetite plant will report to a thickener to recover water for use in the operation of the cleaning stages within the magnetite plant. The thickener also removes water from the flotation feed stream to improve reagent usage in flotation.

Figure 17.2 shows the proposed crushing, grinding, and magnetic recovery flowsheet.

17.3.4 Flotation Feed Preparation

The feed for copper and zinc flotation will be depleted of the magnetic minerals, will be substantially reduced in terms of tonnage, and will also be significantly upgraded in terms of copper and zinc grades. On average, the flotation feed will be approximately 50 percent of the overall plant feed tonnage and approximately twice the copper and zinc content of the overall plant feed.

Figure 17.2 Crushing, Grinding, and Magnetic Recovery Flowsheet



Flotation feed will be thickened to approximately 40 percent solids in a 60m-diameter conventional thickener. Thickener underflow will be fed to a grinding mill dedicated to preparing feed for flotation. This mill is a 1500hp vertical stirred mill operating in conjuction with a cyclone classifier. Particle size distributions for cyclone overflow from the circuit are targeted at 50 to 60 microns.

Lime will be added to the mill in order to maintain pH levels in the range of 9.0 to 10.0. Reagents will be added to the grinding mill to assist in the recovery of copper and the depression of zinc minerals prior to the copper flotation process. Zinc sulfate and sodium cyanide will be added to the mill for maintaining zinc depression in the copper flotation stage.

17.3.5 Copper Flotation

The recovery of copper will be completed in a bank of mechanical flotation cells. The current design includes five cells of 20 cubic meter flotation volume. Expected retention time in copper flotation is approximately 16 minutes.

The copper rougher concentrate is upgraded in a single stage of mechanical cleaners using five cells of 2 cubic meter capacity. The copper rougher concentrate is upgraded prior to re-grinding to remove entrained material and reduce the tonnage sent to re-grinding. The first copper cleaner stage will also receive material from the second copper cleaner. Tailings from the first copper cleaner will report to the zinc flotation circuit.

Concentrate from the first copper cleaner will be re-ground to approximately 15 microns in a 100kW stirred-media grinding mill.

Two stages of column flotation cleaning will be used to produce a final copper concentrate. These columns will operating in a counter-current fashion, with concentrates advancing through the process and tailings re-circulated to the preceeding flotation stage. The flotation columns are sized at 2.5ft diameter by 30ft tall.

On average the copper circuit will produce 1.7 tonnes per hour of final concentrate.

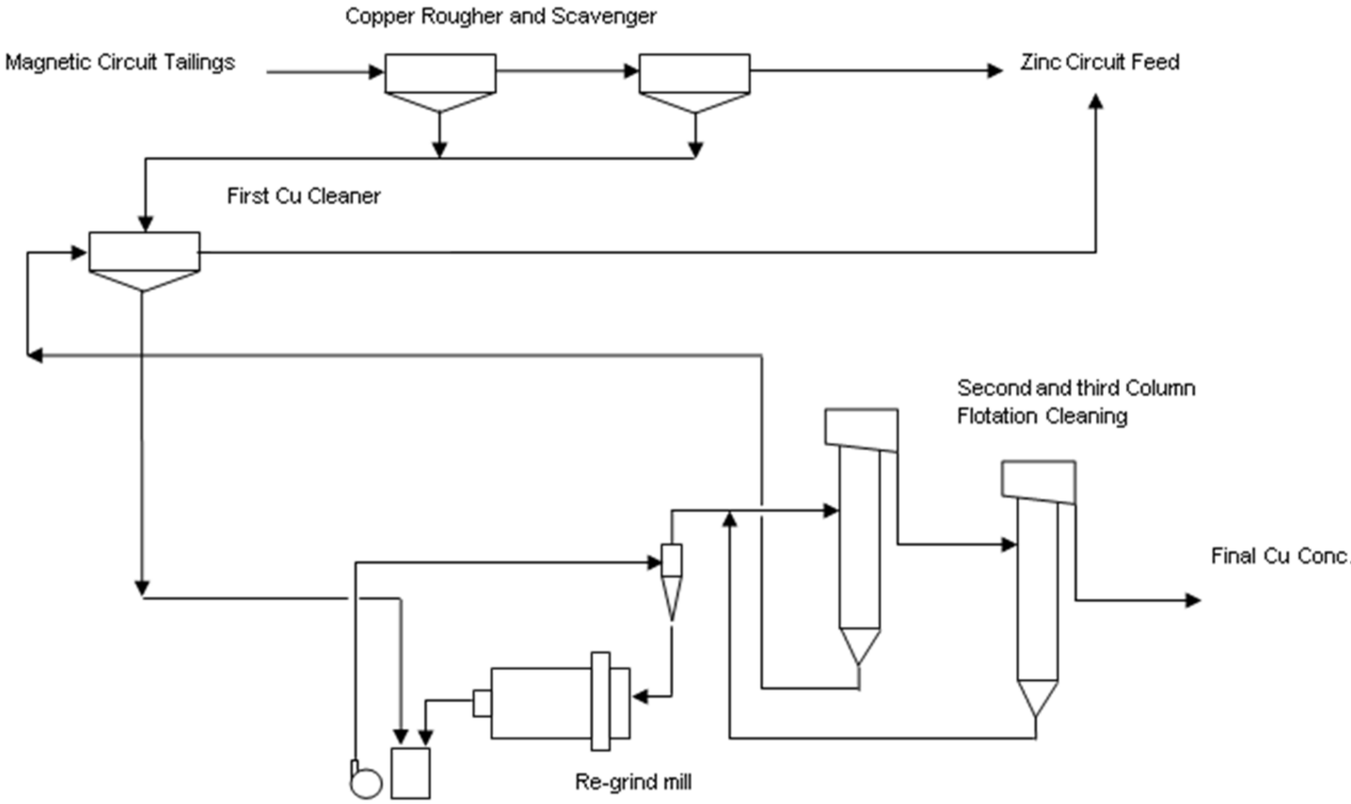
A flowsheet of the copper recovery process is shown in Figure 17.3.

17.3.6 Zinc Flotation

Feed to the zinc flotation circuit consists of the tailings from the copper recovery circuit. Conditioning of the flotation feed is required to alter the surfaces of zinc minerals and allow the zinc recovery process to be completed.

Two large conditioning tanks are included in the design. These are used to adjust pH levels to 11.0 and condition the flotation feed with copper sulfate and xanthate. Conditioning tanks are currently sized at 4m diameter and 6m tall, operating with a 5 kW agitator. The conditioning tanks are operated in series, with the first tank having lime and copper sulfate added to the slurry and the second tank having zinc collectors added.

Figure 17.3 Copper Recovery Flowsheet



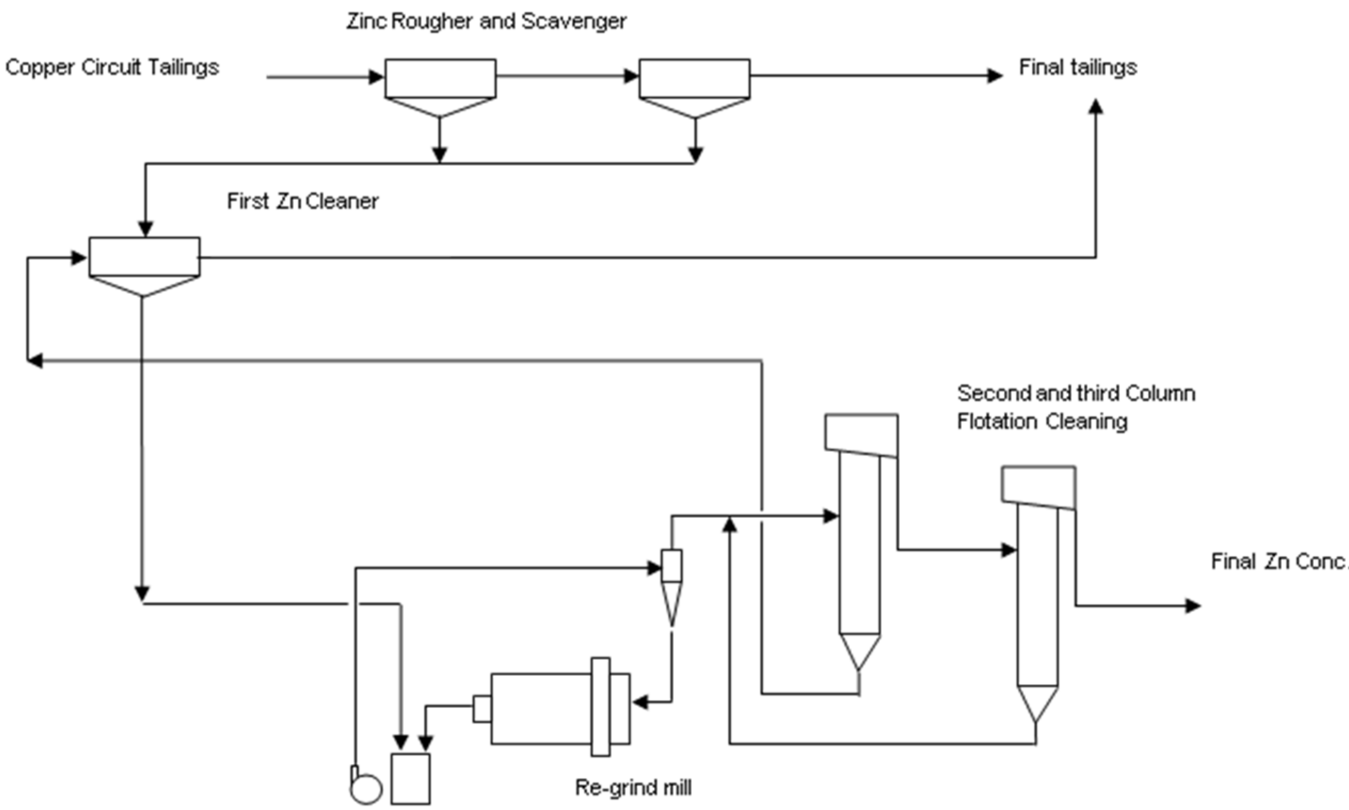
The conditioned zinc flotation feed slurry will be fed to a single bank of 20 cubic meter mechanical flotation cells. Eight cells will be installed and represent an approximate retention time of 24 minutes of flotation time. Concentrate from the zinc rougher will be sent to a first zinc cleaner stage employing eight cells of 5 cubic meters each.

Zinc first cleaner concentrate will be reground to approximately 30 microns in a 500kW stirred mill, operated in conjunction with a classifying cyclone. The cyclone overflow will be sent the first of two flotation columns, which operate as second and third zinc cleaners. Columns are sized at 2.5m diameter and 10m tall.

Tailings from the zinc rougher cells and the first zinc cleaner will be sent to the tailings storage facility.

A flowsheet of the zinc recovery process is shown in Figure 17.4.

Figure 17.4 Zinc Recovery Flowsheet



17.3.7 Concentrate Thickening and Dewatering

Magnetite concentrates obtained from the final stage of magnetic separation will be very dense and can be directly transferred to filtration. Magnetite concentrates will be directly fed to a belt vacuum filter to produce a final filter cake for storage and shipping to market.

Copper concentrate will be thickened to approximately 75 percent solids in a 6m-diameter thickener. Flocculant wll be added to the thickener feed to assist in settling the copper concentrate. Overflow from the thickener will be returned to the copper cleaner circuit. Thickened concentrate will be stored in an agitated stock tank prior to filtering in a pressure filter. A 6m-square pressure filter has been included in the design of the plant, which is substantially oversized.

Zinc concentrate will be thickened to approximately 75 percent solids in a 20m-diameter thickener. Flocculant wll be added to the thickener feed to assist in settling the zinc concentrate. Overflow from the thickener will be returned to the zinc cleaner circuit. Thickened concentrate will be stored in an agitated stock tank prior to filtering in a pressure filter. A 60m-square pressure filter has been included in the design of the plant.

Concentrates will be stored indoors prior to loading onto highway trucks for transport to market.

17.3.8 Tailings Handling

Process tailings will be pumped to a tailings storage facility, where solids will be allowed to settle and water will be reclaimed from the tailings pond to be re-used in the process. The tailings storage facility will be the long-term depository of the process tailings.

Process water will be reclaimed from the tailings storage facility using a barge-mounted pump assembly and pumped to a process water storage tank. Process water will be distributed to various areas with the concentrator as needed.

17.3.9 Reagents, Services, and Utilities

Reagents for the operation and control of the flotation process will be prepared, stored, and metered from a dedicated reagent area within the concentrator. Reagents which are received as solids will be mixed with fresh water prior to use in the flotation process. Reagents will be metered to the process as solutions using metering pumps.

The plant will be serviced with compressed air, fresh water, and instrumentation air for use in plant operation.

The overall process will be monitored using a process-control system, assisting operations with process monitoring, process control, and plant operation. Field instrumentation will be extensive, including power monitoring, material flow measurement, equipment status, flotation chemistry parameters, and other parameters.

The plant will include an on-stream analyzer to monitor the flotation process.These data will be key to understanding metallurgical requirements on a real-time basis.

17.4 Project Power and Plant Consumables

An estimate of power demand for the project is based on a summation of the motor sizes for the various equipment and factoring the estimated power demand during operation. Table 17.3 shows the connected motor sizes summed for the various areas of the plant as well as an estimate of the power draw during operation. Power draw was estimated to be 90 percent of connected the motor size.

Table 17.3 Summary of Power Requirements

Process Area	Total Connected Motor Sizing
	kW
Crushing and Conveying	1,658
Grinding	5,693
Magnetic Separation	243
Flotation	2,400
Dewateing	333
Total Connected Motor Size	10,325
Estimation of Power Demand (90%)	9,292

The consumption of grinding media and flotation reagents has been estimated for the project. Table 17.4 summarizes the expected consumption of these items.

Table 17.4 Summary of Grinding Media and Reagents

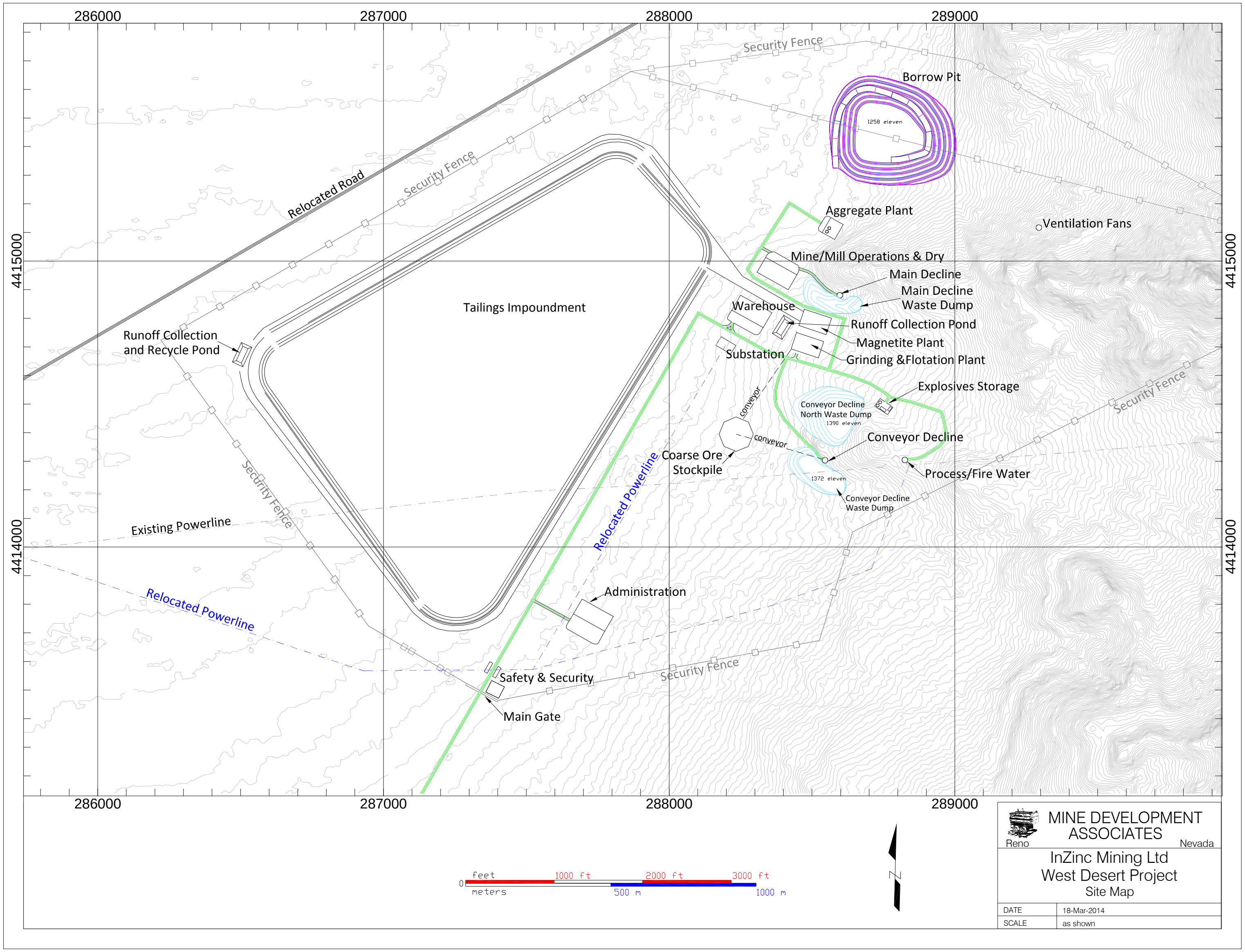
Consumable Item	Estimated Project requirement	Annual tonnages
	kg/t	t
SAG mill balls	0.62	1,473
Ball mill balls	0.95	2,246
Copper regrind media	0.005	11
Zinc regrind media	0.01	24
SAG mill liners	0.20	491
Ball mill liners	0.23	562
Copper collector (3418A)	0.03	71
Zinc collector (SIPX)	0.055	130
Frother	0.10	237
Lime (CaO)	1.37	3,262
Cyanide	0.06	148
Zinc sulfate	0.19	443
Copper sulfate	0.3	711
Flocculant	0.001	2

18.0 PROJECT INFRASTRUCTURE

Besides the direct mining and process facilities previously discussed, additional on-site project infrastructure will required for the mine to operate. This includes a tailings facility, waste dumps, borrow pits, electrical distribution, access roads, and buildings. The conceptual on-site infrastructure is shown in Figure 18.1.

Other facilities off-site will also be required, including a load-out facility to load concentrates onto rail cars and port facilities to load concentrates into ships.

Figure 18.1 West Desert Site Map



18.1 On-site Infrastructure

On-site infrastructure considered in the PEA includes a tailings facility, waste dumps, borrow pits, electrical distribution, access roads, and buildings.

18.1.1 Tailings Storage Facility

The tailings storage facility ("TSF") was originally designed in a study by Knight Piésold that was used for the 2010 PEA and was described in that technical report (Nilsson *et al*., 2010). The 2010 PEA provided a basic design for the containment of 12.1 million tonnes of tailings material. The current potentially mineable resources will create about 17.3 million tonnes of tailings, thus requiring additional storage capacity. This would be done by either increasing the footprint of the existing design or increasing the height. In addition, some tailings can ultimately be stored underground, which would be more desirable; however, detailed studies for the incorporation of tailings into the backfill have not yet been completed.

This PEA has relied on the same design concepts as the 2010 PEA. These design concepts were provided in the previous technical report as follows (Nilsson *et al*., 2010):

> *"The objective of the TSF design concept was to locate a TSF as close a possible to the deposit while minimizing embankment fill requirements. It was also a requirement to maintain a 150 m buffer zone from the Pony Express Road. The TSF was thus located on the gentle sloping (1 to 2% grade) ground immediately west of the deposit between the Pony Express Road and the main road to the west of the deposit. The preliminary layout of the TSF included a large impoundment footprint, as the volumetric storage efficiency (volume of storage vs. volume of embankment fill materials) for TSFs on relatively flat terrain increases as the TSF footprint increases. The embankment fill materials (and costs) are comparatively lower than for facilities with smaller footprints and higher embankments.*
>
> *The preliminary layout for the TSF was to provide containment for 12.1 million tonnes of tailings solids at an assumed dry density of 1.4 tonnes/m^3. The TSF has been located on the flats to the west of the deposit where the elevation ranges from approximately 1,324 m to 1336 m (Figure 19.8). The ultimate elevation of the TSF embankments is approximately 1,340 m and has embankments that range in height from 16 m at the western corner of the facility to approximately 4 m along the eastern side of the TSF.*
>
> *The TSF covers an approximate area of 1.1 Mm^2 and includes a low permeability basin liner/subgrade material with a basin underdrain for seepage control. The embankments were assumed to be constructed using the downstream construction method with a 3H:1V upstream slope to facilitate placement and compaction of the low permeability basin liner, and a 2H:1V downstream slope. The embankments are homogeneous dams with appropriate filter zones to prevent internal erosion of the embankment fill materials in the event the liner system if damaged. The embankments were assumed to be constructed using local borrow materials.*

The low permeability basin liner/subgrade material was assumed to be appropriate for seepage control at this stage. This should be revisited once the tailings geochemistry is better understood.

The tailings were assumed to be conventional slurry tailings with a solids content of 30%, as per discussions with Lithic resources. The tailings were discharged from the embankment crest around the impoundment to maximize the tailings distribution within the TSF to improve the storage efficiency. A small supernatant pond was assumed to be located on the western side of the facility for the PEA.

The starter dam sized for containment of two years of operations at the full throughput. A mill ramp-up period was not considered for the PEA."

18.1.2 Waste Dumps

Three waste dumps have been designed to provide containment of development waste. Two of these dumps are outside of the portal entrances for both the main and conveyor declines. These would be used to store initial waste material created during construction of the declines as well as to develop pads outside of each portal for staging of equipment and supplies used in the portals.

A third waste dump has been designed to contain additional development waste just to the north of the conveyor decline. This would be used for waste hauled out of the main decline by trucks as required. In addition, it may be practical to crush some of the waste underground and convey it up the conveyor decline.

The three waste dumps have been designed to hold approximately 1.5 million tonnes of waste. However, it may be beneficial to use some of this waste as backfill material, running it through the aggregate plant. The waste dumps have been included at this time to provide an overall potential footprint for the project. Additional studies in the future may refine the use of waste material throughout the site.

18.1.3 Borrow Pits

This PEA assumes that tailings will be stored on the surface along with development waste. Thus, there will be a requirement for aggregate to be mined for use in backfill. The material would be mined from a surface borrow pit and delivered to the aggregate plant for crushing and subsequent delivery underground for the backfill of stopes.

For the purpose of this PEA, a rough design has been made, placing the borrow pit just to the north of the main decline. This design would provide approximately 20 million tonnes of backfill material. At this time, the quality of this material is not known, and additional studies are required.

It may be possible to enhance the economics of the project if the borrow pit is designed around the oxide portion of the West Desert deposit. Additional studies would be required to determine how zinc and copper would be extracted from the oxide material; however, it may be possible to run the oxide portions of magnetite through the magnetic separator to provide additional revenues and to use material classified as waste in and around the oxide resource for backfill in the underground mine. This will be the subject of additional studies in the future.

18.1.4 Electrical Distribution

Electrical power will be supplied underground, typically at 4,160V, using a ring system through the main and conveyor declines. Power centers with step-down transformers will be located to provide power to drills, bolters, fans, and pumps in active mining areas and to fixed facilities including the maintenance shop, crusher room, and warehouse.

The annual power consumption during a typical year of full mining is estimated to be about 54,000 MWh. Ventilation, dewatering pumps, and crushers will be the primary consumption of power underground.

Surface power will be distributed from a substation located near the mill. The primary usage will be for processing on the surface. The process power requirements have been defined based on the equipment required for the process facility, which has approximately 12,600 hp of requirements. Additional power will be distributed around the site as needed for the aggregate plant, warehouse, and other buildings.

18.1.5 Access Roads

Primary access to the property is via theBrush Wellman Road, which is a paved road leading northwest from Delta, Utah. This leads to a gravel public road, which currently crosses the property between the TSF and the plant. This portion of public access would be re-routed around the west side of the property and a portion of the old public access would be used to access the site.

Additional roads would be built inside of the property to access areas as needed.

18.1.6 Buildings and Security

Various buildings would be constructed around the site. Most of these would be pre-fabricated buildings where applicable. The buildings would include: administration, safety and security, warehouse, mine and mill operations and dry facility, and a small office within the explosives storage facility.

In order to keep the public safe and to secure the operation, a security fence would be constructed around the entire facility. The fence will extend around both the surface and underground development. The fence will have a main gate at the southern end of the project near the safety and security building to control access to for employees and visitors.

Additionally, scales will be maintained near the main entrance and controlled from the safety and security building. This will allow for the weighing of both incoming supplies and outgoing product.

18.2 Off-site Infrastructure

This PEA contemplates transport of three concentrates: magnetite, zinc, and copper. All three concentrates would be loaded into over-the-road trucks on site. Copper concentrate would be hauled directly to the Kennecott smelter in Salt Lake City, Utah. Zinc and magnetite concentrates would be hauled by truck to an off-site train load-out facility. From there, zinc concentrate would be loaded onto railcars for transport to the Teck smelter in Trail, B.C. Magnetite concentrate would be loaded onto railcars and delivered to a port facility near San Francisco (Stockton, Richmond, or Oakland), from which it would be shipped to Tianjin, China. The off-site load-out facility required for zinc and magnetite concentrates could be located near Delta, Utah, although an alternative and equidistant site may be Wendover, Utah.

Final modes of transportation and location of any related off-site facilities are subject to further study and negotiation. It may be possible to find domestic markets for the magnetite within the U. S., which would further enhance the economics of the project through possible savings on transportation costs.

For the purpose of this PEA, costs have been added for transportation based on the tonnage of concentrate shipped and include leases for certain off-site facilities.

19.0 MARKET STUDIES AND CONTRACTS

The West Desert project is expected to create three main products:

1. zinc concentrate with high indium content
2. copper concentrate with high gold and silver content
3. magnetite (iron) concentrate.

InZinc has no current sales contracts in place and has not engaged a concentrate specialist. However, large and liquid markets that are global in extent exist for all three products and are routinely reported on in the press.

The metals prices (except indium) used in this PEA are the average of long-term price forecasts periodically published by a number of large banking and financial institutions including RBC, CIBC, Scotia Bank, and BMO, among others. In the case of indium, there is no long-term forecast available, and a price well below the spot price of $750/kg (March 17, 2014) was chosen. Metals prices used in this study are shown in Table 19.1.

Table 19.1 Metal Prices Used for the PEA

Zinc ($/lb)	Copper ($/lb)	Iron Concentrate ($/t: 62% CFR Tianjin) *	Gold ($/oz)	Silver ($/oz)	Indium ($/kg)
1.00	3.00	105	1,300	21	600

* The project's iron concentrate is magnetite and is expected to attract a premium of $10.00/t; thus a price of $115/t for magnetite is used payable in Tianjin (see discussion on magnetite concentrate in Section 19.3).

19.1 Zinc Concentrate

Zinc concentrates are produced at a large number of mines and treated at a variety of smelters and refineries around the world. The overall market for these concentrates is expected to be significantly and positively impacted by the closure of a number of large, long-lived mines that have exhausted their reserves. Estimates of the net decrease in global mine production over the next two years are in the range of 1.5 million tonnes of contained zinc (Teck Resources Ltd., 2014). At the same time, zinc consumption in both China and the rest of the world is projected to continue increasing.

The zinc concentrates produced at West Desert are expected to be readily marketable in view of their high zinc content, high levels of indium, and the lack of penalty elements. For the purpose of this study, it is assumed that concentrates would be shipped to the Teck smelter in Trail, B.C.

Smelter terms agreed to between Teck and Korea Zinc serve as an unofficial benchmark for longer-term contracts and are generally set early in the year. In 2013, this rate was set at $210.50 per tonne at a basis zinc price of $2,000/t (Reuters.com, 2013a). An escalator clause allows for increases of 6% for a zinc price between $2,000 - 2,500/t, by 5% for a price between $2,500 - 3,000/t, 2% for a price between $3,000-3,500/t and flat thereafter. A de-escalator clause would decrease the fee by 2% for a zinc price from $1,500 - 2,000 and flat thereafter.

Notwithstanding the above, individual smelter term agreements will depend on the quality of the concentrate. In addition, many Chinese smelters do not have long-term contracts, in which case spot treatment charges are in effect. At the time the Teck-Korea Zinc agreement was announced in 2013, spot charges were significantly lower, in the range of $120-130 per tonne.

Indium is present in West Desert mineralization at unusually high levels, and analysis has shown that it is contained entirely as a trace constituent in sphalerite, albeit in amounts of up to 8% by weight. As a result, the majority of it reports to the zinc concentrate, although minor amounts are found in the copper concentrate where it is almost certainly associated with low levels of sphalerite impurities.

Traditionally, indium credits were not paid in third-party smelter contracts. In part, this related to low prices, low demand, and because many mine operators were not aware of its presence. With the significant increase in indium price and consumption due to its essential requirement in the manufacture of flat-screen display units, this situation may be changing. At least one contract, one between Glencore-Xstrata and Alexco, has been publicly acknowledged to pay an indium credit (Canadian Mining Journal, 2010). The presence of high levels of indium in concentrate will certainly be a factor in the negotiation of smelter contracts for West Desert; thus, a net economic benefit to the producer could be realized even if payment for indium is not explicit. Finally, many mining companies such as Teck, Nyrstar, and Votorantim smelt their own zinc concentrates and operate indium recovery circuits. Accordingly, indium at West Desert is expected to provide an economic benefit to the project.

19.2 Copper Concentrate

Copper concentrates are produced at a large number of mines and treated at a variety of smelters and refineries around the world. The copper concentrates produced at West Desert are expected to be easily marketable in view of their good copper content and payable levels of silver and gold, as well as the lack of penalty elements. For the purpose of this study, it is assumed that concentrates would be shipped to the Kennecott smelter in Salt Lake City, Utah.

The terms for a number of contracts between large copper producers and smelters for processing of copper concentrates are published each year and, although they vary somewhat, serve as unofficial benchmarks. Freeport McMoRan recently agreed with the largest smelting group in China, Jiangxi Copper Company, to treatment and refining charges of $92 per tonne and 9.2 cents per pound for copper concentrate shipments in 2014 (Reuters.com, 2013b).

19.3 Magnetite Concentrate

The sale of a magnetite concentrate from the West Desert project can be supported by three principal market factors:

1. continuing growth in demand for steel
2. continuing growth in projected global steel production, led by China
3. desirability of high-quality iron feed consisting of concentrates with high Fe grade, magnetite mineralogy, and low or negligible levels of impurities.

Global markets for iron concentrates are about 2.1 billion tonnes annually (Bank of America and Merrill Lynch, 2012). Market research suggests a trend towards higher demand for quality iron concentrates, particularly in China, as higher energy costs and new environmental policies are implemented.

For the purpose of this study, it was assumed that magnetite concentrates would be shipped to Tianjin, China. However, it is important to note that a number of domestic steel producers and/or re-melters exist in the Midwest and western U.S. and could provide a market for these concentrates, possibly reducing shipping costs. This potential will be investigated in detail in future studies.

Iron ore is currently priced based on certain benchmarks depending on the quality of the ore. The Platts IODEX marker for 62% iron sinter fines, cost and freight ("CFR") Tianjin, China, is expected to apply to West Desert concentrates and has specifications as shown in Table 19.2.

Table 19.2 Platts IODEX Specifications

Sinter Fines	Reference	Maximums
Size (for hematite ores)	granular size below 10mm for at least 90% of the cargo, with maximum of 40% below 150 micron	
Iron content (% Fe)	62.00 Fe	60.01 – 68.00 Fe
% Moisture	8.00	10.00
% Alumina	3.50	4.00
% Silica	4.00	6.00
% Phosphorus	0.07	0.125
% Sulfur	0.05	0.07
Minimum lot size	20,000 metric tonnes	
Pricing Point	CFR Tianjin port (China)	
Timing	Loading within 4 weeks of transaction	
Payment	At sight	
Currency and Units	US$ per dry metric tonne	

Concentrates exceeding this standard of quality may attract premiums. In general, the value of these premiums is linked to steel demand and available steel production capacity. Particularly in periods with low available capacity, a higher grade of feed increases the value of the iron in the feed to the furnaces, and more iron can been produced per unit of feed. In addition, a higher-quality feed is important where energy or environmental costs are significant, since it results in less slag that has to be disposed of and less energy required per unit of steel. The latter is particularly true of magnetite ores, which are more easily reduceable. Already significant in Japan and Korea, these considerations are growing in importance in China as well.

For concentrates with higher grades, a premium is applied per percentage point above 62% Fe. Historically, this premium has fluctuated between $1.50 and $9 per tonne per extra percentage point. The West Desert concentrates are expected to average 63% Fe. The current long-term projection (RBC Capital Markets, 2013) for a grade premium is $4 per percentage point, and therefore the West Desert concentrates are projected to receive a $4 per tonne premium. There is also a premium for magnetite mineralogy, as it generates heat in the steel-making process and requires less energy to reduce. This premium, for which West Desert concentrates are expected to qualify, has recently been about $5 per tonne (Tetra Tech, 2013).

Finally, there are penalties for contaminants such as sulfur, phosphorus, and alumina above the benchmark rates noted in Table 19.2. Magnetite concentrates produced at West Desert contain low amounts of these elements and are not expected to incur penalties. In addition, a relatively high content of magnesia in the West Desert concentrates may be attractive to buyers as it could reduce the amount of dolomite flux required in the smelting process.

20.0 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL OR COMMUNITY IMPACT

InZinc retained Enviroscientists, Inc. of Reno, Nevada, to provide an independent assessment of the permits and approvals that would be required for continued exploration and any subsequent construction and operation of a mine at the West Desert project. Enviroscientists specializes in assisting natural resource development industries in the southwestern U.S. with permitting requirements with a focus on the evaluation of environmental impacts. Most of the material in this section is summarized by InZinc from Enviroscientists, Inc.'s May 19, 2013 letter report to InZinc (Enviroscientists, Inc., 2013), with additional information from other recent studies (RPA, 2013).

20.1 Environmental Studies

InZinc currently holds exploration permits from the U.S. Bureau of Land Management and the Utah Division of Oil, Gas and Mining, as well as a Small Mine Permit from the latter agency. No environmental studies were necessary for these permits nor have any been carried out by InZinc on the project to this point. Since the project is at the level of a Preliminary Economic Assessment, the exact details of any further development have not been finalized. However, the current study indicates that development activities may include:

1. underground mining;
2. minor open pit mining;
3. ore processing using a flotation process;
4. spent-ore disposal in a tailings impoundment;
5. ancillary activities; and
6. water production from a groundwater source.

The permitting process mandated by the above activities would require that the following environmental studies and baseline data collection beconducted:

1. cultural resource surveys (anything over 50 years old is considered a cultural resource);
2. wildlife surveys for threatened or endangered species;
3. botanical surveys for threatened or endangered species and vegetation community analysis (limited to the blooming season);
4. geochemistry for waste and ore characterization;
5. groundwater characterization;
6. soil assessment; and
7. air quality assessment.

20.2 Permitting

The West Desert deposit is located on undeveloped fee land, and although the property includes some peripheral federal lands and a state mineral lease, any development related to mining is expected to be located on existing fee land or lands converted to that status. As a result, the majority of the regulatory requirements would be administered at the state level. The main State of Utah agencies with jurisdiction include:

DOGM (Division of Oil, Gas and Mining) provides oversight and, in coordination with the State of Utah School and Institutional Trust Land Administration (“SITLA") and the U.S. Bureau of Land Management (“BLM”), has approval authority for mine and reclamation planning as well as financial assurance and reclamation monitoring.

DEQ (Department of Environmental Quality) issues permits for the protection of air and water quality.

DWR (Division of Water Rights) regulates the appropriation and distribution of water in the State of Utah through the Office of the State Engineer.

In addition to these key permitting agencies, there are a number of additional State compliance programs including those pertaining to drinking water, waste disposal, and safety.

The following major environmental permits would be necessary from the state of Utah to construct and operate the project:

1. Large Mine Operating Permit;
2. Ground Water Discharge Permit;
3. Pond Construction Permit;
4. Dam Permit;
5. Air Quality Permit, and
6. Water Rights.

Large Mine Operating Permit (“LMO”)

The LMO is a complex permit administered by DOGM. LMO's are required for mines that exceed 10 acres of surface disturbance and include a detailed plan of operations, rock geochemical characterization, a reclamation plan, and financial assurance requirements. InZinc currently has a Small Mine Operating Permit (“SMO”) allowing a surface disturbance of up to five acres. The project is currently bonded in the amount of $76,000 in fulfillment of the requirements for the SMO in conjunction with those for a BLM Exploration Permit. The amount of additional financial assurance necessary for a mining operation would be stipulated in the LMO.

Ground Water Discharge Permit (“GWDP”)

The GWDP is administered by the Water Quality Division (“DWQ”) of DEQ and must be completed for mining and processing activities and any water management system. The GWDP application includes the requirement of a construction permit for any impoundments designed to hold process water or dispose of wastewater by evaporation.

Pond Construction Permit

Pond construction permitting is regulated under UAC R317-1-2, and a construction permit is acquired through the DWQ. Once the pond design plans are approved, the construction permit will be issued.

After the construction permit has been approved, construction must commence within one year unless otherwise extended by the DWQ.

Dam Permit

The State Engineer has the authority to regulate dams in Utah. Dams are classified according to hazard, size, and use. Requirements for a dam to be approved by the State Engineer include that the dam impounds more than 20 acre-feet of water and does not constitute a threat to human life.

Air Quality Permit (Approval Order ("AO"))

The AO is administered by the DEQ's Division of Air Quality ("DAQ"). An air quality impact assessment would be developed to assess the impacts of the project on the air quality of the surrounding area and would be used for the analysis in the Air Quality Permit. A complete emission inventory of all the sources would be based on the planned operational configuration and operational parameters and hours. The inventory would quantify criteria pollutant as well as hazardous air pollutant emissions. Modeling would use a U.S. Environmental Protection Agency ("EPA") approved model (AERMOD). It is assumed that the project would not meet the DAQ's definition of a major source of air pollutants which would require extra measures.

Water Rights

InZinc currently owns the water rights for 10 acre-ft in the project area. Application to the DWR for additional usage would be made as necessary.

Federal permits and approvals necessary for the construction and operation of the West Desert project are likely to be limited. Regulatory programs to which West Desert would be subject include the Bureau of Alcohol, Tobacco, Firearms, and Explosives administered explosives program, the EPA for a Title V air permit in the event that it was necessary, Mine Safety and Health Administration facility registration and safety programs, and potential compliance and/or permits from the Federal Communications Commission for on-site communication systems.

Table 20.1 summarizes the permits most likely to be required for development of the West Desert project.

Table 20.1 Permit Requirements

Permit Type	Regulatory Agency
Pre-Construction Permits/Approvals/ Clearances	
Archaeological Clearance	SITLA, DOGM, State Historic Preservation Office
Construction Permit	DEQ, DWQ
Approval Order (Air Permit)	DEQ , DAQ
Ground Water Discharge Permit	DEQ - DWQ
Public Drinking Water System Permit	DEQ - Division of Drinking Water
Test Well Drilling Permit	DWR
Large Mine Operation Permit	DOGM
Storm Water Pollution Prevention Plan (Construction)	DEQ-DWQ
Water Rights	DWR
On Site Wastewater Facility	DEQ - DWQ
Operating Permits/Approvals	
Title V Operating Permit (12 months after startup)	DEQ - DAQ, EPA
Explosives User's License	Bureau of Alcohol, Tobacco, Firearms, and Explosives
Spill Prevention Control Countermeasure Plan (SPCC)	EPA
General Multi-Sector Industrial Storm Water Permit	DEQ - DWQ
Above Ground Storage Tank Notification	Juab County
Mine Registration	Mine Safety and Health Administration
Mine Safety Training Plan	Mine Safety and Health Administration
Used Oil Program Registration	DEQ - Division of Solid and Hazardous Waste

20.3 Local Consultation

A cultural study undertaken by the BLM as part of their exploration permitting process showed no traditional Cultural Properties to exist in the project area, and no other concerns have been expressed by other parties to date. All residents in the region are familiar with the mining history of the property comprising the West Desert project, which dates back to the late 19th century. A number of the local residents in the nearby ranching communities of Callao and Granite Ranch, Utah have been employed by or have supplied rental equipment to the project during past exploration programs and are familiar with the project. They would continue to be advised of the project's status through any development of an LMO Permit.

20.4 Mine Closure Requirements

The goal of the project's reclamation plan would be to return the site to a landscape comparable to the surrounding area that supports an ecosystem as close to the pre-mining site ecosystem as possible. All infrastructure installed by InZinc would be removed from the project site. Side slopes on disturbed ground would be sloped and contoured. Growth media from topsoil stockpile areas would be used as a final cover over any reclaimed dumps and other re-contoured areas. All areas would be re-seeded with a State of Utah-approved seed mixture. Once acceptable water quality is verified, the water in any process ponds would be used to irrigate reclaimed areas within the project site. Any sediment-control structures that are necessary would be built to minimize erosion of the reclaimed areas.

21.0 CAPITAL AND OPERATING COSTS

Capital and operating cost estimates have been made for the West Desert mining project based on vender budgetary quotes, estimation guides, and benchmarking with similar projects. The cost estimates are considered to be within a level of accuracy of +/- 30%.

21.1 Capital Cost Estimate

Capital cost estimates have been made for the mine, process plant, and facilities. The total capital is summarized in Table 21.1.

Table 21.1 Project Capital Cost Estimate

	Units	Initial	Sustaining	Total
Underground Development	K USD	$ 39,488	$ 65,878	$ 105,366
Project Development	K USD	$ 2,000	$ 5,000	$ 7,000
Facilities	K USD	$ 5,250	$ -	$ 5,250
Mining Equipment	K USD	$ 1,153	$ 49,777	$ 50,930
Process Plant	K USD	$ 123,062	$ -	$ 123,062
Tailings	K USD	$ 12,300	$ 20,870	$ 33,170
Contingency, Indirects, and EPCM	K USD	$ 64,139	$ -	$ 64,139
Total Capital Costs	K USD	$ 247,392	$ 141,525	$ 388,916

21.1.1 Mine Capital Costs

Mining capital includes the cost of underground development, mobile mining equipment, and other mine equipment. Table 21.2 shows the mine capital estimate.

Development capital is based on the cost for construction of mine development required to achieve the production schedule. Costs have been based on estimation guides and benchmarking with other projects. Pre-production development (years -1 and -2) uses contract mining for development of the ventilation shaft and the main and conveyor declines, and as such, a 30% increase in costs was added for contracted development. The total development cost is estimated to be $105.4 million for the life of the mine.

Mine mobile equipment is purchased when owner mining starts in year 1 and includes the purchase of equipment as per Table 16.7 (Mine Equipment Requirements). The total cost for mobile equipment is estimated to be $47.4 million through the life of the mine.

Other mine equipment includes surface equipment, light vehicles, underground pumping equipment, electrical substations, explosives magazines, and ventilation fans. A total of $3.6 million is estimated for other mine capital through the life of the mine.

Table 21.2 Mine Capital Estimate

	Units	Initial	Sustaining	Total
Development Costs	K USD	$ 39,488	$ 65,878	$ 105,366
Mine Mobile Equipment	K USD	$ -	$ 47,310	$ 47,310
Other Mine Equipment	K USD	$ 1,153	$ 2,467	$ 3,620
Total Mining Capital	K USD	$ 40,641	$ 115,655	$ 156,296

21.1.2 Mill Capital Costs

Milling facility capital includes the cost of plant site development, processing equipment purchase, equipment installation, and the construction of structures to house the milling equipment. Table 21.3 shows the mill capital estimate for the West Desert project. Overall capital estimates for the milling facility total $123.1 million, exclusive of contgency or owner's costs.

The milling facility is costed based on process capacity of 6,500 tpd, producing a magnetite iron concentrate, copper concentrate, and zinc concentrate. Capital costs were developed by obtaining quotes for key items in the equipment list, as well as deriving some cost estimates from comparable projects. Installation costs were estimated using a factor of 40 percent of the equipment purchase price. Wide variations were seen in equipment quotes, and some equipment costs were estimated using the higher quoted costs in the interest of maintaining a conservative approach to the estimation process.

Volume estimates for excavation and site preparation, concrete volumes, and structural steel tonnage were based on comparable project requirements, and comparable pricing to continental U. S. projects was used to determine contributions to the project costs.

Table 21.3 Mill Capital Cost

	Units	Total
Site Services/Site Prep	K USD	$ 11,000
Coarse Ore Crushing and Conveying	K USD	$ 15,599
Grinding	K USD	$ 31,920
Magnetic Separation	K USD	$ 11,436
Flotation	K USD	$ 42,286
Dewatering	K USD	$ 10,821
Total Process Plant	K USD	$ 123,062

Included within the capital estimate for the milling facility is an estimate of first fills for grinding media within the grinding mills. This estimate does not contain sustaining capital for the milling facility at this time, and it is thought to be minimal.

21.1.3 Other Capital Costs

Other capital cost estimates include project development, facilities, tailings, indirect and EPCM, and contingency. The project development costs cover delineation drilling, sampling, and assaying from underground to better define the stopes to be mined.

Facilities cost estimates includes access roads, water storage and distribution, assay laboratory, shop, and warehouse. Note that electrical distribution on the surface has been budgeted for in the processing capital, and underground electrical distribution is budgeted for in the mining capital.

The tailings facility capital includes $12.3 million for initial construction of the tailings facility along with $20.9 million of sustaining capital for future expansion of the tailings facility.

Indirect and ECPM costs are calculated based on 20% of the total capital with the exception of working capital. A contingency has been added to the estimate as 15% of the total capital cost, also excluding working capital. The cash-flow contains $18.9 million in working capital as a charge in year 1. This amounts to three months of production costs during the first year, and the capital is returned in the cash flow at the end of the mine life. Other Capital Costs are summarized in Table 21.4.

Table 21.4 Other Capital Costs

	Units	Initial	Sustaining	Total
Project Development	K $US	$ 2,000	$ 5,000	$ 7,000
Facilities	K $US	$ 5,250	$ -	$ 5,250
Tailings	K $US	$ 12,300	$ 20,870	$ 33,170
Indirects & EPCM	K $US	$ 36,651	$ -	$ 36,651
Contingency	K $US	$ 27,488	$ -	$ 27,488
Total Other Capital	K $US	$ 83,689	$ 25,870	$ 109,559

21.2 Operating Cost Estimate

Operating costs have been estimated for the life of the mine. All operating costs prior to production in year 1 have been capitalized. Total life-of-mine operating costs and cost per tonne are summarized in Table 21.5.

Table 21.5 Operating Cost Estimate

	K $US	$/t
Underground Mining Cost	$ 883,955	$ 26.00
Processing Cost	$ 415,799	$ 12.23
Tailings Cost	$ 8,500	$ 0.25
G&A Costs	$ 88,532	$ 2.60
Total Operating Cost	$ 1,396,785	$ 41.08

21.2.1 Mine Operating Costs

Mine operating costs have been developed using first-principal costs and comparing those with recently published costs for comparable projects. A basic stope was assumed measuring 25m long by 20m wide and 21m high. The costs were broken down into development of the sill, hanging wall support for cable bolting, stope production, and backfilling. Equipment and labor costs were based on operating two shifts at 12 hours per shift and assumed that 1.5 hours of each shift were spent on startup, shutdown, and break time.

Equipment operating costs assume 83% efficiency and are based on the hours required to achieve the production schedule. The mine operating costs include parts and maintenance based on the equipment hours used, including maintenance labor. Labor rates for maintenance and operators are based on published wages and recent projects. Labor costs include a 40% burden to account for employee benefits and include an average overtime of 21%.

Primary consumables include fuel estimated at $3.00 per gallon and bulk explosives at $1,200 per tonne of explosives (includes explosives and delivery to site). Electrical costs are estimated using $0.08/kWh.

Other mining costs include utilities, ventilation, mining general costs, and engineering and geology and expensed development. The expensed development is based on 34m of attack ramp per stope at a cost of $2,500 per meter.

Table 21.6 shows the breakdown of the mine operating cost estimate.

Table 21.6 Mine Operating Cost per Tonne Estimate

	K $US	$/t
Production Mining	$ 251,726	$ 7.40
Backfill	$ 445,879	$ 13.11
Utillities & Ventilation	$ 49,044	$ 1.44
Mine General	$ 29,426	$ 0.87
Engineering & Geology	$ 5,885	$ 0.17
Total Production Cost	$ 781,960	$ 23.00
Expensed Development	$ 101,995	$ 3.00
Net Cost Per Tonne	$ 883,955	$ 26.00

21.2.2 Mill Operating Costs

Mill operating costs have been developed using first principles, based on the results of test work specific to the West Desert project, as well as operating staff requirements for the described process flowsheet. The expected operating costs for the milling facility is shown in Table 21.7.

The milling facility will employ 72 staff on a full-time basis, including six people in a staff role and 66 employees as hourly paid workers. The average burdened wage cost is estimated to be $89,000 per year for the operation, excluding overtime allowances.

Reagent consumptions are based test-work findings and are factored to reflect the fact that significant tonnage is removed from the flotation process stream by the production of a magnetite concentrate. Mill consumables tonnages are estimated to be 9,813 tonnes annually, approximately 70 percent of it coming from the Salt Lake area, providing a significant freight cost savings to the project.

Power costs are estimated based on a $0.08 per kWh pricing. Power demand is estimated to be 10.3 MW, including conveying, crushing, grinding, flotation, and dewatering.

Table 21.7 Mill Operating Cost per Tonne Estimate

	Annual cost	Cost per tonne
	$	$
Mill Labor	6,405,000	2.70
Mill Consumables	11,849,392	4.99
Power	6,447,360	2.72
Maintenance Supplies	3,677,375	1.55
Freight	640,575	0.27
Totals	29,019,702	12.23

21.2.3 Other Operating Costs

Tailings operating costs have been assumed to be $0.25/tonne based on previous work. This accounts for costs involved with pumping of tailings and water management at the tailings facility.

Administrative costs have been estimated based on the costs of administration of personnel, supplies, legal, outside services, buildings and utilities, light vehicles, and other general expenses. The general and administrative cost estimate is shown in Table 21.8. Personnel costs include a 40% burden for employee benefits. Hourly personnel costs include 21% overtime wages.

Table 21.8 General and Administrative Costs

	K $US	$/t
Salary Personnel	$ 24,567	$ 0.72
Hourly Personnel	$ 47,084	$ 1.38
Supplies	$ 1,200	$ 0.04
Legal	$ 750	$ 0.02
Insurance	$ 750	$ 0.02
Outside Services	$ 1,875	$ 0.06
Buildings & Utilities	$ 375	$ 0.01
Transportation	$ 10,956	$ 0.32
Light Vehicles	$ 150	$ 0.00
Other	$ 825	$ 0.02
Total G&A	$ 88,532	$ 2.60

22.0 ECONOMIC ANALYSIS

The economic analysis includes operating and capital costs, revenues, and associated tax treatments based on an annual schedule. This PEA has been developed to be NI 43-101 compliant. Note that a preliminary economic assessment is preliminary in nature. It includes Inferred mineral resources that are considered too speculative geologically to have the economic considerations applied that would enable them to be classified as mineral reserves, and there is no certainty that the preliminary assessment will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability.

22.1 Economic Parameters

Metal prices have been based on long-term pricing provided by InZinc. These prices are discussed in the section on marketing and contracts (Section 19.0). The metal prices used are:

- $1.00 per pound of zinc;
- $3.00 per pound of copper;
- $600 per kg of indium; and
- $105 per tonne of 62% Fe iron concentrate.

The project's iron concentrate is in the form of magnetite having a 63% iron content and is expected to attract a $10/t premium to the Tianjin benchmark iron ore price. Thus, an iron concentrate or magnetite price of $115/t is used in the economic analysis.

Metallurgical testing was used to evaluate all three concentrates. Copper concentrates showed consistent contents of gold and silver, which will result in credits in smelter payments. As such, a credit for gold and silver has been applied in the cash flow. Silver and gold credits are based on:

- 180 g Ag/t in the copper concentrate;
- silver selling price of $21.00 per ounce;
- 16 g Au/t in the copper concentrate; and
- gold selling price of $1,300 per ounce.

22.2 Taxes and Royalties

The PEA includes royalty payments of a 1.5% NSR along with a one-time payment of $1,000,000 as required under current agreements (see Section 4.3). The royalty is considered payable on the gross revenue after smelting, thus is after treatment and transportation charges for concentrates. Royalty payments total $42.1 million through the life of the mine.

Tax considerations have been included based on tax rates and treatment concepts provided by InZinc. The taxable income is based on revenues less royalties, operating and capital costs, depreciation, depletion, and amortization. Both federal and state taxes are applied to the taxable income at 33.5% and 5%, respectively. Total life-of-mine taxes are estimated to be $164.6 million and $24.6 million for federal and state tax, respectively. Note that the 33.5% federal tax rates assumes a 34% rate less 0.5% due to deductions that would be taken for Utah state taxes paid.

22.3 Cash-Flow Model

Table 22.1 shows the metal production schedule along with the gross revenue and royalty to be paid. Table 22.2 shows the operating and capital costs along with tax treatments. Together these constitute the cash-flow model for the West Desert economic analysis. C1, C2, and C3 costs shown on Table 22.2 reflect the definitions of Brook Hunt (2009).

Table 22.1 Cash-Flow Production, Revenue, and Royalties

Material to Plant	Units	Yr -2	Yr -1	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	Yr 11	Yr 12	Yr 13	Yr 14	Yr 15	Yr 16	Yr 17	Yr 18	Total
Tonnage to Magnetic Separator	K dmt	-	-	1,830	1,825	2,372	2,372	2,379	2,372	2,372	2,372	2,379	2,372	2,372	2,372	2,379	2,372	1,854	-	-	-	33,998
Zinc Grade	Zn %	-	-	4.07	3.80	3.90	3.71	2.52	3.58	2.81	3.32	2.75	2.66	2.20	1.57	1.28	1.52	1.39	-	-	-	2.72
Contained Zinc	K Lbs Zn	-	-	164,298	153,078	203,829	194,259	132,067	186,990	146,947	173,406	144,100	139,314	114,842	82,128	67,261	79,588	56,665	-	-	-	2,038,773
Copper Grade	Cu %	-	-	0.36	0.31	0.21	0.17	0.40	0.42	0.31	0.23	0.21	0.25	0.26	0.29	0.23	0.26	0.20	-	-	-	0.27
Contained Copper	K Lbs Cu	-	-	14,373	12,525	11,018	8,906	21,238	21,784	16,155	11,902	11,189	13,273	13,840	15,021	12,155	13,819	8,059	-	-	-	205,258
Indium Grade	g In/t	-	-	17.93	17.11	20.57	23.88	25.62	24.89	38.36	43.04	45.85	34.64	32.42	28.70	31.50	33.96	27.37	-	-	-	30.15
Contained Indium	Kg In	-	-	32,810	31,233	48,802	56,664	60,954	59,050	90,997	102,114	109,072	82,191	76,913	68,080	74,930	80,570	50,737	-	-	-	1,025,116
Magnetite Percent	Magn%	-	-	39.69	37.66	30.15	37.95	40.47	37.45	43.40	43.55	49.46	46.62	42.15	47.10	54.19	55.32	55.00	-	-	-	44.02
Contained Magnetite	T Magn	-	-	726,285	687,323	715,235	900,258	962,889	888,583	1,029,765	1,033,285	1,176,750	1,105,953	999,941	1,117,447	1,289,253	1,312,577	1,019,547	-	-	-	14,965,090
Payable Metal																						
Zinc	K Lbs Zn	-	-	128,481	119,707	159,394	151,910	103,276	146,226	114,912	135,603	112,687	108,944	89,807	64,224	52,598	62,238	44,312	-	-	-	1,594,320
Copper	K Lbs Cu	-	-	10,269	8,949	7,872	6,363	15,174	15,565	11,542	8,504	7,994	9,483	9,889	10,732	8,685	9,874	5,758	-	-	-	146,653
Indium	Kg In	-	-	17,849	17,016	26,856	31,329	33,702	32,649	50,312	56,459	60,306	45,443	42,525	37,641	41,429	44,547	28,052	-	-	-	566,116
Magnetite	T Magn	-	-	704,497	666,703	693,778	873,250	934,002	861,926	998,872	1,002,287	1,141,447	1,072,774	969,942	1,083,924	1,250,575	1,273,200	988,961	-	-	-	14,516,138
Gold	K Ozs Au	-	-	8	7	6	5	12	12	9	7	6	7	8	8	7	8	4	-	-	-	113
Silver	K Ozs Ag	-	-	80	69	61	49	118	121	90	66	62	74	77	83	67	77	45	-	-	-	1,137
Treatment Charges																						
Zinc Treatment Base	K $US	$ -	$ -	$ 26,178	$ 24,391	$ 32,477	$ 30,952	$ 21,043	$ 29,794	$ 23,414	$ 27,630	$ 22,960	$ 22,198	$ 18,298	$ 13,086	$ 10,717	$ 12,681	$ 9,029	$ -	$ -	$ -	$ 324,847
Zinc Price Escalation	K $US	$ -	$ -	$ 1,275	$ 1,188	$ 1,582	$ 1,508	$ 1,025	$ 1,452	$ 1,141	$ 1,346	$ 1,119	$ 1,081	$ 891	$ 638	$ 522	$ 618	$ 440	$ -	$ -	$ -	$ 15,826
Net Zinc Treatment Charge	K $US	$ -	$ -	$ 27,454	$ 25,579	$ 34,059	$ 32,460	$ 22,068	$ 31,246	$ 24,554	$ 28,976	$ 24,079	$ 23,279	$ 19,190	$ 13,723	$ 11,239	$ 13,299	$ 9,469	$ -	$ -	$ -	$ 340,673
Copper Treatment Base	K $US	$ -	$ -	$ 1,531	$ 1,334	$ 1,173	$ 948	$ 2,261	$ 2,320	$ 1,720	$ 1,267	$ 1,191	$ 1,413	$ 1,474	$ 1,600	$ 1,294	$ 1,472	$ 858	$ -	$ -	$ -	$ 21,857
Copper Refining Charge	K $US	$ -	$ -	$ 945	$ 823	$ 724	$ 585	$ 1,396	$ 1,432	$ 1,062	$ 782	$ 735	$ 872	$ 910	$ 987	$ 799	$ 908	$ 530	$ -	$ -	$ -	$ 13,492
Net Copper Treatment Charge	K $US	$ -	$ -	$ 2,475	$ 2,157	$ 1,898	$ 1,534	$ 3,657	$ 3,752	$ 2,782	$ 2,050	$ 1,927	$ 2,286	$ 2,384	$ 2,587	$ 2,093	$ 2,380	$ 1,388	$ -	$ -	$ -	$ 35,349
Transportation Charges																						
Zinc Concentrate	K $US	$ -	$ -	$ 9,349	$ 8,711	$ 11,599	$ 11,054	$ 7,515	$ 10,641	$ 8,362	$ 9,868	$ 8,200	$ 7,928	$ 6,535	$ 4,674	$ 3,827	$ 4,529	$ 3,225	$ -	$ -	$ -	$ 116,017
Copper Concentrate	K $US	$ -	$ -	$ 374	$ 326	$ 287	$ 232	$ 553	$ 567	$ 421	$ 310	$ 291	$ 346	$ 360	$ 391	$ 317	$ 360	$ 210	$ -	$ -	$ -	$ 5,345
Magnetite Concentrate	K $US	$ -	$ -	$ 47,608	$ 45,114	$ 47,270	$ 59,073	$ 63,062	$ 58,332	$ 67,327	$ 67,558	$ 76,708	$ 72,186	$ 65,413	$ 72,903	$ 83,865	$ 85,354	$ 66,303	$ -	$ -	$ -	$ 978,077
Total Transportation Charge	K $US	$ -	$ -	$ 57,332	$ 54,151	$ 59,156	$ 70,360	$ 71,130	$ 69,540	$ 76,110	$ 77,735	$ 85,200	$ 80,459	$ 72,309	$ 77,968	$ 88,009	$ 90,243	$ 69,738	$ -	$ -	$ -	$ 1,099,439
Gross Revenue after Smelting																						
Zinc	K $US	$ -	$ -	$ 91,678	$ 85,417	$ 113,736	$108,396	$ 73,693	$ 104,340	$ 81,996	$ 96,760	$ 80,408	$ 77,737	$ 64,082	$ 45,827	$ 37,531	$ 44,410	$ 31,619	$ -	$ -	$ -	$ 1,137,630
Copper	K $US	$ -	$ -	$ 27,958	$ 24,363	$ 21,432	$ 17,325	$ 41,311	$ 42,375	$ 31,424	$ 23,152	$ 21,764	$ 25,818	$ 26,922	$ 29,219	$ 23,644	$ 26,881	$ 15,676	$ -	$ -	$ -	$ 399,265
Indium	K $US	$ -	$ -	$ 10,709	$ 10,210	$ 16,114	$ 18,798	$ 20,221	$ 19,589	$ 30,187	$ 33,875	$ 36,183	$ 27,266	$ 25,515	$ 22,585	$ 24,857	$ 26,728	$ 16,831	$ -	$ -	$ -	$ 339,669
Magnetite	K $US	$ -	$ -	$ 33,409	$ 31,557	$ 32,515	$ 41,350	$ 44,349	$ 40,789	$ 47,543	$ 47,705	$ 54,558	$ 51,183	$ 46,130	$ 51,748	$ 59,951	$ 61,064	$ 47,427	$ -	$ -	$ -	$ 691,279
Gold	K $US	$ -	$ -	$ 10,260	$ 8,941	$ 7,865	$ 6,358	$ 15,160	$ 15,550	$ 11,532	$ 8,496	$ 7,987	$ 9,475	$ 9,880	$ 10,723	$ 8,677	$ 9,865	$ 5,753	$ -	$ -	$ -	$ 146,520
Silver	K $US	$ -	$ -	$ 1,672	$ 1,457	$ 1,282	$ 1,036	$ 2,471	$ 2,535	$ 1,880	$ 1,385	$ 1,302	$ 1,544	$ 1,610	$ 1,748	$ 1,414	$ 1,608	$ 938	$ -	$ -	$ -	$ 23,883
Total Gross Revenue	K $US	$ -	$ -	$ 175,687	$ 161,945	$ 192,944	$193,262	$ 197,205	$ 225,178	$ 204,562	$ 211,374	$ 202,202	$ 193,024	$ 174,139	$ 161,850	$ 156,075	$ 170,557	$ 118,243	$ -	$ -	$ -	$ 2,738,247
Royalties																						
NSR Royalty	K $US	$ -	$ -	$ 2,635	$ 2,429	$ 2,894	$ 2,899	$ 2,958	$ 3,378	$ 3,068	$ 3,171	$ 3,033	$ 2,895	$ 2,612	$ 2,428	$ 2,341	$ 2,558	$ 1,774	$ -	$ -	$ -	$ 41,074
Royalty Cash Payment	K $US	$ -	$ -	$ 1,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,000
Net Royalty	K $US	$ -	$ -	$ 3,635	$ 2,429	$ 2,894	$ 2,899	$ 2,958	$ 3,378	$ 3,068	$ 3,171	$ 3,033	$ 2,895	$ 2,612	$ 2,428	$ 2,341	$ 2,558	$ 1,774	$ -	$ -	$ -	$ 42,074

Table 22.2 Cash-Flow Costs and Tax Considerations

Operating Costs	**Units**	**Yr -2**	**Yr -1**	**Yr 1**	**Yr 2**	**Yr 3**	**Yr 4**	**Yr 5**	**Yr 6**	**Yr 7**	**Yr 8**	**Yr 9**	**Yr 10**	**Yr 11**	**Yr 12**	**Yr 13**	**Yr 14**	**Yr 15**	**Yr 16**	**Yr 17**	**Yr 18**	**Total**
Underground Mining Cost - Longitudnal LH	K $US			$ 25,254	$ 25,185	$ 32,740	$ 32,740	$ 32,830	$ 32,740	$ 32,740	$ 32,740	$ 32,830	$ 32,740	$ 32,740	$ 32,740	$ 32,830	$ 32,740	$ 25,582	$ -	$ -	$ -	$ 469,176
Underground Mining Cost - Transverse LH	K $US			$ 16,836	$ 16,790	$ 21,827	$ 21,827	$ 21,887	$ 21,827	$ 21,827	$ 21,827	$ 21,887	$ 21,827	$ 21,827	$ 21,827	$ 21,887	$ 21,827	$ 17,055	$ -	$ -	$ -	$ 312,784
Expensed Development	K $US			$ 5,490	$ 5,475	$ 7,117	$ 7,117	$ 7,137	$ 7,117	$ 7,117	$ 7,117	$ 7,137	$ 7,117	$ 7,117	$ 7,117	$ 7,137	$ 7,117	$ 5,561	$ -	$ -	$ -	$ 101,995
Total Mining Production Cost	K $US			$ 47,580	$ 47,450	$ 61,685	$ 61,685	$ 61,854	$ 61,685	$ 61,685	$ 61,685	$ 61,854	$ 61,685	$ 61,685	$ 61,685	$ 61,854	$ 61,685	$ 48,198	$ -	$ -	$ -	$ 883,955
Processing Cost	K $US			$ 22,381	$ 22,320	$ 29,016	$ 29,016	$ 29,095	$ 29,016	$ 29,016	$ 29,016	$ 29,095	$ 29,016	$ 29,016	$ 29,016	$ 29,095	$ 29,016	$ 22,672	$ -	$ -	$ -	$ 415,799
Tailings Cost	K $US			$ 457	$ 456	$ 593	$ 593	$ 595	$ 593	$ 593	$ 593	$ 595	$ 593	$ 593	$ 593	$ 595	$ 593	$ 463	$ -	$ -	$ -	$ 8,500
G&A Costs	K $US			$ 5,375	$ 6,013	$ 6,013	$ 6,015	$ 6,026	$ 6,013	$ 6,013	$ 6,015	$ 6,026	$ 6,013	$ 6,013	$ 6,015	$ 6,026	$ 6,013	$ 4,944	$ -	$ -	$ -	$ 88,532
Total Operating Cost	K $US			$ 75,793	$ 76,239	$ 97,307	$ 97,309	$ 97,570	$ 97,307	$ 97,307	$ 97,309	$ 97,570	$ 97,307	$ 97,307	$ 97,309	$ 97,570	$ 97,307	$ 76,277	$ -	$ -	$ -	$ 1,396,785
Net Operating Cash-flow	***K $US***	***$ -***	***$ -***	***$ 96,259***	***$ 83,277***	***$ 92,743***	***$ 93,055***	***$ 96,677***	***$ 124,494***	***$ 104,187***	***$ 110,895***	***$ 101,599***	***$ 92,822***	***$ 74,220***	***$ 62,114***	***$ 56,164***	***$ 70,692***	***$ 40,192***	***$ -***	***$ -***	***$ -***	***$ 1,299,388***
Capital Costs																						
Underground Development	K $US	$ 16,563	$ 22,925	$ 4,826	$ 4,848	$ 4,780	$ 4,707	$ 7,235	$ 9,679	$ 5,982	$ 4,395	$ 4,373	$ 4,339	$ 4,365	$ 5,865	$ 484	$ -	$ -	$ -	$ -	$ -	$ 105,366
Project Development	K $US	$ 1,000	$ 1,000	$ 1,000	$ 500	$ -	$ 500	$ 500	$ 500	$ 500	$ -	$ -	$ 500	$ 500	$ 500	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,000
Facilities	K $US	$ 2,500	$ 2,750	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,250
Mining Equipment	K $US	$ 559	$ 594	$ 21,882	$ 95	$ 60	$ 2	$ 116	$ 12,793	$ 552	$ 69	$ 116	$ 2	$ 13,971	$ -	$ 118	$ -	$ -	$ -	$ -	$ -	$ 50,930
Process Plant	K $US	$ 67,031	$ 56,031	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 123,062
Tailings	K $US	$ -	$ 12,300	$ -	$ 3,155	$ 15	$ 3,355	$ 15	$ 3,355	$ 15	$ 3,355	$ 15	$ 15	$ 15	$ 15	$ 15	$ 15	$ 15	$ 2,500	$ 2,500	$ 2,500	$ 33,170
Contingency, Indirects, and EPCM	K $US	$ 30,678	$ 33,460	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 64,139
Working Capital	K $US			$ 18,948	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (18,948)	$ -	$ -	$ -	$ -
Total Capital Costs	K $US	$ 118,331	$ 129,060	$ 46,657	$ 8,598	$ 4,855	$ 8,565	$ 7,866	$ 26,327	$ 7,049	$ 7,819	$ 4,504	$ 4,856	$ 18,851	$ 6,380	$ 617	$ 15	$ (18,933)	$ 2,500	$ 2,500	$ 2,500	$ 388,916
EBITDA																						
EBITDA (w/ Capital)	K $US	$ (118,331)	$ (129,060)	$ 49,602	$ 74,679	$ 87,889	$ 84,490	$ 88,811	$ 98,167	$ 97,139	$ 103,076	$ 97,095	$ 87,965	$ 55,369	$ 55,734	$ 55,546	$ 70,677	$ 59,126	$ (2,500)	$ (2,500)	$ (2,500)	$ 910,472
EBITDA (w/out Capital)	K $US	$ -	$ -	$ 96,259	$ 83,277	$ 92,743	$ 93,055	$ 96,677	$ 124,494	$ 104,187	$ 110,895	$ 101,599	$ 92,822	$ 74,220	$ 62,114	$ 56,164	$ 70,692	$ 40,192	$ -	$ -	$ -	$ 1,299,388
Cumulative EBITDA (w/out Capital)	K $US	$ -	$ -	$ 96,259	$ 179,535	$ 272,278	$ 365,333	$ 462,010	$ 586,505	$ 690,692	$ 801,586	$ 903,185	$ 996,007	$ 1,070,227	$ 1,132,341	$ 1,188,504	$ 1,259,196	$ 1,299,388	$ 1,299,388	$ 1,299,388	$ 1,299,388	
Deductions																						
Amortization	K $US	$ -	$ -	$ 1,098	$ 1,095	$ 1,423	$ 1,423	$ 1,427	$ 1,423	$ 1,423	$ 1,423	$ 1,427	$ 1,423	$ 1,423	$ 1,423	$ 1,427	$ 1,423	$ 1,112	$ -	$ -	$ -	$ 20,399
Depreciation	K $US	$ 16,904	$ 35,342	$ 39,300	$ 40,528	$ 41,222	$ 42,445	$ 43,569	$ 30,426	$ 12,995	$ 10,154	$ 9,569	$ 9,569	$ 11,039	$ 10,827	$ 7,154	$ 6,149	$ 5,034	$ -	$ -	$ -	$ 372,226
Depletion	K $US	$ -	$ -	$ 26,353	$ 19,906	$ 24,027	$ 23,614	$ 24,849	$ 33,777	$ 30,684	$ 31,706	$ 30,330	$ 28,954	$ 26,121	$ 24,278	$ 23,276	$ 25,583	$ 16,584	$ -	$ -	$ -	$ 390,041
Severance & Property Tax																						
% of Gross Proceeds	K $US	$ -	$ -	$ 35,507	$ 32,338	$ 40,136	$ 36,871	$ 37,823	$ 46,692	$ 38,536	$ 40,091	$ 35,101	$ 33,769	$ 30,549	$ 25,165	$ 20,420	$ 24,094	$ 14,552	$ -	$ -	$ -	$ 491,642
Annual Exemption	K $US	$ -	$ -	$ (50)	$ (50)	$ (50)	$ (50)	$ (50)	$ (50)	$ (50)	$ (50)	$ (50)	$ (50)	$ (50)	$ (50)	$ (50)	$ (50)	$ (50)	$ -	$ -	$ -	$ (750)
Taxable Amount	K $US	$ -	$ -	$ 35,507	$ 32,338	$ 40,136	$ 36,871	$ 37,823	$ 46,692	$ 38,536	$ 40,091	$ 35,101	$ 33,769	$ 30,549	$ 25,165	$ 20,420	$ 24,094	$ 14,552	$ -	$ -	$ -	$ 491,642
Severance Tax	K $US	$ -	$ -	$ 923	$ 841	$ 1,044	$ 959	$ 983	$ 1,214	$ 1,002	$ 1,042	$ 913	$ 878	$ 794	$ 654	$ 531	$ 626	$ 378	$ -	$ -	$ -	$ 12,783
Property Tax	K $US	$ 50	$ 50	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 500	$ 14,100
Net Income Before Tax	K $US	$ (16,954)	$ (35,392)	$ 27,584	$ 19,906	$ 24,027	$ 23,614	$ 24,849	$ 56,654	$ 57,082	$ 65,569	$ 58,360	$ 50,997	$ 34,343	$ 24,432	$ 23,276	$ 36,409	$ 16,584	$ (500)	$ (500)	$ (500)	$ 489,839
Income Taxes																						
Federal Tax	K $US	$ -	$ -	$ -	$ -	$ 6,422	$ 7,911	$ 8,324	$ 18,979	$ 19,123	$ 21,966	$ 19,550	$ 17,084	$ 11,505	$ 8,185	$ 7,797	$ 12,197	$ 5,556	$ -	$ -	$ -	$ 164,599
Utah State Tax	K $US	$ -	$ -	$ -	$ -	$ 959	$ 1,181	$ 1,242	$ 2,833	$ 2,854	$ 3,278	$ 2,918	$ 2,550	$ 1,717	$ 1,222	$ 1,164	$ 1,820	$ 829	$ -	$ -	$ -	$ 24,567
Total Taxes	K $US	$ -	$ -	$ -	$ -	$ 7,381	$ 9,091	$ 9,567	$ 21,812	$ 21,977	$ 25,244	$ 22,468	$ 19,634	$ 13,222	$ 9,406	$ 8,961	$ 14,018	$ 6,385	$ -	$ -	$ -	$ 189,166
Net Income After Tax	K $US	$ (16,954)	$ (35,392)	$ 27,584	$ 19,906	$ 16,646	$ 14,522	$ 15,282	$ 34,842	$ 35,106	$ 40,325	$ 35,891	$ 31,363	$ 21,121	$ 15,026	$ 14,315	$ 22,392	$ 10,199	$ (500)	$ (500)	$ (500)	$ 300,674
Add Back Deductions																						
Amortization	K $US	$ -	$ -	$ 1,098	$ 1,095	$ 1,423	$ 1,423	$ 1,427	$ 1,423	$ 1,423	$ 1,423	$ 1,427	$ 1,423	$ 1,423	$ 1,423	$ 1,427	$ 1,423	$ 1,112	$ -	$ -	$ -	$ 20,399
Depreciation	K $US	$ 16,904	$ 35,342	$ 39,300	$ 40,528	$ 41,222	$ 42,445	$ 43,569	$ 30,426	$ 12,995	$ 10,154	$ 9,569	$ 9,569	$ 11,039	$ 10,827	$ 7,154	$ 6,149	$ 5,034	$ -	$ -	$ -	$ 372,226
Depletion	K $US	$ -	$ -	$ 26,353	$ 19,906	$ 24,027	$ 23,614	$ 24,849	$ 33,777	$ 30,684	$ 31,706	$ 30,330	$ 28,954	$ 26,121	$ 24,278	$ 23,276	$ 25,583	$ 16,584	$ -	$ -	$ -	$ 390,041
Capital Costs																						
Initial Capital	K $US	$ 118,331	$ 129,060																			$ 247,392
Sustaining Capital	K $US			$ 46,657	$ 8,598	$ 4,855	$ 8,565	$ 7,866	$ 26,327	$ 7,049	$ 7,819	$ 4,504	$ 4,856	$ 18,851	$ 6,380	$ 617	$ 15	$ (18,933)	$ 2,500	$ 2,500	$ 2,500	$ 141,525
Total Capital Costs	K $US	$ 118,331	$ 129,060	$ 46,657	$ 8,598	$ 4,855	$ 8,565	$ 7,866	$ 26,327	$ 7,049	$ 7,819	$ 4,504	$ 4,856	$ 18,851	$ 6,380	$ 617	$ 15	$ (18,933)	$ 2,500	$ 2,500	$ 2,500	$ 388,916
Net Cash Flow After Taxes	K $US	$ (118,381)	$ (129,110)	$ 47,678	$ 72,838	$ 78,464	$ 73,440	$ 77,261	$ 74,141	$ 73,160	$ 75,789	$ 72,714	$ 66,453	$ 40,852	$ 45,173	$ 45,554	$ 55,533	$ 51,863	$ (3,000)	$ (3,000)	$ (3,000)	$ 694,423
Cumulative Cash Flow After Taxes	K $US	$ (118,381)	$ (247,492)	$ (199,813)	$ (126,975)	$ (48,511)	$ 24,929	$ 102,190	$ 176,332	$ 249,492	$ 325,281	$ 397,995	$ 464,448	$ 505,301	$ 550,474	$ 596,028	$ 651,561	$ 703,423	$ 700,423	$ 697,423	$ 694,423	
C1 Direct Cash Cost (per lb of payable zinc)	$US/lb payZn			$ 0.15	$ 0.07	$ 0.14	$ 0.14	$ (0.18)	$ 0.02	$ (0.16)	$ (0.07)	$ (0.18)	$ (0.12)	$ 0.07	$ (0.19)	$ (0.39)	$ (0.46)	$ (0.23)	$ -	$ -	$ -	$ (0.04)
C2 Production Cost (per lb of payable zinc)	$US/lb payZn			$ 0.67	$ 0.58	$ 0.56	$ 0.58	$ 0.50	$ 0.47	$ 0.23	$ 0.25	$ 0.19	$ 0.25	$ 0.50	$ 0.38	$ 0.22	$ 0.07	$ 0.28	$ -	$ -	$ -	$ 0.45
C3 Fully Allocated Cost (per lb of payable zinc)	$US/lb payZn			$ 0.71	$ 0.62	$ 0.59	$ 0.61	$ 0.55	$ 0.51	$ 0.28	$ 0.29	$ 0.24	$ 0.29	$ 0.54	$ 0.43	$ 0.28	$ 0.13	$ 0.34	$ -	$ -	$ -	$ 0.50

22.4 Financial Results

Key outcomes of this financial analysis indicate that the potentially minable resources support a 14.8 year mine plan with production commencing at 5,500 tpd and increasing to 6500 tpd after year two of operations and sustained thereafter (Table 22.3). C1, C2, and C3 costs shown on Table 22.3 reflect the definitions of Brook Hunt (2009).

Table 22.3 Financial Model Results
(Values in (K US$)

Model Parameter	Life-of-Mine Value
Production Summary	
Zinc Concentrate Produced	1,547 k dmt
Copper Concentrate Produced	238 k dmt
Iron Concentrate Produced	14,867 k dmt
Financial Results (US$000's)	
Gross Revenue	$ 4,589,731
Freight	$ (1,099,439)
Smelter Charges	$ (752,045)
Revenue from Sales	$ 2,738,247
Royalty	$ (42,074)
Net Revenue	$ 2,696,173
Operating Costs	
Mining	$ 883,955
Milling and Tails Storage	$ 424,298
G & A	$ 88,532
Operating Costs	$ 1,396,785
Capital Costs (US$000's)	
Mine Equipment	$ 50,930
Plant Equipment, Tailings, and Facilities	$ 161,482
Contingency, Indirects, and EPCM	$ 64,139
Underground Development and Pre-Production	$ 112,366
Total Capital	$ 388,917
Pre-Tax Cash Flow	$ 910,471
After-Tax Cash Flow	$ 694,423
Discounted After Tax Cash Flow (NPV8%)	$ 258,079
C1 Direct Cash Cost (per lb of payable zinc)	$ (0.04)
C2 Production Cost (per lb of payable zinc)	$ 0.45
C3 Fully Allocated Cost (per lb of payable zinc)	$ 0.50

Financial results were evaluated based on net present value ("NPV"), internal rate of return ("IRR"), and payback period. The results were calculated for both after-tax and pre-tax and are shown in Table 22.4.

Table 22.4 PEA Net Present Value and Internal Rate of Return

		After-Tax	Pre-Tax
NPV (5%)	K $US	$376,732	$507,082
NPV (8%)	K $US	$258,079	$356,593
NPV (10%)	K $US	$198,070	$280,529
IRR	%	23.2%	26.8%

The construction period is estimated at two years and the production period is estimated at 14.8 years. The after-tax payback is 5.66 years when considered from the beginning of construction, or 3.66 years after completion of construction.

22.5 Economic Sensitivities

Economic sensitivity tables were completed for revenue, operating cost, capital cost, zinc price, and magnetite price. The results are shown in Table 22.5, Table 22.6, Table 22.7, Table 22.8, and Table 22.9 respectively. As with most base metal projects, the project is most sensitive to changes in revenues, which can be a combination of change in metal price or metal recovery. This is shown as the steeper-trending revenue lines in the graphs shown in Figure 22.1.

Table 22.5 Economic Sensitivity: Revenue

Revenue	Pre-Tax (K USD)				After-Tax (K USD)				Payback (Years)	
	Undisc. CF	NPV (5%)	NPV (8%)	IRR	Undisc. CF	NPV (5%)	NPV (8%)	IRR	w/ Const.	w/ out Const.
100%	$ 910,472	$ 507,082	$ 356,593	27%	$ 694,423	$ 376,732	$ 258,079	23%	5.66	3.66
70%	$ 101,320	$ (6,845)	$ (45,883)	5%	$ 80,845	$ (19,981)	$ (56,265)	4%	11.1	9.1
80%	$ 371,037	$ 164,464	$ 88,276	14%	$ 290,724	$ 117,401	$ 53,288	12%	8.0	6.0
90%	$ 640,754	$ 335,773	$ 222,434	21%	$ 495,795	$ 249,339	$ 157,608	18%	6.5	4.5
100%	$ 910,472	$ 507,082	$ 356,593	27%	$ 694,423	$ 376,732	$ 258,079	23%	5.7	3.7
110%	$ 1,180,189	$ 678,391	$ 490,752	32%	$ 882,767	$ 497,529	$ 353,262	28%	5.1	3.1
120%	$ 1,449,906	$ 849,699	$ 624,910	38%	$ 1,063,143	$ 612,255	$ 443,213	32%	4.8	2.8
130%	$ 1,719,624	$ 1,021,008	$ 759,069	43%	$ 1,243,519	$ 726,820	$ 532,933	36%	4.5	2.5

Table 22.6 Economic Sensitivity: Operating Cost

Operating	Pre-Tax (K USD)				After-Tax (K USD)				Payback (Years)	
	Undisc. CF	NPV (5%)	NPV (8%)	IRR	Undisc. CF	NPV (5%)	NPV (8%)	IRR	w/ Const.	w/ out Const.
100%	$ 910,472	$ 507,082	$ 356,593	27%	$ 694,423	$ 376,732	$ 258,079	23%	5.66	3.66
70%	$ 1,329,507	$ 770,959	$ 562,423	35%	$ 960,098	$ 546,315	$ 391,459	30%	4.9	2.9
80%	$ 1,189,829	$ 683,000	$ 493,813	33%	$ 874,196	$ 491,788	$ 348,710	28%	5.1	3.1
90%	$ 1,050,150	$ 595,041	$ 425,203	30%	$ 787,857	$ 436,918	$ 305,663	26%	5.3	3.3
100%	$ 910,472	$ 507,082	$ 356,593	27%	$ 694,423	$ 376,732	$ 258,079	23%	5.7	3.7
110%	$ 770,793	$ 419,123	$ 287,983	24%	$ 594,726	$ 313,039	$ 207,906	21%	6.1	4.1
120%	$ 631,115	$ 331,164	$ 219,373	21%	$ 491,518	$ 247,453	$ 156,372	18%	6.6	4.6
130%	$ 491,436	$ 243,205	$ 150,763	17%	$ 384,730	$ 179,473	$ 102,906	15%	7.2	5.2

Table 22.7 Economic Sensitivity: Capital Cost

Capital	Pre-Tax (K USD)				After-Tax (K USD)				Payback (Years)	
	Undisc. CF	NPV (5%)	NPV (8%)	IRR	Undisc. CF	NPV (5%)	NPV (8%)	IRR	w/ Const.	w/ out Const.
100%	$ 910,472	$ 507,082	$ 356,593	27%	$ 694,423	$ 376,732	$ 258,079	23%	5.66	3.66
70%	$ 1,027,147	$ 607,178	$ 448,999	39%	$ 811,098	$ 476,828	$ 350,485	35%	4.5	2.5
80%	$ 988,255	$ 573,813	$ 418,197	34%	$ 772,207	$ 443,463	$ 319,683	30%	4.8	2.8
90%	$ 949,363	$ 540,447	$ 387,395	30%	$ 733,315	$ 410,097	$ 288,881	26%	5.2	3.2
100%	$ 910,472	$ 507,082	$ 356,593	27%	$ 694,423	$ 376,732	$ 258,079	23%	5.7	3.7
110%	$ 871,580	$ 473,716	$ 325,791	24%	$ 655,532	$ 343,367	$ 227,277	20%	6.1	4.1
120%	$ 832,688	$ 440,351	$ 294,989	22%	$ 616,640	$ 310,001	$ 196,475	18%	6.5	4.5
130%	$ 793,797	$ 406,986	$ 264,187	19%	$ 577,748	$ 276,636	$ 165,672	16%	6.9	4.9

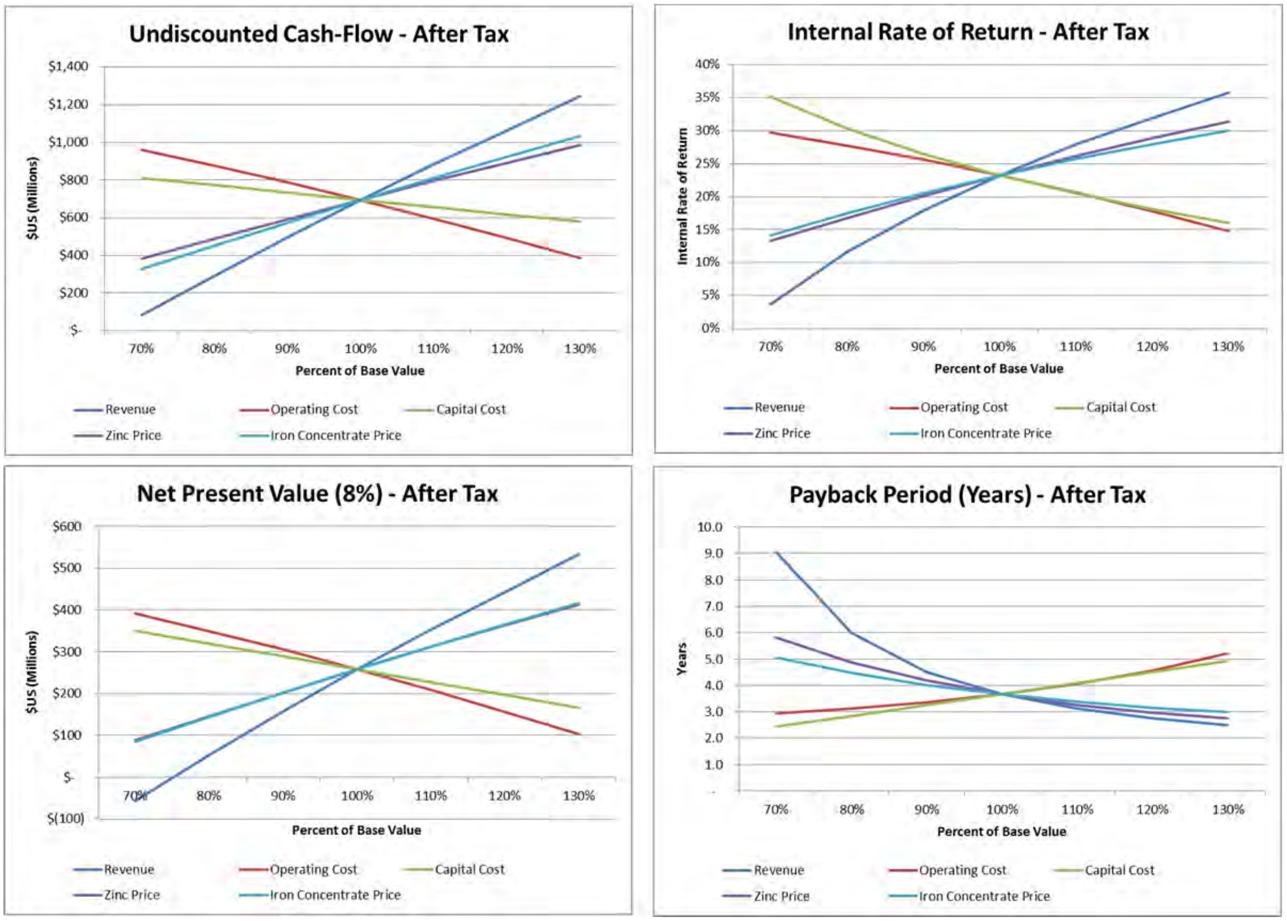
Table 22.8 Economic Sensitivity: Zinc Price

Zinc Price	Pre-Tax (K USD)				After-Tax (K USD)				Payback (Years)	
	Undisc. CF	NPV (5%)	NPV (8%)	IRR	Undisc. CF	NPV (5%)	NPV (8%)	IRR	w/ Const.	w/ out Const.
100%	$ 910,472	$ 507,082	$ 356,593	27%	$ 694,423	$ 376,732	$ 258,079	23%	5.66	3.66
70%	$ 489,737	$ 228,100	$ 133,086	15%	$ 382,198	$ 166,189	$ 87,543	13%	7.8	5.8
80%	$ 629,982	$ 321,094	$ 207,588	19%	$ 487,418	$ 237,514	$ 145,502	17%	6.9	4.9
90%	$ 770,227	$ 414,088	$ 282,091	23%	$ 591,308	$ 307,526	$ 202,194	20%	6.2	4.2
100%	$ 910,472	$ 507,082	$ 356,593	27%	$ 694,423	$ 376,732	$ 258,079	23%	5.7	3.7
110%	$ 1,050,716	$ 600,076	$ 431,095	30%	$ 794,929	$ 444,139	$ 312,459	26%	5.3	3.3
120%	$ 1,190,961	$ 693,070	$ 505,598	34%	$ 889,971	$ 507,416	$ 363,291	29%	5.0	3.0
130%	$ 1,331,206	$ 786,064	$ 580,100	37%	$ 983,761	$ 569,698	$ 413,246	31%	4.7	2.7

Table 22.9 Economic Sensitivity: Iron Concentrate Price

Iron Concentrate	Pre-Tax (K USD)				After-Tax (K USD)				Payback (Years)	
Price	Undisc. CF	NPV (5%)	NPV (8%)	IRR	Undisc. CF	NPV (5%)	NPV (8%)	IRR	w/ Const.	w/ out Const.
100%	$ 910,472	$ 507,082	$ 356,593	27%	$ 694,423	$ 376,732	$ 258,079	23%	5.66	3.66
70%	$ 417,177	$ 207,984	$ 128,205	17%	$ 325,396	$ 151,883	$ 85,584	14%	7.1	5.1
80%	$ 581,609	$ 307,683	$ 204,334	20%	$ 450,126	$ 227,879	$ 143,904	18%	6.5	4.5
90%	$ 746,040	$ 407,382	$ 280,464	24%	$ 573,938	$ 303,188	$ 201,619	21%	6.0	4.0
100%	$ 910,472	$ 507,082	$ 356,593	27%	$ 694,423	$ 376,732	$ 258,079	23%	5.7	3.7
110%	$ 1,074,903	$ 606,781	$ 432,722	30%	$ 809,633	$ 447,414	$ 312,465	26%	5.4	3.4
120%	$ 1,239,335	$ 706,480	$ 508,852	32%	$ 922,322	$ 516,297	$ 365,341	28%	5.2	3.2
130%	$ 1,403,766	$ 806,180	$ 584,981	35%	$ 1,032,287	$ 583,078	$ 416,405	30%	5.0	3.0

Figure 22.1 Economic Sensitivity Graphs



23.0 ADJACENT PROPERTIES

MDA is not aware of any relevant information from properties immediately adjacent to West Desert.

24.0 OTHER RELEVANT DATA AND INFORMATION

To the authors' knowledge, there is no additional information or data beyond that presented in this report that is relevant to making this report complete, understandable, and not misleading.

25.0 INTERPRETATION AND CONCLUSIONS

This report provides an updated NI 43-101-compliant resource for the West Desert project that adds the magnetite resource to the previously reported zinc-copper-indium resource. The resource is supported by additional sampling and analysis of drill core by InZinc in 2013.

MDA has reviewed the project data and the West Desert drill-hole database and has visited the project site. MDA believes that the data provided by InZinc are generally an accurate and reasonable representation of the West Desert zinc-copper-indium-magnetite project.

West Desert is a polymetallic skarn deposit containing substantial Inferred and Indicated resources. The deposit, the data defining the deposit, and the resulting resource estimate are considered high quality. However, skarn deposits often present rapidly changing geometries, grades, and geology. These risks, imparted into the deposit and resource estimate, should be mitigated with continued deposit definition resulting from additional drilling.

Indium is present in the West Desert deposit at unusually high levels. However, not all historical operators of the project recognized this, and in some cases they did not assay their drill-core samples for indium. Zinc, copper, and iron content was, on the other hand, easily recognized and is more common to all data sets. Resource analysis is a function of data and their spatial distribution. As such, the confidence level or classification of the West Desert resource is strongly influenced by the constituent with the fewest number of assays. To counteract the current downgrade in classification due to the limited indium data, removing the indium from the current *in situ* resource has the potential to improve the amount of Indicated resources by up to 75% with a minimal (approximately 10%) reduction of the overall grades (on a GMV basis). Therefore, two solutions are available to InZinc in the future. These may include the removal of indium as a resource constituent or additional sampling to improve indium assay distribution. Both solutions represent potentially positive improvements to the resource classification.

This report also summarizes resources contained in the near-surface oxide portion of the West Desert deposit. These resources have not been included in the economic analysis, and further metallurgical work to determine the viability of these resources is recommended.

Magnetite mineralization is generally more extensive and continuous than the associated zinc and copper mineralization at West Desert. The addition of magnetite does not increase the complexity or cost of mining the zinc and copper resources. In fact, where magnetite co-exists with appreciable zinc and copper, it significantly increases the NSR value of the resource. The combination of these factors positively impacts the "potentially mineable resources." The underground mining designs applied in this study, including sub-level long-hole stoping, are based on limited geotechnical information. MDA recommends detailed geotechnical studies to support these applications in advanced studies.

Metallurgical results provide confidence in the ability to produce iron, copper, and zinc concentrates from the West Desert project materials. Additional test work will be required to confirm and optimize the metallurgical process with more representative drill core from the project. Future test work will need to provide a simulation of the entire proposed flowsheet, including the recovery of iron minerals prior to flotation, and to evaluate the impact of significantly reducing the flotation tonnage and the corresponding increase in flotation feed grades. Key metallurgical parameters requiring additional work include primary grind optimization and copper flotation reagent conditions. Iron, copper, and zinc concentrates have shown a consistent ability to be within standard market specifications for their respective markets.

In this study, potentially mineable resources (above cut-off) at West Desert comprise 7.86 million tonnes of Indicated and 20.56 million tonnes of Inferred material (undiluted). Magnetite represents approximately 50% of this material. The magnetic-separation process will recover approximately 97% of the magnetite as a high-quality iron concentrate. The flotation feed tonnages are expected to be reduced by approximately 50 percent through the removal of magnetite, which will correspondingly double the zinc-copper grade of the flotation feed when compared to the mine production grades. Based on the resource model, the grades of mine production should range from 6.7% to 2.7% zinc and 0.7% to 0.3% copper over the 14.8 year production period.

On a per tonne operating cost basis, the magnetite recovery process is expected to add approximately $0.75 to the baseline grinding, flotation, and dewatering costs for the project. In comparison, the estimated cost to discard waste to the tailings storage facility is $0.25/tonne. The process costs to produce all three concentrates are estimated at $12.23/tonne milled. The incremental cost to produce magnetite is a fraction of the market value of magnetite concentrates and should make the option of producing a magnetite concentrate very attractive to the project. These estimates demonstrate the efficiency and cost effectiveness of processing a magnetite concentrate and the resulting cost benefits of waste reduction at West Desert.

West Desert has the potential to produce three concentrates. In this study, zinc concentrates represent the highest value, containing approximately 1.6 billion pounds payable metal (with associated indium) over the life of the mine. Copper concentrates are estimated to contain 147 million pounds of payable metal over the life of the mine. Iron concentrates, at an estimated 63% iron grade, would total approximately 15 million tonnes over the life of the mine. No deleterious elements are identified at penalty levels in the concentrates.

Zinc and copper concentrates are produced at a large number of mines and treated at a variety of smelters and refineries around the world. Global markets for iron concentrates are about 2.1 billion tonnes annually (Bank of America and Merrill Lynch, 2012). Market research suggests a trend towards higher demand for quality iron concentrates, particularly in China, as higher energy costs and new environmental policies are implemented. MDA recommends marketing and transportation studies, including the development of potential domestic U. S. markets for the magnetite concentrates, be initiated at the next step of advancement.

At this level of study, the potential for a larger, multi-commodity revenue stream generated from the three concentrate products over an extended period (14.8 years in this study) is financially attractive. Currently, deposit complexity is highlighted as a potential risk. MDA recommends additional drilling to improve deposit definition.

Substantial underground resources at West Desert remain open for expansion to the east, west, and south. There is also potential for the discovery of new zones beyond these extensions. The inclusion of a magnetite (iron) concentrate to the product stream adds significant volume and potential complexity to the transportation and marketing of products. However, proximity to roads, power, rail, and the potential services/support and labor pool available in the nearby Salt Lake City area are important positive factors in this regard.

West Desert is a project meriting substantial amounts of additional exploration and development work.

Note that a preliminary economic assessment is preliminary in nature. It includes Inferred mineral resources that are considered too speculative geologically to have the economic considerations applied that would enable them to be classified as mineral reserves, and there is no certainty that the preliminary assessment will be realized. Mineral resources that are not mineral reserves do not have demonstrated economic viability. Additional studies are required to advance the project beyond the PEA. To that end, there are various potential risks and opportunities that should be considered during the next study.

25.1 Risks and Opportunities

At a PEA level of analysis, the risks and opportunities associated with any resource project are typically related to lack of detailed information, the collection of which is beyond the scope of the study. Accordingly, this section highlights areas of the project that require further study or data collection to potentially mitigate or manage a risk or realize an opportunity at the next level of study.

Risks and opportunities were evaluated based on input from InZinc and the authors of this technical report. Both risks and opportunities were assessed as to likelihood of occurrence and impact should the risk or opportunity occur. A scale of 1 to 10 is used for likelihood, with 1 being less likely to occur and 10 being most likely to occur. The same scale is used for impact, with 1 being a minimal impact to the project and 10 being a severe impact should the risk or opportunity occur. A high impact of a risk would take value away from the project, while a high impact due to an opportunity would increase the project's value. While the values that are assigned are subjective in nature, the intent is to identify areas that should be studied in further detail to improve the project.

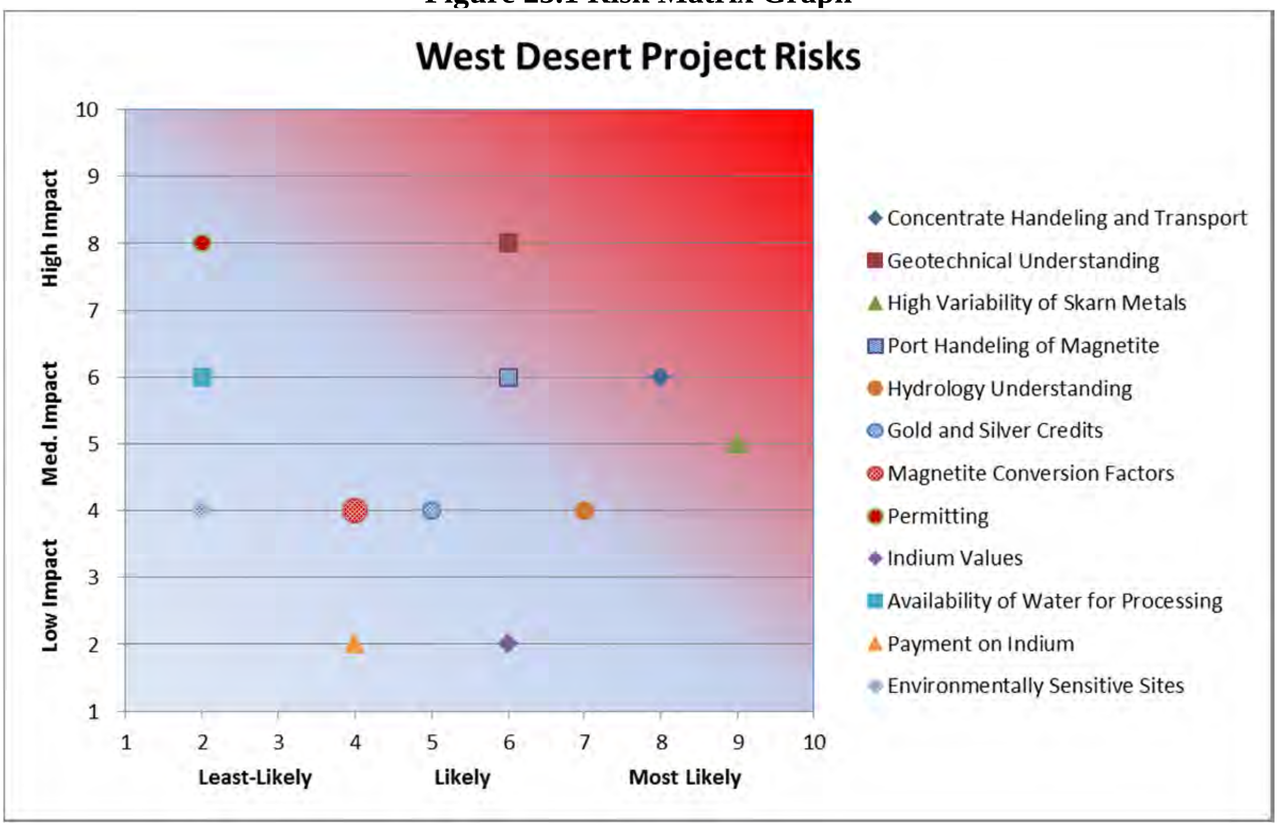
25.1.1 Risks

Identified risks are presented based on ranking of likelihood and impact. The project risks are listed in Table 25.1 and graphed in Figure 25.1. Descriptions and proposed mitigations are described below.

Table 25.1 Ranking of Project Risks

Item	Risk	Likelihood	Impact
1	Concentrate Handeling and Transport	8	6
2	Geotechnical Understanding	6	8
3	High Variability of Skarn Metals	9	5
4	Port Handeling of Magnetite	6	6
5	Hydrology Understanding	7	4
6	Gold and Silver Credits	5	4
7	Magnetite Conversion Factors	4	4
8	Permitting	2	8
9	Indium Values	6	2
10	Availability of Water for Processing	2	6
11	Payment on Indium	4	2
12	Environmentally Sensitive Sites	2	4

Figure 25.1 Risk Matrix Graph



1. There are multiple concentrates that will be sent to different processors, which will result in handling and transport complexity.
    - Mitigation: Concentrate transport management plans will need to be designed, and timely conclusion of marketing contracts will provide InZinc with access to concentrate markets.
2. Geotechnical characteristics for the underground operations are not well understood and need to be studied.
    - Mitigation: Initiation of detailed geotechnical studies are required during the next phase of drilling.
3. Skarns may be variable in metal grade and geology, leading to spatial- and grade-continuity risk. This is also noted in item 5.
    - Mitigation: Infill drilling may be done from the surface; however, this risk will be further mitigated with underground delineation drilling and geologic mapping required at the production stage.
4. There may be constraints in port and port-handling infrastructure for magnetite product.
    - Mitigation: Commencement of marketing and transportation studies to identify potential domestic opportunities and review of capacity at multiple U. S. west-coast ports and multiple rail carriers currently servicing the project region.
5. Hydrology for the project is not well understood.
    - Mitigation: Groundwater hydrology studies will need to be done in the next phase of study.
6. Gold and silver values have been included in the PEA using a production credit based on concentrate metallurgical tests and may not be realized during operations.
    - Mitigation: Gold and silver should be added to the resource model.
7. Magnetite content is based on conversion factors determined from a relatively limited number of Davis Tube analyses.
    - Mitigation: Additional Davis Tube analyses will be required to increase the confidence in the magnetite.
8. Permits will be required for mining, and with denial or delays in obtaining the permits, the project may not go forward.
    - Mitigation: Baseline environmental studies should begin during the next phase of the project. No deleterious ore components or environmental issues have been identified to date.
9. The small number of indium samples results in a large portion of the deposit being classified as Inferred.
    - Mitigation: Either additional drilling would be required to improve the data set used for indium estimation, or the indium should be excluded from the resource. Should indium be excluded from the resource, the resource classification would be increased.
10. Process-water availability needs to be determined.
    - Mitigation: Site-wide water balances should be better understood and should include flow rates from currently producing water wells. Water balances should include process-water recycling and mine dewatering for makeup water, as available.
11. Indium may not be payable in a third-party smelting agreement.
    - Mitigation: Smelter contract negotiations are required to better identify the value of indium.
12. Environmentally sensitive sites may impact the ability to permit the project.

- Mitigation: Fish Springs Wildlife Reserve is in a separate drainage basin, and no groundwater impacts are obvious. Ungulate and waterfowl baseline studies will likely be necessary to mitigate any impact risk.

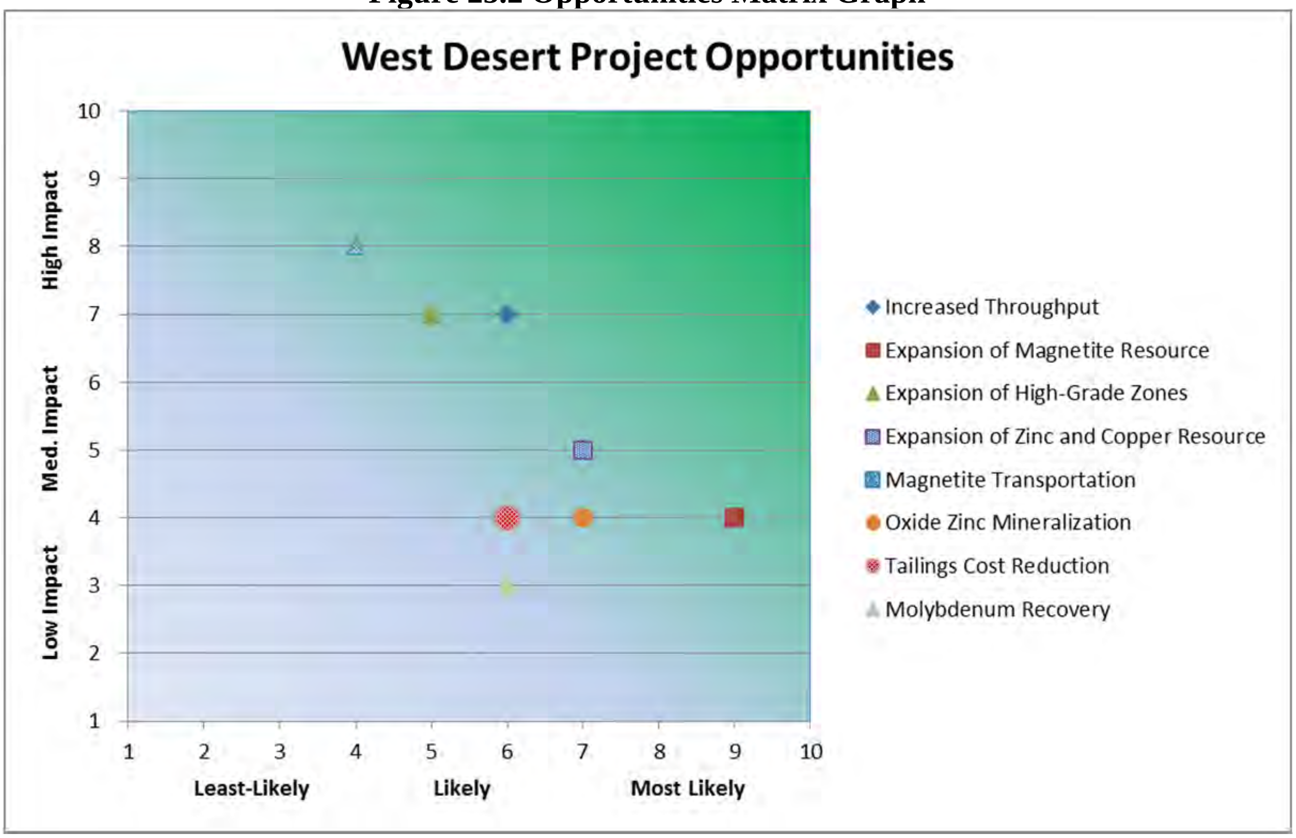
25.1.2 Opportunities

Identified opportunities are presented based on ranking of likelihood and impact. The project opportunities are listed in Table 25.2 and are graphed in Figure 25.2, with descriptions and work plans following.

Table 25.2 Ranking of Project Opportunities

Item	Opportunity	Likelihood	Impact
1	Increased Throughput	6	7
2	Expansion of Magnetite Resource	9	4
3	Expansion of High-Grade Zones	5	7
4	Expansion of Zinc and Copper Resource	7	5
5	Magnetite Transportation	4	8
6	Oxide Zinc Mineralization	7	4
7	Tailings Cost Reduction	6	4
8	Molybdenum Recovery	6	3

Figure 25.2 Opportunities Matrix Graph



1. It may be possible to increase mining and processing throughput.
   - Work Plan: Increased throughput would reduce the overall mining and processing cost. The primary constraint at this time is mining, and additional study would be required to ascertain if a higher throughput is possible. This should be done in the next phase of study.
2. There is good potential to increase the resource, especially the high NSR-value resource, to the east, west, and south.
   - Work Plan: Additional drilling will be required to define additional resources.
3. Potential for the discovery of localized higher-grade areas within the resource.
   - Work Plan: Additional step-out and infill drilling will be required to better define high-grade zones.
4. Some of the magnetite resource, particularly at depth, appears to extend past the limits of the zinc-copper data, which could be a factor in the lower apparent Zn and Cu grades in this material.
   - Work Plan: Additional step-out and infill drilling will be required to better define the Zn and Cu grades in the lower magnetite at depth. It may be best to defer this drilling until the underground development is established to get the most value out of drilling dollars.
5. The costs for shipping of magnetite concentrate are fairly high and could be significantly reduced through contract negotiations with the rail carriers or sourcing its refinement in the United States as opposed to shipping it to China.
   - Work Plan: Marketing and transportation studies should be initiated to identify and develop domestic opportunities and review capacity at the multiple U. S. west coast ports and multiple rail carriers currently servicing the project region.
6. There may be a potential to process oxide zinc mineralization. A significant resource of zinc is present in oxide mineralization. Initial mining and metallurgical studies have shown that the oxide resource fits within an open pit shell and that acid leaching results in good recovery of zinc, but acid consumption is high. Should the oxide be mined from open-pit activities, then this may reduce the cost of generating backfill materials for the underground (no need for borrow pits).
   - Work Plan: Metallurgical optimization studies should be completed with respect to the oxide mineralization. Additional marketing studies may be required to understand the value in the oxide portion of the deposit.
7. Revisions and cost reductions to the tailings management facility.
   - Work Plan: The tailings facility should be optimized during the next phase of study.
8. There may be recoverable molybdenum in the copper concentrates (Likelihood 3, Impact 2).
   - Work Plan: Additional metallurgical test work should be completed for molybdenum to determine the recoverability within the copper concentrate. Additional drilling may be able to define additional molybdenum resources.

26.0 RECOMMENDATIONS

The work that has been completed to date has demonstrated that InZinc's West Desert project is a property of merit and justifies additional work leading to a pre-feasibility study as described in this Section.

Substantial Indicated and Inferred resources of skarn-hosted zinc, copper, indium, and magnetite have been outlined at the West Desert property, mainly in sulfide mineralization but also in the upper near-surface oxidized extensions of these sulfide bodies. The current PEA is based on the existing sulfide resource base. However, these defined resources remain open for expansion to the east, west, and south, and there is very good potential for the discovery of new, similar zones beyond these extensions. Before a formal pre-feasibility study is initiated, additional drilling should be carried out to more closely define the actual limits of mineralization.

In addition, in order to state reserves for the West Desert deposit, conversion of some Inferred resources to Indicated resources should be done. Two main issues remain as obstacles to such a conversion: the database does not include sufficient indium assays, and not enough Davis Tube work has been completed to achieve a higher level of confidence in the magnetite/iron database. In order to overcome the indium issue, either indium would need to be removed from the resource or additional drilling and analysis for indium should be completed. For the magnetite/iron database, sufficient sample rejects from InZinc's drilling programs should be available for selective Davis Tube analyses to complement existing data.

In addition to the additional drilling and test work described above, hydrology, geotechnical, and baseline environmental studies should be conducted in anticipation of a pre-feasibility study and permitting requirements

MDA recommends that InZinc undertake a two-phase approach to further develop the deposit:

Phase One:

1) resource expansion drilling and exploration drilling on the flanks of the deposit;
2) infill drilling and sampling to upgrade resource classification (and incorporating advanced metallurgical sampling and detailed geotechnical data collection);
3) baseline environmental and hydrological studies; and
4) a concentrate marketing and transportation study

Phase Two:

Advance to pre-feasibility study ("PFS") once maximum resource thresholds/classifications are achieved along with requisite metallurgical and geotechnical data. Budgetary estimates for a PFS are dependent on the ultimate size of the deposit and any resulting changes in metal zonation or geometry.

26.1 Phase One Work Program

Phase One work is expected to include exploration for resource expansion through approximately 10,000m of core drilling, focusing on the following objectives:

- the expansion of existing resources by drilling open-ended extensions on the flanks of the deposit;
- the identification of new zones of mineralization away from existing resources but in similar stratigraphic settings, particularly in the region between the existing resources and skarn-type copper-zinc-molybdenum mineralization encountered in historic drill hole CC-43 located some 650m to the east;
- increasing the level of confidence in the resource through selective infill and the addition of indium analyses;
- if necessary, supplying additional samples for Davis Tube analyses to supplement those to be conducted on existing sample rejects, and
- obtaining geotechnical and hydrologic data.

Additional metallurgical work will be required to further expand the metallurgical data base of the project using the preliminary results obtained in previous test work programs. It is recommended that approximately six drill holes be devoted to the recovery of core, with these samples used exclusively for metallurgical testing; this should generate approximately 2,000kg of mineralized core for testing. Selection of drilling locations will be based on expected mining schedules, and the samples should fairly represent mine production. Drilling costs are estimated to be about $300,000. Metallurgical testing of these materials is estimated to cost approximately $600,000 and be limited to bench-scale testing of the proposed process. Detailed mineralogical analysis as well as optimization of copper and zinc flotation conditions will be the key objectives of this test work program. More accurate recovery data for copper and zinc will be obtained from this test work, as well as a more accurate characterization of final concentrate assays. InZinc may elect to conduct this metallurgical work either as an addition to the exploration work described above or as part of the PFS described in Section 26.2, although it is currently included in the budget for Phase One shown in Table 26.1.

The resource estimate will need to be updated to include additional drilling and increased levels of confidence from metallurgical studies.

Engineering studies need to be carried out to better understand geotechnical and hydrological issues. Hydrologic investigations will most likely involve the drilling of a number of holes as well as the testing and monitoring of existing water wells and are needed for general project permitting purposes as well as to identify supplemental water sources. Geotechnical investigations should be conducted to verify stability for infrastructure as well as identifying underground rock mechanics.

Environmental baseline studies are warranted to initiate the permitting process and should take into account disturbances from historical mining and exploration activities pre-dating InZinc's involvement that are present on the property.

Marketing studies should be completed to look into various opportunities for processing of zinc, copper, and particularly for iron concentrates. These studies should include investigation of transportation options, optimal locations for rail load-out and port facilities, and the possibility of identifying a domestic consumer(s) for iron concentrates.

An approximate budget for a Phase One program is given in Table 26.1.

Table 26.1 Phase One Recommendations and Associated Costs

Item	Estimated Cost
Exploration	$ 2,900,000
Metallurgy with Required Drilling	$ 900,000
Engineering and Resource Estimation	$ 250,000
Baseline Studies	$ 300,000
Marketing Studies	$ 200,000
Subtotal	**$ 4,550,000**
Contingency	$ 400,000
Budget Amount	**$ 4,950,000**

26.2 Phase Two Work Program

The project would advance to PFS once maximum resource thresholds/classifications are achieved along with requisite metallurgical and geotechnical data. Budgetary estimates for a PFS are dependent on the ultimate size of the deposit and any resulting changes in metal zonation or geometry. However, such a study could include additional drilling, continued metallurgical optimization, underground bulk sampling, as warranted, and advanced engineering studies as well as continued environmental work.

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28.0 DATE AND SIGNATURE PAGE

Effective Date of report:	March 17, 2014
Effective Date of the resource estimate:	January 10, 2014
Completion Date of report:	May 2, 2014

"Thomas Dyer"
Thomas Dyer, P. E.

Date Signed:
May 2, 2014

"Paul Tietz"
Paul Tietz, C. P. G.

Date Signed:
May 2, 2014

" Jeffrey B. Austin"
Jeffrey B. Austin, P. Eng.

Date Signed:
May 2, 2014

29.0 CERTIFICATE OF QUALIFIED PERSONS

I, Thomas L. Dyer, P.E., do hereby certify that I am currently employed as Senior Enginer 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 18 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 InZinc Mining LTD. and its subsidiaries, applying all of the tests in section 1.5 of National Instrument 43-101.

4. I am responsible for Sections 1.8, 15, 16, and 18-22 and co-responsible for Sections 1.1, 1.2, 1.9, 2-4, and 24-26 of this technical report titled *Technical Report on the West Desert Zinc-Copper-Indium-Magnetite Project Preliminary Economic Assessment Juab County, Utah* effective as of March 17, 2014, and dated May 2, 2014 ("Technical Report"). I have not visited the property.

5. I have had no prior involvement with the West Desert deposit.

6. As of the effective date of this Technical Report, to the best of my knowledge, information, and belief, those parts of the Technical Report for which I am responsible contain all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

7. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

Dated this 2nd day of May, 2014,

"Thomas L. Dyer"

Thomas L. Dyer, P.E.
Print Name of Qualified Person

Paul Tietz, C. P. G.

I, Paul Tietz, C. P. G., do hereby certify that I am currently employed as Senior Geologist for Mine Development Associates, Inc. located at 210 South Rock Blvd., Reno, Nevada 89502 and:

1. I graduated with a Bachelor of Science degree in Biology/Geology from the University of Rochester in 1977, a Master of Science degree in Geology from the University of North Carolina, Chapel Hill in 1981, and a Master of Science degree in Geological Engineering from the University of Nevada, Reno in 2004.

2. I am a Certified Professional Geologist (#11004) with the American Institute of Professional Geologists.

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 the Issuer applying all of the tests in section 1.5 of National Instrument 43-101.

4. I am responsible for Sections 1.3-1.5, 1.7, 5-12, 14, 23, and 27 and co-responsible for Sections 1.1, 1.2, 1.9, 2-4, and 24-26 of this technical report titled *Technical Report on the West Desert Zinc-Copper-Indium-Magnetite Project Preliminary Economic Assessment, Juab County, Utah* for InZinc Mining Ltd. dated May 2, 2014 and effective March 17, 2014 ("Technical Report"). I visited the project March 26, 2008, and again June 9 through June 13, 2008.

5. I was co-author of a previous Technical Report on the West Desert property dated December 23, 2009 and amended March 25, 2010. Prior to work on the previous Technical Report, I had not had involvement with the property that is the subject of this Technical Report.

6. As of the date of the certificate, to the best of my knowledge, information, and belief, the technical report contains the necessary technical information to make the technical report not misleading.

7. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

Dated May 2, 2014.

"Paul Tietz"
Paul Tietz

Paul Tietz
Print Name of Qualified Person

International Metallurgical and Environmental Inc.
906 Fairway Crescent, Kelowna, B.C., Canada, V1Y 4S7, Telephone: (250) 317-3739
austin@internationalmet.com

CERTIFICATE OF QUALIFIED PERSON

Jeffrey B. Austin, P.Eng.

I, Jeffrey B. Austin, P.Eng., do hereby certify that:

1. I am a Consulting Engineer and President of International Metallurgical and Environmental Inc., residing at 906 Fairway Crescent, Kelowna, B.C., Canada.

2. This certificate applies to the technical report titled Technical Report on the West Desert Zinc-Copper-Indium-Magnetite Project Preliminary Economic Assessment Juab County, Utah effective as of March 17, 2014, and dated May 2, 2014 ("Technical Report"). I am responsible for Sections 1.6, 13, 17, 21.1.2, and 21.2.2 and co-responsible for Sections 1.9, 25, and 26 of this technical report

3. I fulfill the requirements of a qualified person for the purposes of NI 43-101 based on my academic qualifications, professional membership and relevant experience, as set out below:

    a. I hold the following academic qualifications:

BASc.	University of British Columbia	1984

    b. I am a member in good standing of the following professional and technical associations:

Association of Professional Engineers and Geoscientists of BC	15708

    c. I have worked in the minerals industry as a Consulting Process Engineer continuously since 1987, a period of 27 years.

4. I have not personally inspected the property.

5. I have had no prior involvement with the property.

6. I am independent of InZinc Mining Ltd as defined in section 1.5 of NI 43-101.

7. I have read and am familiar with NI 43-101 and the sections of the Technical Report for which I am responsible. To the best of my knowledge, information, and belief, the parts of the Technical Report for which I am responsible have been prepared in compliance with NI 43-101.

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

Dated this 2nd day of May, 2014

"Jeffrey B. Austin"
Jeffrey B. Austin, P.Eng.

Appendix A

West Desert Project Mining Claims and Lease as of March 2014

West Desert Project Mining Claims and Lease as of March 2014

(Modified from tabulation by Gatten, 2014)

Table A.1. Unpatented Mining Claims

Name	Number	Acres	Owner
Crypto Zn 150	359567	8.260	NPR US INC.
Crypto Zn 151	359568	13.090	NPR US INC.
Crypto Zn 154	359571	16.410	NPR US INC.
Crypto Zn 155	359572	4.130	NPR US INC.
Crypto Zn 156	359573	7.630	NPR US INC.
Crypto Zn 157	359574	20.660	NPR US INC.
Crypto Zn 158	359575	20.660	NPR US INC.
Crypto Zn 159	359576	5.740	NPR US INC.
Crypto Zn 160	359577	6.890	NPR US INC.
Crypto Zn 164	359581	12.400	NPR US INC.
Crypto Zn 165	359582	20.660	NPR US INC.
Crypto Zn 166	359583	12.400	NPR US INC.
Crypto Zn 167	359584	20.660	NPR US INC.
Crypto Zn 168	359585	12.400	NPR US INC.
Crypto Zn 169	359586	20.660	NPR US INC.
Crypto Zn 170	359587	6.200	NPR US INC.
Crypto Zn 171	359588	17.220	NPR US INC.
Crypto Zn 172	359589	13.770	NPR US INC.
Crypto Zn 173	359590	10.100	NPR US INC.
Crypto Zn 174	359591	20.660	NPR US INC.
Crypto Zn 175	359592	15.150	NPR US INC.
Crypto Zn 176	359593	20.660	NPR US INC.
Crypto Zn 177	359594	20.660	NPR US INC.
Crypto Zn 178	359595	20.660	NPR US INC.
Crypto Zn 186	359603	20.660	NPR US INC.
Crypto Zn 187	359604	20.660	NPR US INC.
Crypto Zn 188	359605	20.660	NPR US INC.
Crypto Zn 189	359606	20.660	NPR US INC.
Crypto Zn 190	359607	20.660	NPR US INC.
Crypto Zn 191	359608	20.660	NPR US INC.
Crypto Zn 192	359609	10.330	NPR US INC.
Crypto Zn 193	359610	20.660	NPR US INC.
Crypto Zn 194	359611	17.220	NPR US INC.
Crypto Zn 195	359612	20.660	NPR US INC.
Crypto Zn 196	359613	20.660	NPR US INC.
Crypto Zn 197	359614	20.660	NPR US INC.
Crypto Zn 198	359615	20.660	NPR US INC.
Crypto Zn 199	359616	20.660	NPR US INC.
Crypto Zn 200	359617	20.660	NPR US INC.
Crypto Zn 201	359618	20.660	NPR US INC.
Crypto 1	378462	20.660	LITHIC RESOURCES LTD
Crypto 2	378463	20.660	LITHIC RESOURCES LTD
Crypto 3	378464	20.660	LITHIC RESOURCES LTD
Crypto 4	378465	20.660	LITHIC RESOURCES LTD
Crypto 5	378466	20.660	LITHIC RESOURCES LTD
Crypto 6	378467	20.660	LITHIC RESOURCES LTD
Crypto 7	378468	20.660	LITHIC RESOURCES LTD
Crypto 8	378469	20.660	LITHIC RESOURCES LTD

Name	Number	Acres	Owner
Crypto 9	378470	20.660	LITHIC RESOURCES LTD
Crypto 10	378471	20.660	LITHIC RESOURCES LTD
Crypto 11	378472	20.660	LITHIC RESOURCES LTD
Crypto 12	378473	20.660	LITHIC RESOURCES LTD
Crypto 13	378474	20.660	LITHIC RESOURCES LTD
Crypto 14	378475	20.660	LITHIC RESOURCES LTD
Crypto 15	378476	20.660	LITHIC RESOURCES LTD
Crypto 16	378477	20.660	LITHIC RESOURCES LTD
Crypto 17	378478	20.660	LITHIC RESOURCES LTD
Crypto 18	378479	20.660	LITHIC RESOURCES LTD
Crypto 19	378480	20.660	LITHIC RESOURCES LTD
Crypto 20	378481	20.660	LITHIC RESOURCES LTD
Crypto 21	378482	20.660	LITHIC RESOURCES LTD
Crypto 22	378483	20.660	LITHIC RESOURCES LTD
Crypto 23	378484	20.660	LITHIC RESOURCES LTD
Crypto 24	378485	20.660	LITHIC RESOURCES LTD
Crypto 25	378486	20.660	LITHIC RESOURCES LTD
Crypto 26	378487	20.660	LITHIC RESOURCES LTD
Crypto 27	378488	20.660	LITHIC RESOURCES LTD
Crypto 28	378489	20.660	LITHIC RESOURCES LTD
Crypto 29	378490	20.660	LITHIC RESOURCES LTD
Crypto 30	378491	20.660	LITHIC RESOURCES LTD
Crypto 31	378492	20.660	LITHIC RESOURCES LTD
Crypto 32	378493	20.660	LITHIC RESOURCES LTD
Crypto 33	378494	20.660	LITHIC RESOURCES LTD
Crypto 34	378495	20.660	LITHIC RESOURCES LTD
Crypto 35	378496	20.660	LITHIC RESOURCES LTD
Crypto 36	378497	20.660	LITHIC RESOURCES LTD
Crypto 37	378498	20.660	LITHIC RESOURCES LTD
Crypto 38	378499	20.660	LITHIC RESOURCES LTD
Crypto 39	378500	20.660	LITHIC RESOURCES LTD
Crypto 40	378501	20.660	LITHIC RESOURCES LTD
Crypto 41	378502	20.660	LITHIC RESOURCES LTD
Crypto 42	378503	20.660	LITHIC RESOURCES LTD
Crypto 43	378504	20.660	LITHIC RESOURCES LTD
Crypto 44	378505	20.660	LITHIC RESOURCES LTD
Crypto 45	378506	20.660	LITHIC RESOURCES LTD
Crypto 46	378507	20.660	LITHIC RESOURCES LTD
Crypto 47	378508	20.660	LITHIC RESOURCES LTD
Crypto 48	378509	20.660	LITHIC RESOURCES LTD
Crypto 49	378510	20.660	LITHIC RESOURCES LTD
Crypto 50	378511	20.660	LITHIC RESOURCES LTD
Crypto 51	378512	20.660	LITHIC RESOURCES LTD
Crypto 52	378513	20.660	LITHIC RESOURCES LTD
Crypto 53	378514	20.660	LITHIC RESOURCES LTD
Crypto 54	378515	20.660	LITHIC RESOURCES LTD
Crypto 55	378516	20.660	LITHIC RESOURCES LTD
Crypto 56	378517	20.660	LITHIC RESOURCES LTD
Crypto 57	378518	20.660	LITHIC RESOURCES LTD
Crypto 58	378519	20.660	LITHIC RESOURCES LTD
Crypto 59	378520	20.660	LITHIC RESOURCES LTD
Crypto 60	378521	20.660	LITHIC RESOURCES LTD
Crypto 61	378522	20.660	LITHIC RESOURCES LTD
Crypto 62	378523	20.660	LITHIC RESOURCES LTD

Name	Number	Acres	Owner
Crypto 63	378524	20.660	LITHIC RESOURCES LTD
PONY 9	404217	10.330	NPR US INC.
PONY 10	404218	10.330	NPR US INC.
PONY 11	386147	20.660	LITHIC RESOURCES LTD
PONY 12	386148	20.660	LITHIC RESOURCES LTD
PONY 13	386149	20.660	LITHIC RESOURCES LTD
PONY 14	386150	20.660	LITHIC RESOURCES LTD
PONY 15	386151	20.660	LITHIC RESOURCES LTD
PONY 16	386152	20.660	LITHIC RESOURCES LTD
PONY 21	404219	20.660	NPR US INC.
PONY 22	386158	20.660	LITHIC RESOURCES LTD
PONY 23	386159	20.660	LITHIC RESOURCES LTD
PONY 24	386160	20.660	LITHIC RESOURCES LTD
PONY 25	386161	20.660	LITHIC RESOURCES LTD
PONY 26	386162	20.660	LITHIC RESOURCES LTD
PONY 27	386163	20.660	LITHIC RESOURCES LTD
PONY 28	386164	20.660	LITHIC RESOURCES LTD
PONY 29	386165	20.660	LITHIC RESOURCES LTD
PONY 30	386166	20.660	LITHIC RESOURCES LTD
PONY 31	386167	20.660	LITHIC RESOURCES LTD
PONY 32	386168	20.660	LITHIC RESOURCES LTD
PONY 33	386169	20.660	LITHIC RESOURCES LTD
PONY 34	386170	20.660	LITHIC RESOURCES LTD
PONY 35	390306	20.660	NPR US INC.
PONY 36	390307	20.660	NPR US INC.
PONY 37	390308	20.660	NPR US INC.
PONY 38	390309	20.660	NPR US INC.
PONY 39	390310	20.660	NPR US INC.
PONY 40	390311	20.660	NPR US INC.
PONY 41	390312	20.660	NPR US INC.
PONY 42	390313	20.660	NPR US INC.
PONY 43	390314	20.660	NPR US INC.
PONY 44	390315	20.660	NPR US INC.
PONY 45	390316	20.660	NPR US INC.
PONY 46	390317	20.660	NPR US INC.
PONY 47	390318	20.660	NPR US INC.
PONY 48	391816	20.660	NPR US INC.
PONY 49	390319	20.660	NPR US INC.
PONY 50	391817	20.660	NPR US INC.
PONY 51	391818	20.660	NPR US INC.
PONY 52	391819	20.660	NPR US INC.
PONY 53	391820	20.660	NPR US INC.
PONY 54	391821	20.660	NPR US INC.
PONY 55	390320	20.660	NPR US INC.
PONY 56	390321	20.660	NPR US INC.
PONY 57	390322	20.660	NPR US INC.
PONY 58	390323	20.660	NPR US INC.
PONY 59	390324	20.660	NPR US INC.
PONY 60	390325	20.660	NPR US INC.
PONY 61	390326	20.660	NPR US INC.
PONY 62	390327	20.660	NPR US INC.
PONY 63	390328	6.500	NPR US INC.
PONY 64	390329	5.000	NPR US INC.
PONY 100	404220	20.660	NPR US INC.

Name	Number	Acres	Owner
PONY 101	404221	10.330	NPR US INC.
PONY 102	404222	5.150	NPR US INC.
PONY 103	404223	5.150	NPR US INC.
PONY 200	410051	20.660	NPR US INC.
PONY 201	410052	20.660	NPR US INC.
PONY 202	410053	20.660	NPR US INC.
PONY 203	410054	20.660	NPR US INC.
PONY 204	410055	20.660	NPR US INC.
PONY 205	410056	20.660	NPR US INC.
PONY 206	410057	20.660	NPR US INC.
PONY 207	410058	20.660	NPR US INC.
PONY 208	410059	20.660	NPR US INC.
PONY 209	410060	20.660	NPR US INC.
PONY 210	410061	20.660	NPR US INC.
PONY 211	410062	20.660	NPR US INC.
PONY 212	410063	20.660	NPR US INC.
PONY 213	410064	20.660	NPR US INC.
PONY 214	410065	20.660	NPR US INC.
PONY 104	Pending	20.660	NPR US INC.
PONY 105	Pending	20.660	NPR US INC.
PONY 106	Pending	20.660	NPR US INC.
PONY 107	Pending	20.660	NPR US INC.
PONY 108	Pending	20.660	NPR US INC.
PONY 109	Pending	20.660	NPR US INC.
PONY 110	Pending	20.660	NPR US INC.
PONY 111	Pending	20.660	NPR US INC.
PONY 112	Pending	20.660	NPR US INC.
PONY 113	Pending	20.660	NPR US INC.
PONY 114	Pending	20.660	NPR US INC.
PONY 115	Pending	20.660	NPR US INC.
PONY 116	Pending	20.660	NPR US INC.
PONY 117	Pending	20.660	NPR US INC.
PONY 118	Pending	20.660	NPR US INC.
PONY 119	Pending	20.660	NPR US INC.
PONY 120	Pending	20.660	NPR US INC.
PONY 121	Pending	20.660	NPR US INC.
PONY 122	Pending	20.660	NPR US INC.
PONY 123	Pending	20.660	NPR US INC.
PONY 124	Pending	20.660	NPR US INC.
PONY 125	Pending	20.660	NPR US INC.
PONY 126	Pending	20.660	NPR US INC.
PONY 127	Pending	20.660	NPR US INC.

Note: Crypto Zn 155 and Crypto Zn 159 are not visible on Figure 4.3 because they are overlapped by the Ogden, Last Chance, and Remnant patented claims.

Table A.2 Patented Mining Claims

Name	Number	Acres	N.P.R. (US), Inc. % Ownership
Comstock	72037	17.421	100.000
Early Harvest	72037	20.081	100.000
Victor	72037	20.475	100.000
Last Chance	24027	17.060	100.000
Remnant	22719	10.630	100.000
Utah	22018	17.780	100.000
Niger	22191	19.620	100.000
Emma	22994	19.100	66.667
Nevada	24644	15.350	100.000
Mayflower	22109	20.260	83.333
Rubber	21966	6.330	100.000
Ogden	26188	16.250	41.667
Read Iron	22720	20.660	66.667
Galenia	22192	20.660	100.000
Meteor	33045	19.319	100.000
Bonny Doon	33045	17.959	100.000
Last Chance No. 2		7.350	87.500
Black Dragon	22850	19.690	100.000
Fish Spring		20.660	100.000
Wedge		3.620	100.000

Note: Acreage for claims not held 100% by NPR is the total claim acreage, not the adjusted acreage based on NPR's percentage of ownership.

Table A.3 Utah Mineral Lease

Lease Number	Acres	Ownership
ML 48312	611.3	N.P.R. (US), Inc.

Appendix B

Descriptive Statistics of Metal Domain Samples

Zn Oxide Zone 101 Capping None

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	302					15.24	211.62	m
To	302					17.07	212.20	m
Length	302	1.81	1.57			0.15	6.09	m
Zn	302	0.200	0.267	0.283	1.062	0.001	2.500	%
Zn_cap	302	0.200	0.267	0.283	1.062	0.001	2.500	%
Zn_dmn	302					100	100	

Zn Oxide Zone 102 Capping None

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	291					20.09	208.48	m
To	291					21.47	210.01	m
Length	291	1.53	1.45			0.15	8.23	m
Zn_1	291	1.500	2.241	2.061	0.919	0.001	15.600	%
Zn_cap	291	1.500	2.241	2.061	0.919	0.001	15.600	%
Zn_dmn	291					200	200	

Zn Oxide Zone 103 Capping None

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	83					17.07	200.44	m
To	83					18.90	201.63	m
Length	83	1.33	1.19			0.15	4.05	m
Zn_1	83	13.800	16.317	8.677	0.532	1.400	43.390	%
Zn_cap	83	13.800	16.317	8.677	0.532	1.400	43.390	%
Zn_dmn	83					300	300	

Zn Sulfide Zone 101 Capping 13 % Zn

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	1,543					147.37	885.14	m
To	1,543					149.59	887.88	m
Length	1,543	1.54	1.52			0.09	7.01	m
Zn	1,543	0.340	0.736	1.093	1.485	0.001	18.600	%
Zn_cap	1,543	0.340	0.735	1.079	1.468	0.001	13.000	%
Zn_dmn	1,543					100	100	

Zn Sulfide Zone 102 Capping 18 % Zn

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	535					156.90	747.98	m
To	535					159.80	751.51	m
Length	535	1.45	1.50			0.13	4.15	m
Zn_23	535	4.680	5.047	3.177	0.629	0.034	30.050	%
Zn_cap	535	4.680	5.015	2.981	0.595	0.034	18.000	%
Zn_dmn	535					200	200	

Zn Sulfide Zone 103 Capping None

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	185					182.58	682.75	m
To	185					184.56	684.73	m
Length	185	1.32	1.35			0.06	3.20	m
Zn_23	185	15.450	16.568	7.314	0.441	0.267	46.500	%
Zn_cap	185	15.450	16.568	7.314	0.441	0.267	46.500	%
Zn_dmn	185					300	300	

Cu Oxide **Zone** **201** **Capping** **0.6** **% Cu**

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	296					17.07	211.62	m
To	296					18.90	212.20	m
Length	296	1.48	1.37			0.15	8.23	m
Cu	296	0.081	0.109	0.108	0.999	0.000	1.295	%
Cu_cap	296	0.081	0.107	0.094	0.886	0.000	0.600	%
Cu_dmn	296					100	100	

Cu Oxide **Zone** **202** **Capping** **1** **% Cu**

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	42					25.30	169.77	m
To	42					26.21	172.67	m
Length	42	1.25	1.07			0.45	3.05	m
Cu_1	42	0.410	0.471	0.263	0.559	0.098	2.100	%
Cu_cap	42	0.410	0.454	0.188	0.415	0.098	1.000	%
Cu_dmn	42					200	200	

Cu Oxide **Zone** **203** **Capping** **None**

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	18					41.15	197.82	m
To	18					42.67	199.95	m
Length	18	1.07	1.11			0.30	2.13	m
Cu_1	18	1.442	2.605	2.340	0.898	0.713	7.840	%
Cu_cap	18	1.442	2.605	2.340	0.898	0.713	7.840	%
Cu_dmn	18					300	300	

Cu Sulfide **Zone** **201** **Capping** **1.5** **% Cu**

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	1,173					156.67	885.14	m
To	1,173					158.19	887.88	m
Length	1,173	1.48	1.52			0.11	7.01	m
Cu_23	1,173	0.141	0.170	0.154	0.906	0.001	3.300	%
Cu_cap	1,173	0.141	0.169	0.136	0.804	0.001	1.500	%
Cu_dmn	1,173					100	100	

Cu Sulfide **Zone** **202** **Capping** **2.5** **% Cu**

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	506					172.91	878.46	m
To	506					173.96	882.79	m
Length	506	1.42	1.40			0.09	4.88	m
Cu_23	506	0.437	0.490	0.295	0.602	0.003	3.570	%
Cu_cap	506	0.437	0.490	0.291	0.595	0.003	2.500	%
Cu_dmn	506					200	200	

Cu Sulfide **Zone** **203** **Capping** **7** **% Cu**

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	199					203.45	749.81	m
To	199					203.91	751.33	m
Length	199	1.29	1.22			0.06	3.29	m
Cu_23	199	1.095	1.392	1.101	0.791	0.022	14.380	%
Cu_cap	199	1.095	1.378	0.976	0.708	0.022	7.000	%
Cu_dmn	199					300	300	

In Oxide Zone 100 Capping None

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	104					20.09	175.26	m
To	104					21.47	176.33	m
Length	104	1.45	1.50			0.30	3.68	m
In	104	2.05	3.01	3.43	1.14	0.04	20.40	g /t
In_cap	104	2.05	3.01	3.43	1.14	0.04	20.40	g /t
In_dmn	104					100	100	

In Sulfide Zone 200 300 Capping 90 ppm In

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	58					53.10	177.85	m
To	58					53.60	178.77	m
Length	58	1.12	1.06			0.20	2.68	m
In_1	58	18.05	28.42	28.10	0.99	5.41	149.50	g /t
In_cap	58	18.05	26.56	21.10	0.79	5.41	90.00	g /t
In_dmn	58					200	300	

In Sulfide Zone 100 Capping None

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	371					149.96	763.83	m
To	371					150.72	765.35	m
Length	371	1.38	1.46			0.11	3.05	m
In	371	4.09	4.67	3.34	0.72	0.16	28.70	g /t
In_cap	371	4.09	4.67	3.34	0.72	0.16	28.70	g /t
In_dmn	371					100	100	

In Sulfide Zone 200 Capping 250 ppm In

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	1,015					156.90	774.80	m
To	1,015					159.80	776.48	m
Length	1,015	1.44	1.50			0.15	4.15	m
In_23	1,015	22.60	31.24	28.71	0.92	0.19	385.00	ppm
In_cap	1,015	22.60	31.09	27.11	0.87	0.19	250.00	ppm
In_dmn	1,015					200	200	

In Sulfide Zone 300 Capping 500 ppm In

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	125					245.52	731.52	m
To	125					246.74	733.50	m
Length	125	1.41	1.50			0.30	2.59	m
In_23	125	137.50	159.20	115.18	0.72	24.50	1055.00	ppm
In_cap	125	137.50	154.08	85.78	0.56	24.50	500.00	ppm
In_dmn	125					300	300	

Fe Oxide 401 Capping 25 %

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	174		132.1			48.7	212.20	m
To	174		133.5			49.4	215.49	m
Length	174		1.5			0.3	5.03	m
Fe	174	5.20	6.29	4.96	0.79	0.60	46.3	%
FeC	174	5.20	6.14	3.99	0.65	0.60	25.0	%
FeZone	174					401	401	

Fe Oxide 402 Oxide Capping none %

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	42		125.7			17.1	207.26	m
To	42		127.1			18.9	208.48	m
Length	42		1.3			0.2	4.27	m
Fe	42	21.90	21.04	11.18	0.53	1.50	55.0	%
FeC	42	21.90	21.04	11.18	0.53	1.50	55.0	%
FeZone	42					402	402	

Fe Oxide 403 Oxide Capping none %

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	88		96.9			25.0	210.01	m
To	88		98.4			27.7	210.62	m
Length	88		1.5			0.2	4.05	m
Fe	88	45.80	43.86	10.38	0.24	2.20	60.8	%
FeC	88	45.80	43.86	10.38	0.24	2.20	60.8	%
FeZone	88					403	403	

Fe Sulfide 401 Sulfide Capping none %

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	1132		443.2			141.1	783.73	m
To	1132		444.7			143.3	784.86	m
Length	1132		1.5			0.0	4.69	m
Fe	1132	7.43	7.83	3.99	0.51	0.20	39.6	%
FeC	1132	7.43	7.83	3.99	0.51	0.20	39.6	%
FeZone	1132					401	401	

Fe Sulfide 402 Sulfide Capping none %

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	730		503.5			172.9	869.35	m
To	730		504.9			174.0	870.66	m
Length	730		1.5			0.1	4.79	m
Fe	730	20.20	20.67	7.81	0.38	0.60	49.6	%
FeC	730	20.20	20.67	7.81	0.38	0.60	49.6	%
FeZone	730					402	402	

Fe Sulfide 403 Sulfide Capping none %

	Valid N	Median	Mean	Std.Dev.	CV	Minimum	Maximum	Units
From	961		509.3			156.9	878.46	m
To	961		510.7			159.8	882.79	m
Length	961		1.5			0.1	7.01	m
Fe	961	41.50	41.22	9.54	0.23	4.10	68.0	%
FeC	961	41.50	41.22	9.54	0.23	4.10	68.0	%
FeZone	961					403	403	