INDIAN BUREAU OF MINES
MINERALS DEVELOPMEMT AND REGULATION DIVISION

MCDR INSPECTION REPORT

Ajmer regional office

Mine file No : RAJ/BLW- 56 /PB,ZN-1/6/12/200: **Mine code : 34RAJ06001**

(i) Name of the Inspecting Officer and ID No. : **KQ18) Dr A Z Khan**

(ii) Designation : Senior Mining Geologist

(iii) Accompaning mine Official with Designation : Shri Kishore S,Mine Manager ,Shri Gopal Singh Rathore

(iv) Date of Inspection : 05-SEP-17

(v) Prev.inspection date : 19-MAY-17

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **RAMPURA AGUCHA**

(b) Registration NO. : **IBM/421/2011**

(c) Category : A Mechanised

(d) Type of Working : Opencast

(e) Postal address

State : RAJASTHAN
District : BHILWARA
Village : AGUCHA
Taluka : HURDA
Post office : AGUCHA
Pin Code : 311029
FAX No. : 01483-23073
E-mail : hzl.ram@vedanta.co.in
Phone : 01483-23331, 23332

(f) Police Station : Gulabpura

(g) First opening date : 05-FEB-81

(h) Weekly day of rest : MON

2. Address for correspondance : HINDUSTAN ZINC LTD.
RAMPURA AGUCHA MINE,
PO AGUCHA, BHILWARA

3. (a) Lease Number : RAJ0652
(b) Lease area : 1200
(c) Period of lease : 50
(d) Date of Expiry : 12-MAR-30

4. Mineral worked : LEAD & ZINC ORE Main

5. Name and Address of the

Lessee	:	HINDUSTAN ZINC LTD. HINDUSTAN ZINC LTD. YASHAD BHAWAN YASHADGARH, UDAIPUR UDAIPUR RAJASTHAN Phone:01483-23331, 23332 FAX :01483-23073
Owner	:	Sunil Duggal Hindustan Zinc Limited Yashad Bhawan, Swaroop Sagar Udaipur BHILWARA RAJASTHAN Phone: 0294-2529182 FAX : 0294-2525765
Agent	:	Rajendra Dashora Rampura-Agucha Lead-Zinc Mine Agucha, Bhilwara, Rajasthan BHILWARA RAJASTHAN Phone: 01483-229012 FAX : 01483-229011

Mining Engineer

Name	:	Shri Nirmalendu Kumar,Full Time
Qualification	:	M.Tech(Mining),1st class(UR)under MMR 19
Appointment/ Termination date	:	25-DEC-13

Geologist

Name	:	Shri Gopal Singh Rathore,Full Time
Qualification	:	M.Sc Geology
Appointment/ Termination date	:	01-AUG-17

Manager

Name	:	Shri Kishore S
Qualification	:	B.Tech(Mining)
Appointment/ Termination date	:	22-JUL-17

6. Date of approval of Mining Plan/Scheme of Mining :

Existing rule 11 MCDR1988	25-JAN-93
Mining Scheme rule 12 MCDR1988	15-MAY-97
Mining Scheme rule 12 MCDR1988	06-JUN-01
Modif.approved Mining Scheme	29-JUL-03
Modif.approved Mining Scheme	17-SEP-03
Mining Scheme rule 12 MCDR1988	27-FEB-06
Modif.approved Mining Scheme	02-NOV-06
Modif.of approved Mining Plan	04-MAY-09
Mining Scheme rule 12 MCDR1988	11-JUL-12
Modif.approved Mining Scheme	28-JUN-13
Modif.approved Mining Scheme	09-APR-15
MP review under 17(1) MCR 2016	22-FEB-17

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	NIL	NIL	Last year target was achieved
1b	Exploration over lease area for geological axis 1 or 2	9000m (5000m with 04 bore holes from surface & 4000m with 40 bore holes from U/G)	3402m (UG 1928 m, Surface1474m) No of borehole (UG 27, Surface 2)	Records have not been maintained as per the rule 48 of MCDR,2017. Violation of rule 48 of MCDR,2017 has been pointed out.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not mentioned	MAPL, TDMA Expenditure - Rs. 1.33 Cr.	The expenditure was for the year 2016-17
1d	Balance area to be explored to bring Geological axis in 1 or 2	Year wise proposal have been given	Exploration work is being carried out as per the proposal.	
1e	Balance reserve as on 01/04/20	Not mentioned	Reserve 49.7 million tons with 1.9% Pb,13.9% Zn and Resource 50.3 million tons with 2.4% Pb,11.6% Zn	
1f	General remarks of inspecting officers on geology, exploration etc			At Rampura Agucha Mine exploration activities are consistent and are in line as per the approved proposal. Latest technologies are in practice for mineral conservation (Cavity monitoring systems, in exploration oriented core and bore hole geophysics are being carried out to further interpret anomalies)

Development :

Sl.No.	Item	Propasals	Actual work	Remarks

2a	Location of development w.r.t.lease area	RA OC-South 500 to North 650 & E 150 to East 700 RAUG-Decline- 2400 Lat.drive- 7864 Stope dev.- 11794 Vertical Dev. 1400 Total 23458	RA OC-South 500 to North 650 & E 150 to East 700 RAUG-Decline 455 Lat.Drive 2786 Stope Dev. 3292 Vertical Dev. 320 Total 6853	Development done upto Aug.2017
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	RAOC- Top soil -Nil Overburden-30 Mineral- 10	RAOC- Top soil -Nil Overburden-8 Mineral- 5	It is upto Aug.2017
2c	Stripping ratio or ore to OB ratio	1:11.0	1:15.45	
2d	Quantity of topsoil generation in m3	NIL	No top soil generated during tha period under reference	
2e	Quantity of overburden generation in m3	In open cast the proposal of OB generation is given as 6900884m3	The OB generation upto AUG.2017 is 3177461m3	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			Mine development activities are slightly lagging as compared to the proposals. However, Lessee has back up plan to catch up the development during the rest of the period.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks

3a	Number of pit proposed for production	The proposal is of one pit	Exploitation in open cast has been carried out from one pit only	As per proposal
3b	Quantity of ROM mineral production proposed	For the year 2017-18 the proposal of ROM is -- 1741204 MT (OC) 3000000 MT (UG) Total 4741204 MT	The propduction from the mine upto AUG.2017 is- 561384 MT (OC) 666080 MT (UG) Total 1227464 MT	
3c	Recovery of sailable/usable mineral from ROM production	100%	100%	
3d	Quantity of mineral reject generation	No such proposal given	Whole ROM is beneficiated	
3e	Grade of mineral rejects generation and threshold value declared.	The is no generation of minera reject.	Not applicable , as there is no generation of reject.	
3f	Quantity of sub grade mineral generation.	No such proposal	There is no generation of sub-grade. Whole ROM is beneficiated	
3g	Grade of sub grade mineral generation	No generation of sub grade	Not applicable as there is no generation of sub grade	
3h	Manual / Mechanised method adopted for segregating from ROM	No such proposal given	Diluted ROM production is stacked separately at stockyard and mineral being segregated using small size excavator.	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not proposed	Not such study proposed	

3j	Provision of drilling and blasting in mineral benches	Spacing and Burden : Waste: 5.0 x4m to 6.0x 4m Ore : 3.0x 2.75m to 4.0x 3m Depth of Hole : 11.0 to 12.0m Sub Grade: 1.0 to 1.25m Drill pattern: mostly staggered A typical blast design parameters are as under. Primary Charge: 400 gms cast booster (Waste) :500gms emulsion booster (Ore) Or 10-15% LD cartridge (toe blast) Column Charge : Site Mixed Emulsion (Bulk) Charge Length : 66-70% of hole depth Charge per hole : 170 to 190 Kgs Blast Pattern : Reverse Echelon	Drilling & blasting has been carried out as per proposal
3k	Provision of mining machineries in mineral benches	Ore and waste is excavated by combination of hydraulic excavators and dumpers.	Ore and waste is excavated by combination of hydraulic excavators and dumpers.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Overburden - 10m Mineral - 10m	Overburden -10m Mineral - 10m

3m	Total area covered under excavation/pits	175.12 Ha	175.12 Ha	
3n	Ore to OB ratio for the pit/mine during the year.	1:11.0	1:15.45	
3o	Total area put in use under different heads at the end of year	1009.16 Ha	1009.16 Ha	As per proposal
3p	Production of ROM mineral during the last five year period as applicable	2012-13= 5960000 MT 2013-14= 6000000 MT 2014-15= 6000000 MT 2015-16= 5200000 MT 2016-17= 6046653 MT	2012-13= 6149424 MT 2013-14= 5803852 MT 2014-15= 5451320 MT 2015-16= 4704635 MT 2016-17= 4700938 MT	
3q	General remarks of inspecting officers on method of mining etc.			The exploitation has been carried out as per approved proposal.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No proposal of top soil & mineral reject stacking. OB to be stacked separately at proposed waste dump location in 20m of lifts.	There was no top soil & mineral reject generation. The OB generated has been dumped at planned locations as per approved scheme of mining	As per proposal
4b	Location of topsoil, OB and mineral reject dumps	proposed location for OB-N1500 to N2500 &West 100 to East 620 No proposal for Top soil & reject	There is no generation of top soil & reject. OB is being dumped as per proposed location N1500 to N2500 &West 100 to East 620	
4c	Number of dumps within lease area and outside of lease area	One	One	

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	proposed location of OB dump is - N1500 to N2500 &West 100 to East 620	The location of OB dump is - N1500 to N2500 &West 100 to East 620	As per proposal
4e	Number of active and alive dumps.	One	One	
4f	Number of dead dumps.	None	None	
4g	Number of dumps established.	None	Part of different lifts of the dump has been stabilised with plantation.	As there is single active dumping location the non-moving ends of dump is stabilised with best possible manner.
4h	Whether Retaining wall or garland drain all along dumps are there.	Propsal has been given	Retaining wall & garland drain has been made along the dump.	
4i	Length of Retaining wall or garland drain all along dumps	Garland drain (with retaining wall along it) is planned to construct all along the waste dump	A total 8.6 Km of garland drain (with retaining wall along it) along the waste dump has been constructed.	
4j	Number of settling ponds	None	None	
4k	Specific comments of inspecting officer on waste dump management			Part of the waste dump have been stabilized and rehabilitated with plantation.

Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	No such proposal given	Pit is still active,	
5b	Area under backfilling of mined out area	Not proposed	Mining Pit is still active	

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not proposed	No top soil generated during the period under reference.	
5d	Total area fully reclaimed and rehabilitated	No such proposal given	Part of the matured waste dump end has been reclaimed by soil capping and plantation.	
5e	General remarks of inspecting officers on backfilling and reclamation etc.			No reclamation is possible till the mature. area is available. However, part of the matured waste dump end has been reclaimed by soil capping and plantation.

Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	propsed for year 2017-18	Submitted for year 2016-17. For 2017-18, it will be due in June,18	
6b	Area available for rehabilitation (ha) .	No such area proposed	No such area available for rehabilitation	
6c	afforestation done (ha).	16.46ha	8.0ha	
6d	No. of saplings planted during the year	16460 sapling during the year 2017-18	So far 8000 sapling planted	
6e	Cumulative no .of plants	311110 plants	Cumulative plantation(till Aug'17) - 302650 plants	
6f	Any other method of rehabilitation	None	None	
6g	Cost incurred on watch and care during the year	35.40 lacs	16.64 lacs upto August,2017	

6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	No area is proposed	Mining pit is active and no such area available for reclamation & rehabilitation.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No area is proposed	Mining pit is active and no such area available for reclamation & rehabilitation.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	No area is proposed	Mining pit is active and no such area available for reclamation & rehabilitation.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No area is proposed	Mining pit is active and no such area available for reclamation & rehabilitation.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	None	Mining pit is active and no such area available for reclamation & rehabilitation.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Not proposed	None
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not proposed	No such area available.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not proposed	None

6p	Compliance of environmental monitoring (core zone and buffer zone)	3 stations in core zone & 3 stations in buffer zone	3 stations in core zone & 3 stations in buffer zone	
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			Work is being carried out as per proposal given in PMCP.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	ROM having grade variability should be stacked separately and blended	ROM having grade variability should be stacked separately and blended to optimize blende to maximize metal recovery	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Ore and Overburden bench to be drilled and blast separately	Ore and Overburden bench had been drilled and blast separately Method - Mechanized using small size excavator	
7c	Different grade of mineral sorted out at mines.	Different grades of mineral stacked separately at PCH pad and feed optimum grade to beneficiation plant	Different grades of mineral stacked separately at PCH pad, and blended it to feed optimum grade to beneficiation plant.	
7d	Any beneficiation process at mines .	Yes	Yes, beneficiation is being carried out to upgrade the mineral.	
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			ROM is beneficiated in the plant having instream analyzer to monitor and control the mineral

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	As per approved scheme of mining it is proposed that the top soil available during regular mining activity will be stored separately and will be utilized for stabilization of waste dump, slopes of tailing dam and to generate the green belt in surroundings of waste dump and	No soil generation during the year under reference.	
8b	Concurrent use or storage of topsoil	As per approved scheme of mining it is proposed that the top soil will be preserved whenever encountered and will be utilized for stabilization of re-vegetation purpose and other useful activities	No soil generation during period.	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Mineral and Overburden to be stacked separately at PCH pad and at proposed waste dump respectively	Mineral and Overburden has been stacked separately at PCH pad and at proposed waste dump respectively	

8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not proposed	Not applicable	
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not propsed	The mining pit is active. However, Part of different lifts of dump has been stabilised with plantation.	
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	For the year FY 17-18 the no. of plants proposed 16460	Cumulative plantation(till Aug'17) - 302650 upto August,2017, 8000 sapling planted	
8g	Survival rate	80%	90%	
8h	Water sprinkling on roads to control airborne dust	Effective water sprinkling to be done to control airborne dust.	Effective Water sprinkling with four water sprinklers (capacity 40KL) on haul roads has been carried out to ensured to control airborne dust due to mining activity	
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			The area around the mine is very well maintained. The propaganda for safety and environment is well displayed by posters and visual boards.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Propsedto submite AR & MR	MR submitted upto AUG-2017 AR submitted for the year 2016-17	

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Yes	Details are given
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Yes	Details are given
9d	Scrutiny of Annual return on afforestation	Yes	Details are given
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Yes	Details are given
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Yes	Details are given
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Yes	Details are given
9h	Scrutiny of Annual return on fixed assets	Yes	Details are given
9k	Scrutiny of Annual return on mining machineries	Yes	Details are given

Details of violations observed during current inspection and compliance position of violation pointed out

Violation observed			Show couse position		
Rule NO.	Issued on	Compliance on	Rule NO.	Issued on	Compliance on
MCDR17 Rule 48	10-OCT-17				

Date :

(**Dr A Z Khan**)

Indian Bureau of Mines