

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

Review and updation of Mining Plan REPORT

Goa regional office

Mine file No : Goa/Fe/214

Mine code : 30GOA01122

- (i) Name of the Inspecting : **K03**) **G. S. KANNAN**
Officer and ID No.
- (ii) Designation : Junior Mining Geologist
- (iii) Accompanying mine : Sh.Pednekar-QP, Amit-QP
Official with
Designation
- (iv) Date of Inspection : 12/10/2017
- (v) Prev.inspection date :

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **SEM DENOMINA SPECIAL**
- (b) **Registration NO.** :
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
State : GOA
District : NORTH GOA
Village : SONSHI
Taluka : SATTARI
Post office : SANQUELIM
Pin Code : 403505
FAX No. : 0832-221310
E-mail : vilman@bom2vsnl.net.in
Phone : 0832-224753,224309,225956,:
- (f) Police Station :
- (g) First opening date :
- (h) Weekly day of rest : SUN
2. Address for : Sonshi Mine of V.G. Quenim
correspondance : At-Sonshi, Po-Sanquelim
Tq-Sattari, Dist-North Goa, Goa.
3. (a) Lease Number : GOA0186
(b) Lease area : 56.79
(c) Period of lease :
(d) Date of Expiry : 22/11/2027
4. Mineral worked : IRON ORE Main

5. Name and Address of the

Lessee : V.G.Quenim
 Keni Building, Ist Floor
 Dr. Dada Vaidya Road
 Panaji-Goa NORTH GOA GOA
 Phone:0832-224753,224309,225956,221810
 FAX :0832-221310

Owner : V.G.Quenim
 Keni Building, Ist Floor
 Dr. Dada Vaidya Road
 Panaji-Goa NORTH GOA GOA
 Phone: 0832-224753,224
 FAX : 0832-221310

Agent : Prasad V. Keni
 Keni Building, Ist Floor
 Dr. Dada Vaidya Road
 Panaji-Goa NORTH GOA GOA
 Phone:
 FAX :

Mining Engineer

Name : CHANDRASHEKAR PATETI,Full Time
 Qualification : B.E (MINING)
 Appointment/ : 15/06/2004 16/08/2005
 Termination date

Mining Engineer

Name : K.Bhaskara,Full Time
 Qualification : B.E. (Mining)
 Appointment/ : 21/12/2001
 Termination date

Mining Engineer

Name : T.A.Sankarnarayanan,Full Time
 Qualification : B.Sc. Mining Engineering
 Appointment/ : 01/09/1998
 Termination date

Manager

Name : PANDE M.S.PRASAD
 Qualification : DIP MINING,FCMM
 Appointment/ : 16/12/2006
 Termination date

Manager

Name : T.A.Sankarnarayanan
 Qualification : B.Sc. Mining Engineering
 Appointment/ : 01/09/1998
 Termination date

Manager

Name : ANAND SHETYE
 Qualification : DIP MINING, FCC

16/12/2006

Appointment/ :
Termination date

Manager

Name : T.R. MURALIDHARAN
Qualification : M.Sc.(Geology), First Class Mine Mgr. Ce
Appointment/ : 17/05/2004
Termination date

Manager

Name : Sanjay Kumar Singh
Qualification : Diploma in Mining Engg.
Appointment/ : 17/08/2005
Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	22/03/2004
Plan/Scheme of Mining		Mining Scheme rule 12 MCDR1988	06/05/2005
		Renewal under rule 24 MCR1960	15/03/2007
		MP modif under MCR 1960	17/03/2016
		MP modif under 17(3) MCR 2016	06/10/2016

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	The proposal was to drill 2 boreholes with 180m in Previous approved Plan	Nil	2 Boreholes has drilled during 2017-2018. Form-J has been submitted
1b	Exploration over lease area for geological axis 1 or 2	Additional exploration proposed in modified mining plan during 2016-2017.	Additional exploration is not carried out after re-commencement of mining operations in September 2015. Area explored under G-1 category is 5 Hect. Total 136 boreholes were drilled with 9554m drilling.	2 boreholes have been drilled during 2017-2018. 16 Boreholes has proposed to explore in G2/G3 area of 27.0 hect.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Own drilling and/ or Contract drilling machines were used for Exploration in the past.	Total 136 boreholes were drilled. Total Rs. 86 lacs were spent on exploration.	2 Boreholes has been drilled during 2017-2018 with 114 meterage and Rs.2.17 lakhs has been spend
1d	Balance area to be explored to bring Geological axis in 1 or 2	Exploration was carried out at 50m X 50m grid interval. Additional exploration was proposed during 2016-2017	Exploration was carried out at 50m X 50m grid interval. Balance area of 27 hect area has to be explored for availability of ore from G-3/G-2 to G-1.	

1e	Balance reserve as on 01/04/20	As on 01.04.2017 Proved Mineral Reserves (111) = 2.086 Mil Tons Probable Mineral reserves (122) =0.488 Mill Tons Feasibility Mineral Resources (211) = 0.758 Mill Tons Pre- Feasibility Mineral Resources (221) = 0.542 Mill Tons Indicated Mineral Resources (332) = 0.668 Mill Tons Inferred Mineral Resources (333) = 2.761 Mill Tons	As on 01.04.2017 Proved Mineral Reserves (111) = 2.106 Mil Tons Probable Mineral reserves (122) =0.488 Mill Tons Feasibility Mineral Resources (211) = 0.758 Mill Tons Pre-Feasibility Mineral Resources (221) = 0.542 Mill Tons Indicated Mineral Resources (332) = 0.668 Mill Tons Inferred Mineral Resources (333) = 2.761 Mill Tons	R & R has been updated based on recently exploration and R & R as on 01.10.2017 Proved Mineral Reserves (111) = 0.751 Mil Tons Probable Mineral reserves (122) =0.173 Mill Tons Feasibility Mineral Resources (211) = 0.606 Mill Tons Pre-Feasibility Mineral Resources (221) = 6.696 Mill Tons Indicated Mineral Resources (332) = 0.668 Mill Tons Inferred Mineral Resources (333) = 1.313 Mill Tons
1f	General remarks of inspecting officers on geology, exploration etc	This deposit falls under Sonshi deposit.	The general Structure of Ore body is tightly folded into synclinal troughs associated with phyllitic, limonitic.	

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	N-1717680 to N-1717880/ E-397082 to E-397247 N-1717540 to N-1717620/ E-397267 to E-397300	N-1717690 to N-1717880/ E-397138 to E-397240 N-1717560 to N-1717620/ E-397268 to E-397299
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	5 Bench's Proposal in OB and Minerals	Systematic mining with separate benches of OB and Ore are maintained.
2c	Stripping ratio or ore to OB ratio	1 : 2.69	1 : 2.13
2d	Quantity of topsoil generation in m3	Nil	Nil
2e	Quantity of overburden generation in m3	240909 m3	169980 m3
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Proposed 240909 m3 of OB during 2016-2017	Achieved 169980m3 of OB during 2016-2017

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Single Pit	As per proposed the working was carried out in Single Pit	
3b	Quantity of ROM mineral production proposed	197000 tons	Total 175500 tons of ROM production was reported during the year.	

3c	Recovery of sailable/usable mineral from ROM production	The recovery of ore from ROM was planned 100% after screening.	ROM quantity of 175500 tons was dispatched for processing and 175500 tons of gradewise production is reported after dry process screening. The recovery of ore from ROM is 100%.	
3d	Quantity of mineral reject generation	No Proposal	Nil	
3e	Grade of mineral rejects generation and threshold value declared.	No Proposal	Nil	
3f	Quantity of sub grade mineral generation.	No Proposal	Nil	
3g	Grade of sub grade mineral generation	No Proposal	Nil	
3h	Manual / Mechanised method adopted for segregating from ROM	Dry Mobile screening was proposed for grade-wise production.	Dry Mobile screening was using for grade-wise production.	
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Nil	Nil	
3j	Provision of drilling and blasting in mineral benches	Drilling and blasting was not proposed.	Nil	Drilling and blasting is not carried out and ripper dozer is Proposed for excavation.

3k	Provision of mining machineries in mineral benches	Excavator- 4 No Ripper Dozer - 1 No Truck - 10No Dumper- 5 Nos W/ Loader - 4 No Water tanker - 1 No	Machineries are present as per proposal	
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height of 6m was proposed.	Bench height & width are maintain as per proposal	
3m	Total area covered under excavation/pits	19.0320 hect area is under Pit	19.0320 hect area is under Pit	
3n	Ore to OB ratio for the pit/mine during the year.	1 : 2.69	1 : 2.13	
3o	Total area put in use under different heads at the end of year	Land use Pattern as on 01.04.2017. Mines = 19.03 hect Dump = 25.31 hect Infrastructure = 1.90 hect Plant = 3.260 hect	Land use Pattern as on 01.04.2017. Mines = 19.03 hect Dump = 25.31 hect Infrastructure = 1.90 hect Plant = 3.260 hect	
3p	Production of ROM mineral during the last five year period as applicable	2016-2017 = 197000 tons 2015-2016 = Nil 2014-2015 = Nil 2013-2014 = Nil 2012-2013 = Nil	2016-2017 = 175500 tons 2015-2016 = Nil 2014-2015 = Nil 2013-2014 = Nil 2012-2013 = Nil	During the Period Sep 2012 to Oct 2015, the Mine was not working due to statutory order
3q	General remarks of inspecting officers on method of mining etc.	Nil	Nil	

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	There is no Top soil, only Mineral rejects is proposed to stock and OB is proposed to backfill in working pit as temporary.	Separate temporary backfilling of waste inside the bottom pit is carried out during the year 2016-2017.	
4b	Location of topsoil, OB and mineral reject dumps	Dump-1:- N-1717680 to N-1717880/ E-397082 to E-397247 Dump-2:- N-1717540 to N-1717620/ E-397267 to E-397300	Dump-1:- N-1717690 to N-1717880/ E-397138 to E-397240 Dump-2:- N-1717560 to N-1717620/ E-397268 to E-397299	
4c	Number of dumps within lease area and outside of lease area	Lease area = 2 Dumps Non Lease area = Nil	Lease area = 2 Dumps Non Lease area = Nil	
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	No external dumping was proposed; however temporary backfilling was proposed, which is within UPL	Nil	Dump-2 present in UPL and proposed for re-handled
4e	Number of active and alive dumps.	Active Dump = Two Alive Dump = Nil	Active Dump = Two Alive Dump = Nil	
4f	Number of dead dumps.	Nil	Nil	
4g	Number of dumps established.	Nil	Nil	

4h	Whether Retaining wall or garland drain all along dumps are there.	Garland drain, Settling Pond was proposed to maintain & cleaned on different terraces of Backfilled area to avoid wash-off.	Garland drain is made on terraces of backfilled area to avoid wash-off.
4i	Length of Retaining wall or garland drain all along dumps	Garland drain, Settling Pond was proposed to maintain & cleaned on different terraces of Backfilled area to avoid wash-off.	Garland Drainage = 100m & Retaining wall = 77m has constructed
4j	Number of settling ponds	No proposal	4 Settling ponds have made
4k	Specific comments of inspecting officer on waste dump management	Nil	Nil

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.	Due to non-availability of area, it is proposed for Temporary backfilling within Pit-1 & 2.	Temporary backfilling has done	
5b	Area under backfilling of mined out area	2.6205 hect	1.62 hect	
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Nil	Nil	

5d	Total area fully reclaimed and rehabilitated	Nil	Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Nil	Nil

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).	It should be on or before 1st July every year.	Submitted within time	
6b	Area available for rehabilitation (ha) .	Mineral is persisting in bottom pit and temporary backfilling is proposed in it.	Temporary backfilling is carried out in pit	
6c	afforestation done (ha).	Gap Plantation	Gap Plantation	
6d	No. of saplings planted during the year	No Proposal	Nil	
6e	Cumulative no .of plants	No Proposal	Nil	
6f	Any other method of rehabilitation	Nil	Nil	
6g	Cost incurred on watch and care during the year	Nil	Nil	
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	Nil	Nil	

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Nil	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Nil	Nil
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Nil	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Nil	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Nil	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Nil	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Nil	Nil

6p	Compliance of environmental monitoring (core zone and buffer zone)	Quarterly environment monitoring is required and Carried out as per CPCB/ MoEFCC guidelines	Quarterly environment monitoring is carried out through own as well as private agency.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Nil	Nil

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	As per approved mining plan proposed ROM was classified as +60% Fe, +58-60% Fe, +55-58% Fe, +50-55% Fe, +45-50% Fe and below 45% Fe is considered as mineral reject due to low market price.	175500 Tons of ROM achieved.	
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanical processing i.e. dry screening was proposed for grade-wise production.	Mechanical processing i.e. dry screening was proposed for grade-wise production.	

7c	Different grade of mineral sorted out at mines.	As per approved mining plan proposed ROM was classified as +60% Fe, +58-60% Fe, +55-58% Fe, +50-55% Fe, +45-50% Fe and below 45% Fe is considered as mineral reject due to low market price.	As per approved mining plan proposed ROM was classified as +60% Fe, +58-60% Fe, +55-58% Fe, +45-50% Fe and below 45% Fe is considered as mineral reject due to low market price.
7d	Any beneficiation process at mines .	Mechanical processing i.e. dry screening was proposed for grade-wise production.	Mechanical processing i.e. dry screening was proposed for grade-wise production.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	Nil	Nil

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No Proposal	Nil	
8b	Concurrent use or storage of topsoil	No Proposal	Nil	
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	No Proposal	Nil	

8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No Proposal	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No Proposal	Nil
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Existence of plantation is there along the road and other part of lease area. Additional plantation is not proposed during the year.	Existence of plantation is there along the road and other part of lease area. Additional plantation is not proposed during the year.
8g	Survival rate	No Proposal	Survival rate is around 70%.
8h	Water sprinkling on roads to control airborne dust	Yes, it is proposed for water sprinkling on haul roads.	Water sprinkling on road is observed
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Nil	Surrounding area beyond lease area is greenery and lessee has carried out plantation along road etc.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
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9a	Status of submission of Monthly and Annual returns	MR Submitted up to = September 2017 AR Submitted up to = 2016-2017	Both Annual & Monthly returns are submitting in online system.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Geologist, Surveyor is nil	It is advised to appoint technical person in full time
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Land use Pattern as per A.R. Mines = 19.03 hect Dump = 25.31 hect Infrastructure = 1.90 hect Plant = 3.260 hect	Land use pattern as per approved modified mining plan and AR are coinciding
9d	Scrutiny of Annual return on afforestation	Within Lease = Nil Outside Lease = Nil	Within Lease = Nil Outside Lease = Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	No Proposal	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM Stack = 175500 tons	As per proposal the ROM has been carried out
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Production cost is Rs.433/-	Nil
9h	Scrutiny of Annual return on fixed assets	Fixed assets have filled	As per present land value the Fixed assets has been filled

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 :

(G. S. KANNAN)

Indian Bureau of Mines