

**INDIAN BUREAU OF MINES  
MINERALS DEVELOPEMMENT AND REGULATION DIVISION**

**MCDR INSPECTION REPORT**

**Gandhinagar regional office**

**Mine file No :** RAJ/UDP/R.Ph.-1

**Mine code :** 46RAJ26003

- (i) Name of the Inspecting : **S012** ) **H C SHARMA**  
Officer and ID No.
- (ii) Designation : Assistant Controller Mine
- (iii) Accompanying mine : Sh. S. K. Mittal, Mining Engineer  
Official with  
Designation
- (iv) Date of Inspection : 17/05/2018
- (v) Prev.inspection date : 12/09/2017

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **JHAMARKOTRA**
- (b) **Registration NO.** : **5158**
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : RAJASTHAN
- District : UDAIPUR
- Village : JHAMARKOTRA
- Taluka : GIRWA
- Post office : JHAMARKOTRA MINES
- Pin Code : 313015
- FAX No. : 0294-2342444
- E-mail : mis.jkt@rsmm.com
- Phone : 0294-2428741-43,9414163346
- (f) Police Station : JHAMARKOTRA
- (g) First opening date : 01/06/1968
- (h) Weekly day of rest : MON
2. Address for : Jhamarkotra Rock phosphate Mine  
correspondance : village-jamarkotra,tehsil-girwa  
UDAIPUR(RAJ)
3. (a) Lease Number : RAJ0626
- (b) Lease area : 1370.37
- (c) Period of lease : 30
- (d) Date of Expiry : 24/06/2031
4. Mineral worked : ROCK PHOSPHATE Main  
DOLOMITE Associated

## 5. Name and Address of the

Lessee : RSMM Ltd.  
 4-Meera Marg Udaipur  
 UDAIPUR RAJASTHAN  
 Phone:  
 FAX :

Owner : B P YETURU  
 04 MEERA MARG, UDAIPUR  
 UDAIPUR RAJASTHAN  
 Phone: 02942528681  
 FAX : 02942428770

Agent : P. R. Prajapat  
 Jhammer Kotra Rock  
 phosphate Mine Village  
 Jhammar Kotra, Tehsil Girwa  
 Udaipur. UDAIPUR RAJASTHAN  
 Phone: 0294-2342445  
 FAX : 0294-2428770

Mining Engineer  
 Name : S. K. Mittal, Full Time  
 Qualification : B.E. (MINING), FCC (Restricted)  
 Appointment/ : 22/12/2017  
 Termination date

Geologist  
 Name : Rajesh Samar, Full Time  
 Qualification : M.Sc(Geology)  
 Appointment/ : 01/07/2016  
 Termination date

Manager  
 Name : H. K. Vyas  
 Qualification : B E (Mining), FCC (Restricted)  
 Appointment/ : 04/12/2017  
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	12/09/2003
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	01/09/2008
		Mining Scheme rule 12 MCDR1988	10/09/2013

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Not Specified	Not applicable	
1b	Exploration over lease area for geological axis 1 or 2	5000 m during schme period	6900.2 m during scheme period	
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not specified	M/S Soiltech (India) Private Ltd. Expense made Rs. 1.82 Crore	
1d	Balance area to be explored to bring Geological axis in 1 or 2	All the area within the mining lease has been explored (lateral & Depth) as per proposal in scheme of Mining.	All the area within the mining lease has been explored (lateral & Depth) as per proposal in scheme of Mining. The report is yet to be incorporated in new mining plan, which is under process for approval.	
1e	Balance reserve as on 01/04/20	Balance mineable reserves as on 1/4/2018 is HGO- 6.175 million T & LGO- 17.917 Million Tonne on basis of previous exploration.	Revised reserves calculation on the basis of Current exploration is under process & will be given in New Mining Plan which is under process for approval.	
1f	General remarks of inspecting officers on geology, exploration etc	Not Applicable	The conduct of lessee towards exploration is satisfactory. The Form - I & J as pointed out as VL after previous mine inspection had been complied.	

## Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	Work will be confined at central pit (CDEF&G) in between the grid lines 2970E to 7030E & 3750N to 5980N and at western pit (A Ext, AB blocks) in between grid lines 1800E to 3030E & 4990N to 7430N.	The development work has been done as per proposed limits, but the depth extension has not been carried out as per proposals.	The violation of rule 11(1) is proposed for same.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	There is no top soil. The proposal for OB & orebenches with pit bottom in central pit (CDEFG Blocks): Pit Bottom- 390mRL, Ore Extraction Total 7 benches. Wesren pit(A Ext, AB) : Pit Bottom - 420mRL, Ore Extraction - Total 10 benches	There is no top soil. The proposal for OB & orebenches with pit bottom in central pit(CDEFG Blocks): Pit Bottom- 410mRL, Ore Extraction Total 7 benches. Wesren pit(A Ext, AB): Pit Bottom - 450mRL, Ore Extraction - Total 7 benches	The ore extraction was less in AB blocks & A Ext. could not be done due to close proximity of Sameta Village and DE block lowering due to submerge of Ground water & surface water.
2c	Stripping ratio or ore to OB ratio	1: 14.03	1 : 17.80	
2d	Quantity of topsoil generation in m3	There is no top soil.	Not Applicable	
2e	Quantity of overburden generation in m3	245.73 Lac Tonnes	220.32 Lac Tonnes	
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Not applicable	The development of Central pit (CDEFG) and western pit (AB. A-ext) has not been carried out as per proposal. The violation of rule 11(1) is proposed to be issued.	

## Exploitation:

Sl.No.	Item	Proposals	Actual work	Remarks
3a	Number of pit proposed for production	Central Pit (CDEF & G Blocks) & Western Pit (A-Ext , AB Blocks).	Being done	
3b	Quantity of ROM mineral production proposed	17,62,000.00 MT	12,30,950.00 MT	
3c	Recovery of saleable/usable mineral from ROM production	No specified Proposals	HGO is 100% salable. LGO is beneficiated and weight recovery is around 37%.	
3d	Quantity of mineral reject generation	No proposal	Not Applicable	
3e	Grade of mineral rejects generation and threshold value declared.	No proposal	Not Applicable	
3f	Quantity of sub grade mineral generation.	1.5 Lac MT (approximate)	10.46 lac MT	
3g	Grade of sub grade mineral generation	Not defined in proposals	It varies from 5 to 15% P205. High Silica SiO2 50 to 60%	
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized method is proposed to for segregating from ROM.	Being done	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	There is R & D project for exploring the possibility of use of Subgrade Mineral.	Initially IBM carried out pilot scale study for beneficiation of this sub grade mineral. Thereafter beneficiation or direct sale both are under consideration of Management of RSMM Ltd.	
3j	Provision of drilling and blasting in mineral benches	yes	being done	
3k	Provision of mining machineries in mineral benches	Yes, Shovel dumper Combination.	Being done	

3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	10 meter height in both the O/B & in mineral proposed in MP/SOM	Being done, & it is suitable to the type of deposit.
3m	Total area covered under excavation/pits	329.90 ha proposed	315.29ha
3n	Ore to OB ratio for the pit/mine during the year.	1 : 14.03	1 : 17.89
3o	Total area put in use under different heads at the end of year	Pits - 320.00ha, waste dumps - 358.27 ha, Infrastructure - 64.37ha, green belt - 105.28, future minig- 475.049ha, plantation- 37.50ha, Total area put in use up to 2017-18- 1370.369.	Pits - 315.23. waste dumps - 285.58 ha, Infrastructure- 66.92ha, green belt-105.28ha, future minig- 589859 ha, plantation-37.50ha, Total area put in use up to 2017-18- 1370.369.
3p	Production of ROM mineral during the last five year period as applicable	2013-14-- HGO- 9.28 lac T, LGO-8.35 lac T; 2014-15-- HGO- 8.91 lac T, LGO- 8.71lac T; 2015-16--HGO- 8.97 lac T, LGO-8.64 lac T; 2016-17-- HGO-9.01 lac T, LGO- 8.57 lac T; 2017-18--HGO-9.05 lacT, LGO- 8.57 lacT.	2013-14-- HGO-4.61 lac T, LGO-6.82 lac T; 2014-15--HGO- 4.83 lac T, LGO- 9.94 lac T; 2015-16--HGO-4.42 lac T, LGO- 8.56 lac T; 2016-17-- HGO-3.89 lac T, LGO- 3.52 lac T; 2017-18-- HGO-5.73 lacT, LGO- 6.58 lacT.
3q	General remarks of inspecting officers on method of mining etc.	Not Applicable	Production from the mine is about 70% of the proposed quantity which is mainly due to less demand in the market of fertiliser industry.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
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4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	There is no top soil & reject generation in the mine. Seperate dumping of O/B waste proposed in F/W side of deposit in all the blocks at barren land.	Being done
4b	Location of topsoil, OB and mineral reject dumps	Not applicabe for top soil & reject. O/B waste dump proposed for Western pit is from 1380E to 2580E & 4290N to 5530N and Central pit (CDEF&G blocks ) from 3010E to 6500E and 2900N to 5100N.	Nil for for top soil & reject. O/B waste dumping is being done at earmarked place.
4c	Number of dumps within lease area and outside of lease area	Total of Five dumps within leasehold area.	Being done.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	All the O/B waste dumps proposed on F/W Side out side the UPL.	Being done
4e	Number of active and alive dumps.	All the five dumps are active & alive.	Being done
4f	Number of dead dumps.	No proposal	Not applicable
4g	Number of dumps established.	No proposal	Not applicable
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall of 400m proposed to be constructed.	Not constructed any retaining wall, however the temporary garland provided in few parts.
4i	Length of Retaining wall or garland drain all along dumps	Retaining wall of 400m length proposed.	NIL
4j	Number of settling ponds	NIL	Not applicable

4k	Specific comments of inspecting officer on waste dump management	Not Applicable	O/B waste dumping is being done at earmarked place. But retaining wall had not been constructed. The VL is proposed for rule 11(1) of MCDR, 2017.
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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.	There is no matured area available for backfilling. All the pits are active, as mineral vien at dip of 60 to 80 degree continuing at depth.	Not Applicable	
5b	Area under backfilling of mined out area	No proposal	Not Applicable	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	There is no top soil.	Not Applicable	
5d	Total area fully reclaimed and rehabilitated	There is no matured area available for backfilling, reclamation and rehabilitation . All the pits are active, as mineral vien at dip of 60 to 80 degree continuing at depth.	Not Applicable	
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Not Applicable	There is no matured area available for backfilling, reclamation and rehabilitation. All the pits are active, as mineral vien at dip of 60 to 80 degree continuing at depth.	

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## 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).	Yes, annual report on PMCP has been proposed as per Rule 23(2) of MCDR, 2017.	Yes Submitted for 2016-17 as per Rule 23(2) of MCDR, 2017.	
6b	Area available for rehabilitation (ha) .	There is no matured area available for backfilling, reclamation and rehabilitation . All the pits are active, as mineral vien at dip of 60 to 80 degree continuing at depth.	Not Applicable	
6c	afforestation done (ha).	7.5 ha	7.5 ha	
6d	No. of saplings planted during the year	7500 nos	7500 nos	
6e	Cumulative no .of plants	37500 Nos	37500 Nos	
6f	Any other method of rehabilitation	No proposal	Not Applicable	
6g	Cost incurred on watch and care during the year	Rs. 9,97,500/-	Rs. 9,06,250/-	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	No proposal as no matured area available for backfilling.	Not Applicable	
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	No proposal	Not Applicable	
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestati on on backfilled area	No proposal	Not Applicable	

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal	Not Applicable, as all pits are active.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	No proposal	Not Applicable
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No proposal	Not Applicable
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	No proposal	Not Applicable
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not proposed	Not Applicable
6p	Compliance of environmental monitoring (core zone and buffer zone)	Compliance of environmental monitoring (core zone & buffer zone) has been proposed.	Being done as per proposal
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Not Applicable	The conduct of lessee towards PMCP compliance was satisfactory.

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Mineral Conservation:

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Sl.No.	Item	Propasals	Actual work	Remarks
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7a	ROM Mineral dispatch or grade-wise sorting within lease area	HGO- 45.22 Lac Tonne, LGO- 42.89 lac tonne during 2017-18	HGO- 7,49,867.18 T, LGO- 4,36,692.00 T has been seperated.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanised	Being done
7c	Different grade of mineral sorted out at mines.	For HGO- non single super phosphate (NSSP) grade, single super phosphate (SSP) grade and for LGO- Beneficiated Rock Phosphate.	Being done.
7d	Any beneficiation process at mines .	LGO processed at industrial beneficiation plant (IBP) is proposed.	Being done.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Not Applicable	The LGO is processed in IBP which is the step towards mineral conservation. Besides it the grinding of O/B waste of dolomite for use in place of river sand is under consideration of Management of RSMM ltd. The samples have been taken by the DMG for this R & D for zero waste mining.

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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	There is no top soil.	Not Applicable	
8b	Concurrent use or storage of topsoil	Not Applicable	Not Applicable	

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	There is no reject. Seperate dumps for O/B waste & Subgrade mineral proposed.	Being done
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal	Not applicable presently, how ever the grinding of O/B waste of dolomite for use in place of river sand is under consideration of Management of RSMM ltd. The samples have been taken by the DMG for this R & D for zero waste mining.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal as all the pits & all the dumps are active.	Not applicable
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	All dumps are active, so no plantation over dumps proposed. only 7500 Nos planted on barren land as per SOM.	Total 37500 Nos planted so far in 30 ha area during first four years of SOM & 18000 survived. However total 406296 nos planted over 142.65 ha within since 1982-83 to 2016-17 & 161406 survived till so far
8g	Survival rate	No propasal	About 48% during SOM period.
8h	Water sprinkling on roads to control airborne dust	Proposal given for supressing dust.	Water sprinkling done by automatic sprinklers on main haulage road & other haulage roads by water tanker regularly.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Not Applicable	The general aesthatic beauty in & around mine is satisfactory.

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Compliance of Rule 45:

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Sl.No.	Item	Propasals	Actual work	Remarks
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9a	Status of submission of Monthly and Annual returns	Not applicable	The M/R submitted up to April 2018. The A/R submitted for 2016-17
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Details Furnished.	Found in order.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Details Furnished.	Found in order.
9d	Scrutiny of Annual return on afforestation	Details Furnished.	Found in order.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Details Furnished.	Found in order.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Details Furnished.	Found in order.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Details Furnished.	Found in order.
9h	Scrutiny of Annual return on fixed assets	Details Furnished.	Found in order.
9k	Scrutiny of Annual return on mining machineries	Details Furnished.	Found in order.

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

Violation observed		Show cause position	
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on

**Date :****(H C SHARMA)**

Indian Bureau of Mines