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Exhibit 96.6

Hindustan Zinc Limited – SEC - SK 1300

Technical Summary Report

Consolidated Report – HZL Zinc Operations

Document Version:	Rev 1
Customer Name:	HZL Mine
Date:	27 July 2022
Prepared by:	ABGM
Document Number:	2022-07-25-RAM-SEC

ABGM

"Our insight, your foresight"

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Disclaimer:

This document will serve only for the Purposes of Hindustan Zinc Limited (HZL) based on information received from the mine and its respective mining operations in India namely: Rampura Agucha Mine; Rajpura Dariba; Sindesar Khurd; Kayad and the four Zawar operations – Balaria, Baroi, Mochia and Zawarmala. The information within this technical report is aligned to the Securities Exchange Commission (SEC), SK-1300 guidelines and the information within is to be use for this purpose only.

LIST OF ABBREVIATIONS:

%	percentage
°C	degree Celsius
ABGM	A & B Global Mining Consultants
Ag	silver
BOQ	bill of quantities
CAPEX	capital expenditure
COG	cut-off grade
Conc	concentrate
CSD	calc-silicate dolomite
g/t	grams per ton
GMS	graphite-mica schist
GSSA	Geological Society of South Africa
HDPE	high density polyethylene
Hr.	hour
HZL	Hindustan Zinc Limited
IDW^2	inverse distance weighting to the power of two
INR	Indian Rupee
kA	kiloampere
kL	kilolitre
km	kilometre
kN/m^2	kilonewton per square metre
koz	thousand ounces (Troy)
kt	kilotonne
kV	kilovolt
lb	pound (imperial)
LHD	load-haul-dumper
LOM	life of mine
m	metre
m^2	square metre
m^3	cubic metr

m³/hr	cubic metres per hour
mRL	mean relative elevation
Mt	million tonnes
Mtpa	million tonnes per annum
OGL	original ground level (original surface elevation)
OK	ordinary Kriging
OPEX	operating expenditure
oz	ounce (Troy)
Pb	lead
PbEQ	lead equivalent
PFS	Preliminary Feasibility Study
QA	quality assurance
QC	quality control
QA/QC	quality assurance & quality control
RAM	Rampura Agucha Mine
RAUG	Rampura Agucha underground mine
RDM	Rajpura Dariba Mine
ROM	Run of Mine (ore/rock of economic value containing the target mineral(s)
RPEEE	reasonable prospects of eventual economic extraction
SACNASP	South African Council for Natural Scientific professions
SEC	Securities and Exchanges Commission of the United States of America
SKM	Sindesar Khurd Mine
Std Dev	standard deviation
t	tonne (metric)
TRS	Technical Review Summary
USD	United States Dollar
USD/g	United States Dollar per gram
USD/lb	United States Dollar per pound
USD/t	Ununted States Dollar per tonne
VDS/PDS	Vehicle Detection System / Personnel Detection System
ZAW	Zawar mining complex

Zn	zinc
ZnEQ	zinc equivalent

Glossary of Terms

Block model: This is the cubical representation in three dimensions of the Mineral Resource. The block model data is usually constructed using industry accepted geological software packages.

Concentrating: The process of separating milled ore into a waste stream (tailings) and a valuable mineral stream (concentrate) by floatation.

Orebody: A well-defined mineralised rock mass that can be defined or modelled based upon its distinct mineral content or associated rock type/lithology.

Run of Mine (ROM): A loose term used to describe ore produced from the mine available for processing.

Tailings: That portion of the ore from which most of the valuable material has been removed by concentrating and that is therefore low in value and rejected.

Tonne: Metric tonne, equal to 1000 kg, unless otherwise defined.

Total Station: Surveying tool which comprises an electronic theodolite and an electronic distance meter/measurement component.

Note that all physical measurements units used in this report are metric, i.e. based on the International System of Units (SI units), unless otherwise indicated.

Finance

Capital expenditure (CAPEX): Total capital expenditure on mining and non-mining property, plant, equipment, and capital work-in-progress.

Effective tax rate: Current taxation, deferred taxation, and tax normalization as a percentage of profit before taxation.

IRR: Internal Rate of Return (the discount rate at which the project "NPV" becomes zero).

NPV: Net Present Value (cash flow of the project discounted to current day value – includes project OPEX and CAPEX).

Operating expenditure (OPEX): Total operating expenditure for mining and non-mining functions pertaining to the project.

Definitions:

The following definitions apply to this report and are aligned to meanings ascribed in terms of internationally recognized institutions and standards namely the Canadian CIM Definition Standards for Mineral Resources and Mineral Reserves 2014 (CIM), The Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 Edition (JORC) and The South African Code for Reporting of Exploration Results, Mineral Resources and Mineral Reserves 2016 (SAMREC).

Mineral Resources:

A **'Mineral Resource'** is a concentration or occurrence of material of intrinsic economic interest in or on the earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction. Mineral Resources are further sub-divided, in order of increasing geological confidence, into Inferred, Indicated and Measured as categories.

Inferred Mineral Resource is the part of a Mineral Resource for which quantity, grade (or quality) and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes which may be of limited or uncertain quality and reliability.

Indicated Mineral Resources are economic mineral occurrences that have been sampled (from locations such as outcrops, trenches, pits and drill holes) to a point where an estimate has been made, at a reasonable level of confidence, of their contained metal, grade, tonnage, shape, densities, physical characteristics.

Measured Mineral Resources are Indicated Mineral Resources that have undergone enough further sampling that a 'competent person' or 'qualified person' (defined by the norms of the relevant mining code; usually a geologist) has declared them to be an acceptable estimate, at a high degree of confidence, of the grade (or quality), quantity, shape, densities, physical characteristics of the mineral occurrence.

Ore Reserves / Mineral Reserves

An Ore Reserve or Mineral Reserve is the economically mineable part of a Measured Mineral Resource and/or Indicated Mineral Resource. Mineral Reserves are subdivided in order of increasing confidence into **Probable Mineral Reserves** or **Proved Mineral Reserves**.

Probable Mineral Reserve is the economically mineable part of an Indicated Mineral Resource, and in some circumstances, a Measured Mineral Resources. It includes diluting material and allowances for losses which may occur when the material is mined. A Probable Mineral Reserve has a lower level of confidence than a Proved Mineral Reserve but is of sufficient quality to serve as the basis for decision on the development of deposit.

Proved Mineral Reserve is the economically mineable part of a **Measured Mineral Resource**. It includes diluting materials and allowances for losses which occur when the material is mined.

Proved Mineral Reserve represents the highest confidence category of Mineral Reserve estimate. It implies a high degree of confidence in the geological factors and a high degree of confidence in the Modifying Factors. The style of mineralization or other factors could mean that Proved Mineral Reserves are not achievable in some deposits.

Generally the **conversion** of Mineral Resources into Mineral Reserves requires the application of various **Modifying Factors**, including, but not restricted to:

- mining factors
- mineral processing / ore dressing related factors
- metallurgical factors
- infrastructure factors
- economic factors

- marketing factors
- legal factors
- ESG factors: Environmental, Social (including Health and Safety) and Governance.

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1   [1]EXECUTIVE SUMMARY

1.1   Mineral Resource and Reserve Statement 2022

A&B Global Mining (ABGM) was commissioned by Hindustan Zinc Limited (HZL) to prepare a Mineral Resource and Mineral Reserve (R&R) statement for its operating mines. ABGM reviewed existing estimates of the Mineral Resources and Reserves and particularly the evidential database on which the existing Resources and Reserves are based. This included technical site visit to the operating mines, where exploration activities, drill core, mining operations, mineral processing installations, tailings disposal facilities, bulk commodity supply, environmental, social and health aspects of the operations were inspected

Table 1-1: Mineral Resource and Ore Reserve summary

Ore Reserve	Tonnage (Mt)	Grade (Zn %)	(Pb %)	(Ag g/t)	Metal (Zn kt)	(Pb kt)	(Ag koz)
Proved	66.0	5.3	1.7	69	3,529	1,149	146,276
Probable	95.2	6.3	1.4	50	6,040	1,302	152,115
Ore Reserves	**161.2**	**5.9**	**1.5**	**58**	**9,570**	**2,451**	**298,391**

Mineral Resource (Exclusive)[2]	Tonnage (Mt)	Grade (Zn %)	(Pb %)	(Ag g/t)	Metal (Zn kt)	(Pb kt)	(Ag koz)
Measured	69.8	5.6	2.3	81	3,941	1,576	181,569
Indicated	28.9	4.0	1.7	47	1,154	494	43,718
Measured + Indicated	**98.8**	**5.2**	**2.1**	**71**	**5,095**	**2,070**	**225,286**
Inferred	148.4	4.5	2.2	62	6,725	3,286	295,190
Mineral Resources	**247.3**	**4.8**	**2.8**	**65.3**	**11,820**	**5,357**	**520,477**

1.2   Company summary and property ownership

Hindustan Zinc Limited is India's largest and the world's second largest zinc-lead miner. With more than 50 years of operational experience, HZL gives high priority to safety of its people and conservation of scarce natural resources through technology and innovation. With a Mineral Reserve base of 161.2 million tonnes and an average zinc-lead grade of 5.9% and Mineral Resources of 286.7 million tonnes, the operations of HZL have a combined mine life of over 25 years. HZL's fully integrated zinc operations

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[1] This Securities Exchange Summary Report is supported by a series of individual documents for each mine asset specified within this document.

[2] Mineral Resources reported exclusive of Ore Reserves, reported at variable cut-off grades per Mineral Asset

currently hold 78% market share in India's primary zinc industry. It is the 6th largest silver producer globally with an annual capacity of 800 tonnes.

HZL is a subsidiary of Vedanta Limited which owns a 64.9% stake in the Company while the Government of India retains a 29.5% stake. HZL is listed on the NYSE New York Stock Exchange (NYSE) and BSE (India's primary stock exchange).

Hindustan Zinc's operations comprise lead-zinc mines, hydrometallurgical zinc smelters, lead smelters, pyro-metallurgical lead-zinc smelter as well as sulphuric acid and captive power plants in north-west India. Total metal production capacity is 890,000 tonnes of zinc and 205,000 tonnes of lead. HZL has facilities located at Agucha, Chanderiya, Dariba, Kayad and Zawar in the state of Rajasthan, along with zinc-lead processing and refining facilities and a silver refinery at Pantnagar in the state of Uttarakhand.

HZL has five operating mines utilizing eight shafts spread across several districts and located in the Rajasthan Province in north-west India. The mining operations are:

- Kayad Mine (KDM)
- Rampura Agucha Mine (RAM)
- Sindesar Khurd Mine (SKM)
- Rajpura Dariba Mine (RDM)
- Zawar Mine Complex (ZAW) – which comprises four mines:
    - Balaria
    - Baroi
    - Mochia
    - Zawarmala.

The sole purpose of this SEC Technical Review Summary (TRS) is to review the data received from HZL and to compile a Mineral Resource and Mineral Reserve statement in accordance with the requirements of SEC Regulation S-K (Subpart 1300).

1.3   Mineral Resource Statement

1.3.1   Introduction

All the data sets, geological models with associated drillhole databases, lithologies, geoscientific information, economic and technical parameters, grade and tonnage estimations for all the mines were collated and scrutinized by geological professionals. The Mineral Resource estimates were

determined using ordinary kriging (OK) geostatistical methodology and considered sample lengths, grade capping / cutting, the spatial distribution of drill holes and the quality assurance and quality control results for the analytical sample grades determined. Geological modelling and grade estimation used Datamine software.

Findings from the evaluation are as follow and reflect the opinion of ABGM:

- The geology is understood well, and the geological model is sufficiently detailed to estimate reliable Zn, Pb, and Ag grades.

- ABGM concurs with previous reviews of the data and QAQC and concluded there is sufficient and spatially representative drill holes to estimate reliable grade and tonnage estimates. Shortcomings in QAQC for older data and in documentation were noted but deemed suitable for inclusion in the Mineral Resource estimation.

- The regression method to determine the missing Ag assay results is appropriate.

- The use of OK methodology is appropriate as is the related estimation parameters applied.

- Sufficient estimation model validations have been undertaken and indicate the grade estimates are reliable.

- The criteria used to define the Mineral Resource confidence categories are appropriate.

- The parameters used to determine the COGs are appropriate.
    - Calculated using the nett smelter return (NSR) values for Pb, Zn and Ag
    - at prices of USD 2,057/t, USD 2,759/t and USD 21.24/oz, respectively
    - no mining factors have been applied

- The Mineral Resources are amenable to underground mining.

- The estimation of the grades and tonnages have been performed to industry best practices and conform to the requirements of international Mineral Resource reporting codes.

- Successful brown-fields exploration to replace Mineral Resources depleted by production has occurred and is on-going.

- The net differences between the most recent Mineral Resources and the previous fiscal year's Mineral Resources are well understood.

- The persons undertaking the estimation and classification of the Mineral Resources are sufficiently experienced to undertake such.

- The March 31, 2022, Mineral Resource estimate has been estimated in accordance with the December 26, 2018, SEC Regulation S-K (Subpart 1300).

1.3.2   Summary

As of 31 March 2022, HZL's Exclusive Mineral Resources are estimated to be 247.3 Mt of material, grading 4.8% Zn, 2.8% Pb and 65 g/t Ag, which contains 11.82 Mt Zn, 5.36 Mt Pb and 520.5 Moz Ag.

1.3.3   Mineral Resource Statement

The following notes apply to the Mineral Resource statements:

- The Mineral Ore Reserves have an effective date of 31 March 2022.
- Rounding as required by reporting guidelines may result in apparent summation differences between tonnes, grade and contained metal content.
- Tonnages are reported in metric units, grades in percent (%) for base metals and gram per tonne (g/t) for precious metals, and grades are rounded appropriately.
- Mineral Resources are reported with reasonable prospects for eventual economic extraction, by applying appropriate mining and economic assumptions.
- Mineral Resources are not Ore Reserves and do not have demonstrated economic viability, nor have any mining modifying factors been applied.
- Mineral Resources are presented and reported in both an inclusive and exclusive reporting format, whereby "Exclusive Mineral Resources" are reported exclusively of the Ore Reserve.

Table 1-2: Mineral Resource Estimates (Exclusive of Mineral Reserves)

Mineral Resource (Exclusive)[3]	Tonnage (Mt)	(Zn %)	Grade (Pb %)	(Ag g/t)	(Zn kt)	Metal (Pb kt)	(Ag koz)
Measured							
Rampura Agucha	10.2	14.7	2.2	64	1,498	223	21,014
Kayad	0.2	9.6	1.6	33	18	3	191
Sindesar Khurd	29.9	4.3	2.6	134	1,295	769	129,205
Rajpura Dariba	3.0	7.3	2.1	68	222	64	6,610
Zawar Mines	26.4	3.4	2.0	29	909	517	24,549
Subtotal	**69.8**	**5.6**	**2.3**	**81**	**3,941**	**1,576**	**181,569**
Indicated							
Rampura Agucha	0.1	17.6	3.0	80	20	3	290
Kayad	2.4	7.9	1.1	20	192	26	1,590
Sindesar Khurd	13.9	3.3	1.5	62	462	201	27,508
Rajpura Dariba	2.2	6.8	2.4	74	153	54	5,346
Zawar Mines	10.3	3.2	2.0	27	327	209	8,984
Subtotal	**28.9**	**4.0**	**1.7**	**47**	**1,154**	**494**	**43,718**
Measured + Indicated							
Rampura Agucha	10.3	14.7	2.2	64	1,517	227	21,304
Kayad	2.6	8.0	1.1	21	210	29	1,781
Sindesar Khurd	43.8	4.0	2.2	111	1,757	970	156,713
Rajpura Dariba	5.3	7.1	2.2	71	375	118	11,956
Zawar Mines	36.8	3.4	2.0	28	1,236	726	33,532
Subtotal	**98.8**	**5.2**	**2.1**	**71**	**5,095**	**2,070**	**225,286**
Inferred							
Rampura Agucha	17.6	6.0	3.6	97	1,060	638	55,174
Kayad	2.4	6.6	0.9	14	159	21	1,067
Sindesar Khurd	15.5	3.4	1.9	96	530	292	47,759
Rajpura Dariba	33.6	6.3	1.9	96	2,124	640	104,139
Zawar Mines	79.3	3.6	2.1	34	2,852	1,695	87,051
Subtotal	**148.4**	**4.5**	**2.2**	**62**	**6,725**	**3,286**	**295,190**
Mineral Resources							
Rampura Agucha	28.0	9.2	3.1	85	2,578	865	76,478
Kayad	5.0	7.4	1.0	18	368	51	2,849
Sindesar Khurd	59.3	3.9	2.1	107	2,287	1,261	204,472
Rajpura Dariba	38.9	6.4	2.0	93	2,499	759	116,095
Zawar Mines	116.1	3.5	2.1	32	4,088	2,421	120,583
Total	**247.3**	**4.8**	**2.8**	**65.3**	**11,820**	**5,357**	**520,477**

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[3] Mineral Resources reported exclusive of Ore Reserves, reported at variable cut-off grades per Mineral Asset

Table 1-3: Mineral Resource Estimates (Inclusive of Mineral Reserves)

Mineral Resource (Inclusive)[4]	Tonnage (Mt)	(Zn %)	Grade (Pb %)	(Ag g/t)	(Zn kt)	Metal (Pb kt)	(Ag koz)
Measured							
Rampura Agucha	25.9	14.9	2.2	72	3,851	560	60,202
Kayad	0.6	11.1	1.8	33	62	10	601
Sindesar Khurd	49.9	4.2	2.7	139	2,101	1336	223,662
Rajpura Dariba	10.5	6.7	1.9	75	708	195	25,164
Zawar Mines	44.6	3.9	1.9	31	1722	853	45,101
Subtotal	**131.5**	**6.4**	**2.2**	**84**	**8,445**	**2,955**	**354,730**
Indicated							
Rampura Agucha	33.6	13.7	1.3	41	4612	448	44167
Kayad	3.4	9.0	1.1	22	308	39	2,367
Sindesar Khurd	32.6	3.4	1.8	85	1121	587	89,106
Rajpura Dariba	28.9	5.8	1.9	69	1666	536	63,986
Zawar Mines	21.1	3.8	1.9	32	793	398	21,749
Subtotal	**119.6**	**7.1**	**1.7**	**58**	**8,500**	**2,008**	**221,375**
Measured + Indicated							
Rampura Agucha	59.5	14.2	1.7	55	8,464	1008	104,369
Kayad	4.0	9.3	1.2	23	370	49	2,968
Sindesar Khurd	82.6	3.9	2.3	118	3,222	1923	312,768
Rajpura Dariba	39.4	6.0	1.9	70	2374	732	89,150
Zawar Mines	65.7	3.8	1.9	32	2,515	1251	66,850
Subtotal	**251.2**	**6.7**	**2.0**	**72**	**16,945**	**4,963**	**576,105**
Inferred							
Rampura Agucha	17.6	6.0	3.6	97	1,060	638	55,174
Kayad	2.4	6.6	0.9	14	159	21	1,067
Sindesar Khurd	15.5	3.4	1.9	96	530	292	47,759
Rajpura Dariba	33.6	6.3	1.9	96	2,126	641	104,250
Zawar Mines	79.3	3.6	2.1	34	2,852	1,695	87,051
Subtotal	**148.4**	**4.5**	**2.2**	**62**	**6,727**	**3,287**	**295,301**
Mineral Resources							
Rampura Agucha	77.1	12.3	2.1	64	9,524	1646	159,543
Kayad	6.4	8.3	1.1	20	529	70	4,035
Sindesar Khurd	98.1	3.8	2.3	114	3,752	2,214	360,527
Rajpura Dariba	73.0	6.2	1.9	82	4,500	1372	193,399
Zawar Mines	145.0	3.7	2.0	33	5,368	2,946	153,901
Total	**399.6**	**5.9**	**2.1**	**68**	**23,673**	**8,248**	**871,405**

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[4] Mineral Resources reported inclusive of Ore Reserves, reported at variable cut-off grades per Mineral Asset

1.4   Mineral Reserve Statement

1.4.1   Introduction

The HZL mines have been operational for over a decade and the mines have introduced relevant and suitable technologies, skills and reporting structures to ensure the mine operations have a good understanding of the ROM that is extracted from the underground operations and the associated grades and achieved for mineral extraction. The mine operations have standardized the methodologies and tools utilised to determine the Ore Reserves and rely on professional establishments from global mining consultants to assist in their annual estimation processes. The HZL Ore Reserves estimations for the previous two years (2020 and 2021) have been audited by an internationally known consulting firm, with no material issues identified. The HZL Ore Reserves are also reported annually to the Indian Bureau of Mines (IBM) as part of statutory and mandatory requirements. Each mine has its own unique set of parameters used to determine economic cut-off grades that have been developed by HZL and audited by third parties. This data and information is imported and scrutinized using the Datamine software package, whereafter the results are exported into a classified Ore Reserve block model and used for planning and scheduling.

1.4.2   Summary

Presented below are the Ore Reserve statements, reported in accordance with the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves, the JORC Code, 2012 Edition ("JORC").

As of 31 March 2022, HZL's Ore Reserves are estimated to be 161.2 Mt of material, grading 5.9% Zn, 1.5% Pb and 58 g/t Ag, which contains 9.57 Mt Zn, 2.45 Mt Pb and 298.4 Moz Ag.

1.4.3   Mineral Reserve Statement

The following notes apply to the Mineral Resource statements:

- The Mineral Ore Reserves have an effective date of 31 March 2022.
- Rounding as required by reporting guidelines may result in apparent summation differences between tonnes, grade and contained metal content.
- Tonnages are reported in metric units, grades in percent (%) for base metals and gram per tonne (g/t) for precious metals, and grades are rounded appropriately.

- Mining modifying factors, inclusive of technical and economic constraints, have been applied to convert Mineral Resources into Ore Reserves. This is inclusive of mine design and scheduling considerations.

- The Ore Reserves are reported with demonstrated technical and economic viability supported by sufficient technical assessment and operational history where appropriate.

Table 1-4: Ore Reserve summary by asset

Ore Reserve summary							
Ore Reserve	Tonnage (Mt)	Grade (Zn %)	(Pb %)	(Ag g/t)	Metal (Zn kt)	(Pb kt)	(Ag koz)
Proved							
Rampura Agucha	14.7	12.4	1.8	65	1,820	261	30,493
Kayad	0.6	6.9	1.1	20	42	7	386
Sindesar Khurd	21.4	3.3	2.4	125	701	511	86,001
Rajpura Dariba	5.8	5.3	1.4	66	306	84	12,333
Zawar Mines	23.5	2.8	1.2	23	661	286	17,063
Subtotal	**66.0**	**5.3**	**1.7**	**69**	**3,529**	**1,149**	**146,276**
Probable							
Rampura Agucha	32.3	11.6	1.1	35	3,739	368	36,519
Kayad	1.3	7.9	0.8	16	105	11	702
Sindesar Khurd	24.0	2.8	1.6	78	674	378	59,994
Rajpura Dariba	23.1	4.8	1.6	59	1,122	379	43,803
Zawar Mines	14.4	2.8	1.2	24	401	167	11,097
Subtotal	**95.2**	**6.3**	**1.4**	**50**	**6,040**	**1,302**	**152,115**
Ore Reserves (Total)							
Rampura Agucha	47.0	11.8	1.3	44	5,559	629	67,012
Kayad	1.9	7.6	0.9	18	146	18	1,088
Sindesar Khurd	45.4	3.0	2.0	100	1,376	889	145,995
Rajpura Dariba	28.9	4.9	1.6	60	1,428	463	56,135
Zawar Mines	37.9	2.8	1.2	23	1,062	452	28,160
Total	**161.2**	**5.9**	**1.5**	**58**	**9,570**	**2,451**	**298,391**

1.5 Geology and Mineralization

All the operations' geology and mineralogy is well defined and understood with the extensive drilling campaign HZL executes on a continuous basis annually. The HZL assets have undergone extensive exploration since their discovery in the mid-1970s. In the past few years, exploration has been undertaken by means of diamond drilling, both from surface and underground, for two purposes,

namely grade control and extension of current mineral envelopes to deeper levels. In general, the underground exploration drilling is undertaken in conjunction with the underground mining activities. On-reef drilling is carried out by the mine and constitutes the majority of the metreage drilled.

Table 1-5: Summary of Exploration Drilling for HZL (2017-2022)

Mine/Deposit	F2017		F2018		F2019		F2020		F2021		F2022
	No.Holes	(m)	No.Holes	(m)	No.Holes	(m)	No.Holes	(m)	No.Holes	(m)	(m)
RampuraAgucha	30	10,443	64	7,056	189	27,458	246	32,124	216	30,234	44,297
Kayad	100	16,154	75	46,365	90	46,891	118	37,371	199	44,950	75,628
RajpuraDariba	37	1,598	89	10,838	168	32,435	203	34,717	98	27,639	39,231
SindesarKhurd	288	72,912	606	112,906	643	111,824	604	106,670	446	76,657	109,807
Zawar	280	89,550	1,268	126,413	1,292	157,666	1,062	200,032	1,165	177,029	230,794
TOTAL	735.0	190,657.0	2,102.0	303,578.0	2,382.0	376,274.0	2,233.0	410,914.0	2,124.0	356,509.0	499,757.0

All the orebodies mined by HZL can be classified as steep dipping narrow tabular to massive orebodies with thicknesses ranging from 3 m to 120 m. The mineral deposits are well defined and have distinctive contacts in the lithologies. These orebodies occur in long strikes and in short deep lenses that are scattered and offset to the main orebody.

1.6 Metallurgical Testing

The mineral processing is well understood from the operating plants and there is no need to conduct any additional metallurgical test work at the current operations.

1.7 Mineral Processing

All the mine operations, with the exception of Kayad Mine that sends its ROM ore to Rampura Agucha Plant, have their own beneficiation plant on site to process the Run of Mine. All the plants have similar processing streams that contain crushers and mills to prepare the materials. The materials then go through a lead floatation assembly that produces a lead (Pb) concentrate. The Pb discard runs through a zinc (Zn) floatation assembly to produce zinc concentrate. These concentrates are further processed in thickeners and pressure filters and sent to stockpiles. The concentrate is transported to HZL's smelters for further processing. Discards are processed through a thickener to remove water and the solids are sent to the tailings storage facilities.

1.8 Mine Design, Optimizations and Scheduling

All the mines have suitable industry standard mine designs and extraction methodologies applied to the production schedules to ensure the most economical and best practices are applied to each

operation. The mines also conduct adequate geotechnical work to ensure the long term stability of each operation. Appropriate regional, vertical, sill, boundary and crown pillars are in place and part of the mine designs as required.

Most of the mines are accessed via a network of decline portals or vertical shafts from surface that transports men and materials. The declines serve as access points for the trackless machinery to enter and exit the mines. The multiple entrances and exits serve as suitable portals for ventilation to ensure adequate cooling is in place underground.

Some of the operations already extract the minerals from hundreds of metres below surface whilst the RAM operation recently underwent the transition from open pit to underground.
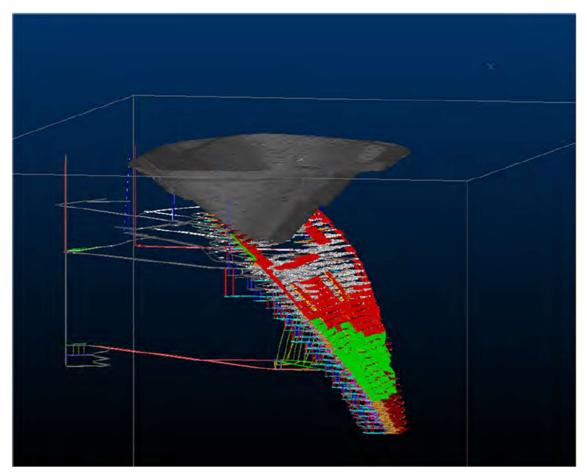

Figure 1: The Rampura Agucha Mine Design and Orebody

1.9   Environmental, Permitting and Community Impact

All the HZL operations are doing sufficient work around the environmental assessments and are continuously monitoring all vital statutory aspects required. There is various sites and locations where site monitoring is conducted in regard to the following main elements:

- Land Use
- Water Quality and Management
- Air Quality
- Noise Pollution
- Soil Monitoring
- Tailing disposal

At all the mines specific initialise are in place to improve the mines' footprint on the environment, including solar power generation and reducing the carbon footprint through plant many thousands of trees in "diversity parks".

The mines are also engaging with the local communities to ensure alignment with EIA requirements overall. Each of the mine operations are implementing planned progressive mine closure measures annually and are reporting to the IBM as required. The required reclamation bonds are in place for all the operations.

1.10   Capital Costs, Operating Costs and Financial Analysis

ABGM reviewed financial inputs as provided by HZL. All the mines illustrated robust financial outcomes with positive cashflows and revenue streams for all the years evaluated. High level sensitivity analysis indicated the mine operations are not volatile in response to high price and cost fluctuations.

The site visits drew attention to numerous technologies and projects that are being implemented or are planned to be executed, however, these costs were not all provided by HZL. It is deemed adequate to comment that the developments planned are of an incremental nature and will require only moderate to low capital and are budgeted as sustaining capital in most cases.

1.11   Conclusions and Recommendations

HZL and their mine operations are well established and are operated in a safe and profitable manner. In some cases there is room to optimise and improve the operations. This is generally the case with most major mine operation worldwide, where there is the constant need to improve on skills,

operational parameters and productivity. A few notable comments from the review is listed below with some potential opportunities that could be investigated by HZL in the future.

1.11.1 Pricing assumptions

Comparing the market research and the current trend of commodity pricing and running the sensitivities, all the operations seem to be well established and not sensitive to volatile changes. HZL used the 10 year pricing average in their estimates, the three year LME forecast average seems to be higher than the last 3 year average.

1.11.2 Environmental, Social Studies

Where information is available, environmental studies are done to an acceptable level for the Indian authorities. In some cases exemplary work is being done, beyond what is strictly necessary. Sites are monitored on strict schedules and the regular submission of updated reports are sufficient for the permits to be renewed again. Standardisation of programmes and procedures is recommended for all operations as this will prevent some areas of not receiving the correct attention. Interaction with and contributions to the local staff and communities appears to be positive with the establishing of medical centres and schools.

1.11.3 Closure Plans

Mine closure plans are not always easy to see in the provided documents, but the plans appear to be well thought out and implemented. As the mining activities are mostly underground, the effect on the environment is limited to the dust and noise generated due to ore transport and the storage of tailings, a large portion of which is used for backfilling mined stopes.

1.11.4 Geotechnical Drill Core Logging

The mines need to continue its practise with respect to core logging. Recommend more detailed geotechnical logging and recording of structures.

1.11.5 Sampling Transportation

Even though no information was provided around this practise, the site inspections proved that core, as well as samples from core, are transported in solid, closed and locked metal containers. Logging, tagging and security of the custody chain for samples are tracked in acQuire database, with unique barcodes and numbers. However it is suggested that the procedures followed need to be documented and recorded better.

1.11.6 Independent Lab Analysis

It is recommended that regular pulp duplicates are submitted an independent laboratory to be analysed as umpire samples.

1.11.7 Bulk Density Data

While bulk density data has been reconciled with production data, independent bulk density analyses should be undertaken at an independent laboratory during the exploration phase to avoid errors.

1.11.8 Opportunities Identified during the Site Visits

A few opportunities for HZL to consider exploring was identified and communicated to the HZL Senior Management team:

- Mine planning: compliance related, strategic and LOMP and dynamic medium and short-term planning updates.
- Geological recovery.
- Detailed logistical simulation to assess the production potential.
- Shotcrete vs Supercrete.
- Innovative transportation technologies (explosive, fuel, rock, etc.).
- Sharing learnings from the other Vedanta operations.
- Mining method optimization for the thin orebody lenses.
- Detailed cost benefit analysis for pre-concentration methods.
- Optimised blending methodologies.
- One level up digitalisation and automation (ML, AI and pilot project for one fully automated mining section).
- Regular update of the structural models for RAM and SKM with 20% to 25% oriented core drilling.
- More detailed hydrogeology modelling and regular updates.
- Detailed planning for pillar mining at Zawar group of mines.
- Revisit the mining contracting strategy.
- Use of AI for optimising resource upgrade drilling.