Regd. A/D

Tel: (0712) 2565089,2562794
Fax: (0712) 2565089,2565603
Email: rcom_nr@ibm.mah.nic.in

GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES
NAGPUR REGIONAL OFFICE

Block 'B' & 'C', 6th Floor
Indira Bhavan, IBM HQ,
Civil Lines, Nagpur –440 001

No. NGP/MN/MPLN-968/NGP **Dated 18.04.2007** 26

To : M/s Jayaswals Neco Limited,
Siltara Growth Centre,
Raipur Bilaspur Road,
Siltara,
Raipur-493 221(Chattisgarh)

Subject : Approval of Mining Plan in respect of **Ramdongri Manganese ore deposit** over an area of **61.45 Ha.** in Nagpur district of Maharashtra State for grant of lease under rule 22 of MCR, 1960.

Ref : 1) Your consultant's letter No. SVG/IBM/RAM/MP/07 dated 28.03.2007 & SVG/IBM/RAMDONGRI/MP/07 dated 17.04.2007
2) This office letter of even no. dated 10.04.2007.

Sir,

In exercise of the power conferred by the Clause (b) of Sub Section (2) of Section 5 of the Mines & Minerals (Development & Regulation) Act, 1957 read with Government of India Order No. S.O.445 (E) dated 28.4.1987; I hereby **approve** the above said mining plan. This **approval** is subject to the following conditions: -

1) that the mining plan is approved without prejudice to any other laws applicable to the mine/area from time to time whether made by the Central Govt., State Govt. or any other authority.

2) that this approval of the mining plan does not in any way imply the approval of the Government in terms of any other provisions of the Mines & Minerals (Development & Regulation) Act, 1957 or the Mineral Concession Rules, 1960 or any other laws including Forest (Conservation) Act, 1980, Environment Protection Act, 1986 and the rules made there under.

3) that the provisions of the Mines Act, 1952 and Rules and Regulations made there under including submission of notice of opening, appointment of manager and other statutory officials as required by the Mines Act, 1952 shall be complied with.

4) that the execution of mining plan shall be subjected to vacation of prohibitory orders/notices, if any.

5) that if anything found to be concealed as required by the Mines Act in the contents of mining plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.

6) that the mining plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.

7) that you will submit to this office a copy of lease-deed, after execution of mining lease.

Contd. on page ..2.

8) that your attention is invited to the Supreme Court interim order in W.P.(C) No. 202, dated 12.12.1996 for compliance. The approval of the above said mining plan is, therefore, issued without prejudice to and is subject to the said directions of the Supreme Court as applicable in your case.

9) that a copy of Environment Impact Assessment-Environment Management Plan approved by MOEF(Ministry of Environment & Forests) shall be submitted to IBM immediately after approval by MOEF.

10) that you shall submit the financial assurance to the Regional Controller of Mines (NR), IBM, Nagpur as required under Rule 23F of Mineral Conservation & Development Rules, 1988 before the execution of the lease.

11) that you will submit a yearly report before 1st July of every year, after the execution of the lease, setting forth the extent of protective and rehabilitative works carried out as envisaged in the approved Progressive Mine Closure Plan and if there is any deviation, reasons thereof.

Yours faithfully,

Encl.: Three copies of approved
Mining Plan Document

26/04/07

(M.K.PRASHER)
Regional Controller of Mines

Copy to :

1. Shri S. V. Gokhale, RQP, "Annapurna" 2-D, Hindusthan Colony, Amravati Road, Nagpur- 440033 (M.S).
2. The Director of Geology & Mining, Govt. of Maharashtra, Old Secretariat Building, Nagpur-440 001. He is requested to ensure that the financial assurance of Rs. 1,00,000/- (Rupees One Lakh Only) is submitted by the applicant to the Regional Controller of Mines (NR), IBM, Nagpur as required under Rule 23F of Mineral Conservation & Development Rules, 1988 before execution of the lease.

(M.K.PRASHER)
Regional Controller of Mines

अनुमोदित
APPROVED

MINING PLAN

OF

RAMDONGRI AREA

FOR

MANGANESE ORE

61.45 HA.
IN TAH.: SAONER & DIST.: NAGPUR OF
MAHARASHATRA STATE

OF

M/S JAYASWALS NECO LTD.,
F-8, M. I. D. C. , INDUSTRIAL AREA ,
HINGNA ROAD,
NAGPUR – 440 016

UNDER RULE 22 OF MCR 1960
(FOR FRESH GRANT OF MINING LEASE)

JAYASWALS NECO LIMITED

REGD. OFFICE : F-8, MIDC INDUSTRIAL AREA, HINGNA ROAD, NAGPUR - 440 016 (INDIA)
PHONES : (91) 7104-237276/236251/237471/237461 FAX : (91) 07104-237583/236255
E-mail : contact@necoIndia.com WEB SITE : www.necoIndia.com GRAM : STEELJAGAT

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CONSENT LETTER

The Mining Plan & Progressive Mine Closure Plan in respect of area in village Ramdongari over 61.45 Ha for Manganese ore in Tehsil Saoner Dist: Nagpur, Maharashtra has been prepared by Shri. S. V. Gokhle, RQP (Registration No.RQP/NGP/002/87/A).

We request to Regional Controller of Mines, Indian Bureau of Mines, (Nagpur Region), Nagpur, to make further correspondence regarding Mining Plan & Progressive Mine Closure Plan with the said Recognized Qualified Person on his following address:

Shri S.V. Gokhale
"Annapurna"
2-D,Hindusthan Colony,
Amravati Road,
Nagpur-440 033
Tele:(0712) 2421747 ®2523209

We hereby undertake that all the modification so made in the Mining Plan & Progressive Mine Closure Plan, by the Recognized Qualified Person be deemed to have been made with our knowledge and consent and shall be acceptable to us and binding on us in all respect.

We hereby also request you that on approval, the copies of the Approved Mining Plan & Progressive Mine Closure Plan should be delivered either to Shri S.V. Gokhle or to us.

Place: Nagpur
Date: February 17,2007

for M/s Jayaswals Neco Limited

Nitin Wath
Power of Attorney Holder
F-8 M.I.D.C Industrial Area,
Hingna Road,
Nagpur-440018

BRANCH OFFICES :
"NECO HOUSE" D - 307, Defence Colony, NEW DELHI-110 024 PHONES : 011 - 24641579 TELE FAX : 011 24642190
301, TULSIANI CHAMBERS NARIMAN POINT, MUMBAI 400 021 (INDIA) PHONES : (022) 2282-0967, (022) 2282-3273 FAX : (022) 22832367 PH. : 22832381
TRUST HOUSE, 5th FLOOR, 32-A, CHITTARANJAN, AVENUE, KOLKATTA-700 012 INDIA PH : 033-22122368 22120502 FAX : 033-22122560
178-A, LIGHT INDUSTRIAL AREA, BHILAI - 490 026 M.P. INDIA PHONES : 0788-2381858, 2381859/60/61/62 F A X : 0 7 8 8 - 2 2 8 6 6 7 9

MINING PLAN

OF

RAMDONGRI AREA FOR MANGANESE ORE

61.45 HA

IN SAONER TAH., DIST: NAGPUR OF
MAHARASHATRA STATE

OF

M/S JAYASWALS NECO LTD,
F-8, M. I. D. C. , Industrial Area ,
Hingna Road,
NAGPUR – 440 016

Correspondence Address :
M/s JAYASWALS NECO LTD.
Siltara Growth Centre ,
Siltara , Raipur (Chhatisgarh)

UNDER RULE 22 OF MCR 1960
(FOR FRESH GRANT OF MINING LEASE)

Consultant
S.V. Gokhale
"Annapurna"
2D Hindustan Colony,
Amravati Road
NAGPUR-440033
RQP/NGP/002/87/A

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APPROVED
पत्र संख्या द्वारा NGP/MN/MPLN-968/NGP
VIDE LETTER No. dt 26/4/2007

26/4/07
क्षेत्रीय खान नियंत्रक (ना. क्षे.)
Regional Controller of Mines (N. R.)
भारतीय खान ब्यूरो, नागपुर
Indian Bureau of Mines, Nagpur

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Plates	*No.*	*Scale*
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10. Sections of the above	7 A	1: 2000
11. Progressive Mine closure Plan	PMC	

S.V.Gokhale
M.Sc. (Geology)

Recognition Under Rule 22(C)MCR, 1960
Certificate No. RQP/NGP/002/87/A

Residence:
'Annapurna'
2-D, Hindustan Colony,
Amravati Road,
Nagpur - 440 033
Tel: 0712 - 2523 209
Mo: 98900 23209

1.0 GENERAL

A) NAME & ADDRESS OF THE APPLICANT ::

Regd Office : M/s JAYASWALS NECO LTD.,
F-8, MIDC, INDUSTRIAL AREA
HINGAN ROAD,
NAGPUR – 440 016

TEL. 95-7104-237276, 237471, 237462
TLX : 0715- 7575 NACA -IN
FAX : 07104-237 563

Correspondence Add. Siltara Growth Centre,
Siltara,
Raipur (Chhattisgarh)

Tel : 0771-509 4416

B) STATUS OF THE APPLICANT ::

A Public Limited Company

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पत्र संख्या द्वारा NGP/mN/mOLN-9681 NGP dt 26/4/2007
VIDE LETTER No.

26/4/07
क्षेत्रीय खान नियंत्रक (ना. क्षे.)
Regional Controller of Mines (N. Z.)
भारतीय खान ब्यूरो, नागपुर
Indian Bureau of Mines, Nagpur

Synergex International Private Limited
Regd. Office : E-1, E-2, (3rd Floor),
Rajkamal Comml. Complex, Panchsheel Square,
Wardha Road, Nagpur - 440 012 (INDIA)

Modern Service Center
Tel : 0712- 2421 747
Fax : 0712- 2421 858
E-Mail : snexinva@sancharnet.in

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List and address & telephone number of the present Directors is as follows :

Sr. no.	Name	Designation	Address	Tel No.
1.	Shri Basant Lall Shaw	Chairman	"Usha Sadan" 246, Pt. R.S.S. Marg, Civil Lines, Nagpur – 440 001.	0712–254 0293
2.	Shri B. K. Agrawal	Director	51, New Colony, Byramji Town, Nagpur – 440 013	0712–259 5959
3.	Shri M. M. Vyas	Director	K-53, Marer Towr, Cuffe Parde, Mumbai – 400 005	022 – 2218 2621
4.	Shri D. Singh	Director	B-401, Chaitnay Thapar Marg, Clarke Town, Nagpur – 440 004	0712 – 254 7427
5.	Shri D. R. Gangopadhyay	Director (IIBI Nominee)	C 95, Shatdal Soc. Azad Lane Andheri (W), Mumbai 400 058	022 – 2620 5576
6.	Shri John Mathew	Director (EXIM Nominee)	1501, Wallace Apts., Sleater Road, Grant Road, (W), Mumbai – 400 007	098205 14909
7.	Shri S. K. Sanghai	Director (IFCI Nominee)	10, Mount Pali apart., 10A Pali Mala Road, Pali Hill, Bandra (W), Mumbai – 400 050	093232 73190
8.	Shri B. W. Ramteke	Director (IDBI Nominee)	B 203, Mittal Ocean View, Juhu Tara Road, Mumbai – 400 049	098213 73437
9.	Dr. S. R. Chougule	Director (ICICI Nominee)	9, DSK. Trilok K W Chitale road Behind Portugese church, Dadar (W), Mumbai – 400 028	022- 2653 7611
10.	Shri Ramesh Jayaswal	Joint Managing Director	"Usha Sadan" 246, Pt. R.S.S. Marg, Civil Lines, Nagpur – 440 001.	0712–254 0293
11.	Shri Arbind Jayaswal	Managing Director	"Usha Sadan" 246, Pt. R.S.S. Marg, Civil Lines, Nagpur – 440 001.	0712–254 0293

Shri Ramesh Jayaswal, Director of the Company will be incharg of Ramdongri Mine

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C) MINERALS WHICH ARE OCCURRING IN THE AREA AND WHICH THE APPLICANT INTENDS TO MINE — Manganese ore

D) PERIOD FOR WHICH THE MINING LEASE IS PROPOSED / APPLIED. — 30 years

E) NAME OF THE RQP PREPARING THE MINING PLAN: Shri S. V. GOKHALE (M. Sc Geology)

Address	:	"Annapurna" 2-D, Hindustan Colony, Amravati Road, Nagpur – 440 033
Phone	:	(O) : 2421747 , (R) : 2523209
Fax	:	0712 2421858
E-mail	:	snexinva@sancharnet.in
Registration No.	:	RQP NO : RQP/NGP/002/87/
Date of grant/renewal	:	13-8-1989
Valid upto	:	13-8-2011.

F) NAME AND ADDRESS OF PROSPECTING AGENCY ::

There are eight old Pits and old dumps lying in the area already done by some Party earlier. Prior to the application for grant of Mining Lease, the Applicant studied the Pits etc and collected and analysed samples of Manganese ore for determination of the quality of Manganese Ore available in their area. Subsequently the Applicant applied directly for grant of Mining Lease over the area.

2. LOCATIONS AND ACCESSIBILITY

A) DETAILS OF THE AREA :

District & State	Taluka	Village	Khasra No / Plot No/ Block range/ felling series etc.	Area in Hectares	Ownership
Nagpur M. S.	Saoner	Ramdongari	101	6.63	G.F.L
			102	14.93	G.F.L
			105	2.17	G.F.L
			106	37.72	G.F.L
			Total	61.45 Hectares	

G. F. L. Government Forest Land.

S V Gokhale

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A copy of 7/12 statement by revenue department is each Gat No.is enclosed as, Annexure NO 2. This statements show that the area is transferred to the Government Forest Department & is treated as a Protected Forest. (Forest Range... Khapa, Raund Khubala... Beat... khubala. Compartment No. 213, Division Nagpur.)
Mining expertise, technical personnel, adequate finance is available.

Khasra Plan is enclosed as Plate – 1 environment Plan in enclosed as Plate – 1A

OWNERSHIP /OCCUPANCY :

Govt. Forest Department

INFRASTRUCTURE

Mining expertise with technical personnel, adequate finance will be made available.
1. WATER – Drinking water is available in open well as well as bore wells situated at a distance of 0.5 km due South & East in village Kirnapur. This water is being used for drinking purposes for may years. It will be transported to the area by bullockcarts.

2. *ELECTRICITY- There is no electric line passing through the area. However, adjoin to the area, due East, there is an electric line at of distance of about 150 m.*

3. *ROAD - Due West the area is approachable by an all –weather road from Nagpur upto Khapa, 36 kms, from Khapa to the area on Khapa to Parseoni road 6 kms & to the area about 2 kms. The total distance from the Nagpur to the area is 44 kms.*

4. *RAILWAY STATION - Nearest R. S. is Saoner on Nagpur Chhindwada sector of SE Railways N.G., (about 15 kms from the area.), due North West.*

5. LABOURERS – *Adequate number of laborers is available from near by villages.*

6. OTHER FACILIES – *Government Rest House, Railway station are situated at Saoner (about 13 kms from the area). Police Station, Primary health center, Post office, School are situated at Khapa village (about 5 kms from the area) , due S-W.*

TOPOSHEET NO WITH LATITUDE AND LONGITUDE

The area lies at the cross section of Latitude of 21 degrees 24' 55" and Longitude 79 degrees 01' 47" and is covered under Toposheet No: 55 K/15 & 55 O/3, enclosed as Key Plan, Plate No 2 (Location Plan).

A copy of the Toposheet as Plate No. 2.

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LAND USE PATTERN:

The area from part of small hillocks. There are a number of old Pits & Dumps created by earlier Lessee,(reported to be MOIL) spread over the entire E-W length of the area.

There is sparse vegetation in the area consisting of shrubs, bushes, small & large tress. It is reported that the Forest density is about 0.2.

There is a Nala running North to South in the area, which is water logged at places.

	Present Land Use Sq. m.
a) Area under Pits	4196
b) Area under dumps	1827
c) Area under Road/ Building etc.	1000

B) ATTACH A GENERAL LOCATION AND VICINITY MAP SHOWING AREA BOUNDARIES AND EXISTING AND PROPOSED ACESS ROUTS. IT ISPREFERRED THAT THE AREA TO BE MARKED ON A SURVEY OF INDIA TOPOGRAPHICAL MAP OR A CADASTRAL MAP OR FOREST MAP AS THE CASE MAY BE . HOWEVER IF NONE FO THESE ARE AVAILABLE, THE AREA SHOULD BE SHOWN ON AN ACCURATE SKETCH MAP ON SCALE OF 1:5000.

Environmental Plan showing area boundaries & excising & proposed access routs is enclosed as Plate No. 1 A & Part Topographical Plan (Key Plan) Plate No. 2

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PART - A

3.0 GEOLOGY & EXPLORATION

3 A) BRIEFLY DESCRIBE THE TOPOGRAPHY AND GENERAL GEOLOGY AND LOCAL / MINE GEOLOGY OF THE MINERAL DEPOSIT INCLUDING DRAINAGE PATTERN.

The area in general is hilly territory and gently slopes in all directions. The land is non-agricultural and is Protected Forest Land. There is no accumulations of water/ water body in the area.

Drainage pattern:- There is a nalla flowing from North- South, in a zigzag manner which is having water (flowing & accumulated)at a number of places. The rainwater flows along the natural slopes of the hill in the area & joins this nalla. This nalla flows out of the area and joins river Kanhan, situated at a distance of about 700 m. from the southern boundary of the area. This nalla is shown in all the concerned Plates

The Dharwarian System covers large connector areas within Madhya Pradesh and Bihar, spreading over Balaghat, Nagpur, Bhandara, Chhindwara and over Hazaribagh and Rewah. In these ares it possesses a highly characteristic metalliferous facies of deposits.

The Dharwarian rocks of the Nagpur . Chhindwara and Bhandara districts of Maharashtra have been named as Sausar series. These rock types carry important economic deposits of Manganese Ores. The Sausar series have been sub-divided into stages which have a wide geographical extent in Madhya Pradesh and can therefore be correlated in distinct outcrops of the series.

Named Gondite from the Gonds of Madhya Pradesh by Dr. L. Permor , these are a series of metamorphosed rocks belonging to the Archaean and Dharwar System and largely composed of quartz, spessartite. rhodonite and other manganese silicates. These rocks are supposed to be the product of the dynamic metamorphism of manganiferous soil and sands deposits during Dharwar times.

Out crocs of the Gondite series are typically developed in Balaahat, Chhindwara Dists of M.P. & Nagpur & Bhandara Dists of Maharashra State & also in Panch Mahals of Guiarat & Banswara area of Raiesthan.

Manganese Ore & Gondite Horizon is assigned to Mansar Stage & Lohangi Stage of Sausar Series. In this case it is Mansar Stage.

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SAUSAR SERIES ::::::

	Bichua	::: Marbles, Calc siticate granulite
	Junewani	::: Quartz-biotie Schist with garnet, Kyanite, Staurolite
	Charbaoli	::: Quartz-muscovite schist with garnet and kyanite, micaceous, flaggy Quartzites, Quartz schist
		:: Manganese ore & Gondite Horizon
	Mansa	:: Muscovite Schist, Quartz-muscovite Schist, Quartz-sericite-muscovit
SAUSAR GROUP		:: Schist with garnet, phyllite, alaty phyllite
	Lohagi	:: :: Manganese ore & Gondite Horizon pink Calcitic marbles (impersistent)
	Sitasongi	Quartzite, Quartz-muscovite Schist and conglomerate, felspatic grit
	older Metamorphics	:: Ortho and paragneisses, granite bands and lenses of amphibolite epidiorites, quartzites with pegmatites and quartz vein

LOCAL GELOGY::::

In Ramdongri area the country rocks surrounding Manganese ore bodies area mainly schists of Mansar formation and quartzites of Chorbaoli formation. These are intruded by pegmatites and quartz veins. The following lithological units area met with.

The Geological formations met in the area are :-

1) Soil / Clay (on hanging wall as well as on foot wall side)
2) Mica Schists & Quartzites (on hanging wall side)
3) Manganese Ore with Gondite
4) Mica Schists (on foot wall side)

1) Soil / Clay :

The Soil consis of decomposed mica schists and is brown in colour. This can be called as Top Soil / Clay cover over ore body is found to be 3 m. schistose rocks are found to occur as hanging wall & foot wall side formations of the ore body. These formations maintain a strike line of East – West and high angle dips towards South.

2) Mica Schists (on hanging wall side):

This formation is found to occur on hanging wall as well as foot wall side of the Primary bedded deposit of Manganese ore. It maintains the strike line of E-W with dips varying between 55-65^{0} towards South .
Mica Schists are decomposed on the surface & hard at the floor of the Pits.

This formation is intruded with pegmatite veins in irregular manner.

3) Manganese Ore with Gondite

It is occurring as a primary bedded deposit. There are three old abandoned Pits in the area from which Manganese ore was raised earlier.
For the sake of convenience, Manganese ore bodies are marked as Band –I, Band – II & Band –III with details as under :

1) **Band –I** : Ore body occurring in the Northern portion of the area with average thickness of Ore body of 3 m.

2) **Band –II** : Ore body occurring in the Middle portion of the area with average thickness of Ore body of 2 m.

3) **Band –III** : Ore body occurring in the Southern portion of the area with average thickness of Ore body of 3 m.

Manganese ore body is found to occur along E-W strike line. The angle of dip varies from 55 to 65 degrees towards South.

The olden days dumps around the Pits form natural topography of the area.

The Manganese ore is having a composition of Mn %, Fe % , Al2o3 % & P %. There are no toxic elements in the mineral or at mine site.

The Geological Plan on 1:2000 scale is enclosed as Plate No. 3 & Geological Section on 1:2000 scale is enclosed as Plate No. 4

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3 B) THE TOPOGRAPHIC PLAN OF THE LEASE AREA PREPARED ON A SCALE OF 1 : 1000 OR 1 : 2000 WITH CONTOUR INTERVAL OF 3 TO 10 M. *DEPENDING UPON THE TOPOGRAPHY OF THE AREA SHOULD BE TAKEN AS J THE BASE PLAN FOR PREPARATION OF GEOLOGICAL PLAN. THE DETAILS OF EXPLORATION ALREADY CARRIED OUT (INCLUDING EVIDENCES OF MINERAL EXISTENCE SHOULD BE SHOWN ON THE GEOLOGICAL PLAN.*

Prepared on a scale Geological plan in the scale of 1:1000 is enclosed as plate no 3 .

(i) **Already carried out in the area** :

As mentioned earlier there are eight old Pits eight old Dumps in the area Exploration by way of studiey of surface, old Pits & collection of samples for chemical analysis has been done by the Applicant.

The details of the Pits are as under.

Pit 1 – 40 m L x 15 to 20 m B x 12 to 16 m D
Pit 2 – 18 m L x 10 m B x 5 m D
Pit 3 – 34 m L x 18 m B x 4 m D
Pit 4 – 40 m L x 14 m B x 8 m D
Pit 5 – 45 m L x 20 m B x 6 m D
Pit 6 – 20 m L x 10 m B x 4 m D
Pit 7 – 34 m L x 8 m B x 3 m D
Pit 8 – 42 m L x 16 m B x 10 m D

3 C) GEOLOGICAL SECTIONS SHOULD BE PREPARED AT SUITABLE INTERVALS ON A SCALE OF 1: 1000 /1 : 2000.

Geological Sections in the scale of 1:2000 are enclosed as plate no. 4.

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3 D) BROADLY INDICATE THE YEARWISE FUTURE PROGRAMME OF EXPLORATION, TAKING INTO CONSIDERATION THE FUTURE PRODUCTION PROGRAMME PLANNED IN NEXT FIVE YEARS AS IN TABLE BELOW :-

Year	No. of Boreholes	Total meterge	No. of pits and Dimensions	No. of Trenches & Dimensions
First (Band-1)	3	about 115	-	PTR -1, PTR -2,& PTR -3 (8mLx 6mBx5mD each)
Second (Band –2 & 3)	3	about 112	-	PTR-4 (8mLx6mBx5mD)
Third (Band – 2 & 3)	3	about 111	-	Nil
Fourth	-	-	-	-
Fifth			PTP-1,PTP-2 (8mLx5mBx5mD) (from floor of the working Pits)	

Proposed Bore Holes ------*Band –I* -------- *PBH 1, PBH-2 PBH-3*
------*Band –II* -------- *PBH 4, PBH-5 PBH-6*
------*Band –III* -------- *PBH 7, PBH-8 PBH-9*

These Bore Holes are projected on the nearest cross sections, Proposed exploration are shown in Geological Plan, Plate No. 3 & Geological Sections, Plate 4.

The proposed year wise exploration, under supervision of technical staff of the Applicant, will be taken up in first year and completed in fifth year as stated above.

3.E). INDICATE GEOLOGICAL AND RECOVERABLE RESERVES AND GRADE, DULY SUPPORTED BY STANDARD METHOD OF ESTIMATION AND CALCULATIONS ALDNGWITH REQUIRED SECTIONS (*GIVING SPLIT UP OF VARIOUS CATEGORIES I.E. PROVED, PROBABLE, POSSIBLE). INDICATE CUT-OFF GRADE. AVAILABILTY OF RESOURCES SHOULD ALSO BE INDICATED FOR THE ENTIRE LEASEHOLD.

The reserves estimated are by adopting sectional method. Accordingly cross-sections C1-C2 to C9-C10 are marked on Geological Plan, Plate No. 3 & Sections on Plate No. 4. Using these sections, reserves in Proved, Probable & Possible Categories are worked out, as detailed below.

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Category	BAND – I	BAND – II	BAND - III

1. Proved Category upto .... 10 m below surface level.........
2. Probable Category upto .... 5 m below the level as above .....
3. Possible Category upto .... 5 m below the level as above.......

4. Bulk density is taken to be 3 T/ cu, meter
5. Between two successive cross-section,
6. Volume of Manganese ore is calculated as under :-

Average cross-sectional Area X distance between 2 cross-sectional lines

1. *Total volume is the sum total of volume in successive cross-section. Therefore the reserves are calculated as*

   Total Volume X Bulk Density

The detailed calculations of the reserves in the area are given in Annexure No.3.
The basis of considering the depth of mineralization is the elevation of the old Pits present in the area & the mining operations being cared out on the Eastern – Western sides in adjoing mining leases of other

1) There are already eight old Pits worked to a considerable depth from which Manganese ore is produced.
2) On the western part of the area under question, there are a number of old Pits for open cast working as well as extensive under ground working upto a depth of 30 m from surface.

Surface Plan of the area is enclosed as **Plate No. 5.**

In the manganese ore bed, the recovery of marketable Mn-ore is around 85% and the remaining being gonditie rock (mangoniferous cherty jaspery quartzite) the average thickness of manganese ore band 3 m . Strike line E-W, the average dip of the Mn-Band is 60 degrees towards South.

Summary ::::

Category	BAND – I T	BAND– II T	BAND- III T	TOTAL T	UNFC classification
Proved Category	72232	99960	72612	244804	111
Probable Category	38430	25740	39240	103410	222
Possible Category	38430	25740	39240	103410	333
TOTAL	109092	151440	151092	451624	

Chemical Composition:- The ROM of Mn-ore deposit will have a range of 23% to 47%.

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Constituents	Marketable Grade	Sub-grade	Mineralised Rejects
Mn %	27 at above	<26 to > 23	<23
Sio_2%	25 and below	>25 to < 30	>30
Fe %	11	>11 to <15	>15
P%	0.3 and below	>0.3 to 0.35	>0.4

Note- the range of impurities is variable, and decide the marketability of ore.

The Certificate of analysis results is enclosed as **Annexure No 4.**

3.2 UNFC CLASSIFICATION OF RESERVES :::

The UNFC (United Nations Framework Classification) of mineral resources consists of three dimensional System.

(1) *Economic Viability.*

(2) *Feasibility Assessment of Reserves and*

(3) *Geological Assessments of Reserves*

It is a three digit code based system. The economic viability axis representing the first Tgit, the feasibility axis representing the second digit and geological axis representing the third digit.

As per UNFC Classification of reserves the details given are as below :

(1) Economic Viability ::

The area under question is served by all weather road from Nagpur upto the area via Khapa (44 kms)

The area is approachable by an all –weather road from Nagpur upto Khapa, 36 kms, from Khapa to the area on Khapa to Parseoni road 6 kms & to the area about 2 kms. The total distance from the Nagpur to the area is 44 kms.

The approach road to the area and the mines are in very good condition.

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The quantity produced per year represents & justifies extraction under competitive market condition. Thus the average value of the Manganese ore mined from this mine will satisfy the required return on the investment.

Classification code of the deposit as per the UNFC 1

(ii) Feasibility Assessment of Reserves ....

This is fresh grant of Mining Lease of Manganese Ore proposed to be granted to M/s Jayaswals Neco Ltd., Nagpur, M.S. Before this area is granted to the applicant there are already old workings in the area. There is permanent demand to Manganese ore produced from the area.

Feasibility Assessment of Reserves : It is presently on the basis of surface & Pit studies & chemical analysis of Manganese Ore available in the area. It is proposed to carry out exploration of ore body by mines of a trial Pit from the floor of the Pit & also by exploration by drilling, in this Mining Plan.

Classification code of the deposit as per UNFC 2

(iii) Geological Assessments of Reserves ...

The area under question has been thoroughly studied geologically for its occurrence of Manganese ore. In this Mining Plan exploration by pitting, and exploration by drilling etc is proposed to give the detailed geological information about lithology, Primary Bedded deposit of Manganese ore in the area.

Classification code of the deposit as per UNFC 3

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UNFC CLASSIFICATION AS PER MINERAL RESERVES

United Nations classification (UNFC)	UNFC code	*National* Mineral Inventory	*Proposed* equivalent UNFC code for NML/Different studies/ Mining Plan/	*Geological* reserve (T)	*Recoverable* (T) 85%
Proved Mineral Reserve	111	*Proved* Recoverable Reserves	111	244804	208083.40
Probable & Possible Mineral Reserve	121 + 122	Probable Recoverable Reserves	121 + 122	206820	175797
Feasibility Mineral Resource	211	*Proved* & Probable Condition	211	-	-
Pre-Feasibility Mineral Resource	221 + 222	Probable & Possible Condition	221 + 222	-	-
Measured Mineral Resource	331	Proved	331	-	-
Indicated Mineral Resource	332	Probable	332	-	-
Inferred Mineral Resource	333	Possible	333	-	-
Reconnaissance *Mineral Resource*	334	Prospective Resource	334	-	-

3.5 *F) INDICATE MINEABLE RESERVES BY SLICE PLAN / LEVEL PLAN METHOD, AS APPLICABLE, AS PER THE PROPOSED MINING PARAMETERS.*

The total Geological reserves are :-

Category	BAND– I T	BAND– II T	BAND-III T	TOTAL T
Proved Category	72232	99960	72612	244804
Probable Category	38430	25740	39240	103410
Possible Category	38430	25740	39240	103410
TOTAL	149092	151440	151092	451624

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		Tonnes
1.	The total geological reserves	4,51,624

For calculation of Mineable reserves only Proved & Probable Category reserves are considered.

1)	Reserves in Proved & Probable Category :	3,48,214
2)	Less Ore trapped in 7.5 meter mining limit zone on Eastern & Western boundary 15 m L x 4 m B x 20 m D x 3 BD = 3600 T. For Band – I, Band –II & Band – III.... 3600 x 3 Bands =	10,800
3)	Less Ore blacked between ultimate Pit slope and above ultimate Mining limit is $\frac{20 \text{ m L (avg)} \times 20 \text{ m D (avg)} \times 4 \text{ m W (avg)} \times 3 \text{ BD}}{2} = 2400.00$ For Band – I, Band –II & Band – III.... 2400 x 3Bands =	7,200
	Total	3,66,214
4)	Depletion	Not considered
5)	Graded ore recovery at 85 % of the above	3,11,282
5)	Thus the total mineable reserves	3,11,282
6)	Rejection 15 % (Total rejection of 15% consists of 10% of mineralized rejects due to Gondite formation, waste intercalations and balance 5 % is other waste due to Mining loss, other gangue material & fines of - 5 mm size, etc)	54,932
	Anticipation life of mine with production of 31,729 T of graded ore during first five years	5 years
	Balance 279553 T @ 10500 T per year.	26.62 years or say 27 years
	Therefore the anticipated life of the mines is	32 years.

After the proposed exploration, the reserves of Manganese ore in the area, will be worked out in proper categories and Indian Bureau of Mines, Nagpur will be intimated accordingly.

Life of the mine will change in case there is increase in production in future than the projected production of Manganese ore.

Life of the mine will also change after the proposed exploration by trial pitting, drilling.

CHAPTER- 4.0

MINING

4. A) *BRIEFLY DESCRIBE THE EXISTING / PROPOSED METHOD FOR DEVELOPING/ WORKING THE DEPOSIT WITH ALL DESIGN PARAMETERS.*

It is proposed to take up mining operations, by open cast method, during this Mining Plan period on Band - I , Band –II & Band III. For the sake of conventions the proposed Pits are marked as 1.1 on Band – I, 2.1 on Band – II & 3.1 on Band –III. The Manganese ore body is about 3 meters below the surface level.

The mining activity will consist of :

1) Removal of overburden & soil & waste rocks to dump sites.

2) Mining of Manganese Ore bed.

3) Removal of mined ROM to surface yard for proper breading, sizing, sorting, stacking & zigging etc,

4) *Preparing grade wise stacks of ore for delivery.*

5) *De-watering of the working pits.*

Zigging : After screening the jigging of ore of –10 mm size will be practiced as and when required to separate rejections from Manganese ore body in the water medium. Whenever the sizable quantity of such ore is available. Out of production about 5 % will be subjected to zigging. A Country rocks produced during Jigging other than any Manganese ore fragments will be collected in the nearby pond. The pond will be

frequently cleaned & tailings be put in a heap nearby. Water flows along natural slopes & seeps into the ground.
In location of zigging area & telling Pond is shown Five Year Development & Progressive Plan, Plate No. 6 & also on Progressive Mine Closure Plan, Plate PMCP.

OPENCAST WORKINGS

Each cycle of operation shall consist of removal of overburden followed by extraction of the exposed Manganese Ore subject to the following conditions being strictly complied with :-

Quarrying operations shall be conducted from top downwards.

The provisions of sub-regulations (4) &(5) of Regulation 106 shall be complied with.

Adequate steps shall be taken to ensure that the benches are kept dressed at all times.

Special care shall be taken when any slip or other planes of weakness or other geological disturbances exists, so as to prevent danger to the work persons.

No person shall be engaged on work or allowed to travel close to high sides/benches, from which he will be likely to fall more then 1.8 m. vertically down, unless he is provided with and use a safety belt or rope.

4 B) INDICATE QUANTUM OF DEVELOPMENT AND TONNAGE AND GRADE OF PRODUCTION EXPECTED PITWISE AS IN TABLE BELOW :-

The estimated development during first five years is as below:

Year	Pit No. (s)	Overburden Cu. m.	ROM Ore T	Saleable Ore T. 85 % recovery	Sub-grade Ore T.	Mineral Rejects T. 15 %	Ore to Overburden ratio T.
1	Nil	9482	3528	2999	Nil	176	About 1 to 4
2	Nil	17598	7059	6000	Nil	353	
3	Nil	17598	7059	6000	Nil	353	
4	Nil	23155	8826	7502	Nil	441	
5	Nil	26765	10587	9228	Nil	529	
Total	Nil	28320	37,059	31,729	Nil	1852	

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पत्र क्रमांक द्वारा NGP/MN/MP(N-968)/NGP
VIDE LETTER No. dt 26.4.2007

17

26/4/07
क्षेत्रीय खान नियंत्रक (ना क्षे.)
Regional Controller of Mines (N. R.)
भारतीय खान ब्यूरो, नागपुर
Indian Bureau of Mines, Nagpur

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(Out of total production of Manganese ore 85% will be readily marketable & about 10% will be mineralized rejects which may be intermittently mixed & used. Balance production i.e. 5 % consists Gondite siliceous impurities, waste intercalations, mining loss & fines.

4 C) ATTACH INDIVIDUAL YEARSWISE PLANS AND SECTION.

The five year development and production plan is enclosed as plate no. 6 and Sections as plate no. 6 A.

4 D) ATTACH SUPPORTING COMPOSITE PLAN AND SECTION SHOWING PIT LAYOUTS, DUMPS, STACKS OF SUB-GRADE MINERAL, IF ANY, ETC.

The five year development and production plan is enclosed as plate no. 6 and Sections as plate no. 6 A.

4 E) INDICATE PROPOSED RATE OF PRODUCTION WHEN THE MINE IS FULLY DEVELOPED, AND THE EXPECTED LIFE OF THE MINE AND THE YEAR FROM WHICH EFFECTED.

Proposed rate of production when mine is fully developed, will be about 10,000 T. per year.

4 F) ATTACH A NOTE FURNISHING A CONCEPTUAL MINING PLAN FOR THE ENTIRE LEASE PERIOD (FOR 'B' CATEGORY MINES) AND UPTO THE LIFE OF THE MINE (FOR 'A1 CATEGORY MINES) BASED ON THEGEOLOGICAL, MINING AND ENVIRONMENTAL CONSIDERATIONS.

As stated in the chapter 3.5, the life of the mine based on the proposed production works out to be 35 years. This includes 5 years period of the Mining Plan.
A plan of Conceptual working is prepared for a period of 25 years till the en of life of the Mine.

For this purpose, various proposals of development, production recovery of saleable ore, & parameters of drilling, blasting, etc. etc, given in this Mining Plan, will be continued. As of now on change is visualized. A Conceptual Plan is prepared and enclosed as Plate No. 7 & Sections as Plate No. 7A

It is too early to guess the reclamation of land covered by Pits more, it the proposed exploration gives positive indication of existence of ore in depth, the mining operations will be continued beyond the period of Mining Lease period.(Proposed)

However, in case the Manganese Ore deposit gets exhausted in a particular pit the same will be reclaimed by filling of waste material from the dumps and

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Incase of any change, Indian Bureau of Mines, Nagpur, will be informed accordingly.

Conceptual mining plan section enclosed as plate no. 7 & 7 A.
It will be about 1000 Tones per year of saleable ore
Proposed method of Mining .
The proposed method of mining is by open cast.

4.(g) OPEN CAST MINES

(I) DESCRIBE BRIEFLY GIVING SALIENT FEATURES OF THE MODE OF WORKING (MECHANISED, SEMI-MECHANISED, MANUAL)

It is proposed to take up mining operations, by open cast method, during this Mining Plan period on Band - I , Band –II & Band III. For the sake of conventions the proposed Pits are marked as 1.1 on Band – I, 2.1 on Band – II & 3.1 on Band –III. The Manganese ore body is about 3 meters below the surface level.

The mining activity will consist of :

1) Removal of overburden & soil & waste rocks to dump sites.

2) Mining of Manganese Ore bed.

3) Removal of mined ROM to surface yard for proper breading, sizing, sorting, stacking & zigging etc,

4) Preparing grade wise stacks of ore for delivery.

5) De-watering of the working pits.

Zigging : After screening the jigging of ore of –10 mm size will be practiced as and when required to separate rejections from Manganese ore body in the water medium. Whenever the sizable quantity of such ore is available. Out of production about 5 % will be subjected to zigging. A Country rocks produced during Jigging other than any Manganese ore fragments will be collected in the nearby pond. The pond will be

frequently cleaned & tailings be put in a heap nearby. Water flows along natural slopes & seeps into the ground.
In location of zigging area & telling Pond is shown Five Year Development & Progressive Plan, Plate No. 6 & also on Progressive Mine Closure Plan, Plate PMCP.

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OPENCAST WORKINGS

Each cycle of operation shall consist of removal of overburden followed by extraction of the exposed Manganese Ore subject to the following conditions being strictly complied with :-

Quarrying operations shall be conducted from top downwards.

The provisions of sub-regulations (4) &(5) of Regulation 106 shall be complied with.

Adequate steps shall be taken to ensure that the benches are kept dressed at all times.

Special care shall be taken when any slip or other planes of weakness or other geological disturbances exists, so as to prevent danger to the work persons.

No person shall be engaged on work or allowed to travel close to high sides/benches, from which he will be likely to fall more then 1.8 m. vertically down, unless he is provided with and use a safety belt or rope.

II) DESCRIBE BRIEFLY THE LAYOUT OF MINE WORKINGS, THE LAYOUT OF FACES AND SITES FOR DISPOSAL OF OVERBURDEN / WASTE. A REFERENCE TO THE PLANS ENCLOSED UNDER 4(B) AND 4 (D) WILL SUFFICE.

The details are given in the Five years Development & production plan enclosed as Plate no. 6, prepared, on scale of 1: 2000 where as sections are drawn on scale 1:2000 plate no. 6 A. The bench height will be 3 m. The width of the bench will be 5 meters and the final slope on all sides of the pit will be 60 degrees. The proposed benches in overburden and in country rocks are shown in five years development & production plan, plate no. 6. and also in conceptual plan, plate no.7.

Extent of Manual Mining- The mining operations will be done by open-cast manual method like breaking after drilling, sorting, screening, stacking loading etc. aided by mining machineries such as compressor, jack hammers, etc for drilling work.

DRILLING-

Drilling will be done by compressed air operated jack hammer the parameters of drilling by jack hammers are as under: -

Depth of hole	750 mm
Diameter of hole	34 mm
Burden	700 mm
Spacing of holes	upto 700

Every month, number of holes required to be drilled depends upon the production of Manganese ore, in that particular year. However each hole with the parameters as above should yield about 0.75 m x 0.7 m x 0.7 m = 0.367 or say 0.35 cu.m. of Manganese ore. When the mine is fully developed the total number of holes required to be drilled per annum is about 981 numbers. With 3 m hight of the benches, drilling will be done in stages of 0.75 in 1.5 m holes, for development of the benches.

4 H) NO UNDERGROUND MINES :
4.5 MODE OF ENTRY ;-
4.6 SYSTEM OF WINDING / HOISTING :-
4.7 UNDERGROUND LAYOUT :-
4.8 METHOD AND SEGYENCE OF STOPING :-
4.9 MINE VENTILATION:-
4.10 EXTENT OF MECHANIZATION :-

} Not applicable

Since the mining operations are on a small scale the machines & equipment will be required .

Hauling / Transport :

The ore is transported by trucks to the buyer's destination, on contract basis.

i) EXTENT OF MECHANIZATION :-

DESCRIBE BRIEFLY INCLUDING THE CALCULATION FOR ADEQUACY AND TYPE OF MACHINERY AND EQUIPMENT PROPOSED TO BE USED IN DFFERENT MINING OPERATIONS.

List of machinery & equipment required for the proposed mining operations is as under :

1) For Dewatering diesel operated pumps.	3 no. (10 HP & 5 HP)
2) Diesel Driven Air compressors	2 no. (350 CFM capacity)
3) Jack Hammers & Other Accessories	4-5 no. (medium duty)
4) JCB/ Excavators with adequate boom length	1-2 no.
5) Tractors & Hydraulic Trolleys	5 no.
6) Hydraulic Dumpers & Tippers	5 no.
7) Exploder	1 no.

The equipments will be brought & used on the contract basis whenever required.

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(b) Transport from mine head to the destination:- By Trucks

Describe briefly the transport system (please specify) :- At this stage it is not possible to specify the transport system.

(4) Miscellaneous Operations :-

After the ore is brought to the storage yard, proper stacks for sampling(if required) are prepared and subsequently delivered to the factory at Raipur. All these operations are manual (Stacking by departmental workers and loading on contract basis) .

5.0 BLASTING

DESCRIBE BRIEFLY:::

Muffled blasting to avoid flying rocks, will be adopted. In addition, the directions issued from time to time by the Director General of Mines Safety will be followed strictly.

The precautions as stipulated in MMR 1961 will be strictly adhered to at the time of blasting. In addition to this, the villagers/local people will be suitably advised to take shelter in safe place at the time of blasting. Muffled blasting will be praticed whenever required.

5 A) BROAD BLASTING PARAMETERS LIKE CHARGE PER HOLE, BLASTING PATTERN, CHARGE PER DELAY, MAXIMUM NUMBER OF HOLES BLASTED IN A ROUND, MANNER AND SEQUENCE OF FIRING, ETC.

The drilling holes, as described in 4.5.2, will be blasted using the following :

Ordinary fuse	:	1200 mm
Charge per hole	:	One/Two Cartridge of gelatin. Depending upon the depth of holes.
Ordianary detonator	:	1 no.

The above parameters will yield about 0.35/ 0.7 cubic meters of Manganese ore per hole blasted.

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5 B) TYPE OF EXPLOSIVE TO BE USED-

Gilatine will be used as blasting media alongwith ordinary / electric detonators & water proof fuse.

The total annual requirement of explosives, fuse and detonators, when the mine will be fully developed to produce ROM of 12353 T. of Manganese ore, is as under :

Production	12353 T- R.O.M.
Volume	4118 Cu.m.
Volume/blast	0.35 cubic meters
Number of holes	11766
Gelatine (7 Cartridges/kg)	1681 kgs
Detonators	1681 numbers
Fuse (1.2 m/hole) (ordinary)	2017.2 m.

The number of holes blasting every month is about 981 nos. not more than 50 holes will be blasted in a day.

5 C) POWDER FACTOR IN ORE AND OVERBURDEN / WASTE / DEVELOPMENT HEADING / STOPE :

One kg of gelatin (7 sticks) will produce about 7 tonnes of (R.O.M.) Manganese ore.

5 D) WHETHER SECONDARY BLASTING IS NEEDED, IF SO DESCRIBE IT BRIEFLY :

No secondary blasting is proposed.

5 E) STORAGE OF EXPLOSIVE :-

No storage of explosives is proposed.

Storage of Explosives:- As and when required explosives will be stored in a magazine to be provided in the area later by the Applicant. Till such time, Drilling & Blasting operations will be done whenever required, on contract basis.

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6.0 MINE DRAINAGE :

6 A) LIKELY DEPTH OF WATER TABLE BASED ON OBSERVATIONS FROM NEARBY WELLS AND WATER BODIES :-

All mining operations are on hillocks. On observations of nearby wells of water table is about 3 m. below surface during wet season and goes down to about 6 to 7 m. in dry season in Ground Level.

6 B) WORKING EXPECTED TO BE :-

Workings are expected to be much above the water table because they area on high level.

There will not be seepage of underground water in the working Pits. The accumulated rain water in the Pits will be dewatered by means of diesel pumps if required.

Pumped out water takes its own course & joins nala on the Eastern part of the area. Pumped out water will also be used for agriculture.

C) QUANTITY AND QUALITY OF WATER LIKELY TO BE ENCOUNTERED, THE PUMPING ARRANGEMENTS AND PLACES WHERE THE MINE WATER IS FINALLY PROPOSED TO BE DISCHARGED.

As mentioned earlier, there will be three working Pits at a high elevation than Ground Level, in the area. Dewatering is required to remove accumulated rainwater and to keep the Pits in working condition. There is no seepage. Since this is a new working the quantity of accumulated water cannot be estimated at this stage. Dewatering of the working pits will be done by means of electric as well as diesel driven pumps in adequate number. If required a temporary sump will be created in the deepest portion of the working.

Pumped out water will takes its own course & will flow out off the area along natural slopes.

The details of annual rainfall for the last 5 years are given in chapter 12.2.
It, titled " Water Regime".

S V Kulkarni

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7.0 STACKING OF MINERAL REJECTS AND DISPOSAL OF WASTE

7 A) INDICATE BRIEFLY THE NATURE AND QUANTITY :

The waste rocks consists of soil with murram, mica-schists etc.
Year-wise likely generation of soil and waste, during the Mining Plan period is stated in Table No. 1 of chapter – 4, Mining .

7.B) LAND CHOSEN FOR DISPOSAL OF WASTE PROPOSED JUSTIFICATION :

At present there are eight old dumps in the area created during earlier working which are shown in all the concern Plate.

The dimensions are as under:

Dumps
D-1 = 12 m L x 6 m B x 2.8 m H
D-2 = 10 m L x 6 m B x 2 m H
D-3 = 15 m L x 5 m B x 3.8 m H
D-4 = 20 m L x 10 m B x 3.25 m H
D-5 = 20 m L x 14 m B x 3.5 m H
D-6 = 20 m L x 10 m B x 2.5 m H
D-7 = 22 m L x 10 m B x 2.7 m H
D-8 = 40 m L x 18 m B x 4.5 m H

However, it is proposed to dump the overburden on sites shown on Five Year Development & Production Plan Plate No 6 & Conceptual Plan Plate No. 7, as 'Proposed dump'

b) LAND CHOSEN FOR DISPOSAL OF WASTE WITH PROPOSED JUSTIFICATION .

Maximum height and spread of Dumps:

Area for dumping for first Five years is about 15,938 Sq.m. with a height of about 4m where as the total area for dumping for Conceptual working is about 34075 sq.m. with a maximum height of 7 m. These dumps will be accommodated in the 7.5 m mining limit zone along the lease boundary & on non mineralized area.

With a view to prevent lose soil, sludge etc. from dumps flowing out & affect to terrain a retaining wall with a base of 1 m. with suitable height, shall be constructed as provided & shown in Five Year Development & Production Plan Plate No. 6, Conceptual Plan Plate No. 7 & PMCP.

c) ATTACH A NOTE INDICATING THE MANNER OF DISPOSAL AND COFIGURATION, SEQUENCE OF BUILD UP OF DUMPS ALONGWITH THE PROPOSALS FOR THE STACKING OF SUB-GRADE ORE, TO BE INDICATED YEARWISE.

Arrangement for separate dumping of sub- grade materials:

There will be no production of sub – grade material but as and when the sub-grade ore will be produced it will be stored in separate space, shown in Plate No. 6 & Plate No. 7

Selection of site for stacking:

The production of Manganese ore will be stored in the area provided as shown in Plate Plate No. 6, in storage yard. The quantity of production being small, the same will be transported out of the area in about 3 to 4 weeks time.

Height and spread of Stacks :
The stacks of Manganese ore may be 10 m x 6 m x 1 m.

8.0 USE OF MINERAL :

8 A) *DISCRIBE BRIEFLY THE END-USE OF THE MINERAL (SALE TO INTERMEDIARY PARTIES, CAPTIVE CONSUMPTION, EXPORT, INDUSTRIAL USE.*

Yes. Manganese ore produced from the mines will be used to mamufacture Manganese ore based Ferro-alloys & in steel production in the Plant of the Applicant, situated atS Siltara, Raipur in Chhattisgadh State .

Part of Manganese ore produced, not suitable for captive use ,will be offered to other buyers , as and when required.

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8B) INDICATE PHYSICAL AND CHEMICAL SPECIFICATIONS STIPULATED BY BUYERS.

Basically Manganese ore is use for manufacture of Ferro Manganese and Silico Manganese alloys which form important row material for production of steel .

The chemical & physical composition of Manganese ore required is as under :

		Ferro Manganese	Silico Manganese
Manganese ,	*Mn %*	*+38 %*	*+ 33 %*
Iron	*Fe %*	*9% max.*	*10 % max.*
Silica	*SiO2 %*	*11% max.*	*14% max.*
Alumina	*AlO3 %*	*3% max.*	*3% max.*
Phosphorus	*P %*	*0.18% max.*	*0.22% max.*
Size	*80%*	*+ 10mm*	*+ 10mm*
	97%	*+3mm*	*+3mm*

8 C) GIVE DETAILS IN CASE BLENDING OF DIFFERENT GRADES OF ORES IS BEING PRACTISED OR IS TO BE PRACTGISED AT THE MINE TO MEET SPECIFICATIONS STIPULATED BY BUYERS :::

Generally, the blending pattern of Manganese ore depends on its end used. Hence there is no definite practice of blending adopted by manufacturers of Ferro Alloys producers.

Whenever required Manganese ore from the area will be blended suitably with other ores also procured from the market to make a suitable charge of the furnace.

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9.0 OTHER

9 a) SITE SERVICES

As described earlier, the area under question is located in the Forest and the proposed use will have to be as per the guide lines prescribed for utilization of Forest land for non-Forest purposes. The most important guide line is that no Forest land should be used for any permanent building as far as possible. Therefore, only following site services are provided at mines on temporary basis.

1. Officer
2. Stores Shed
3. Temp. Latrines
4. Rest Shelter
5. Blaster's sheds (2 nos)
6. First – aid station
7. Portable Magazine.

Mine office, mine store and working will be located in the residential cum-office complex proposed to be located in the non Forest land.

All these are shown in Five Year Production & Development Plan , **(Plate No. 6)**

9 b) EMPLOYMENT POTENTIAL

Managerial, Technical and Supervisory Personnel :

The mine will have managerial, supervisory and other personnel requiring statutory qualifications.

1. Manager –1 No. , qualified mining engineer, holding first / second class Mines Manager's Certificate for metalliferous mines.
2. Mine Fore man – 1 No. –Holder of Diploma in mining with foreman's certificate of competency.
3. Environment officer –1 No –Holder of Diploma in Environment Sciences.
4. Mine surveyor 1 No. Holder of Mines surveyors certificate issued by DGMS.
5. Mining Mate 3 Nos. Holder of mining mate certificate.
6. Blasters 3 No. Holder of Blasters Certificate.
7. Mechanical Engineering staff.

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HIGHLY SKILLED : 5 to 8 numbers

SKILLED : 10 to 12 numbers

SEMI – Skilled 15 numbers

UN – SKILLED : 100 numbers

To produce ROM of 12,353 T. of Manganese ore, considering the OMS of adjoining Mines, the requirement of un – skilled workers will be
12, 353 T / 300 days working in a year / OMS of 0.4 = 102.94 or say 100 workers.

10.0 MINERAL PROCESSING

10 A) IF PROCESSING / BENEFICIALTION OF THE ORE OR MINERALS MINED IS PLANNED TO BE CONDUCTED ON SITE OR ADJACENT TO THE EXTRACTION AREA, BRIEFLY DESCIBE THE NATURE OF THE PROCESSING / DENEFICIALTION. THIS SHOULD INDICATE SIZE AND GRADE OF FEED MATERIAL AND CONCENTRATE (FINISHED MARKETABLE PRODUCT), RECOVERY RATE.

Mineral processing will be done manually.
The size of the ROM of manganese ore produced will be from maximum 400 mm and below the processing of mind out mineral by way of crushing by mechanical crusher to the required size, & subsequent, sizing, sorting & grade – wise stacking, zigging etc., manually no chemical beneficiation process is involved.

10 B) EXPLAIN THE DISPOSAL METHOD FOR TAILINGS OR WASTE FROM THE PROCESSING PLANT (QUANTITY AND QUALITY OF TAILINGS PROPOSED TO BE DISCHARGED, SIZE AND CAPACITY OF TAILING POND, TOXIC EFFECT OF SUCH TAILINGS, IF ANY, WITH PROCESS ADOPTED TO NEUTRALISE ANY SUCH EFFECT BEFORE THEIR DISPOSAL AND DEALING OF EXCESS WATER FROM THE TAILING DAM).

A small fraction of Manganese ore produced (about 6 to 10 % or so), of – 6 mm size will be subjected to zigging. The quantity of tailings will be negligible.

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10 C) A FLOW SHEET OR SCHEMATIC DIAGRAM OF THE PROCESSING PROCEDURE SHOULD BE ATTACHED.:-

Flow sheet is enclosed as Annexure no. 5

10 D) SPECIFY QUANTITY AND TYPE OF CHEMICALS TO BE USED IN THE PROCESSING PLANT :-

No chemicals are to used in the processing plan.

10 E) SPECIFY QUANTITY AND TYPE OF CHEMICALS TO BE STORED ON SITE / PLANT :-

Not applicable.

10 F) INDICATE QUANTITY (CU. M. PER DAY) OF WATER REQUIRED FOR MINING AND PROCESSING AND SOURCES OF SUPPLY OF WATER DISPOSAL OF WATER AND EXTENT OF RECYCLING

A small quantity, about 2000-3000 ltrs of water is required for zigging purpose.

PART – B

11.0 ENVIRONMENT MANAGEMENT PLAN

11 A) ATTACH A NOTE ON THE STATUS OF BASELINE INFORMATION WITH REGARD TO THE FOLLOWING :

Base line information :

The inhabitants of near by village are engaged in seasonal agriculture & remain unemployed for rest of the year.

I) EXISTING LAND USE PATTERN:

			Sq. m.
1.	Area covered under Pits	::::	4196
2.	Area for dumps	::::	1827
3.	Area used for roads:		3000
4.	Area for Buildings storage etc.	::::	Nil
5.	Plantation	::::	Nil

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II) WATER REQIME :

The water table is found to be 3 meters from surface during monsoon period. It recedes to a level of 8 meters from surface during dry months. This information was collected from local people.

The annual rainfall in the area is about 1600 to 1800 mm. The annual rainfall & temperature variations for the last 5 years area as under :

Year	Rainfall mm	Temperature min	degrees C max
2006	1725	9.0	46.5
2005	1675	9.5	45.2
2004	1780	9.0	46.5
2003	1480	10	46.2
2002	1675	9.5	45.2

This information is collected from Tahsildar's office, Saoner. There is no regular drainage pattern in the area. The water flows out naturally along slope.

III) FLORA AND FAUNA

Flora : There is a fair growth of vegetation in the area, such as Palas, Neem, Tinsa, Bija, Mango, Haldoo, Lendya etc with shrubbery. The average density being 0.2. The vegetation is scanty due to poor soil cover and less rainfall.

Fauna : Compared to the type of flora, the fauna in the area is poor. No. wild animals are seen during day time although the signs by way for droppings and scratches on the ground indicate their presence to some extent. It is reported that wild boar, fox, rabbits, rodents, and occasionally some members of deer family are reported from the area.

Common jungle birds like doves, koel, seven sister, wood pecker, maina are seen particularly along the nala. Peacocks and partridge family also reported but not generally seen.

IV) QUALITY OF AIR, AMBIENT NOISE LEVEL AND WATER

Water available in open well bore-well in village Ramdongri near the area is potable and it is pure and clean. The air is clean and not polluted as there is no industry.

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V) CLIMATIC CONDITIONS :-

The area is characterized by monsoonic climate with west season extending from June – September receiving its rainfall from SW-NE monsoon. Some rainfall is also received in the region in winter between December –January from SE –NW monsoon.
The details about maximum & minimum temperature are given above, in 11.ii)
The prominent Wind direction is from SW-NE.

III) HUMAN SETTLEMENTS :-

Location of villages within 2 kms of the area area as under :

Village	*Distance kms*	*Population*	*Direction*
1) Khubala	5.0	1525	NW
2) Mangaon	3.5	775	NE
3) Umri	3.0	270	N
4) Khapa	3.0	10100	NW
5) Dhakara	3.0	340	NE
6) Kusanbi	3.5	760	NE
7) Khairi	2.0	1100	N
8) Mogra	4.0	300	NE
9) Kothulna	2.5	2200	E
10) Kirnapur	2.0	550	SE
11) Gumgaon	3.0	3000	SW
12) Wakoḍi	3.0	800	SW
13) Bhendala	5.0	675	S
14) Waki	5.0	500	SE
15) Ramdongir	2.5	1200	S
16) Bawangaon	4	400	NW
17) Nanda	5	312	NW
18) Kadegawhan	4	400	W
19) Tigi	3.5	280	SW

IV) PUBLIC BUILDING, PLACES AND MONUMENTS:

There are no public buildings, monuments etc, near about the area.

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ATTACH PLAN SHOWING THE LOCATIONS OF SAMPLING STATIONS

The sampling spots from where the samples were collected for chemical analysis are marked in Geological Plan , Plate No. 3.

DOES AREA (PARTLY OR FULLY) FALL UNDER NOTIFIED AREA UNDER WATER (PREVENTION & CONTROL OF POLLUTION) ACT, 1974

Yes, the area falls under notified area under water (Prevention & Control of Pollution) Act, 1974.

VI) NUMBER & TYPES OF TREES :-

The area under question is Govt. Forest Land there are about 800 to 1000 large trees spread over the entire area. The species of trees available in the area is stated in Flora & Fauna , 11. iii) above.

B) ATTACH AN ENVIRONMENTAL IMPACT ASSESMENT STATEMENT DESCRIBING THE IMPACT OF MINING AND BENEFICIATION ON ENVIRONMENT ON THE FOLLOWING OVER THE NEXT FIVE YEARS (AND UPTO CONCEPTUAL PLAN PERIOD FOR 'A' CATEGORY MINES)

ENVIRONMENTAL IMPACT ASSESSMENT :-

(a) Land Environment :-

(i) Land Scape : The existing Land Scape, with three old Pits & old Dumps will not be largely affected due to proposed working of the mines during the Mining Plan period. The area likely to be affected by mining operations during 5 years of this Mining Plan period & at the end of lease period in Sq. mts is as under:

	Present Sq. m.	End of 5 years Sq. m.	End of Conceptual Sq.m.
a) Area under Pits	4196	14916	133650
b) Area under dumps	1827	15938 (4 m H)	34075
c) Area under Road	3000	3000	3000
d) Area under Building storage of Ore etc	Nil	200	2900
e) Area under Plantation	Nil	4500 (100 tress per year)	22500

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ii) Aesthetic environment :- Aesthetic environment is likely to be affected to the minimum.

iii) Soil & Land use pattern :- Thin capping of Soil over Manganese ore will be removed and stored in Dumps along 7.5 m mining limit zone & on non mineralized area. Land use Pattern will include areas covered by Pits, Dumps, haulage roads & storage yard, etc and is described para 'Landscape' above.

iv) Agriculture :- There is no agriculture in the area and hence there will be no impact.

v) Forest:- *The area is a part of Govt. Forest . There was mining activity of Manganese ore which was abandoned about 20 years back.*

Hence there will not be any impact on the Forest growth.

vii) Public building, places and monuments : Since there are no Public building, places and monuments near about the area, there will be no adverse impact.

(C) AIR ENVIRONMENT :-

(i) NOISE:- Noise will be created in the area due to running of compressors, Jack hammers & blasting and earth moving machinery . But since the mining activity is in small area it will not have any adverse impact. Noise level will be within acceptable limits but ear plugs will be provided if need be.

On the haulage road of dumpers water will be sprinkled to minimize the raising of dust in the area. More over the earth moving machinery will be deployed only for a small period of working day, and hence there will no harmful impact on the environment.

(ii) Air:- *The proposed mining operations are semi- mechanized and on a small scale .The dust from the haul roads and drilling will pollute the air to the minimum. Considering the production and nature of proposed mining operations SPM level will not be more than the permissible limit of 500 ug/ cu.m. in any case.*

(iii) Climatic condition *: The area involved in the proposed mining operation s too small as compared to the regional extent. Therefore, there will be hardly any impact on climatic condition is envisaged.*

VIBRATION LEVELS :-

Vibrations are caused at the time of drilling & blasting, they are of a short duration and are temporary. The vibrations do not cause any harmful effects on the environment. A station is being provide in the area to study the effects of vibrations.

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(b) Water Environment :-

(i) Surface Water :- Surface Water is in the form of seasonal rain fall. It takes normal course and flows out of the area along natural slope.

(iii) Ground Water :-

Drainage pattern:- There is a nalla flowing from North- South, in a zigzag manner which is having water (flowing & accumulated)at a number of places. The rainwater flows along the natural slopes of the hill in the area & joins this nalla. This nalla flows out of the area and joins river Kanhan, situated at a distance of about 700 m. from the southern boundary of the area. This nalla is shown in all the concerned Plates

The quality of water in the nalla is reported to be potable. However the water will be chemically analyised for its suitability for human consumption after commencement of mining operations..

(iii) Water Quality:- Since there is no source of water in the area, there will not be any impact.

(IV)) MEASURE FOR DUST SUPPRESSION:

Dust suppression at these points proposed by following measures.

i) Wet drilling of blast holes.
ii) Dust suppression of blasting is not possible but it is momentary and is carried away by winds in a short time span. Hence it is not a problem.
iii) Muckpile will be wetted before loading.
iv) Haulage roads is being frequently sprinkled with water for which purpose provision of truck mounted water tank is proposed.

(V) *MEASURE FOR MINIMIZING VIBRATIONS DUE TO BLASTING:*

Ground vibrations caused by blasting in the opencast section will be monitored in order to know their degree and build safe guards. The ground vibrations would be mainly at the point of blasting and further away the vibrations will decrease, and becomes imperceptible.

The quantum blasting during the proposed period will not be much to create any adverse impact. Hence no special measures to manage the ground vibrations due to blasting will be required. Similarly the noise generated by blasting is momentary and during day time when the noise level is otherwise also high, it is not a problem requiring any special measures.

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(VI) MEASURES FOR REDUCING NOISE POLLUTION:

Muffled blasting method is used for reducing noise pollution.

(VII) SOCIO-ECONOMIC ENVIRONMENT :

The proposed mining activity will have a significant impact on the socio-demographic prefile of the area. The local people will provided employment in the unskilled semi-skilled category. The demographic profile does not have any adverse impact due to mining activity. This in turn has to some extent improved the economic conditions

(i) Social and demographic profile :- Local population surrounding the area mainly dependant on agriculture of low income group. Mining activity in the area has already provide a good opportunity for employment the people. This in turn has to some extent improved, the economic conditions. The demographic profile does not have any adverse impact due to mining activity.

(ii) Occupational health and Safety:-

Occupational health and Safety of the near by population is not & will not be impaired due to small scale mining activity.

Proper precautions at the time of blasting operations, stipulated in the respective rules will be strictly adhered to. Wet drilling method will be adopted to stop dust entering the atmosphere.

(iii) Human Settlement ::

The nearest village is Ramdongri is about 0.5 km away from the mining area, proper care will be taken for minimal impact of mining activity. The details of human settlements are given in Chapter 12.1 (iii) above.

(iv) Recreational facility:-

The nearest recreational facility is available at Lodhikheda at about 15 kms. The people have local festivals and jatras as the source of recreation.

C) ENVIRONMENT MANAGEMENT PLAN :-

(i) Temporary Storage and preservation of to soil :-

There is no top soil of any utility in the area. The deposit is covered with lateritic soil of 1.5 m thickness and this soil produced will be stored in separate space.

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(ii) Proposal for reclamation of land affected by mining activities upto the end of M. L. period:-

At this stage it is difficult to give any proposals for land affected by mining activities upto the end of M.L. period.

(iii) Programme of afforestation :-

As stated earlier there is a nalla running in the area. A barrier of 15m has been left on eastern as well as western bank of the nalla where no mining activity will be carried out. This stretch of land of the barrier will be used for plantation during five years period of this Mining Plan as well as during Conceptual working period of the mines.

A minimum 100 trees will be planted every year commencing from coming first monsoon till the end of lease period in the 7.5 m mining limit zone and also in the area available in the 15 m barrier along course of the nalla.

This proposed plantation in the barrier along the nalla course will also help in stabilization of the area and stop denudation due to water flowing into the nalla.

(iv) Stabilization and vegetation of dumps:-

As soon as the dumps reach a height of 5 m the same will be used for grass growing and tree plantation will be done as the space provided in Plate No 6 & 7.

(v) Treatment and Disposal of water from mine:-

The question does not arise as there is no beneficiation process involved. Water flows out along the natural slope.

(vi) Measures for minimizing adverse effects on water regime:

As described earlier, water regime will not be affected.

(vii) *Socio-economic benefits arising out of mining :-* 3

The local people are getting employment in the mining operations.

(2) *Proposal for reclamation of land affected by mining activities during & at the end of mining :-*

(3) Measure for dust suppression:

The points for dust generation are – I) Blast holes II) Blasting

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Dust suppression at these points proposed by following measures.

i) Wet drilling of blast holes.
ii) Dust suppression of blasting is not possible but it is momentary and is carried away by winds in a short time span. Hence it is not a problem.
iii) Muckpile will be wetted before loading.
iv) Haulage roads is being frequently sprinkled with water for which purpose provision of truck mounted water tank is proposed.
v) The drillers will be given protective appliances to be used during drilling operations.

(5) Measure for minimizing vibrations due to Blasting:

Ground vibrations caused by blasting in the opencast section will be monitored in order to know their degree and build safe guards. The ground vibrations would be mainly at the point of blasting and further away the vibrations will decrease and becomes imperceptible.

The quantum blasting during the proposed period will not be much to create any adverse impact. Hence no special measures to manage the ground vibrations due to blasting will be required. Similarly the noise generated by blasting is momentary and during day time when the noise level is otherwise also high. it is not a problem requiring any special measures.

(6) Measures for reducing noise pollution:

Proper equipments will be used for reducing noise pollution.

(7) Stabilization and Vegetations of dumps & a forestations:

The stabilizations & vegetations of dumps will be undertaken by means of terracing of dumps wherever necessary. The dumps will be pitched from the slope side to a suitable height.

Presently, it is proposed to plant about 20 trees per year during first five years and during conceptual period of working of twenty five years. This plantation will be mostly in 7.5 m safety zone around the lease boundary which comes under the area of Mining Lease.

The location of proposed dump afforestation during the first five years is shown in **Plate 6.**

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(8) Treatment and disposal of water from mine and beneficial Plant.-
The problem of disposal of water from mine arises only during the monsoon season when the storm water collects in to the pit and has to be pumped out. During other season only small quantity of ground water is expected to percolate in to pit and it will also be pumped out similarly.

(9) Minimizing adverse effects on water regime :-

As pointed out earlier that the proposed mining operations has no impact on the surface water regime except that described in the paragraph above, hence no special measures are required.

Similarly, there will not be any adverse impact on ground water regime requiring any special mitigation measures.

(10) Preparation of dumping ground for stacking toxic Mineral Substance

There are no toxic minerals in this deposits, hence the question does not arise.

D) MONITORING SCHEDULES FOR DIFFERENT ENVIRONMENTAL COMPONENTS AFTER THE COMMENCEMENT OF MINING AND OTHER RELATED ACTIVITIES. (FOR "A" CATEGORY MINES ONLY):-

Not applicable.

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PROGRESSIVE MINE CLOSURE PLAN
As per circular No. 14/2003(No. 011-11/1/2001-CCOM)

RAMDONGRI AREA FOR MANGANESE ORE

61.45 HA
IN SAONER TAH., DIST: NAGPUR OF
MAHARASHATRA STATE

OF

M/S JAYASWALS NECO LTD.
F-8, M. I. D. C. , Industrial Area ,
Hingna Road,
NAGPUR – 440 016

Correspondence Address :
M/s JAYASWALS NECO LTD.
Siltara Growth Centre ,
Siltara , Raipur (Chhatisgarh)

Consultant

S.V. *Gokhale*
"Annapurna"
2D Hindustan Colony,
Amravati Road
NAGPUR-440033
RQP/NGP/002/87/A

S V Gokhale

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14.0 PROGESSIVE MINE CLOSURE PLAN

(As per Circular No : 14/2003(No.011011/1/2001-CCOM)
DATE 8-8-2003

Introduction :

The name of the lessee, the location and extent of lease area, the type of lease area (forest non-forest etc) the present land –use pattern, the method of Mining & Mineral processing operations, should be given.

(a) The name of the Lessee :

****

Regd Office : *M/s JAYASWALS NECO LTD.,*
F-8 , MIDC, INDUSTRIAL AREA,
HINGAN ROAD,
NAGPUR – 440 016
TEL. 95-7104-237276 , 237471 , 237462
TLX : 0715- 7575 NACA -IN
FAX : 07104-237 583

Correspondance Address ::
M/s JAYASWALS NECO LTD.
Siltara Growth Centre ,
Siltara , Raipur (Chhatisgarh)

****

(ii) Status of the Applicant

M/s JAYASWALS NECO LTD., belongs to the well-known industrial group of Central India Viz. NECO GROUP having Corporate office at Nagpur and operations spread all over India.

The NECO GROUP is primarily engaged in Iron & Steel Industry since 1972 and is recognized as a " MASTER CASTER" in Indian Ferrous Industries.

It consists of several well-established companies in various diversified fields like Steel Making through Integrated Steel Plant, Ferro-Alloys, Mining Highway Construction on BOT Basis, Iron & Steel Casting, Ceramics etc.
The GROUP manufactures and exports a wide spectrum of core sector products to fulfill the need of :

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- Automotive Industry
- Petrochemical Industry
- *Construction Industry*
- *Iron & Steel Industry*
- *Railways*

Quality is synonymous to NECO's Product. The Manufacturing Units are ISO Accredited.

Present Activity : Steel Making through Integrated Steel Plant, Power Generation and Mining.

Date & Place of Incorporation of the Company: 28-11-1972; Nagpur Maharashtra.

This Mining Plan is prepared for grant of Mining Lease Under Rule 22 of MCR 1960 over 61.45 Ha. of area in village : Ramdongri, in Tah Saoner & Dist. Nagpur (M.S.), for Manganese ore. on the basis of letter No. MMN-1004/C.R.653/IND-9 dated 24/1/07 from Under Secreatary, Government of Maharashtra, Mumbai. A copy of the letter is enclosed as Annexure No 1.

A copy of the Khasra Plan showing the area proposed to be granted under Mining Lease with khasra wise area is enclosed as **Plate No 1.**

(a) Name of the Lessee :::
Regd Office : M/s JAYASWALS NECO LTD.,
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NAGPUR – 440 016
TEL. 95-7104-237276 , 237471 , 237462
TLX : 0715- 7575 NACA -IN
FAX : 07104-237 583

Correspondence Ad d : Siltara Growth Centre,
Siltara ,
Raipur (Chhatisgarh)
Tel : 0771-509 4416

Status of the Applicant ::

A Public Limited Company

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(b) The location & extent of the lease area, (forest, non-forest, etsc)

The area under mining lease is Private Revenue land and Government Revenue land Ownership of the most of the land is with the Applicant . Other Khasrawise acreage is given in above Mining Plan "chapter 2.6 "above.

(c) The present Land use Pattern-

1.	Area covered under Pits	::::	4196
2.	Area for dumps	::::	1827
3.	Area used for roads	::::	3000
4.	Area for storage & Buildings etc	::::	Nil
5.	Plantation	::::	Nil

(d) The method of mining & Mineral processing operations should be given below :-

It is proposed to take up mining operations, by open cast method, during this Mining Plan period on Band - I , Band –II & Band III. For the sake of conventions the proposed Pits are marked as 1.1 on Band – I, 2.1 on Band – II & 3.1 on Band –III. The Manganese ore body is about 3 meters below the surface level.

The mining activity will consist of :

1) Removal of overburden & soil & waste rocks to dump sites.

2) Mining of Manganese Ore bed.

3) Removal of mined ROM to surface yard for proper breading, sizing, sorting, stacking & zigging etc,

4) Preparing grade wise stacks of ore for delivery.

5) De-watering of the working pits.

Zigging : After screening the jigging of ore of –10 mm size will be practiced as and when required to separate rejections from Manganese ore body in the water medium. Whenever the sizable quantity of such ore is available. Out of production about 5 % will be subjected to zigging. A Country rocks produced during Jigging other than any Manganese ore fragments will be collected in the nearby pond. The pond will be frequently cleaned & tailings be put in a heap nearby. Water flows along natural slopes & seeps into the ground.

In location of zigging area & telling Pond is shown Five Year Development & Progressive Plan, Plate No. 6 & also on Progressive Mine Closure Plan, Plate PMCP.

OPENCAST WORKINGS

Each cycle of operation shall consist of removal of overburden followed by extraction of the exposed Manganese Ore subject to the following conditions being strictly complied with :-

Quarrying operations shall be conducted from top downwards.

The provisions of sub-regulations (4) &(5) of Regulation 106 shall be complied with.

Adequate steps shall be taken to ensure that the benches are kept dressed at all times.

Special care shall be taken when any slip or other planes of weakness or other geological disturbances exists, so as to prevent danger to the work persons.

No person shall be engaged on work or allowed to travel close to high sides/benches, from which he will be likely to fall more then 1.8 m. vertically down, unless he is provided with and use a safety belt or rope.

1.1 Reasons for Closure: -

The reasons for closure of mining operations in relation to exhaustion of minerals, lack of demand, uneconomic operations, natural calamity, directive from statutory organization of Court etc., should be specified.

"The area is applied for fresh grant of Mining Lease."
Estimated Geological reserves in the are have been estimated for this Mining Plan on the basis of old Pits & Dumps and working of the area.

Detailed calculations of Geological Reserves are enclosed herewith as Annexure No 3.

Summary of Geological Reserves ::::

In the manganese ore bed, the recovery of marketable Mn-ore is around 85% and the remaining being gonditie rock (mangoniferous chetty jaspery quartzite) the average thickness of manganese ore band 3 m . Strike line E-W, the average dip of the Mn-Band is 60 degrees towards South.

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Summary :::

Category	BAND– I T	BAND-II T	BAND-III T	TOTAL T	UNFC Classification
Proved Category	72232	99960	72612	244804	112
ProbableCategory	38430	25740	39240	103410	222
Possible Category	38430	25740	39240	103410	333
TOTAL	109092	151440	151092	451624	

On the basis of present estimation of reserves with a production of about 37,059 T of Manganese ore when the mine is fully developed the life of the mine is about 35 years. Details are given in Chapter 3 (3.6 Mineable reserves & anticipated life of the mine above).

At this stage it is difficult to guess the period of closure of mines due to exhaustion of Manganese ore deposit in the area or working and also taking into account lack of demand and marketing of Manganese ore. It is also difficult to anticipate closure due to uneconomic condition, natural calamity, directives from statutory organization, etc.

1.2 *STATUTORY OBLIGATIONS* –

The legal obligations, if any, which the lessee is bound to implement like special conditions imposed while execution of lease-deed, approval of Mining plan, directives issued by the Indian Bureau of Mines, conditions imposed by M/N of Environment & Forests, State or Central Pollution Board or by any other organization describing the nature of condition and compliance position thereof, should be indicated here (The copies of the relevant documents may be attached as annexure).

This is a fresh Mining Lease and now the applicant receives the letter to submit the Mining Plan.

However, the Applicant undertakes to abide and implement any special conditions imposed by various authorities and also to complete formalities under provision of the Mines & Minerals (Development & Regulation) Act, 1957 and the Mineral Concession Rules, 1960 and the Mineral Conservation and Development Rules, 1988 as amended from time to time.

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1.3 CLOSURE PLAN PREPARATION-

The names and address of the Applicant and Recognized Qualified Person who prepared the Mine Closure Plan and names of the executing agency should be furnished. A copy of the Resolution of Board of Directors or any other appropriate administrative authority as the case may be on the decision of closure of mine should be submitted.

Name & Address of Lessee –
Regd Office : *M/s JAYASWALS NECO LTD.,*
F-8 , MIDC, INDUSTRIAL AREA,
HINGAN ROAD,
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TEL. 95-7104-237276 , 237471 , 237462
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FAX : 07104-237 583

Correspondence Ad d : *Siltara Growth Centre,*
Siltara ,
Raipur (Chhatisgarh)
Tel : 0771-509 4416

Name & Address of RQP- S.V. GOKHALE
2D, Hindustan Colony
Amravati Road
Nagpur-440 033
Tel : 0712-2523 209 (R)
(O) 0712-2421 747

2.0 MINE DESCRIPTION-

2.1 Geology-

Briefly describe the topography and general geology indicating rock types available, the chemical constituents of the rock/minerals including toxic elements if any at the mine site.

The area lies at the cross section of Latitude of 21 degrees 24' 55 and Longitude 79 degrees 01' 47' and is covered under Toposheet No : 55 K/15 & 55 O/3, enclosed as Key Plan, Plate No 2 (Location Plan).

A copy of the Toposheet as Plate No. 2.

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LOCAL GELOGY::::

In Ramdongri area the country rocks surrounding Manganese ore bodies area mainly schists of Mansar formation and quartzites of Chorbaoli formation. These are intruded by pegmatites and quartz veins. The following lithological units area met with.

The Geological formations met in the area are :-
1) Soil / Clay (on hanging wall as well as on foot wall side)
2) Mica Schists & Quartzites (on hanging wall side)
3) Manganese Ore with Gondite
4) Mica Schists (on foot wall side)

1) Soil / Clay :

The Soil consis of decomposed mica schists and is brown in colour. This can be called as Top Soil / Clay cover over orebody is found to be 3 m. schistose rocks are found to occur as hanging wall & foot wall side formations of the ore body. These formations maintain a strike line of East – West and high angle dips towards South.

2) Mica Schists (on hanging wall side):

This formation is found to occur on hanging wall as well as foot wall side of the Primary bedded deposit of Manganese ore. It maintains the strike line of E-W with dips varying between 55-65^0 towards South .
Mica Schists are decomposed on the surface & hard at the floor of the Pits.

This formation is intruded with pegmatite veins in irregular manner.

3) Manganese Ore with Gondite

It is occurring as a primary bedded deposit. There are three old abandoned Pits in the area from which Manganese ore was raised earlier.
For the sake of convenience, Manganese ore bodies are marked as Band –I, Band – II & Band –III with details as under :

1) Band –I : Ore body occurring in the Northern portion of the area with average thickness of Ore body of 3 m.

2) Band –II : Ore body occurring in the Middle portion of the area with average thickness of Ore body of 2 m.

3) Band –III : Ore body occurring in the Southern portion of the area with average thickness of Ore body of 3 m.

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Manganese ore body is found to occur along E-W strike line. The angle of dip varies from 55 to 65 degrees towards South.

The olden days dumps around the Pits form natural topography of the area.

The Manganese ore is having a coposition of Mn %, Fe % , Al2o3 % & P %. There are no toxic elements in the mineral or at mine site.

The Geological Plan on 1:2000 scale is enclosed as Plate No. 3 & Geological Section on 1:2000 scale is enclosed as Plate No. 4.

2.2 Reserves: -

Indicate the mineral reserves available category wise in the Lease Area estimated in the last Mining Plan/Mining Scheme approved along with the balance mineral reserves at the proposed mine closure including its quality available (for final mine closure plan only).

Indicate the mineral reserves available category wise in the Lease Area estimated in the last Mining Plan/Mining Scheme approved along with the balance mineral reserves at the proposed mine closure including its quality available (for final mine closure plan only).

The reserves estimated are by adopting sectional method. Accordingly cross-sections C1-C2 to C9-C10 are marked on Geological Plan, Plate No. 3 & Sections on Plate No. 4. Using these sections, reserves in Proved , Probable & Possible Categories are worked out, as detailed below.

Detailed calculations of Geological Reserves are enclosed herewith as Annexure No 3.

Summary of Geological Reserves ::::

In the manganese ore bed, the recovery of marketable Mn-ore is around 85% and the remaining being gonditie rock (mangoniferous cherty jaspery quartzite) the average thickness of manganese ore band 3 m . Strike line E-W, the average dip of the Mn-Band is 60 degrees towards South.

Summary ::::

Category	BAND–I T	BAND–II T	BAND- III T	TOTAL T
Proved Category	72232	99960	72612	244804
Probable Category	38430	25740	39240	103410
Possible Category	38430	25740	39240	103410
TOTAL	149092	151440	151092	451624

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On the basis of present estimation of reserves with a production of about 37,059 T of Manganese ore when the mine is fully developed the life of the mine is about 35 years. Details are given in Chapter 3 (3.6 Mineable reserves & anticipated life of the mine above).

2.3 Mining method:

Describe in brief the mining method followed to win the mineral extent of mechanization mining machinery deployed production level etc.

It is proposed to take up mining operations, by open cast method, during this Mining Plan period on Band - I , Band –II & Band III. For the sake of conventions the proposed Pits are marked as 1.1 on Band – I, 2.1 on Band – II & 3.1 on Band –III. The Manganese ore body is about 3 meters below the surface level.

The mining activity will consist of :

1) Removal of overburden & soil & waste rocks to dump sites.

2) Mining of Manganese Ore bed.

3) Removal of mined ROM to surface yard for proper breading, sizing, sorting,

4) stacking & zigging etc,

5) Preparing grade wise stacks of ore for delivery.

6) De-watering of the working pits.

Zigging : After screening the jigging of ore of –10 mm size will be practiced as and when required to separate rejections from Manganese ore body in the water medium. Whenever the sizable quantity of such ore is available. Out of production about 5 % will be subjected to zigging. A Country rocks produced during Jigging other than any Manganese ore fragments will be collected in the nearby pond. The pond will be frequently cleaned & tailings be put in a heap nearby. Water flows along natural slopes & seeps into the ground.
In location of zigging area & telling Pond is shown Five Year Development & Progressive Plan, Plate No. 6 & also on Progressive Mine Closure Plan, Plate PMCP

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OPENCAST WORKINGS

Each cycle of operation shall consist of removal of overburden followed by extraction of the exposed Manganese Ore subject to the following conditions being strictly complied with :-

Quarrying operations shall be conducted from top downwards.

The provisions of sub-regulations (4) &(5) of Regulation 106 shall be complied with.

Adequate steps shall be taken to ensure that the benches are kept dressed at all times.

Special care shall be taken when any slip or other planes of weakness or other geological disturbances exists, so as to prevent danger to the work persons.

No person shall be engaged on work or allowed to travel close to high sides/benches, from which he will be likely to fall more then 1.8 m. vertically down, unless he is provided with and use a safety belt or rope.

YEAR-WISE DEVELOPMENT FOR FIRST 5 YESARS: -

On the basis of proposed working by Open- Cast method, development in hanging wall side, the estimated development work is to be done and the details are given in the table below:

On the basis of experience of mining in the area and cross-sectins, etc, the development is as under :

SUMMARY

Year	Pit No. (s)	Overburden Cu. m.	ROM Ore T.	Saleable Ore T. 85 % recovery	Sub-grade Ore T.	Mineral Rejects T. 15 %	Ore to Overburden ratio T.
1	Nil	9482	3528	2999	Nil	176	About 1 to 4
2	Nil	17598	7059	6000	Nil	353	
3	Nil	17598	7059	6000	Nil	353	
4	Nil	23155	8826	7502	Nil	441	
5	Nil	26765	10587	9228	Nil	529	
Total	Nil	28320	37,059	31,729	Nil	1852	

(Out of total production of Manganese ore 85% will be readily marketable & about 10% will be mineralized rejects which may be intermitantly mixed & used. Balance production i.e. 5 % consists Gondite siliceous impurities, waste intercalations, mining loss & fines.

Proposed rate of Production when the mine is fully developed- –

Proposed rate of production when mine is fully developed, will be about 10,000 T. per year.

Zigging : After screening the jigging of ore of –10 mm size will be practiced as and when required to separate rejections from Manganese ore body in the water medium. Whenever the sizable quantity of such ore is available. Out of production about 5 % will be subjected to zigging. A Country rocks produced during Jigging other than any Manganese ore fragments will be collected in the nearby pond. The pond will be frequently cleaned & tailings be put in a heap nearby. Water flows along natural slopes & seeps into the ground..

In location of zigging area & telling Pond is shown Five Year Development & Progressive Plan, Plate No. 6 & also on Progressive Mine Closure Plan, Plate PMCP

2.4 Mineral beneficiation:

Describe in brief the mineral beneficiation practice if any, indicating the process description in short. Indicate discharge details of any tailings/middlings and their disposal/utilization practice followed.

Mineral beneficiation will be by way of separation of MN-ore from gondite rock sorting and sizing will be done manually.

No other beneficiation is required for the ore.

CHAPTER – 3

Review of Implementation of Mining Plan/ Scheme of mining including 5 years progressive closure plan up to final closure of mine

Indicate in detail the various proposals committed with special emphasis on the proposals for protection of environment in the approved Mining Plan/ Scheme of Mining including five years Progressive Closure Plan up to the Closure of mine vis-à-vis their status of implementation. Highlight the areas, which might have been contaminated by mining activities and type of contaminants by mining activities and type of contaminates that might be found there. The reasons for deviation from the proposals if any with corrective measures taken should also be given.

As the Mining Lease yet to be granted but following proposals for waste Management etc will be made.

Waste management:

The proposed waste produced during the 5 years development and production plan, it will be dumped on the proposed dump.

Environmental management:

It is proposed that the area is leveled and plantation will be done as per proposed site shown on Plate No 6. It is proposed to plant 100 trees sapling every year till the end of the lease period. Water supply and maintenance of sapling will be taken care of by the lessee.

CHAPTER - 4

Closure plan

4.1 Mined out land:

Describe the proposals to be implemented for reclamation and rehabilitation of mine out land including the manner in which the actual site of the Pit will be restored for future use. The proposals should be supported with relevant Plans and sections depicting the method of land restoration/reclamation/rehabilitation.

"As stated earlier , after removal of Manganese ore the waste produced during mining operations will dumped on the proposed dump as shown in Plate No 6.

It is difficult to give reclamation proposals of Pits, Dumps at this stage, however these Pits will be worked till the deposit gets exhausted or become uneconomical at the end of Lease period or beyond. In that case the Pits will be used for storage of water and used for agriculture as it is present practice. The dumps will be used for grass growing.

By this method, the reclamation & rehabilitation of mined out land can be achieved so that the land can be subjected to the present use.

Progressive Mine Closure Plan are enclosed as Plate No PMCP.

4.2 Water Quality Management:

Describe in detail the existing surface and ground water bodies available in the Lease areas and the measures to be taken for protection of the same including control of erosion, sedimentation, siltation, water treatment, diversion of water courses, if any, measures for protection of contamination of ground water from leaching etc. Quantity and quality of surface water bodies should also be indicated and corrective measures proposed to meet the water quality conforming the permissible limits should also be described. Report of the hydrological study carried out in the area may also be submitted. The water balance chart should be give. If there is potential of Acid Mine Drainage the treatment method should be given.

The water table is found to be 3m from the surface during monsoon period. It recedes to a level of 10m from the surface during peak summer.
The annual rainfall in this region is plus 2200mm and temperature variation from minimum 9.0^{0}c to 46^{0}c maximum.
There is no regular drainage pattern in the area. The rainwater flow out naturally along slope. Pumped out water takes its own course & joins nalla on the Eastern part of the area.
Drinking water is available in open well in village Ramdongri, near the area is potable and pure and clean.

4.3 Air Quality Management: **Describe the existing air quality status. The corrective measures to be taken for prevention of pollution of air should be described.**

Describe the existing air quality status. The corrective measures to be taken for prevention of pollution of air should be described.

The air is clean and not polluted as there is no industry. Predominant wind direction is NE and SW.

Dust will be generated during drilling and blasting and from the haulage roads. However, the quantum of drilling and blasting is so done to minimize dust generation.

The proposed mining operations are semi- mechanized and on a small scale .The dust from the haul roads and drilling will pollute the air to the minimum. Considering the production and nature of proposed mining operations SPM level will not be more than the permissible limit of 500 ug/ cu.m. in any case.

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4.4 Waste Management –

Describe the type, quality and quantity of overburden, mineral reject etc available and their disposal practice. If no utilization of waste material is proposed, the manner in which the waste material will be stabilized should be described. The protection measures to be taken for prevention of siltation, erosion, and dust generation from this waste material should also be described. If toxic and hazardous elements present in the waste material, the protective measures to be taken for prevention of dispersal in the air environment, leaching in the surface and ground water etc should be described.

Describe the type, quality and quantity of overburden, mineral reject etc available and their disposal practice. If no utilization of waste material is proposed, the manner in which the waste material will be stabilized should be described. The protection measures to be taken for prevention of siltation, erosion, and dust generation from this waste material should also be described. If toxic and hazardous elements present in the waste material, the protective measures to be taken for prevention of dispersal in the air environment, leaching in the surface and ground water etc should be described.

The type and quantity of overburden, waste other than mineralized rejects etc. to be generated on the proposed working during this mining plan is given in chapter-7.0.

The stabilization of dumps will be carried out and then used for grass growing or so.

It is also proposed a minimum 100 trees will be planted every year commencing from coming first monsoon till the end of lease period in the 7.5 m mining limit zone and also in the area available in the 15 m barrier along course of the nalla.

This proposed plantation in the barrier along the nalla course will also help in stabilization of the area and stop denudation due to water flowing into the nalla.

4.5 Top Soil Management:

The topsoil available at the site and its utilization should be described.

As and when the lateritic soil is produced it will be stored in separate space.

Thin capping of soil over MN-ore will be removed and stored in dumps along 7.5m of mining limit zone and will be utilized for spreading. On other dumps after their leveling for tree plantation.

4.6 Tailing Dam Management: The steps to be taken for protection and stability dam, stabilization of tailing material and its utilization, periodic desalting measures to prevent water pollution from tailings etc, for arrangement for surplus water overflow along with details design, structural stability studies, the embankment seepage loss into the receiving environmental and ground water contaminant if any should be described.

There will not be any tailing dam at the mine.

4.7 Infrastructure: The existing infrastructural facilities available such as roads, aerial ropeways, conveyer belts, railways, power lines, buildings & structures, water treatment plant, transport, water supply source in the area etc and their future utilization should be evaluated on case-to-case basis. If retained, the measures to be taken for their physical stability and maintenance should be described. If decommissioning proposed, dismantling and disposal of building structures, transmission line, water line, gas pipeline, water works, transportation infrastructure like roads, rails, tanks, bridges, culverts, etc. electrical equipment and infrastructures like electrical cables, transformers to be described in connection with restoring land for future use.

The area is small and area is yet to granted so therefore, there are no infrastructural facilities of any sort in this area.

4.8 Disposal of Mining Machinery:
The decommissioning of mining machineries and their possible post mining utilization, if any, to be described.

The Mining will be done by open cast method of mining and done manually as far as possible. However , it is proposed to use hired machinery and equipment required if any for proposed mining operation.
Hence the disposal of Mining machinery is not considered.

4.9 Safety & Security:
Explain the safety measures implemented to prevent access to surface openings, excavations etc and arrangements proposed during the mine abandonment pan and up to the site being opened for general public should be described.

Mining operation will be carried out for full year. If there is temporary closure due to heavy monsoons, then the notice under rule-24 of MCDR-1988 will be submitted every year before temporary discontinuance of mining operation during monsoon, and accordingly the working pit will be barricaded to prevent access to the surface working, excavation.

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The area is not used for general public.

4.10 Disaster Management and Risk Assessment:

This should deal with action plan for high risk accidents like landslides, subsidence flood, inundation in underground mines, fire, seismic activities, tailing dam failure, etc. and emergency plan proposed for quick evacuation, ameliorative measures to be taken etc. The capability of Lessee to meet such eventualities and the assistance to be requited from the local authority should also be described.

Generally the maximum depth to which the excavation of bed ore deposit is not presently known. Hence plan for high-risk accidents like landing slides, subsidence, flooding etc. are not considered. However, the lessee is capable to meet any eventually and provide suitable and appropriate assistance as required.

4.11 Care and maintenance during temporary discontinuance: -

For every five yearly review (as given in the mining scheme) an emergency plan for the situation of temporary discontinuance or incomplete programmed due to court order or due to statutory requirement or any other unforeseen circumstances, should include a plan indicating measures of care, maintenance and monitoring of status of unplanned discontinued mining operations expected to re-open in near future. This should detail item wise status monitoring and maintenance with periodicity and objective.

" An emergency plan for situation of temporary discontinuance or incomplete programmed due to court order or due to statutory requirements will be drawn up & executed depending upon the situation. Since the mining is not hazardous, the situation for emergency plan is evinced. The lessee is capable of meeting any situation if necessary.

CHAPTER –5
ECONOMIC REPERCUSSIONS OF CLOSURE OF MINE AND MANPOWER RETRENCHMENTS

5.0 Economic repercussions of closure of mine and manpower retrenchments, manpower retrenchments compensation to be given, socio-economic repercussions and remedial measures consequent to the closure of mines should be described, *specifically stating the following.*

Manpower retrenchment is an issue that will come up at the end of the lease period or at the time of exhaustion of manganese ore deposit in the area.

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5.1 Number of local residents employed in the mine, status of their continuation, family occupation and scope of joining the occupation back.

The number of local residents employed in the mine will be up to about 40. Already thes people are in their own traditional and family occupation such as agriculture, forest produc collection and sundry jobs, provide temporary labours, etc. These people will go back to thei respective profession/employment.

5.2 Compensation given or to be given to employee connecting with sustenance of himself and their family members.

"The retrenchments compensation to the workers, as and when required, will be done as pe the Central Labour Legislations applicable to Metalliferous Mines."

5.3 Satellite occupations connected to the mining Industry–number of persons engaged there in–continuance of such business after mine closes.

This is an old working mine in the region. There are other mines also running in this area. The workers mostly work in seasonal agriculture and hence. Satellite occupations connected to the mining industry are not considered. Hence, after the mine closes, there will not be any adverse impact.

5.4 Continued engagement of employees in the rehabilitated status of mining lease area and any other remnant activities.

There is hardly any chance of mining lesae area getting rehabilitated with any remnan activities. The mining lease area consisting of Government Revenue (waste) Land an Applicant's area.

5.5 Envisaged repercussions on the expectation of the society around due to closure o mine.

The employment potential of the mine is very small, hence it will have no repercussions o the expectation of society around due to closure of the mine.

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CHAPTER –6
TIME SCHEDULING FOR ABABNDONMENT

The details of time schedule of all abandonment operations as proposed in pare 4 should be described here. The manpower and other resources required for completion of proposed job should be described. The schedule of such operations should also be supplemented by PERT (Programme Evaluation and Review Technique), Bar Chart etc.

The details of time schedule of all abandonment operations as proposed in pare 4 should be described here. The manpower and other resources required for completion of proposed job should be described. The schedule of such operations should also be supplemented by PERT (Programme Evaluation and Review Technique), Bar Chart etc.
"Not applicable at this stage, exploration is likely to increase the life of the mine."

CHAPTER –7
ABANDONMENT COST

Cost to be estimated based on the activities required for implementing the protective and rehabilitation measures including their maintenance and monitoring Programme.

"Not applicable at this stage

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पत्र संख्या द्वारा NGP/MN/MPLN-968/NGP dt 28.4.2007 अनुमोदित
VIDE LETTER No. APPROVED

CHAPTER–8
FINANCIAL ASSURANCE

The financial assurance can be submitted in different forms as stated in Rule 23 (F) of Mineral Conservation and Development (amendment) Rules 1988 In the mine closure plan, the manner in which financial assurance has been submitted and its particulars have to be indicated.

Table showing the area "put to use" to reclaim and accordingly Financial Assurance to be paid by M/S JAYASWALS NECO LTD., Nagpur M. S.

No.	Head	Area put to use at the start of the Plan	Additional Requirement during Plan period	Total	Area considered as fully reclaimed & rehabilitate	Net area considered for calculation
A	B.	C Hect	D Hect	E (Hect) E= C+D	F Hect	G (Hect) G=E - F
1	Area broken by the pit	0.420	1.492	1.912		1.912
2	Area under Dumps	0.183	1.594	1.777		1.777
3	Area under Road	0.300	0.305	0.605		0.605
5	Area under Building & storage of ore	Nil	0.020	0.020		0.020
6	Infrastructure	---	---	---	---	---
7	Area under Tailing Pond With zigging tanks	---	0.005	0.005	---	0.005
8	Any other area to be specified	---	---	---	---	---
	TOTAL					4.319 Hectares

The Financial Assurance Amount is 4.319 Ha x Rs.15000 = Rs 64,785.
Or Minimum Amount is Rs 1,00,000/-. (One Lacks only).

Financial Assurance will be given as per the rule at the time of execution of Mining Lease deed.

SS

क्षेत्रीय खान नियंत्रक (ना. क्षे.)
Regional Controller of Mines (N.R.)
भारतीय खान ब्यूरो, नागपुर
Indian Bureau of Mines, Nagpur

CHAPTER –9

अनुमोदित
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CERTIFICATE

The above-mentioned actions have taken to be stated clearly in the Mine Closure Plan. A Certificate duly signed by the Lessee to the effect that said closure plan complies all statuary rules, regulations, orders made by the Central or State Government, Statutory organizations, court, etc. have been taken into consideration and wherever any specific permission is required the Lessee will approach the concerned authorities. The lessee should also give an undertaken to the effect that all the measures proposed in this closure plan will be implemented in a time bound manner as proposed.

Certificate from the Lessee regarding submission of Mine Closure Plan is enclosed as Annexure No. 6

CHAPTER –10
PLANS, SECTIONS, ETC

The chapters 1,2,3 and 4 should be supported with plan & sections. The closure plan may also be submitted depicting photographs, satellite images on compact disc, etc. wherever possible.

Chapter1: Plate No. 1 Enclosed
Chapter2: Plate No. 2 Enclosed
Chapter3: Plate No. 3 Enclosed
Chapter4: Plate No. "PMCP" Enclosed

CHAPTER –11

ENVIRONMENTAL MANAGEMENT PLAN

Area to be excavated : *Presently the area under old Pits : 4196 Sq.m.*
During first five years, due to proposed exploration, the area under Pits is about 14916 Sq.m.
Hence the total area under Pits at the end of Five Years is 4196 + 14916 = 19112 Sq.m.

Storage of Top Soil :: *There is no presence of top soil in the area as and When lateritic soil will be produced it will be stored In different space in 7.5 m mining limit zone.*

Overburden/Dump : Presently the area under Dumps is 1827 Sq.m.
During this Mining Plan period ,the area required for dumping is about 15938 Sq.m. . Hence the area under Dumps after five years is 1827+15938= 17765 Sq.m.

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Mine storage : At the end of 5 years the area under storage is 200 sq.m.

Infrastructure (Workshop, administrative building)
There are no permanent structures

Roads : *At the end of 5 years , area under roads is : 3050 Sq.m.*

R
ailways ::: Nil

Green belt :: Nil

Tailing Pond ::: Nil

Effluent Treatment Plant ::: Nil

Mineral Separation Plant ::: Nil

Township Area :: Nil

Others, to specify ::: Nil

Area under Mining Lease ::::: 61.45 ha

Mining Lease area put to use for Mining & allied activities :::: 4.23 Ha

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CERTIFICATE OF COMPLIANCE

1. This is to certify that the provisions of Mineral Conservation and Development Rules, 1988 have been observed in the Mining Plan of Ramdongir Manganese ore Mine for an area 61.45 Ha. in village : Ramdongri, in Tah : Saoner & Dist. Nagpur, (M.S.), for Manganese ore applied by M/S JAYASWALS NECO LTD. Nagpur, M. S. and wherever specific permissions are required, the applicant will approach the concerned authorities are required, the applicant will approach the concerned authorities of Indian Bureau of Mines for granting the permission.

2. Certified that the provisions of Mines Act, Rules and Regulations made there under have been observed in the Mining Scheme and wherever specific permission are required, the applicant will approach the D. G. M. S.

3. Certified that there is no violation against provision of Rules, Regulations of MMR, 1961 and there is no danger to human life.

4. It is also certified that the information furnished in the above mentioned Mining Scheme is true and correct to the best of my knowledge.

S. V. Gokhale
RQP & GEOLOGIST

Place: Nagpur
Dated: April 16, 2007.

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APPROVED
पत्र संदर्भ NGP/MN/MPLN-968/NGP
VIDE LETTER No. dt 26.4.2007

26/4/07
क्षेत्रीय खान नियंत्रक (ना. क्षे.)
Regional Controller of Mines (N. R.)
भारतीय खान ब्यूरो, नागपुर
Indian Bureau of Mines, Nagpur

अनुमोदित

APPROVED

ANN-I

GOVERNMENT OF MAHARASHTRA

No. MMN-1004/C.R.653/IND-9
Industries, Energy and Labour Department
Mantralaya, Mumbai 400 032.
Date : 24th January 2007

To,

M/s Jayaswals Neco Ltd.

F8,MIDC,Industrial Area,Hingna Road,

Nagpur-440016

Subject : Application for Grant of Mining Lease for Manganese Ore over an area of 61.45 hectares at village Ramdongari,Tahsil-Saoner,Distt-Nagpur, Maharashtra in favour of M/S Jayaswals Neco Ltd.,for a period of 30 (thirty) years.

Sir,

I am directed to refer to the Government letter of even number dated 13.8.2004 and to say that the Government of India as per their letter No.5/46/2004-M.IV dated 1st December.2006 has conveyed the prior approval for grant of mining lease for Manganese Ore over an area of 61.45 hectares at village Ramdongari,Tahsil-Saoner,Distt-Nagpur,, Maharashtra in favour of M/s Jayaswal Neco Ltd,for a period of 30 (thirty) years subject to the outcome of the revision applications pending against the proposal.

A copy of the abovesaid letter is enclosed.

The proposed area for grant of Mining Lease is as detailed below.

Compartment No.	Area (ha.)
101	6.63
102	14.93
105	2.7
106	37.72
Total	61.45

You are requested to submit the permission to use forest land for mining purpose from the Forest Department, the site clearance certificate from

Ministry of Environment and Forest, Government of India as per Central Government, Circular No.-J-20012/ 11/ 98-IA.II(M),dated 28 th October 2004,and a Mining Plan duly approved by Indian Bureau of Mines within six months from the receipt of this letter to process the matter further.A certified copy of map of recommended area is enclosed herewith.

Yours faithfully,

(V. S. Kulkarni),
Under Secretary to Govt.

Encl-letter of Central Govt, dated 1.12.2006

Copy - 1) Ministry of Mines,Government of India, New Delhi. With reference to their Letter No. 5/46/2004-MIV, dated 1.12.2006.

2) Director,Geology and Mining,Nagpur.

3) Select file

ANN-2

गाव नमुना सात

अनुमोदित

अधिकार अभिलेख पत्रक

[महाराष्ट्र जमीन महसूल अधिकार अभिलेख आणि नोंदवहया (तयार करणे व सुस्थितीत ठेवणे) नियम, १९७१ चे नियम ३, ५, ६ आणि ७]

118940

जिल्हा : नागपूर

तालुका : सावनेर

ा : रामडोंगरी

पन क्रमांक	भूमापन क्रमांकाचा उपविभाग	भूधारणा पद्धती	भोगवटादाराचे नाव					खाते क्रमांक
		सरकार		क्षेत्र	आकार	आणे	पै		
५					२.१७.००			२०१

गाचे स्थानिक नाव

सरकार पहाड व खडक

कुळाचे नाव

हे. आर. चौ.मी.	
एकूण	
टखराब (लागवडी अयोग्य)	
वर्ग (अ)	२.१७.००
वर्ग (ब)	
एकूण	२.१७.००

इतर अधिकार

बिन आकारी पड

इतर

नि. प. नों. प्र. सार्वजनिक चराई व इमारती जळाऊ (१३३) लाकुड इ. करीता मुकरर आहे. मध्यप्रदेश राजपत्र नागपूर दि. २२.८.१९५५ चे कलम २९ २९ नुसार क्रमांक ३०५७/८५३/XI विभाग म्हणुन घोषीत करण्यांत आली.

फे.क्र. १३३/६-५-२००३

आकारणी

डी किंवा

शेष आकारणी

सीमा आणि भूमापन चिन्हे

गाव नमुना बारा

पिकांची नोंदवही

[महाराष्ट्र जमीन महसूल अधिकार अभिलेख आणि नोंदवहया (तयार करणे व सुस्थितीत ठेवणे) नियम, १९७१ यातील नियम २९]

		पिकाखलील क्षेत्रांचा तपशील						लागवडीसाठी उपलब्ध नसलेली जमीन		जल सिंचनाचे साधन	
		मिश्र पिका खालील क्षेत्र			निर्भेळ पिकाखालील क्षेत्र						
		मिश्रणाचा संकेत क्रमांक	घटक पिके व प्रत्येका खालील क्षेत्र								
वर्ष	हंगाम	जल सिंचित	अजल सिंचित	पिकाचे नाव	जल सिंचित	अजल सिंचित	पिकाचे नाव	जल सिंचित	अजल सिंचित	स्वरुप	क्षेत्र		शेरा
२००२-०३										खडकप	२.१७.००		
										ड			

सावनेर

ANN-3

APPROVED

Detailed Calculation of reserves in Proved, Probable & Possible Categories,
Of MANGANESE ORE, in Ramdongri area (61.45 Ha.)
Tah.- Saoner Dist. Nagpur of M.S. of
M/s JAYASWALS NECO LTD, Nagpur (M.P.)

BAND – I

(A) Proved Category 10 m. below Soil

Sr. no.	Cross Section	Area Sq. m.	Average Sq.m.	Length m	Volume Cu.m.	B.D. T/ Cu.m.	Tonnage
1)	C1 - C2	3 X 12 = 36		30	1080	3	3240
		$\frac{36 + 36}{2}$ = 36		208	7488	3	22464
2)	C3 - C4	3 X 12 = 36					
		$\frac{36 + 36}{2}$ = 36		212	7632	3	22896
3)	C5 – C6	3 X 12 = 36					
		$\frac{36 + 36}{2}$ = 36		212	7632	3	22896
4)	C7 – C8	3 X 12 = 36					
		$\frac{36 + 36}{2}$ = 36		126	4536	3	13608
5)	C9 – C10	3 X 12 = 36					
		36		66	2376	3	7128
							72232

V Vaidhale

(B) Probabale Category 5m. below level as above

Sr. no.	Cross Section	Area Sq. m.	Average Sq.m.	Length m	Volume Cu.m.	B.D. T/ Cu.m.	Tonnage
1)	C1 - C2	3 X 5 = 15	15	30	450	3	1350
		$\frac{15 + 15}{2} = 15$		208	3120	3	9360
2)	C3 - C4	3 X 5 = 15					
		$\frac{15 + 15}{2} = 15$		212	3180	3	9540
3)	C5 – C6	3 X 5 = 15					
		$\frac{15 + 15}{2} = 15$		212	3180	3	9540
4)	C7 – C8	3 X 5 = 15					
		$\frac{15 + 15}{2} = 15$		126	1890	3	5670
5)	C9 – C10	3 X 5 = 15	15		66	990	3
	2970						
	Total						38430

(C) Possible Category 5m. below level as above

APPROVED

Sr. no.	Cross Section	Area Sq. m.	Average Sq.m.	Length m	Volume Cu.m.	B.D. T/ Cu.m.	Tonnage
1)	C1 - C2	3 X 5 = 15	15	30	450	3	1350
		$\frac{15 + 15}{2} = 15$		208	3120	3	9360
2)	C3 - C4	3 X 5 = 15	$\frac{15 + 15}{2} = 15$	212	3180	3	9540
3)	C5 – C6	3 X 5 = 15	$\frac{15 + 15}{2} = 15$	212	3180	3	9540
4)	C7 – C8	3 X 5 = 15	$\frac{15 + 15}{2} = 15$	126	1890	3	5670
5)	C9 – C10	3 X 5 = 15		66	990	3	2970
	Total						38430

APPROVED

BAND – II

(A) Proved Category 10 m. below Soil

Sr. no.	Cross Section	Area Sq. m.	Average Sq.m.	Length m	Volume Cu.m.	B.D. T/ Cu.m.	Tonnage
1)	C1 - C2	2 X 12 = 24		56	1344	3	4032
			$\frac{24 + 20}{2} = 22$	208	4576	3	13728
2)	C3 - C4	2 X 10 = 20					
			$\frac{20 + 8}{2} = 14$	212	2968	3	8904
3)	C5 – C6	2 X 4 = 8					
			$\frac{8 + 24}{2} = 96$	212	20352	3	61056
4)	C7 – C8	2 X 12 = 24					
			$\frac{24 + 24}{2} = 24$	126	3024	3	9072
5)	C9 – C10	2 X 12 = 24					
			24	44	1056	3	3168
							99960

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APPROVED

(B) Probabale Category 5m. below level as above

Sr. no.	Cross Section	Area Sq. m.	Average Sq.m.	Length m	Volume Cu.m.	B.D. T/ Cu.m.	Tonnage
1)	C1 - C2	2 X 5 = 10		56	560	3	1680
		$\frac{10 + 10}{2}$	= 10	208	2080	3	6240
2)	C3 - C4	2 X 5 = 10					
		$\frac{10 + 10}{2}$	= 10	212	2120	3	6360
3)	C5 – C6	2 X 5 = 10					
		$\frac{10 + 10}{2}$	= 10	212	2120	3	6360
4)	C7 – C8	2 X 5 = 10					
		$\frac{10 + 10}{2}$	= 10	126	1260	3	3780
5)	C9 – C10	2 X 5 = 10		44	440	3	1320
	Total						25740

अनुमोदित
APPROVED

(C) Possible Category 5m. below level as above

Sr. no.	Cross Section	Area Sq. m.	Average Sq.m.	Length m	Volume Cu.m.	B.D. T/ Cu.m.	Tonnage
1)	C1 - C2	2 X 5 = 10		56	560	3	1680
		$\frac{10 + 10}{2}$	= 10	208	2080	3	6240
2)	C3 - C4	2 X 5 = 10					
		$\frac{10 + 10}{2}$	= 10	212	2120	3	6360
3)	C5 – C6	2 X 5 = 10					
		$\frac{10 + 10}{2}$	= 10	212	2120	3	6360
4)	C7 – C8	2 X 5 = 10					
		$\frac{10 + 10}{2}$	= 10	126	1260	3	3780
5)	C9 – C10	2 X 5 = 10		44	440	3	1320
	Total						25740

BAND – III

(A) Proved Category 10 m. below Soil

Sr. no.	Cross Section	Area Sq. m.	Average Sq.m.	Length m	Volume Cu.m.	B.D. T/ Cu.m.	Tonnage
1)	C1 - C2	3 X 12 = 36		84	756	3	2268
			(36 + 30) / 2 = 33	208	6864	3	20592
2)	C3 - C4	3 X 10 = 30					
			(30 + 24) / 2 = 27	212	5724	3	17172
3)	C5 – C6	3 X 8 = 24					
			(24 + 36) / 2 = 30	212	6360	3	19080
4)	C7 – C8	3 X 12 = 36					
			(36 + 24) / 2 = 30	126	3780	3	11340
5)	C9 – C10	3 X 8 = 24					
			24	30	720	3	2160
							72612

APPROVED

(B) Probabale Category 5m. below level as above

Sr. no.	Cross Section	Area Sq. m.	Average Sq.m.	Length m	Volume Cu.m.	B.D. T/ Cu.m.	Tonnage
1)	C1 - C2	3 X 5 = 15		84	1260	3	3780
		$\frac{15 + 15}{2} = 15$		208	3120	3	9360
2)	C3 - C4	3 X 5 = 15					
		$\frac{15 + 15}{2} = 15$		212	3180	3	9540
3)	C5 – C6	3 X 5 = 15					
		$\frac{15 + 15}{2} = 15$		212	3180	3	9540
4)	C7 – C8	3 X 5 = 15					
		$\frac{15 + 15}{2} = 15$		126	1890	3	5670
5)	C9 – C10	3 X 5 = 15		30	450	3	1350
	Total						39240

(C) Possible Category 5m. below level as above

Sr. no.	Cross Section	Area Sq. m.	Average Sq.m.	Length m	Volume Cu.m.	B.D. T/ Cu.m.	Tonnage
1)	C1 - C2	3 X 5 = 15		84	1260	3	3780
		$\frac{15 + 15}{2}$	= 15	208	3120	3	9360
2)	C3 - C4	3 X 5 = 15					
		$\frac{15 + 15}{2}$	= 15	212	3180	3	9540
3)	C5 – C6	3 X 5 = 15					
		$\frac{15 + 15}{2}$	= 15	212	3180	3	9540
4)	C7 – C8	3 X 5 = 15					
		$\frac{15 + 15}{2}$	= 15	126	1890	3	5670
5)	C9 – C10	3 X 5 = 15		30	450	3	1350
	Total						39240

अनुमोदित
APPROVED

SUMMARY

Category	BAND – I T	BAND – II T	BAND - III T	TOTAL T
Proved Category	72232	99960	72612	244804
Probable Category	38430	25740	39240	103410
Possible Category	38430	25740	39240	103410
TOTAL	**149092**	**151440**	**151092**	451624

Note :

1) The average thickness of Ore Body is considered to be BAND – I ..... 3 m
on actual measurement in the old Pits. BAND – II .... 2 m
BAND – III ...3 m

2) The average angel of dip of Ore Body is considered to be 60^{0} & length of mineralization is considered accordingly.
3) The bulk density is considered to be 3 T / Cum.

S. V. Gokhale
RQP

गाव नमुना सात

अनुमोदित
APPROVED

अधिकार अभिलेख पत्रक

118942

[महाराष्ट्र जमीन महसूल अधिकार अभिलेख आणि नोंदवहया (तयार करणे व सुस्थितीत ठेवणे) नियम, १९७१ यातील नियम ३, ५, ६ आणि ७]

गाव : रामडोंगरी तालुका : सावनेर जिल्हा : नागपूर

भूमापन क्रमांक	भूमापन क्रमांकाचा उपविभाग	भूधारणा पद्धती	भोगवटादाराचे नाव					खाते क्रमांक
		सरकार						
१०१								
गेताचे स्थानिक नाव			क्षेत्र	आकार	आणे	पै	पो.ख.	फे.फा.
			सरकार पहाड व खडक		६.६३.००			२०१

हे. आर. चौ.मी.

एकूण

मोटखराब (लागवडी अयोग्य)

वर्ग (अ)	६.६३.००
वर्ग (ब)	
एकूण	६.६३.००

आकारणी

जुडी किंवा

विशेष आकारणी

कुळाचे नाव

इतर अधिकार

बिन आकारी पड

इतर

मध्य प्रदेश राजपत्र नागपूर दि. २२.८.१९५५ चे कलम २९ (१३ २९ नुसार क्रमांक ३०५७/८५३/ विभाग म्हणुन घोषीत करण्यात आली. फे.क्र. १३३/६-५-२००३

सीमा आणि भूमापन चिन्हे

गाव नमुना बारा

पिकांची नोंदवही

[महाराष्ट्र जमीन महसूल अधिकार अभिलेख आणि नोंदवहया (तयार करणे व सुस्थितीत ठेवणे) नियम, १९७१ यातील नियम २९]

वर्ष	हंगाम	पिकाखालील क्षेत्रांचा तपशील						लागवडीसाठी उपलब्ध नसलेली जमीन		जल सिंचनाचे साधन	शेरा
		मिश्र पिका खालील क्षेत्र			निर्भेळ पिकाखालील क्षेत्र						
		मिश्रणाचा संकेत क्रमांक	घटक पिके व प्रत्येका खालील क्षेत्र					स्वरुप	क्षेत्र		
		जल सिंचित	अजल सिंचित	पिकाचे नाव	जल सिंचित	अजल सिंचित	पिकाचे नाव	जल सिंचित	अजल सिंचित				
२००२-०३										खडकप ६.६३.०० ड	

गाव नमुना सात

अधिकार अभिलेख पत्रक

118943

[महाराष्ट्र जमीन महसूल अधिकार अभिलेख आणि नोंदवहया (तयार करणे व सुस्थितीत ठेवणे) नियम , १९७१ यातील नियम ३, ५, ६ आणि ७]

: रामडोंगरी तालुका : सावनेर जिल्हा : नागपूर

गपन क्रमांक	भूमापन क्रमांकाचा उपविभाग	धारणा पद्धती	भोगवटादाराचे नाव
		सरकार	

२							
ाचे स्थानिक नाव		क्षेत्र	आकार	आणे	पै	पो.ख.	फे.फा.	खाते क्रमांक
हे. आर.चौ.मी.		सरकार पहाड व खडक		१४.९३.००				२०१
एकूण								कुळाचे नाव
टखराब (लागवडी अयोग्य)								इतर अधिकार
वर्ग (अ)	१४.९३.००							बिन आकारी पड
वर्ग (ब)								इतर
एकूण	१४.९३.००							नि.प.नों.प्र. सार्वजनिक चराई व इमा जळाऊ (१३३) लाकुड इ. करीता मुकरर आहे. मध्यप्रदेश राजपत्र नागपूर दि. २२.८.१९५५ चे कलम २९ नुसार ३०५७/८५३/XI वन विभाग म्हणुन घोषीत करण्यात आली. फे.क्र. १३३/६.५.२००३
आकारणी								
डी किंवा								
शेष आकारणी								
								सीमा आणि भूमापन चिन्हे

गाव नमुना बारा

पिकांची नोंदवही

[महाराष्ट्र जमीन महसूल अधिकार अभिलेख आणि नोंदवहया (तयार करणे व सुस्थितीत ठेवणे) नियम , १९७१ यातील नियम २९]

		पिकाखालील क्षेत्रांचा तपशील								लागवडीसाठी उपलब्ध नसलेली जमीन		जल सिंचनाचे साधन	
		मिश्र पिका खालील क्षेत्र			निर्भेळ पिकाखालील क्षेत्र								
		मिश्रणाचा संकेत क्रमांक	घटक पिके व प्रत्येका खालील क्षेत्र										
वर्ष	हंगाम	जल सिंचित	अजल सिंचित	पिकाचे नाव	जल सिंचित	अजल सिंचित	पिकाचे नाव	जल सिंचित	अजल सिंचित	स्वरुप	क्षेत्र		शेरा
२००२-०३										खडकप	१४.९३.००		
										ड			

अहवाल दिनांक : २३/०२/२००७

गाव नमुना सात

अधिकार अभिलेख पत्रक

118941

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[महाराष्ट्र जमीन महसूल अधिकार अभिलेख आणि नोंदवहया (तयार करणे व सुस्थितीत ठेवणे) नियम , १९७१ यातील नियम ३, ५, ६ आणि ७]

र : रामडोंगरी तालुका : सावनेर जिल्हा : नागपूर

पन क्रमांक उपविभाग	भूमापन क्रमांकाचा पदधती	भूधारणा	भोगवटादाराचे नाव					
	सरकार							
ाचे स्थानिक नाव			क्षेत्र	आकार	आणे	पै	पो.ख.	फे.फा.
			सरकार पहाड व खडक				३७.७२.००	

हे. आर.चौ.मी.

कूण	
खराब (लागवडी अयोग्य)	
र्ग (अ)	३७.७२.००
र्ग (ब)	
कूण	३७.७२.००

पाकारणी

ी किंवा

ोष आकारणी

२०१

कुळाचे नाव

इतर अधिकार

बिन आकारी पड

इतर

म.प्र. शासन दि. २२.८.१९५५ चे कल २९ नुसार क्रमांक ल३०५७-८५३दि. (१३३)

३०५७/८५३/XI वन विभाग म्हणुन घोषीत करण्यात आली. फे.क्र. १३३/६.५.२००३

सीमा आणि भूमापन चिन्हे

गाव नमुना बारा

पिकांची नोंदवही

[महाराष्ट्र जमीन महसूल अधिकार अभिलेख आणि नोंदवहया (तयार करणे व सुस्थितीत ठेवणे) नियम , १९७१ यातील नियम २९]

		पिकाखलील क्षेत्रांचा तपशील								लागवडीसाठी उपलब्ध नसलेली जमीन		जल सिंचनाचे साधन	
		मिश्र पिका खालील क्षेत्र					निर्भेळ पिकाखालील क्षेत्र						
		मिश्रणाचा संकेत क्रमांक		घटक पिके व प्रत्येका खालील क्षेत्र									
र्ष	हंगाम	जल सिंचित	अजल सिंचित	पिकाचे नाव	जल सिंचित	अजल सिंचित	पिकाचे नाव	जल सिंचित	अजल सिंचित	स्वरुप	क्षेत्र		शेरा
००२-०३										खडकप	३७.७२.००		
										ड			

ANN-4

NAGPUR LABS

अनुमोदित APPROVED

SAMPLING & ANALYTICAL CONSULTING CHEMISTS
46, Bhombe's House, 2nd Floor, Opp. Nehru Yuva Kendra,
Abhyankar Nagar, NAGPUR - 440 010. Phone : 2235820

TEST CERTIFICATE

Report No. 7065.

28.1.2007

We hereby certify that representative samples of MANGANESE ORE (Test Samples Nos. 8).

Drawn by Shri S. V. Gokhale from a

Stack No. NIL of about NIL MT drawn on /from Ramdongri Area Dist: - Nagpur (M.S.).

with Ref. AS BELOW Lying at NIL.

In presence of the representatives of NIL.

BUYERS ---------.

SELLERS ---------.

has been analysed with the following results.

THE SAMPLE IS DRIED AT 105° C.

ANALYSIS RESULTS

ANALYSIS RESULTS NO.	Mn %	Fe %	SiO2 %	Al2O3 %	P %
1.	46.49	6.03	8.45	2.13	0.16
2.	44.93	7.09	8.50	2.26	0.18
3.	43.15	6.05	9.90	2.14	0.12
4.	41.33	6.10	10.20	2.25	0.15
5.	42.70	6.22	10.22	2.32	0.14
6.	39.12	7.25	11.15	2.27	0.17
7.	31.54	8.01	15.65	2.59	0.25
8. Composite Reject	26.23	11.50	24.75	5.70	0.39

1) Samples will not be returned.
2) Sample will be preserved for one month after the date of analysis.

LAB IN-CHARGE

ANN-5

DETALIED CALCULATIONS OF FIVE YEAR DEVELOPMENT AND PRODUCTION OF MANGANESE ORE FROM RAMDONGRI AREA (61.45 Ha) TAH: SAONER DIST : NAGPUR MAHARASHTRA OF M/s JAYASWALS NECO LTD., NAGPUR

SUMMARY OF WORKINGS

FOR PIT NO. 1.1 ON BAND – I, PIT ON. 2.1 ON BAND – II & PIT NO. 3.1 ON BAND – III APPROVED

YEAR	ROM Cu.mt	ROM MT	GRADED 85 % MT	MINERALISED 15% MT	BAND – I		BAND – II		BAND – III		TOTAL Cu.mt
					Soil Cu.mt	Dev	Soil Cu.mt	Dev	Soil Cu.mt	Dev	
1	392	1176	1000	176	1760	1430	1870	1320	1782	1320	9482
2	784	2353	2000	353	3276	2520	3360	2520	3402	2520	17598
3	784	2353	2000	353	3276	2520	3360	2520	3402	2520	17598
4	980	2942	2500	441	4400	3300	4400	3300	4455	3300	23155
5	1176	3529	3000	529	5200	3900	5200	3300	5265	3900	26765
TOTAL	**4116**	**12353**	**10500**	**1852**	**17912**	**13670**	**18190**	**12960**	**18306**	**13560**	**94598**

Conceptual for 25 years.

25	20580	61740	52479	9261

Ev Lukhade

Working for First 5 years for

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BAND - I

PIT – 1.1

1ST :- Required ROM = 392 Cu.mt.

Ore = Sectional area = 18 Sq. mt.
22 mL x 18 Sq. mt. = 396 Cu.mt.

Soil = Sectional area = 80 Sq. mt.
22 m L X 80 Sq. mt = 1760 Cu.mt.

Dev = Sectional area = 65 Sq. mt.
22 m L X 65 Sq. mt = 1430 Cu.mt.

2ND :- Required ROM = 784 Cu.mt.

Ore = Sectional area = 18 Sq. mt.
42 mL x 18 Sq. mt. = 756 Cu.mt.

Soil = Sectional area = 78 Sq. mt.
42 m L X 78 Sq. mt = 3276 Cu.mt.

Dev = Sectional area = 60 Sq. mt.
42 m L X 60 Sq. mt = 2520 Cu.mt.

3RD :- Required ROM = 784 Cu.mt.

Ore = Sectional area = 18 Sq. mt.
42 mL x 18 Sq. mt. = 756 Cu.mt.

Soil = Sectional area = 78 Sq. mt.
42 m L X 78 Sq. mt = 3276 Cu.mt.

Dev = Sectional area = 60 Sq. mt.
42 m L X 60 Sq. mt = 2520 Cu.mt.

4TH :- Required ROM = 980 Cu.mt.

Ore = Sectional area = 18 Sq. mt.
55 mL x 18 Sq. mt. = 990 Cu.mt.

Soil = Sectional area = 80 Sq. mt.
55 m L X 80 Sq. mt = 4400 Cu.mt.

Dev = Sectional area = 60 Sq. mt.
55 m L X 60 Sq. mt = 3300 Cu.mt.

Continue....

5TH :- Required ROM = 1176 Cu.mt.

Ore = Sectional area = 18 Sq. mt.
65 mL x 18 Sq. mt. = 1170 Cu.mt.

Soil = Sectional area = 80 Sq. mt.
65 m L X 80 Sq. mt = 5200 Cu.mt.

Dev = Sectional area = 60 Sq. mt.
65 m L X 60 Sq. mt = 3900 Cu.mt.

BAND - II

PIT – 2.1

1ST :- Required ROM = 392 Cu.mt.

Ore = Sectional area = 18 Sq. mt.
22 mL x 18 Sq. mt. = 396 Cu.mt.

Soil = Sectional area = 85 Sq. mt.
22 m L X 85 Sq. mt = 1870 Cu.mt.

Dev = Sectional area = 60 Sq. mt.
22 m L X 60 Sq. mt = 1320 Cu.mt.

2ND :- Required ROM = 784 Cu.mt.

Ore = Sectional area = 18 Sq. mt.
42 mL x 18 Sq. mt. = 756 Cu.mt.

Soil = Sectional area = 80 Sq. mt.
42 m L X 80 Sq. mt = 3360 Cu.mt.

Dev = Sectional area = 60 Sq. mt.
42 m L X 60 Sq. mt = 2520 Cu.mt.

3RD :- Required ROM = 784 Cu.mt.

Ore = Sectional area = 18 Sq. mt.
42 mL x 18 Sq. mt. = 756 Cu.mt.

Soil = Sectional area = 80 Sq. mt.
42 m L X 80 Sq. mt = 3360 Cu.mt.

Dev = Sectional area = 60 Sq. mt.
42 m L X 60 Sq. mt = 2520 Cu.mt

Continue....

4TH :- Required ROM = 980 Cu.mt.

Ore = Sectional area = 18 Sq. mt.
55 mL x 18 Sq. mt. = 990 Cu.mt.

Soil = Sectional area = 80 Sq. mt.
55 m L X 80 Sq. mt = 4400 Cu.mt.

Dev = Sectional area = 60 Sq. mt.
55 m L X 60 Sq. mt = 3300 Cu.mt

5TH :- Required ROM = 1176 Cu.mt.

Ore = Sectional area = 18 Sq. mt.
65 mL x 18 Sq. mt. = 1170 Cu.mt.

Soil = Sectional area = 80 Sq. mt.
65 m L X 80 Sq. mt = 5200 Cu.mt.

Dev = Sectional area = 60 Sq. mt.
65 m L X 60 Sq. mt = 3300 Cu.mt.

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BAND - III

PIT – 3.1

1ST :- Required ROM = 392 Cu.mt.

Ore = Sectional area = 18 Sq. mt.
22 mL x 18 Sq. mt. = 396 Cu.mt.

Soil = Sectional area = 81 Sq. mt.
22 m L X 81 Sq. mt = 1782 Cu.mt.

Dev = Sectional area = 60 Sq. mt.
22 m L X 60 Sq. mt = 1320 Cu.mt.

2ND :- Required ROM = 784 Cu.mt.

Ore = Sectional area = 18 Sq. mt.
42 mL x 18 Sq. mt. = 756 Cu.mt.

Soil = Sectional area = 81 Sq. mt.
42 m L X 81 Sq. mt = 3402 Cu.mt.

Dev = Sectional area = 60 Sq. mt.
42 m L X 60 Sq. mt = 2520 Cu.mt.

Continue....

3RD :- Required ROM = 784 Cu.mt.

Ore = Sectional area = 18 Sq. mt.
42 mL x 18 Sq. mt. = 756 Cu.mt.

Soil = Sectional area = 81 Sq. mt.
42 m L X 81 Sq. mt = 3402 Cu.mt.

Dev = Sectional area = 60 Sq. mt.
42 m L X 60 Sq. mt = 2520 Cu.mt.

4TH :- Required ROM = 980 Cu.mt.

Ore = Sectional area = 18 Sq. mt.
55 mL x 18 Sq. mt. = 990 Cu.mt.

Soil = Sectional area = 81 Sq. mt.
55 m L X 81 Sq. mt = 4455 Cu.mt.

Dev = Sectional area = 60 Sq. mt.
55 m L X 60 Sq. mt = 3300 Cu.mt.

5TH :- Required ROM = 1176 Cu.mt.

Ore = Sectional area = 18 Sq. mt.
65 mL x 18 Sq. mt. = 1170 Cu.mt.

Soil = Sectional area = 81 Sq. mt.
65 m L X 81 Sq. mt = 5265 Cu.mt.

Dev = Sectional area = 60 Sq. mt.
65 m L X 60 Sq. mt = 3900 Cu.mt.

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S. V. GOKHALE
Geologist & RQP

(Ramdongri)

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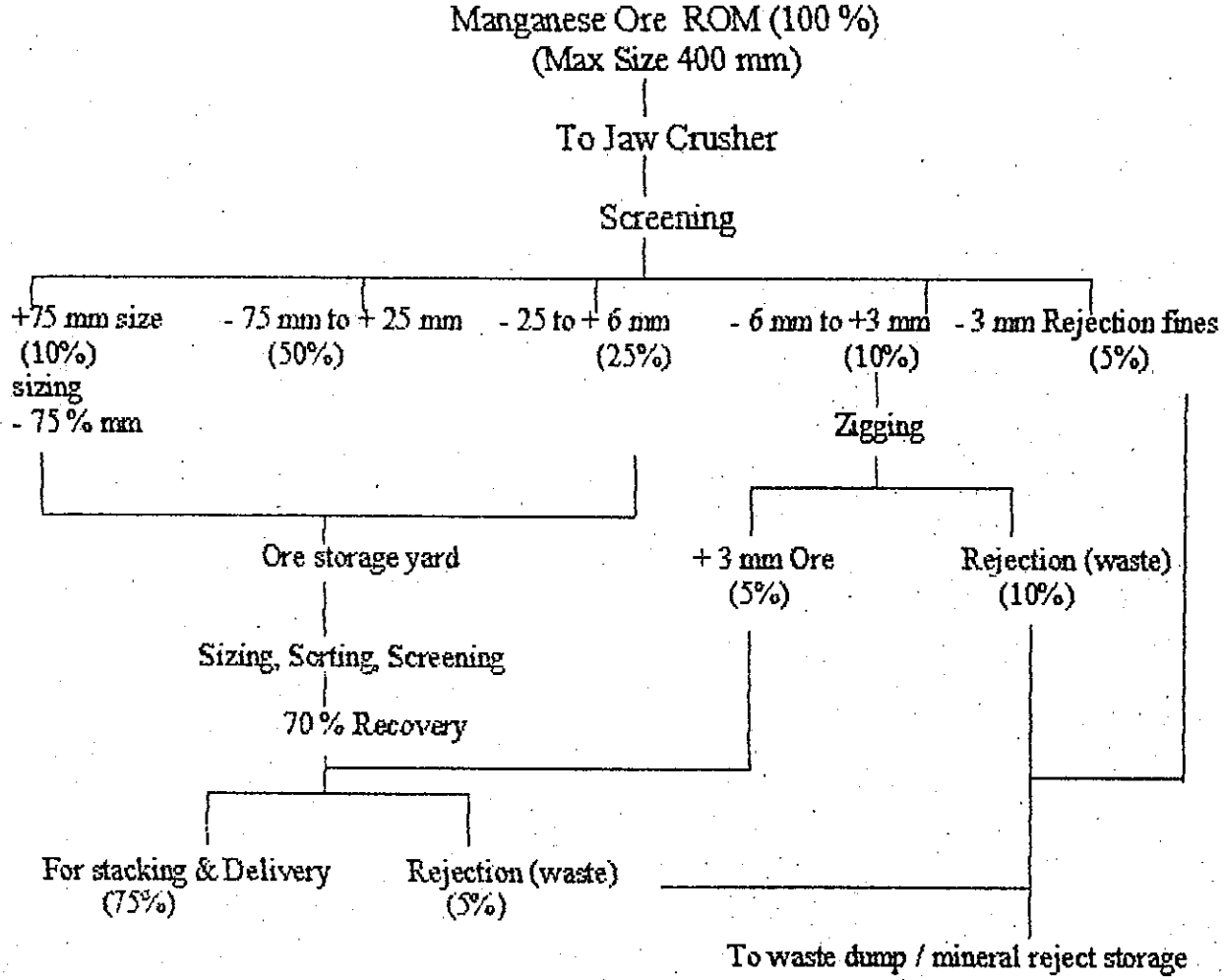
FLOW SHEET

ANNEXURES -6

(For Ramdongri Manganese ore Area of M/s Jayaswals Neco Ltd., Nagpur (M.S.))



Total recovery of saleable ore	85 %
Total rejects (Waste)	15 %

Note :- All operations other than initial use of mechanical crusher are manual.

S. V. GOKHALE
(R.Q.P.)

ANN-7

JAYASWALS NECO LIMITED

REGD. OFFICE : F-8, MIDC INDUSTRIAL AREA, HINGNA ROAD, NAGPUR - 440 016 (INDIA)
PHONES : (91) 7104-237276/236251/237471/237461 FAX : (91) 07104-237583/236255
E-mail : contact@necoindia.com WEB SITE : www.necoindia.com GRAM : STEELJAGAT

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February 17, 2007

CERTIFICATE

TO WHOM IT MAY CONCERN

This is to certify that the "PROGRESSIVE MINE CLOSURE PLAN "of Ramdongari over 61.45 Ha area for Manganese Ore in Tehsil Saoner District Nagpur, Maharashtra complies with all provisions of Government, Statutory Organization, Court etc. Wherever any specific permission is required we will approach the concerned authorities.

We also give an undertaking to the effect that all the measures proposed in this Closure Plan will be implemented in a time bound manner as proposed.

Thanking you,

Yours faithfully
For M/s Jayaswals Neco Limited

Nitin Wath
Power of Attorney Holder

BRANCH OFFICES :
NECO HOUSE" D - 307, Defence Colony, NEW DELHI-110 024 PHONES : 011 - 24641579 TELE FAX : 011 24642190
301, TULSIANI CHAMBERS NARIMAN POINT, MUMBAI 400 021 (INDIA) PHONES : (022) 2282-0987, (022) 2282-3273 FAX : (022) 22832367 PH. : 22832381
TRUST HOUSE, 5th FLOOR, 32-A, CHITTARANJAN, AVENUE, KOLKATTA-700 012 INDIA PH : 033-22122368 22120502 FAX : 033-22122560
178-A, LIGHT INDUSTRIAL AREA, BHILAI - 490 026 M.P. INDIA PHONES : 0788-2381858, 2381859/60/61/62 F A X : 0 7 8 8 - 2 2 8 6 6 7 9

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APPROVED

S.V.Gokhale
M.Sc. (Geology)

Recognition Under Rule 22(C)MCR, 1960
Certificate No. RQP/NGP/002/87/A

Residence:
'Annapurna'
2-D, Hindustan Colony,
Amravati Road,
Nagpur - 440 033
Tel: 0712 - 2523 209
Mo: 98900 23209

ANNEXURE NO : 8

CERTIFICATE OF RQP

This is to certify that the provisions of Mineral conservation and Development Rules. 1988 have been observed in the Mining Plan of RAMDONGIR MANGANESE ORE AREA for an area of 61.45 Ha. in village : Ramdongir , in Tah Saoner & Dist. Nagpur, (M.S.), for Manganese ore applied by M/S JAYASWALS NECO LTD, Nagpur, M. S. and whenever specific permissions are required, the applicant will approach authorities of Indian Bureau of Mines for granting the permission.

Place : Nagpur

Date : 17/04/ 2007

S V Gokhale

(S.V. GOKHALE)

RQP NO.: RQP/NGP/002/87/A

Synergex International Private Limited
Regd. Office : E-1, E-2, (3rd Floor),
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