PRE-FEASIBILITY REPORT
(As per Ministry of Environment and Forests Letter dated: 30-12-2010)

1. Executive Summary	• Rajasthan State Mines & Minerals Limited (RSMML) proposes to develop a lignite mine for a capacity of 1.0 MTPA near village Shivkar, Tehsil: Barmer, District: Barmer, State: Rajasthan. • This lignite block was allocated by Ministry of Coal ,Govt. of India, New Delhi vide letter no. 13016/39/2006-CA-I dt 13-11-2006 exclusively for power generation. • As per provisions of EIA notification 14 Sept, 2006 and subsequent amendments, a fresh project needs environment clearance . Accordingly project proponent is filing Form I & Pre-feasibility Report for determination of ToR for Environmental studies. • Lease area is falls on Survey of India, toposheet No. 40 O/5 and 40 O/6., (Ref. Plate 2- Key Plan) & Mining area is located between latitudes 25°43'52.5"N to 25°45"07.6"N and longitudes 71° 26'14.9"E to 71°28'55.6"E (Ref. Plate 2- Key Plan) • The proposed mining area is located about 08 km east of Barmer town on Barmer – Sindhari Road of Mining Block (refer plate no. 1 - Location map). • The mining area spreads in an area of 1855.45 ha., which is a non-forest land mainly consisting of Private land(agriculture), Govt. & Waste Land. Revised application for mining lease for an area of 1855.45 ha. has been submitted to State Government on 10.03.2014. • The Mining plan has been prepared with a mine life of 58 years for a peak rated capacity of 1.0 MTPA. The mining plan & Mine Closure Plan has been re-submitted to Ministry of Coal on 03.11.2014 along with compliance to observations of the standing

	Committee, issued vide MOC letter no. 34011/18/2011- CPAM, DATED 19.5.2011 REGARDING PRESENTATION OF MINING PLAN (JULY, 2010). The submitted mining plan & Mine Closure Plan is under consideration with Ministry of Coal, New Delhi for its approval. • In course of mining 1114.04 Mm3 of overburden (including 2.45 Mm3 of top soil) would be generated. Out of this 127.67Mm3 would be stacked in external dump and balance 986.37Mm3 is to be used to backfill the decoaled quarry. • At the end of mining operation land degraded on account of quarrying & overburden dumping , will be reclamed. This includes 264.25 ha. external dump & 1004.44 ha of internal dump. Plantation would be raised over reclamed area(i..e 264.25 ha+843.67 ha.). • Total water requirement for mine site has been assessed as 280.0 m3 /day. This includes 20 m3/day for potable purposes & 260 m^3 /day. for industrial purposes. Supply of water from PHED shall be taken for potable purposes .Effluent treatment plant will be constructed to treat industrial waste water. No sewage treatment plant to treat municipal waste has been proposed as no township is proposed. • Run of mine would be directly loaded into dumpers and will be transported to a distance of 46 Km. at Thermal Power Station at Giral . • R& R benefits shall be given to PAFs as per directions of State Govt. or norms of State Government.

2. Introduction of the project Background information	
i.Identification of project and project proponent. In case of mining project, a copy of mining lease/letter of intent should be given.	• This lignite block was allocated by Ministry of Coal ,Govt. of India, New Delhi vide letter no. 13016/39/2006-CA-I dt 13-11-2006 exclusively for power generation-.**Annexure –I.** • Name of the project: Shivkar Lignite Deposit Village: Shivkar, Tehsil: Barmer, District: Barmer Rajasthan. • **Project Proponent**: Rajasthan State Mines & Mineral Limited (A Government of Rajasthan Enterprise). Rajasthan State Mines & Minerals Limited (RSMML) is one of the premier public sector enterprises of the Government of Rajasthan, primarily engaged in mining and marketing of industrial minerals in the State. **Address:** **Registered office :** Rajasthan State Mines & Minerals Limited C-89-90, Janpath, Lal Kothi Scheme, Jaipur-302015 Rajasthan. Email: rsmmrojaipur@yahoo.com **SBU & PC –Lignite Office :** Rajasthan State Mines & Minerals Limited KHANIJ BHAWAN, TILAK MARG 'C' SCHEME, JAIPUR- 302005 RSMML presently operates three Lignite Mines, namely: 1. **Giral Lignite Mine ,** Distt. Barmer , 1.0 MTPA , linked to Thermal power Plant of M/s RVUNL- Unit-1, capacity 125 MW at village Giral 2. **Sonari Lignite Mine**, Distt. Barmer , 1.0 MTPA, linked to Thermal power Plant of M/s RVUNL- Unit –2 capacity 125 MW at village Giral. 3. **Kasnau Matasukh Lignite Mine**, Distt. Nagaur, 1.0 MTPA, for mercantile sale to textile, brick kilns, paper and cement plants. • Revised application dt. 10.03.2014 for mining lease for an area of 1855.45 ha. has been submitted to State Government-

	Annexure II.
ii.Brief description of nature of the project.	• Lignite is the only solid fossil fuel available in the State and it will be prudent to utilize this potential to the best advantage. After analyzing various factors like lignite availability, transport facilities, cost and quality parameters revealed that lignite based power generation offers the most economical option for meeting the power demand in Rajasthan. Lignite is brownish-black in color and has a carbon content of around 25-35%, a high inherent moisture content sometimes as high as 66%, and an ash content ranging from 6% to 19% compared with 6% to 12% for bituminous coal. Lignite, often referred to as brown coal, is a soft brown fuel with characteristics that put it somewhere. Lignite has a high content of volatile matter which makes it easier to convert into gas and liquid petroleum products than higher ranking coals. Lignite can be separated into two types. The first is lignite or fossil wood and the second form is the compact lignite or perfect lignite. The lignite is single seam deposit and split into two or three sub seams. • **Exploration** : Shivkar Lignite block is a combination of blocks; namely Kurla block in North and Mahabar-Shivkar block in South, explored by MECL and GSI respectively as under: Details of drilling carried out by above agencies are as under :

Block	**Period of Expln.**	**Agency**
Kurla	1999-2001	MECL
Mahabar-Shivkar	2000-2003	GSI

Block	Period of Expln.	BH's	Meterage (m)	Exploration agencies
Kurla	1999-2001	24	5855.00	MECL
Mahabar-Shivkar	2000-2003	19	3890.35	By GSI
Total		43	9745.25	

- Exploration report of above blocks were obtained on 12.05.2007& 19.03.2007 from GSI & NLC respectively.
- No. of boreholes drilled within the explored block are 43 with overall borehole density of 1.51/Sq.km., while 13 Nos. of BH are falling outside the lease area.
- Area covered by detailed exploration within the block was only 1.91 Sq.km.. Therefore, in order to cover entire area and to increase density of borehole , it has been proposed to drill 87 Nos. of additional bore holes (10 no. in Phase-I in the 1st to 25 years and 77 no. in Phase-II) for in filling the gap between 800 m already drilled by MECL, with total 17400 m of proposed drilling covering 12.38 sq km area.

- Details of overburden, interburden, cumulative thickness of O.B. (overburden + interburden) and thickness of lignite seam are as under :

Thickness of Overburden

	Thickness (in metre)	Borehole No.
Minimum	47.40	RSB-6A
Maximum	327.40	MSB-28
Average	**65.25**	

Thickness of inter burden

	Thickness (in metre)	**Borehole No.**
Minimum	0.00	MSB-23

Maximum	235.00	MSB-6
Average	**65.25**	

Cumulative Thickness of Total OB (overburden + inter- burden)

	Thickness (in metre)	**Borehole No.**
Minimum	74.60	MSB-23
Maximum	339.60	MSB-10
Average	**165.47**	

Thickness of Lignite Seam

	Thickness (in metre)	**Borehole No.**
Minimum	0.10	MSB-23
Maximum	22.00	MSB-26
Average	**10.14**	

Quality:

- The quality of lignite based on analysis of core samples obtained during the exploratory drilling, the average quality of Lignite available in this deposit are given below:

Moisture %	-	35 to 45%
Ash %	-	2 to 15%
V.M.%	-	25 to 30%
Fixed Carbon %	-	22.50 to 30%
Sulphur %	-	0.14 to 0.84%
C.V. Kcal/Kg.	-	3000 to 4000

- **Geological reserves & Life of Project :**

Geological reserves of Shivkar lignite deposit within the lease area is 137.26 million tonnes, out of which 59.74 million tonne are mineable while recoverable Reserves are 56.76 million tonne The average cut of stripping ratio is 1:19.63 (lignite: overburden). The minimum mineable depth is 112.0 m whereas maximum

	mineable depth considered from the surface is 196 m. Geological Plan of area is enclosed as Plate -4. • The mine is designed for production 1.0 million tonnes of lignite per annum as per the end uses of the lignite mineral. The mineable lignite production, will be utilized in power generation. Accordingly life of mine has been worked out:- 1. Overburden excavation over the life: 1114.04 million M^3 2. Total extractable lignite reserves: 56.76 million tonnes 3. Initial production for the first five years: 4.54 million tonnes 4. Balance reserves after initial 5 years: 52.22 million tonnes 5. Rated mine capacity : 1.0 MT per annum. 6. Total life of the mine : 58 years. 7. The estimated capital cost of the project is Rs. 632.32 crore only.
iii.Need for the project and its importance to the country and or region	• The Rajasthan state is deficient in power generation. A large gap exists between state level generation of power & its demand. The state has hardly any known hydro-power potential that can be tapped. Capacity addition from nuclear sources is bound to be slow due to high cost and long gestation period. Under the situation, conventional thermal power plants provide perhaps the best option for bridging the gap. Coal based Thermal Power Plants are less acceptable due to non-availability of coal reserves in Rajasthan state and coal transport over long distance to Rajasthan being difficult and costly, whereas exploitation of available lignite deposits in Rajasthan is expected to be more suitable. • The basic objective of the project is to effective utilization of Mineral (Lignite) in the country and /or region. The lignite produced from the project will be used in power plants already being operated by RVUNL as unit 1 & 2. In this context, the

	development of lignite based power plant and industries is best option for this lignite. • Due to very low sulphur content(less than 1%), the lignite produced from this mine will be utilized by the existing power plants units I & II of capacity 125 MW each established by RVUNL at Giral and the lignite being produced from Giral & Soneri Lignite Mine which contains higher sulphur range from 4.0- to 6.0% shall be utilized for Thermal Power Units 3 & 4 of capacity 125 MW each to be installed by RVPNL. At present lignite produced from Giral Lignite Mine & Sonari Lignite Mine is being supplied to 1 & 2 of capacity 125 MW each being operated by RVUNL at Giral. • The lignite produced from this mine & its linkage with Thermal Power plant of M/s RVUNL offers good sources of employment & source of income generation for local people. This project contribute socio-economic development of the region & nation. The project will also contribute to economy by way of royality, sales tax and additional levy.
iv.Demand-Supply Gap	• Power is the most used energy form in India. Indeed, it is the fulcrum on which rests the future pace of growth and development. As the tempo of development increases, the demand for electricity also increases. An accelerated power programme is the main target of energy policy in India. As per the Central Electricity Authority (CEA), the installed capacity of power in India has increased from 2300 MW in 1950 to 150,323 MW as on 30th June 2009. The actual and estimated projections of peak power and energy requirement of India until 2012 as per Ministry of Power, Government of India has estimated that by the year

	2012, India's peak demand would be 157,107 MW with energy requirement of 975 BU. Keeping in view the huge power generation capacity requirement to be added during the 12th Plan period, an urgent need is felt for a large scale thermal power development programme in an environment friendly manner. Taking all these into consideration, establishment of lignite fired power plant will meet a part of the projected power demand. Rajasthan, being a power deficit State , can contribute to a large extent to nation in achieving self sufficiency in power by developing new lignite mine and its linkage to Thermal Power Plant. This will reduce the gap between demand & supply of lignite to a greater extent. • Lignite is the only solid fossil fuel available in the State and it will be prudent to utilize this potential to the best advantage .
v.Imports vs. Indigenous production	• In order to avoid import of coal for thermal power station, the proponent proposes to open a new mine to bridge the gap between demand & supply.
vi. Export Possibility	• No export of Lignite is envisaged from this mine. The lignite produced from this mine will be consumed by linked Thermal Power Plants (Unit 1 & 2 already installed by RVUNL). So there is no possibility of export of lignite produced from the mine.
vii. Domestic/export Markets	• There will not be any export from the mine as the entire lignite will be used for generation of power.
viii. Employment Generation (Direct and Indirect) due to the project	• The proposed project will generate direct employment to 472 personnel. About 23 Executives, 36 Supervisory staff & 413 operators shall be employed in mining operations. Apart from this about 1200 people will get indirect employment.

3. Project Description	
i.Type of project including interlinked and interdependent projects, if any.	• The proposed Shivkar Mine will extract lignite at the rated capacity of 1.0 MTPA. The total project area is 1855.45 ha. The mineable/ extractable reserve are 56.76 Mt. Lignite in Shivkar deposit will sustain a project life of 58 years. The lignite produced from this mine will be consumed by linked Thermal Power Plants (Unit 1 & 2 already installed by RVUNL) and lignite being produced from existing Giral & Sonari Lignite Mine will be supplied to Unit 3 & 4 to be installed by RVPNL. Presently , Giral & Sonari Lignite Mine are supplying lignite to Unit 1 & 2.
ii. Location (map showing general location, specific location, and project boundary & project site layout) with coordinates.	• Name of the project: Shivkar Lignite Deposit • Vill: Shivkar • Tehsil : Barmer • District: Barmer • State: Rajasthan • Location map and Key plan showing lignite block area is enclosed as **Plate -1 & Plate -2.** • Lease area of the mine is falls on Survey of India, toposheet No. 40 O/5 and 40 O/6., (Ref. Plate 2- Key Plan). • Mining lease area is located between latitudes 25°43'52.5" to 25°45"07.6" & longitudes 71° 26'14.9" to 71°28'55.6".

	The composite plan showing the location of Shivkar block & its adjoining blocks are shown as **annexure -III**.
iii. Details of alternate sites considered and the basis of selecting the proposed site, particularly the environmental considerations gone into should be highlighted.	• This is site specific project. Mining activities will be carried out based on local geology and availability of the mineral. • Mining is proposed by mechanized open cast mining method using conventional mining equipments such as hydraulic excavators / shovel in combination with matching capacity dumpers along with ancillary equipments such as dozers, road grader etc • **Blasting is not required, as the OB strata is soft in nature.**
iv. Size or magnitude of operation.	• The total production in the first five years shall be 4.54 million tonnes. The targeted production is 1.0 Million tonne per annum. The lignite extracted for the five years has been 4.54 million tonnes and overburden removed including top soil has been 139.77 million M3. The production will reach to its target of 1.00 million tonnes from second year. Stripping ratio including overburden quantity of initial mine cut for first five year is 1:30.79. • The balance lignite reserves after first five of working is 52.22 million tonnes. Overburden remained after first five to be handled till end of mine life is 974.27 million m3. Stripping ratio for balance life of mine is 1:18.13. However, overall stripping ratio of lignite to overburden is 1:19.63. The excepted life of mine is about 58 years.
v.Project description with process details (a schematic diagram, flow chart showing	• Shivkar lignite Deposit mine project spreads in an area of 1855.45 Ha. The proposed mining area is almost flat terrain with gentle slope towards south-east part.

the project layout, components of the project etc. should be given)	• The average elevation of the area varies from 146.0 m to 191 m above MSL. • **Sequence of mining :** It is proposed to first open up the mine by constructing an Initial Mining Cut (IMC) near North –Western boundary near borehole No. MSB-20 . The lignite seam will be touched at a depth of 52.60 from the surface (MSB-25). **Method of mining:** • Mining is proposed by mechanized open cast mining method using conventional mining equipments such as hydraulic excavators / shovel in combination with matching capacity dumpers along with ancillary equipments such as dozers, road grader etc. Since the over burden strata is soft in nature, hence it does not require any blasting and can be easily excavated by hydraulic excavators. The open cast working shall be carried out by forming suitable size benches of 3 m in height and progressive width around 9 m during the working of the pit. However, the progressive bench width of 50 m has been kept at 111 mRL, 66 m RL, 24 mRL and 21 m RL.. But the ultimate dimension of the benches shall be kept as 3 m in height, 6 m width, with 70^0 bench face slope & over all pit slope angle of 22^0 56' say 23^0). • The proposed production of lignite and generation of overburden for the first five years and 6^{th} to 58^{th} year are as under:

Year	Production (in million tonnes)	OB (in million M^3)	Stripping Ratio (OB:lignite)
1^{st}	0.54	41.87	77.54
2^{nd}	1.00	28.69	28.69
3^{rd}	1.00	22.80	22.80
4^{th}	1.00	22.99	22.99
5^{th}	1.00	23.42	23.42

Sub Total	**4.54**	**139.77**	**30.79**
6^{th} - 10^{th}	5.00	132.31	26.46
11^{th} - 15^{th}	5.00	64.30	12.86
16^{th} - 20^{th}	5.00	152.33	30.47
21^{st} - 25^{th}	5.00	78.49	15.70
26^{th} - 30^{th}	5.00	67.08	13.42
31^{st} - 35^{th}	5.00	73.88	14.78
36^{th} - 40^{th}	5.00	73.17	14.63
41^{st} - 45^{th}	5.00	113.21	22.64
46^{th} - 50^{th}	5.00	108.88	21.78
51^{st} - 58^{th}	7.22	110.61	15.32
Total	**56.76**	**1114.04**	**19.63**

- The mine is proposed to be worked by mechanized open cast mining method by using conventional mining machinery (HEMM) using a combination of hydraulic shovels (excavator) and dumper combination in association with ancillary equipments like dozer, motor grader, water sprinkler, fuel browser etc.
- The lignite extracted for the five years has been 4.54 million tonnes and overburden removed including top soil has been 139.77 million M3. The production will reach to its target of 1.00 million tonnes from second year. Stripping ratio including overburden quantity of initial mine cut for first five year is 1:30.79.
- The balance lignite reserves after first five of working is 52.22 million tonnes. Overburden remained after first five to be handled till end of mine life is 974.27 million m3. Stripping ratio for balance life of mine is 1:18.13. However, overall stripping ratio of lignite to overburden is 1:19.63. The excepted life of mine is about 58 years. Roads passing through the lease shall be diverted

	in phase manner as per the requirement during mining operation. Position of pit at the end of 5th, 25th year & end of life of mine are enclosed at plate 5, 6 & 7 respectively.
vi. Raw material required along with estimated quantity, likely source, marketing area of final products, Mode of transport of raw Material and Finished Product.	• An quantity of 0.8 million tone will be supplied to power plants and rest 0.2 million(after obtaining permission from competent authority) can be sold to consuming industries. **Marketing area of final product:** • The lignite produced from the project will be supplied to power plants Unit 1 & 2 already established & operated by RVUNL at Giral of 125 MW capacity each. **Mode of Transportation of Finished Product (Lignite):** • The lignite produced from the mine will be directly loaded into trucks for transportation to power plants situated at Giral at a distance of 46 Km from mine.
vii. Resource optimization / recycling and reuse envisaged in the project, if any, should be briefly outlined.	• Lignite being soft in nature can be easily excavated with the help of hydraulic excavator without using blasting technique. • The total OB/ waste (alluvium/ soil) generated, will be used in backfilling the worked out area simultaneously. During the first five years of mining OB is proposed to be dumped outside and partly backfilling will be commenced from 5th planned year. However from 5th year onward , the overburden so generated will be backfilled in the void created in the mining pit. • No processing / beneficiation of the mineral "Lignite" is envisaged. The resources which are used in the mining will be recycled by various methods. Spent oil from transformers, once in one or two years will be sold to the authorized vendors. • Mine water shall be discharged from quarry through adequate number of pumps (as required) and the clear water shall be used

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<tr><td></td><td>for dust suppression on the haul roads.</td></tr>
<tr><td>viii.Availability of water its source, Energy/power requirement and source should be given.</td><td>

Water :

The drinking water will be sourced from Public Health Engineering Department of Rajasthan State. However, the requirement of industrial consumption shall be met from IGNP in accordance with the decision of GOR while allocation of water for power & mining projects.

The total requirement of water and sewage generation would be as under:

<table>
<tr><th>Sl. No.</th><th>Use</th><th>Water requirement (m^3/day)</th><th>Sewage generation (m^3/day)</th></tr>
<tr><td>1.</td><td>Drinking</td><td>20</td><td rowspan="3">16.00</td></tr>
<tr><td>2.</td><td>Dust suppression</td><td>250</td></tr>
<tr><td>3.</td><td>Plantation</td><td>10</td></tr>
<tr><td></td><td>Total</td><td>280</td><td>16.00</td></tr>
</table>

Power:

It is proposed to take 11 KV overhead transmission line from nearby grid substation of Rajasthan Vidhyut Vitran Nigam., to the mines substation to be located near administrative building. The expected demand of power for pumps; lighting and residential use is around 1MVA. In additional to this 500 KVA DG set shall be installed to provide emergency power requirement for pumping and essential lighting in the mines.
</td></tr>
<tr><td>ix.Quantity of wastes to be generated (liquid and solid) and scheme for their Management/ disposal.</td><td>Solid Wastes:
Overburden management :

Overburden strata mainly consist of Sand, kankar and clay.The overburden excavation over the life to be 1114.04 Million $M.^3$
The waste generated from the mining operations during the first five year plan period is proposed to stack partially as out side

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dump and partially in decoaled area. Outside dump is proposed within lease on non lignite bearing area. The total land degradation due to out side dump shall be 264.25 hectare. Back filling is proposed in the fifth year and onwards in decoaled area. The maximum height of dump from existing ground surface will be 60m with six lifts each of 10m in height. The beam width of each lift shall be 10 m. The face slope of individual lift is proposed to be 36° giving the overall slope of about 22°49'30". Final slopes are proposed to stabilise by plantation. Garland drain is proposed all around the waste dumps of adequate size to arrest surface run off due to rain water. The dump height of 60 m will be pruned by 6-7 m for filling the void and reducing its area from 173 ha to 160.77 with a height of 10 m.

- **Topsoil Management**
  - The topsoil thickness in the lease hold area is approximately one meter. The topsoil stacking is proposed on barren land to be stacked separately. It is proposed to have a stack height of 5 m with natural slope angle. The details of topsoil are as shown in following **Table :**

TOPSOIL DETAILS

Year	Topsoil (million m^3)	Fresh area of top soil required (ha)	No of Lifts	Height (m)
1st	0.27	8.20	1	5
2nd	0.42	6.81	1	5
3rd	0.51	9.32	1	5
4th	0.59	11.13	1	5
5th	0.66	13.97	1	5
Total	**2.45**	**49.43**		

Liquid Effluents:

	• No liquid effluents will be generated due to the proposed mining activity.
x. Schematic representations of the feasibility drawing which give information of EIA purpose.	• As per Terms of Reference (TOR), all the conditions mentioned will be fulfilled and incorporated in the EIA report.
4. Site Analysis	
i. Connectivity.	• Shivkar Lignite Block is located 8km. on State Highway leading from Barmer to Jodhpur via Sindhri. The road leading to Shivkar and Sarli bifurcates from this State Highway near village Kurla and passes near eastern boundary of the block. There is another approach to this block from Barmer town through Barmer-Shivkar road which bifurcates from NH-15. The Barmer Railway Station is 210km. from Jodhpur and is part of NW Railway, BG track. • Munabao is last railway station on western border with Pakistan. Airport facility is available at Jodhpur. The nearest Seaport is at Kandla. • However, defence Airport is situated in Uttarlai village at a distance of 12 km from Barmer town:
ii. Land Form, Land use and Land ownership.	PRE-MINING LAND USE**:** (In bigha)

Name of Village	Pvt. Land	Govt. Land		Forest Land	Others	Total
		Siwai-chak	Goucher Land			
Shivkar	1259-14	160-47	-	-	32-08	1372-03
Kurla	943-05	114-03	158-01	-	17-13	1233-02
Barmer Adarsh Agaur	2247-14	382-07	147-04	-	5-00	2782-05
Barmer Agaur	2079-05	352-19	3-05	-	-	2435-09
Mahabar	3506-11	44-05		-	5-00	3355-16
Adarsh Mahabar	78-12	-	-	-	5-00	83-12
Total Land in Bigha	10115-01	973-15	308-10	-	65-01	11462-07

	<table><tr><td>Total Land in Hect.</td><td>1637.36</td><td>157.62</td><td>49.94</td><td>-</td><td>10.53</td><td>1855.45</td></tr></table> (Conversion 1 Bigha = 0.161874 Hectare.) • Shivkar lignite block was allotted to M/s RSMML by Ministry of Coal ,Govt. of India, New Delhi vide letter no. 13016/39/2006-CA-I dt 13-11-2006 • The area spreads in an area of 1855.45 Ha, which is non-forest type of land mainly consisting of Private land, Govt. & waste Land. • The private land is khatedari which belongs to various land owners/beneficiaries. • Project Proponent: **Rajasthan State Mines & Mineral Limited** (RSMML) (a Government of Rajasthan Enterprise).
iii. Topography (along with map).	• The area is covered with blanket of desert sand characterized by large scale aeolin dunes interspersed with plains. Dunes shows prominent NE-SW trend and mostly of semi stabilized nature. The average elevation of the area varies from **146 to 191.00 m** above mean sea level. • There is no well-developed drainage system in this area except small streamlets of limited extent trending SW can be observed. There is no significant surface water body like dam, lake. However, one small village pond exists where percolation of rain water can be restricted due to impervious clay beds. • Topographical features around the 10 km radius of the proposed project is shown in Key Plan –**Plate – 2.**
iv. Existing land use pattern (agriculture, non-agriculture, forest, water bodies	**Existing Land use pattern:** • Shivkar Lignite Project is covered in the variegated soil with sand. Type of the land in the area is partly agriculture. Most of the area

(including area under CRZ)), shortest distances from the periphery of the project to periphery of sanctuary, eco from the HFL industrial area, be given.

is found with partial vegetation. After monsoon most of the area is used for grazing and cultivation. *The entire area falls under the category of non-forest land.*

- *There is no National Park, wildlife Sanctuary, notified Eco-Sensitive Area within 15 Km of periphery of project area .*

The type of land of core zone is tabulated below:

(in hectare)

Pvt. Land	Govt. Land (Siwai Chak)	Goucher Land	Forest Land	Others	Total
1637.36	157.62	49.94	-	10.53	1855.45

Existing Land Use pattern of Core Zone is tabulated below:

Sl. No.	Description	Area (Ha)	Land to be acquired under Ist Phase (Hect.)	Land to be Acquired under IInd Phase (Hect.)
1.	Agriculture Land	1140.29	768.05- Khatedari +140.25-Govt. =908.25	782.55- Khatedari +11.10- Govt. =793.65
2.	Waste Land (dunes etc.)	410.31		
3.	Roads	16.25		
4.	Chargah/ Gochar	49.94		
5.	Water bodies (Pond)	6.90		
6.	Habitation (Hutments, school, Water tanka etc.)	28.75		
7.	Forest	Nil		
8.	Others	203.01		
	Total:	1855.45	1701.95*	

* ***The balance area of 153.50 ha is on account of State Highway, Abadi and non mineralized area in northern side and area already left out from acquisition in the south of proposed OB dump area.***

Surface plan of entire area is enclosed as plate -3.

v. Existing Infrastructure.

- There is no infrastructure in the mining lease area.

vi. Soil classification

- Project is covered in the variegated soil with sand.

vii. Climatic data from secondary sources.	• The area is arid type which is characterized by hot summers and cold winters. The normal variation in temperature is between 27° to 45°C in summers and 5° to 20°C during winters. Mean monthly temperature is highest in the month of may which is above 45°C, while lowest temperature is in January which is 8°C. However temperature as low as 1.5°C are not uncommon. **Rainfall** • The annual rainfall is very poor, the major portion of which is received during monsoon months (July-August). Annual average rainfall recorded is around 26.5 cm by the district Meteorological Department, Barmer. **Humidity** • The highest humidity is recorded during monsoon period i.e. July to August (around 85%-90%) each year. The lowest humidity is recorded during May-June period (6%-11%). **Wind** • The highest and the lowest wind velocity is recorded during June and July months which is 28 km/hour respectively. Wind direction is predominantly south-western during morning hours and south-eastern during evening hours. **Vegetation** • The area falls in the "Great Indian Thar Desert" and described locally as " Marusthal" due to scarcity of rainfall. The trees like Khejri, Babul, Ker, Jal,Rohira,Ber, Akada, etc. are found in the area. The Shrubs, bushes and herbs found in the area are of typical xerophytes flora. Wild animal like Deer Rabbits, Neelgay & birds like Maina, Peacock can also be spotted in this area. The crop cultivated during normal monsoon are mainly Bazara, Mung., Ganwar etc. Neither sufficient ground water nor surface water is available hence; the area has a single crop cultivation culture. (rainfed).
viii. Social Infrastructure available.	• The Shivkar lignite project is located in Tehsil Barmer city; District Barmer, at a distance of 8.0 km in West direction. • All the social infrastructural facilities like hospitals, Dispensaries, schools, colleges, financial institutions (Banks) with ATM & etc.

	are available nearby Barmer town.
5. Planning Brief	
i. Planning Concept (type of industries, transportation etc) Town and Planning/ Development authority Classification.	**Mining :** • The gross geological reserve from the mine is estimated as 137.26 million tonne and 59.74 million tonne mineable while 56.76. million tonne as recoverable reserves considering Ore and OB ratio as 1: 19.63. • The area does not fall under any industrial estate / industrial park / Special Economic Zone and in the jurisdiction of town planning / development authority. **Transportation:** • The lignite produce from the mine will be directly loaded into trucks and will be transported for feeding directly to 125 MW Thermal Power Plant Unit 1 & 2 at a distance of about 50 Km., already runned by M/s Rajasthan Vidhut Utpadan Nigam Ltd(a Rajasthan Govt. undertaking) at Giral Mines. At present, these two Thermal Power Stations receives lignite produced from existing Giral & Sonari Lignite Mines. The distance from Shivkar Lignite Mines to the proposed power plant near Giral is about 50 Km. and is approachable by tar road via village Bhadka.
ii. Population Projection	• There will be influx of people during construction and operation stage. About 472 persons are required for the mine project. All the people will be sourced from neighboring villages.

iii. Land use planning (breakup along with green belt etc).

LAND USE DURING MINING (AT THE END OF 5TH YEAR AND END OF MINING OPERATION 58TH YEAR)

Sl. No.	*Description*	*During Mining*	
		5th Year	**Conceptual** *(58th Year)*
1.	*Mining /Excavation (void only)*	*307.78*	843.67
2.	*External OB dumps*	264.25	264.25
3.	*Top Soil Dump*	49.43 (page 164)*	Nil
4.	***Plantation/Green belt development***	**12.0**	**60.0**
5.	*Infrastructure :Built-up area*	4.0	4.0
6.	*Roads*	14.00	14.00
7.	*Water bodies : Pond*	6.90	160.77(left out void for pond)
8.	*Statutory & pit barrier*	60.00	235.0
9.	*Power Plant Area*	Nil	
10.	*Undisturbed*	1137.09	273.76
	Total	**1855.45**	**1855.45**

A total mining lease area is 1855.45 Ha. The entire area falls under the category of non-forest land.

iv. Assessment of Infrastructure Demand (Physical & Social).

- RSMM Ltd, a Govt. of Rajasthan Enterprise will operate this mine and create infrastructure facilities. These will include provisions for roads and culverts; buildings required for non-residential; supply of water for domestic and industrial use including water required for dust suppression, power supply and telecommunication system; first aid and emergency services etc.

v. Amenities / Facilities.

- A rest shelter with first aid kit, canteen, drinking water arrangements, rest shelter, urinals etc facilities shall be provided within ML area.
- First-aid boxes shall be provided and maintained with specified medicines. These are to be readily accessible during all working hours.
- Sufficient number of toilets separate for males & females shall be provided and maintained in a clean and sanitary condition at all times.
- Hospitals, school, community facilities are present in the near by

	town Barmer in buffer zone within 10 Km of study area.
6.Proposed Infrastructure	
i. Industrial Area (Processing Area)	• The proposed project does not involve any processing. Out of the **1855.45** ha of the ML area, 1004.44 ha will be the mine area. An area of 0.261 ha is earmarked for Infrastructure facilities(non residential building). Green belt is proposed to be taken up along the project roads and in the vacant areas wherever possible and also over dumps and backfilled areas.
ii. Residential Area (Non Processing Area)	All employees at the mines shall be provided accommodation at the Barmer which is about 10.0 km from the mine lease area. Therefore the provision of residential accommodation shall not be required. However , pucca dwelling structures will be provided to the contractor's labour along with quality food, R.O water, electricity, water for other uses etc., free of cost.
iii. Green Belt	• As one of the important components of EMP is greenbelt development. The greenbelt development around and within the proposed mine area site shall be undertaken to fulfill the following objectives: - Mitigation of fugitive emissions; - Noise control; - Wastewater eco-environment; - Aesthetics, and - Optimum use of wasteland and environmental conservation. • A total area of 60 ha is proposed to be brought under greenbelt development in the entire mine life. • The green belt initially will be carried all around the project as a

	boundary plantation, along the approach roads as an avenue plantation and also in the vacant places within the surface infrastructure. • The plantation on the external OB dumps (264.25 ha.) and internal OB dumps (843.67) will be carried out stage wise, in accordance with attaining the final profile of the dumps.
iv. Social Infrastructure	• The project proponent will contribute to the social developmental and infrastructural facilities as per CSR. Social Infrastructure facilities available in adjoining area will cater the needs of the proposed man power and population projection. However health care centre & cultural centre will be provided under CSR scheme under consultation with local bodies.
v. Connectivity (Traffic and Rail /Metro/ Water ways etc)	• Shivkar Lignite Mine project site is connected by road and rail with the nearest city Barmer. The district head quarter is Barmer which is about 8.0 Km. i. **Road link** • Shivkar Lignite Block is located at a distance of 8km from Barmer Town (on State Highway No. 40 leading from Barmer to Jodhpur via Sindari. The road leading to Shivkar and Sarli bifurcates from this State Highway near village Kurla and passes near eastern boundary of the block. There is another approach to this block from Barmer town through Barmer-Shivkar road which bifurcates from NH-15. ii. **Rail link** • Munabao is last railway station at a distance around 200km on western border with Pakistan. The nearest Seaport is at Kandla. iii. **Air link** • Airport facility is available at Jodhpur at a distance of around 200 km. Defense Airport is situated in Uttarlai village at a distance of 12 km from Barmer town • There is no well-developed drainage system in this area except small streamlets of limited extent trending SW can be observed.

<table>
<tr><td></td><td></td></tr>
<tr><td></td><td>There is no significant surface water body like dam, lake. However, one small village pond exists where percolation of rain water can be restricted due to impervious clay beds.</td></tr>
<tr><td>vi. Drinking Water Management (Source water)</td><td>• Drinking water shall be made available all the times to the mine workers. The drinking water will be sourced from Public Health Engineering Department of Rajasthan State.</td></tr>
<tr><td>vii. Sewerage System</td><td>• Sewage generated, will be channalized into septic tank followed by soak pits.</td></tr>
<tr><td>viii. Industrial Waste Management</td><td>• ETP & desilting tank</td></tr>
<tr><td>ix. Solid Waste Management</td><td>Solid Wastes:
Top soil management
• The top sand/soil is not to be mixed with the sand/clay/ formation. The topsoil stacking is proposed on barren land to be stacked separately. The area of top soil shall be 49.43. It is proposed to have a stack height of 5.0 m. with an overall slope angle of 36^0.
• Configuration of the topsoil stack is as given below:

<table>
<tr><th>Year</th><th>Topsoil (million m^3)</th><th>Fresh Area of topsoil required (hectare)</th><th>No. of lifts</th><th>Height (m)</th></tr>
<tr><td>1^{st}</td><td>0.27</td><td>8.20</td><td>1</td><td>5</td></tr>
<tr><td>2^{nd}</td><td>0.42</td><td>6.81</td><td>1</td><td>5</td></tr>
<tr><td>3^{rd}</td><td>0.51</td><td>9.32</td><td>1</td><td>5</td></tr>
<tr><td>4^{th}</td><td>0.59</td><td>11.13</td><td>1</td><td>5</td></tr>
<tr><td>5^{th}</td><td>0.66</td><td>13.97</td><td>1</td><td>5</td></tr>
<tr><td>Total</td><td>2.45</td><td>49.43</td><td></td><td></td></tr>
</table>
Overburden management :
• The waste generated from the mining operations during the first five year plan period is proposed to stack as outside dump and partially backfilled in de-coaled area. Outside dump is proposed within lease areas on barren land covering an area of 264.25 ha.</td></tr>
</table>

Back filling is proposed in the fifth year onwards in decoaled area. The maximum height of dump at the surface shall be 60m.Yearwise overburden generation and location of dump are detailed as under :

YEAR WISE OVERBURDEN PRODUCTION

Year	**O.B. million m^3**	**Location of proposed dump**
1st	41.87	N-W part of lease
2nd	28.69	N-W part of lease
3rd	22.80	N-W part of lease
4th	22.99	N-W part of lease
5th	23.42	N-W part of lease, partly in de-coaled area
Sub Total	**139.77**	
6th to 10th	132.31	De-coaled area back filling
11th to 15th	64.30	-do-
16th to 20th	152.33	-do-
21st to 25th	78.49	-do-
26th to 30th	67.08	**-do-**
31st to 35th	73.88	-do-
36th to 40th	73.17	-do-
41st to 45th	113.21	-do-
46th to 50th	108.88	-do-
51st to end of mine life	110.61	**-do-**
Total	**1114.04**	

Details of Dumps:

Year	Fresh area required for O.B (in ha.)	Fresh area required for top soil (in ha.)	Volume (million m^3)	Height (m)	No of Lift	Top mRL of dump
1st	264.25	8.20	41.87	20	2	180
2nd	Nil	6.81	28.69	30	3	190
3rd	Nil	9.32	22.80	40	4	200
4th	Nil	11.13	22.99	60	6	220
5th	Nil	13.97	11.32	60	6	220
Total	264.25	49.43	127.67	Nil	Nil	

- Garland drain is proposed all around the waste dumps of adequate size to arrest surface run off due to rain water.
- **Sludge from E.T.P**: Sludge from ETP will be digested and it will be disposed into a secured land fill.

Reclamation programme :

- As the excavation advances, the void will be created in the pit area which will be economical for placing the overburden and subsequently reclamation of land will be carried out. The quantity proposed during the first five year of the mining for the inside dumping is 12.10 million m^3 fifth year. The details of overall reclamations up to the end of mine life is proposed as follow:

RECLAMATION PROGRAMME OF EXCAVATED AND BACKFILLED AREA (CUMULATIVE)

Year	Land Degradation		Land Reclamation	
	Due to Mining	Due to Outside OB Dump	By Back Fill	By Pond
1^{ST}	88.55	264.25	NIL	NIL
2^{ND}	52.43	NIL	NIL	NIL
3^{RD}	29.40	NIL	NIL	NIL
4^{TH}	26.01	NIL	NIL	NIL
5^{TH}	25.02	NIL	25.92	NIL
Sub-Total	**221.41**	**264.25**	**25.92**	**NIL**
$6^{TH} – 10^{TH}$	112.29	NIL	46.98	NIL
$11^{TH} – 15^{TH}$	50.60	NIL	71.29	NIL
$16^{TH} – 20^{TH}$	130.54	NIL	72.52	NIL
$21^{ST} – 25^{TH}$	41.33	NIL	170.50	NIL
$26^{TH} – 30^{TH}$	62.47	NIL	80.75	NIL
$31^{ST} – 35^{TH}$	66.10	NIL	44.99	NIL
$36^{TH} – 40^{TH}$	63.61	NIL	76.21	NIL
$41^{ST} – 45^{TH}$	105.95	NIL	98.55	NIL
$46^{TH} – 50^{TH}$	89.38	NIL	68.75	NIL
$51^{ST} – 58^{TH}$	60.76	NIL	75.01	NIL
At Time of Final Closure of Mine		NIL	12.20	160.77 Pond with the depth of 10m from surface
Grand Total	**1004.44**	**264.25**	**843.67**	**160.77**

	. Ultimate pit floor plan and post mine closure plan are enclosed as **plate 8 & 9** respectively.
x. Power Requirement & Supply / Source	• The total power requirement for the proposed mine project will be 1MVA. It is proposed to take 11 KV overhead transmission line from nearby grid substation of Rajasthan Vidhyut Vitran Nigam to the mines sub-station to be located near administrative building. • In additional to this 500 KVA DG set shall be installed to provide emergency power requirement for essential lighting in the mines.
7. Rehabilitation and Resettlement (R&R) Plan	
i. Policy to be adopted (Central/ State) in respect Of the project affected persons including home oustees, land oustees and landless laborers (a brief outline to be given).	• RSMML has completed proceedings of land acquisition for 4744.50 bigha or 768.05 ha. of private land (phase-I) , under Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation & Resettlement Act, 2013. Final award has been passed for 420.65 Crores in respect of compensation for land to PAFs. The payment of compensation to PAFs as per final award is under consideration with management of Company and will be paid in future course of time. PAFs shall be given all applicable benefits as prescribed in the Act & amended thereto. • Under guidelines for Corporate Social Responsibility for Central PSE's , March 2010, RSMML shall provide following : ➢ Water tankers will be provided to supply water to the villages. Overhead tank will be constructed to supply pure drinking water. ➢ improving water supply facilities ➢ Encourage and motivate the Gram Sabha to form co-operative groups and for development of schemes, all technical and

financial assistance will be provided by RSMML.

- will negotiate with villagers for developing local market and will provide all financial and technical assistance.
- will adopt some primary schools of the area
- Medical facilities to the villagers in the dispensary of the Company.
-

- Further, RSMML will provide funds for strengthening ITI in the area. At least Rs.1/- per tonne of lignite shall be provided for undertaking activities like construction of community centre, water harvesting structures, construction of roads, bus shelters, construction of toilets, ground water reservoirs for drinking water, providing aid to hospitals & dispensaries, organizing medical health camps, construction of rooms for Primary/Secondary Schools , Bus stand etc.

8. Project Schedule & Cost Estimates

i. Likely date of start of construction and likely date of completion (Time schedule for the project to be given).

- No major constructions are required, except mines office, rest-shelter and quarters for some identified mineworkers. The construction activity will be started soon after obtaining the EC, and it will be completed in a stipulated time span of 6 months.
- The status of proposed schedule of project related statutory approvals are listed below:

S. N	Approvals/clearance	Status
1.	Mining Plan with Closure Plan	Re- Submitted to Ministry of Coal, New Delhi on 03.11.2014 for its approval.
2.	Environment Clearance	Form I is being submitted to MOEF for grant of TOR.
3	Forestry Clearance	Not required
4.	Hydrogeological Investigation in & around Shivkar Lignite Project	Available. The studies have been carried out through M/s Hydrominviron Consultancy Pvt. Ltd.during 2011.
5.	Slope Stability Studies	Carried out by M/s Central Institute

		of Mining & Fuel Research , Dhanbad in 2011.
6.	Permission from CGWB	Will be obtained, if required.
4	Consent to establish & Operate from RSPCB.	Will be obtained after grant of EC.
5	Grant of lease	Application submitted to State Government. Mining lease shall be granted after obtaining EC.
6	Approval of explosive use	Not required
7.	Approval from Coal Controller of India for mine opening	Shall be obtained after grant of Mining Lease.
8	Permission from DGMS to start mine	Shall be obtained after grant of Mining Lease.

ii. Estimated project cost along with analysis in terms of economic viability of the project.

Project cost for 25 years has been computed considering reserves of 25.0 million tones (2.454 Crore Tonnes) of Shivkar Lignite Project **for Ist Phase** proposed to be supplied to Unit 1 & 2 of Thermal power Plant of 125 MW capacity each , already operated by RVUNL(a State Govt. Undertaking) near village Giral.

At present , RSMML supplies lignite to these these Thermal Power Stations from existing Giral & Sonari Lignite Mines. Due to higher % of Sulphur i.e. 4-6% , these 1 & 2 Units are unabe to run on full load. In view of this, a Committee appointed by Chief Secretary of Rajasthan, had submitted its report on 18.08.2015 relating to revised fuel linkages and recommended that lignite from upcoming Shivkar Lignite Project having reserves of 25 million tonne for Ist Phase only which contains very low sulphur content, should be utilized for power generation by Unit 1 & 2 already operated by RVUNL. And proposed Thermal Power Units 3 & 4 of 125 MW capacity , based on lignite being produced from Giral & Sonari Lignite Mines, will be set up by M/s RVPNL at Giral designed to run on high Sulphur content.

The above arrangements of fuel supply to UNIT-1,2, 3 & 4 , as recommended by said Committee , is based on the following mineable reserves, sufficient for running the life of Thermal Power Plants at 80 % PLF:

Mines	Capacity	Reserves as on 31.03.2015 (million tonne)	Estimated requirement of lignite considering 25 years as life of Thermal Power Plants
Giral	1.0MTPA	27.0 (high sulphur)	0.8 MTPA x 04 Units x 25 years
Sonari	1.0MTPA	28.0 (high sulphur)	
Shivkar For Phase Ist only	1.0MTPA	25.0 (low sulphur)	
Total:		80.0	80.0

Keeping above in view, at present, the project cost for 25 years have only been computed as under:

Estimated Project cost

Particulars	**Unit**	**Estimated for Phase-I Only**
Mine Life Considered for Phase I	Years	Years
*Basic rate : Lignite Excavation Cost - Direct	Rs per MT	1197.00
Average Capital Cost (Amortisation)	Rs per MT	278.00
Average Financial (interest) Cost on 10 Year Loan	Rs per MT	153.00
Mine Closure & Environmental Expenses	Rs per MT	156.00
Estimated Unit (Shivkar) Expenditure	Rs per MT	150.00
Estimated Adminstrative Overheads (SBU+CO)	Rs per MT	125.00
Total Cost	Rs per MT	2059.00
RSMM Margin @ 10%	Rs per MT	206.00
Total Rate Before Royalty/ED/VAT/Cess	**Rs per MT**	**2265.00**

	*Basic rate (excavation cost) is variable as the tenders shall be floated and accordingly contract rate shall be decided. Since overheads of Rs. 275/-PMT and profit margin of Rs. 206/- of RSMML have been covered and therefore, the project is economically viable.
Analysis of proposal (Final Recommendations)	
i. Financial and social benefits with special emphasis on the benefit to the local people including tribal population, if any, in the area.	• Direct as well as indirect employment opportunities will be created. For the mine workers, preference will be given to local villagers as far as possible. Standards of living will improve in this region due to the proposed project. Economic development of any region depends largely upon the nature of activities undertaken in the surrounding region. Corporate development invariably contributes towards acceleration of the process of socio-economic upliftment of the rural society.

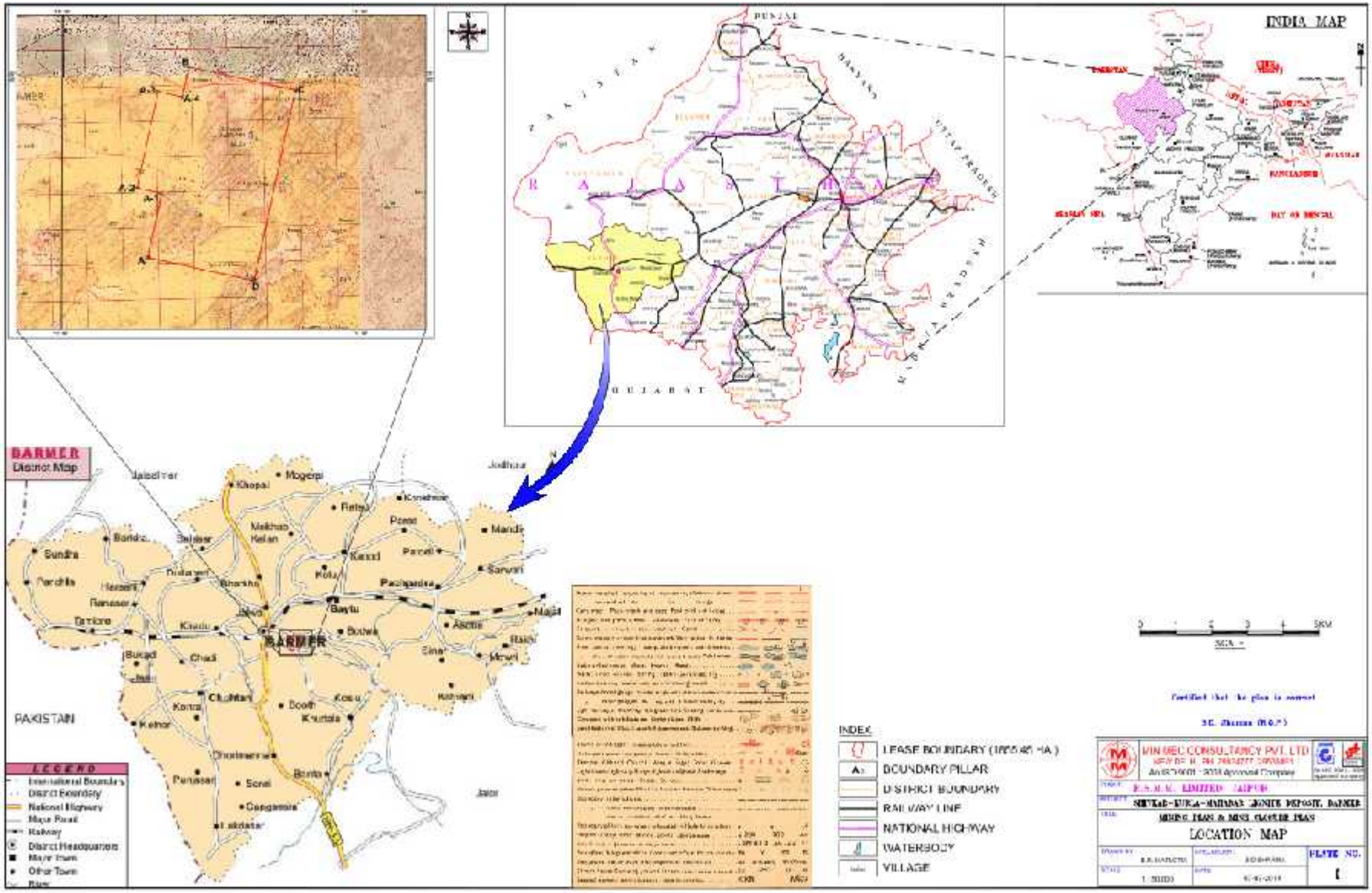


Plate -1: Location map of Shivkar Lignite Block

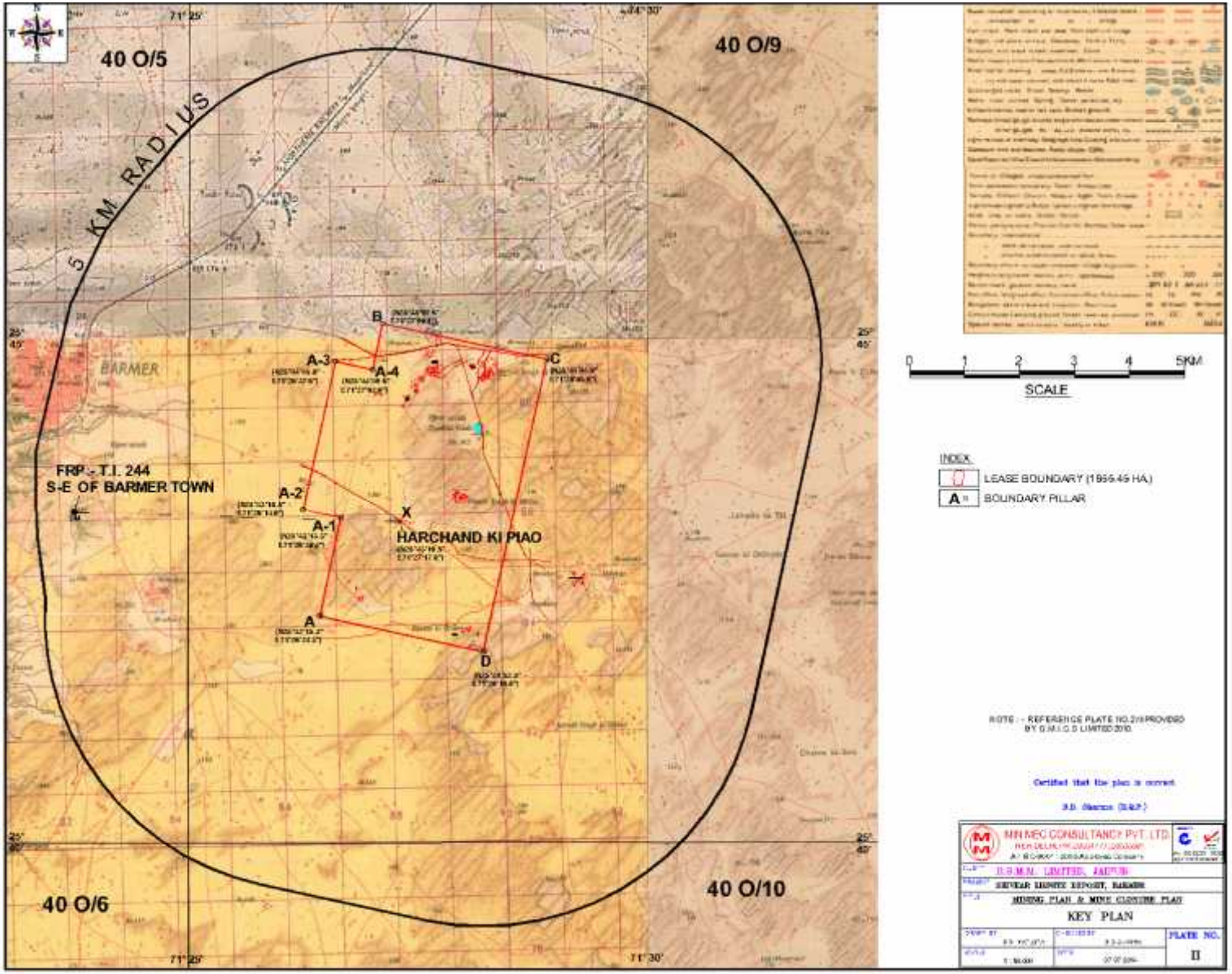


Plate – 2 : Key Plan of Shivkar Lignite Block

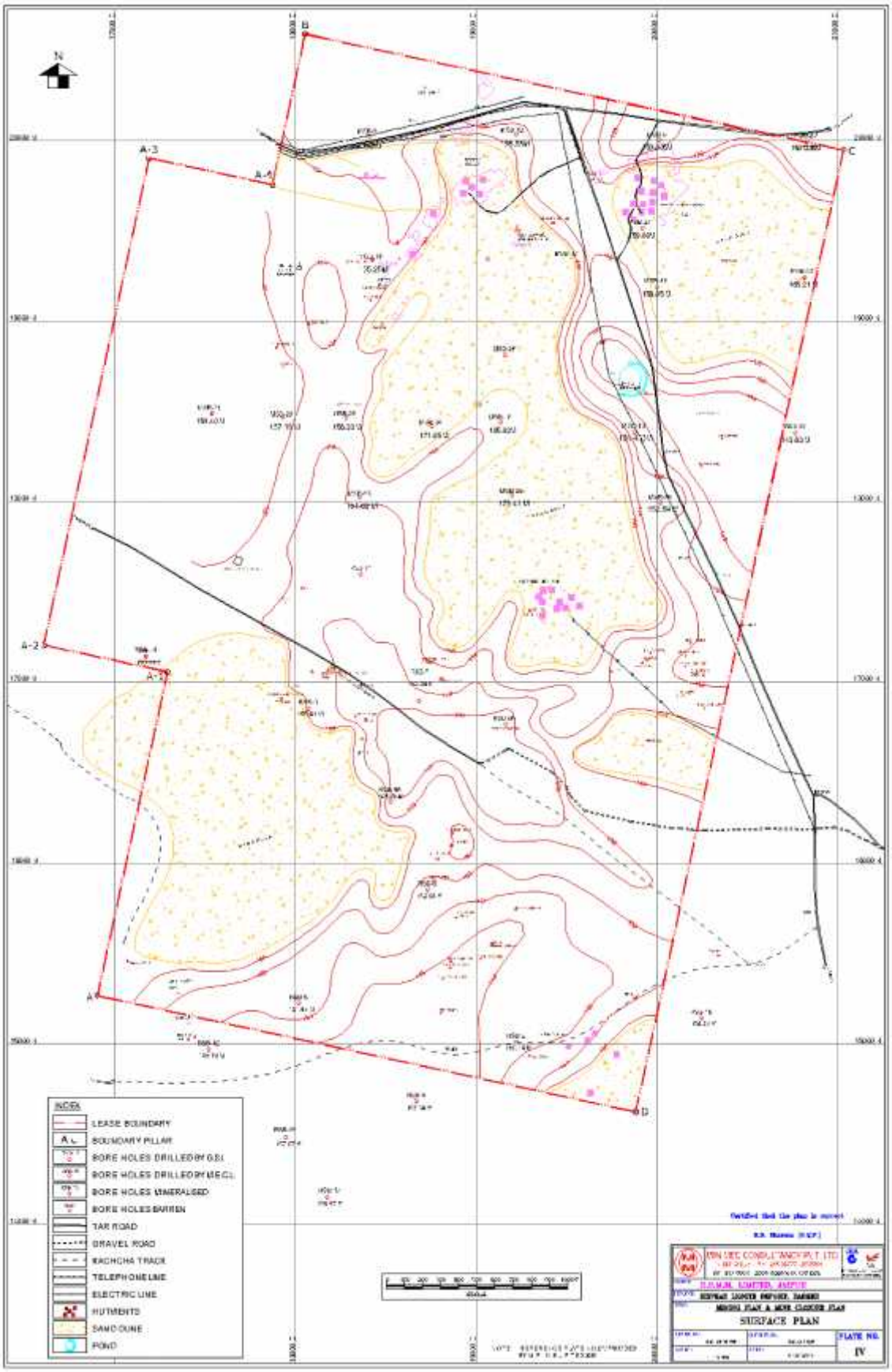


Plate – 3 : Surface Plan for Shivkar Lignite Block

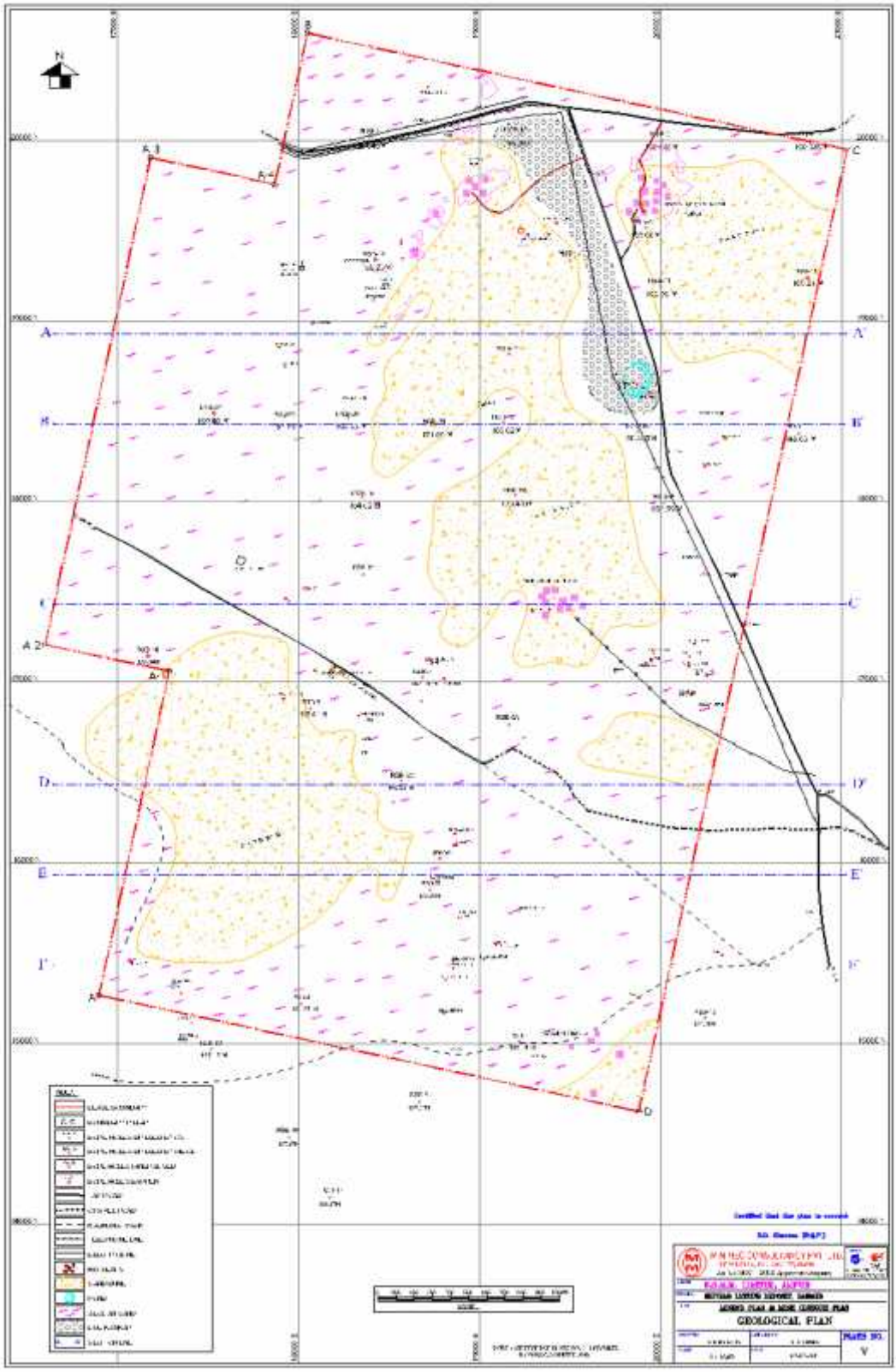


Plate – 4 : Geological Plan for Shivkar Lignite Block

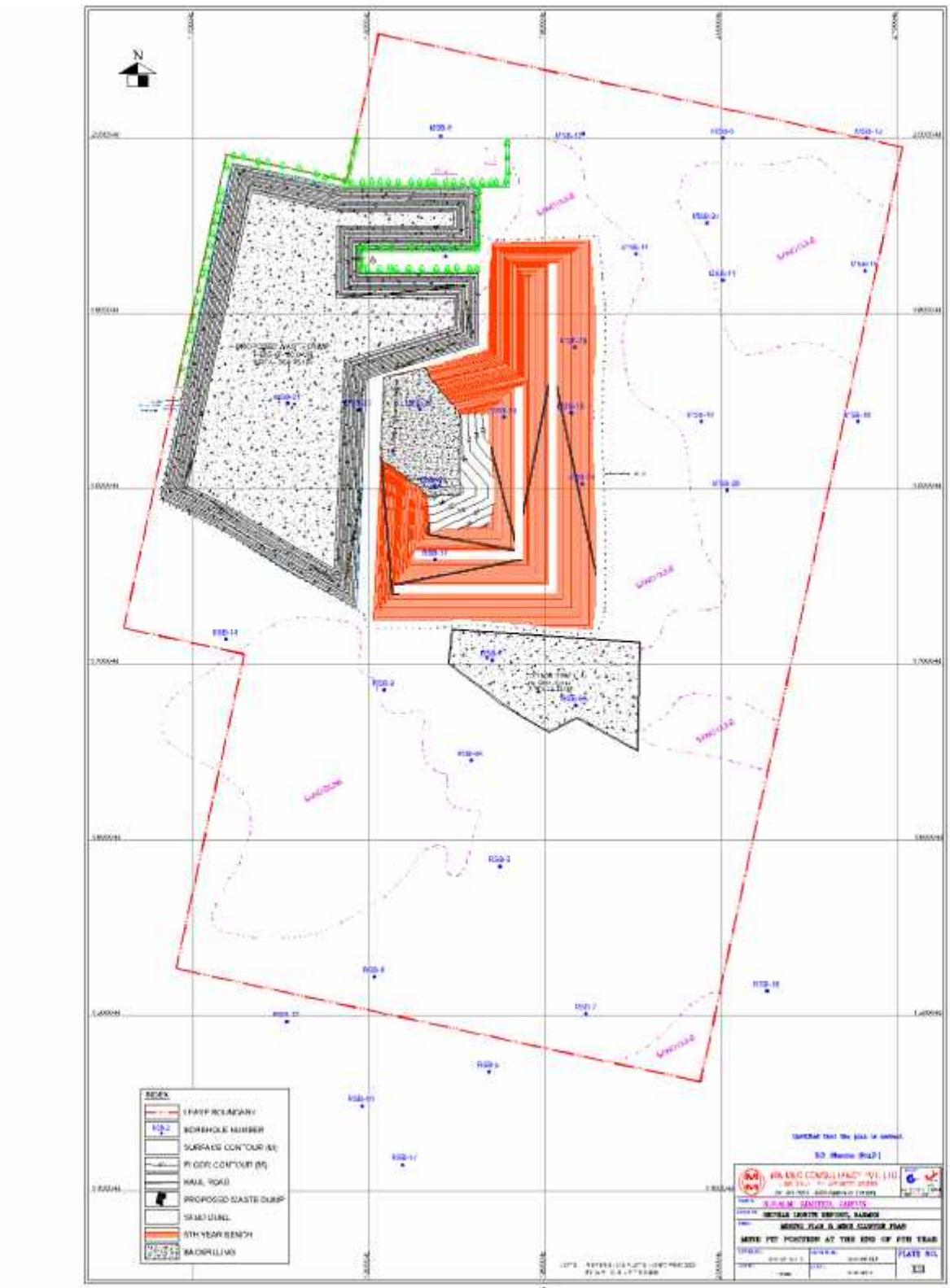


Plate – 5 : Position of Pit at the end of 5th year for Shivkar Lignite Block

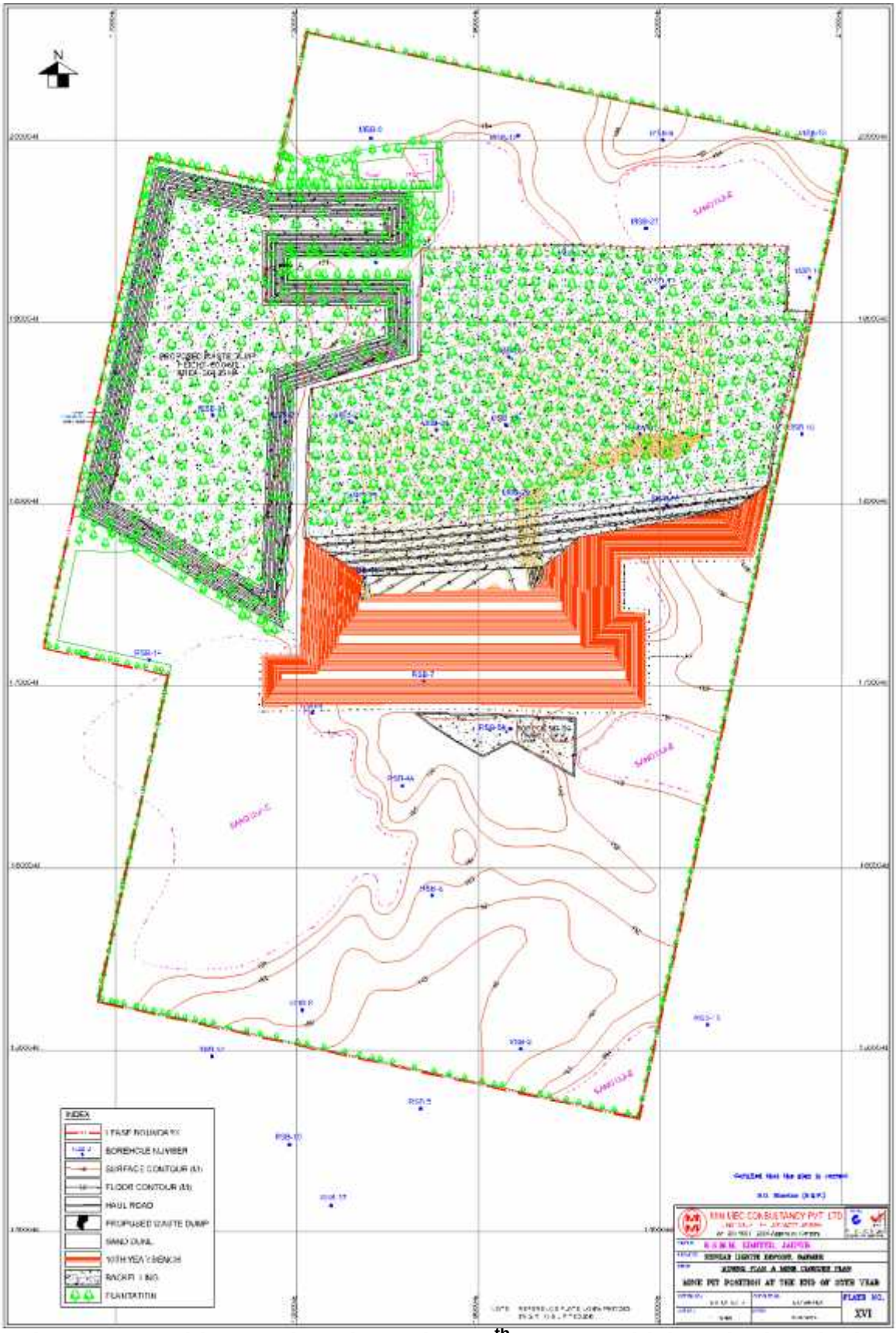


Plate – 6 : Position of Pit at the end of 25th year for Shivkar Lignite Block

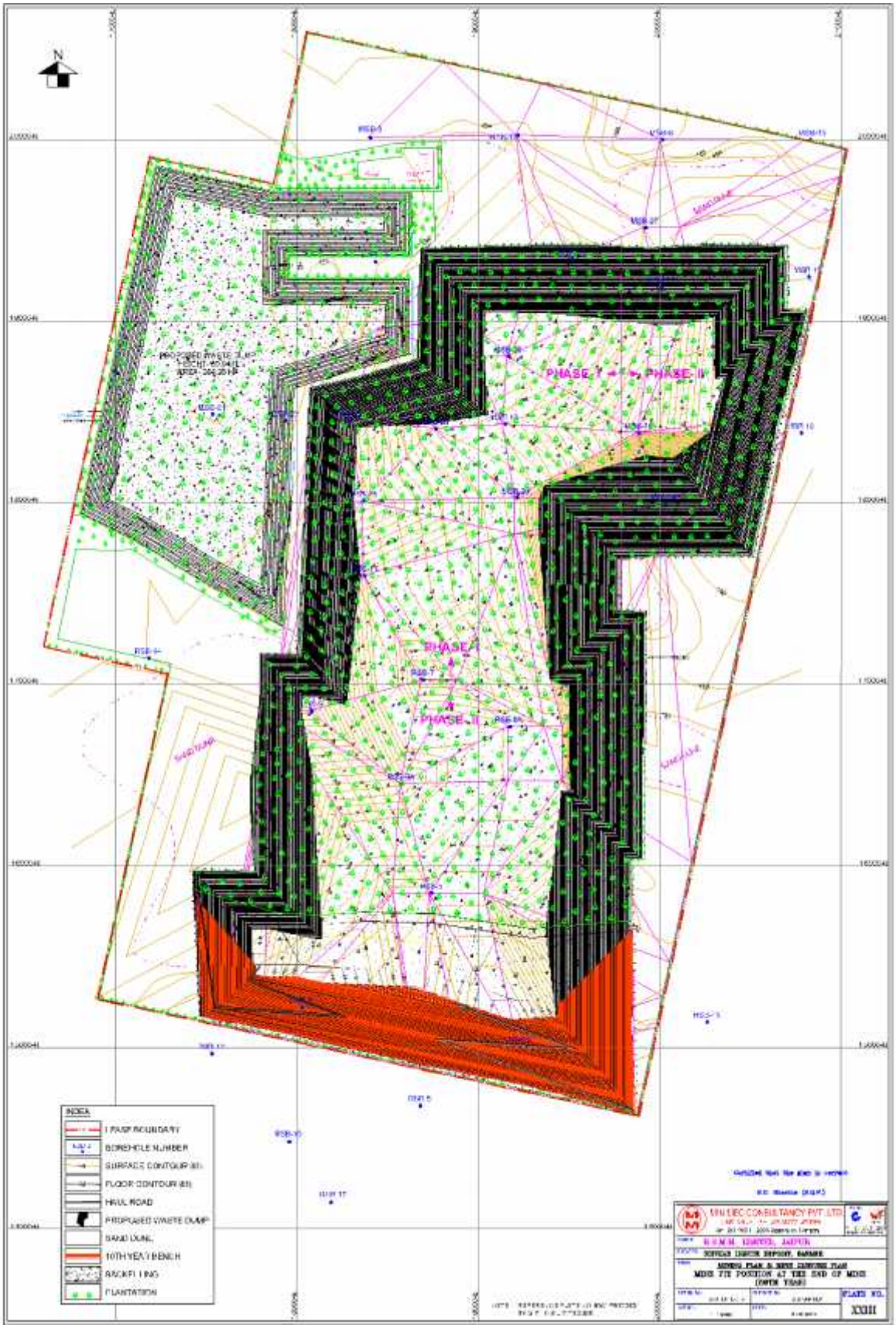


Plate – 7 : Position of Pit at the end of mine life for Shivkar Lignite Block

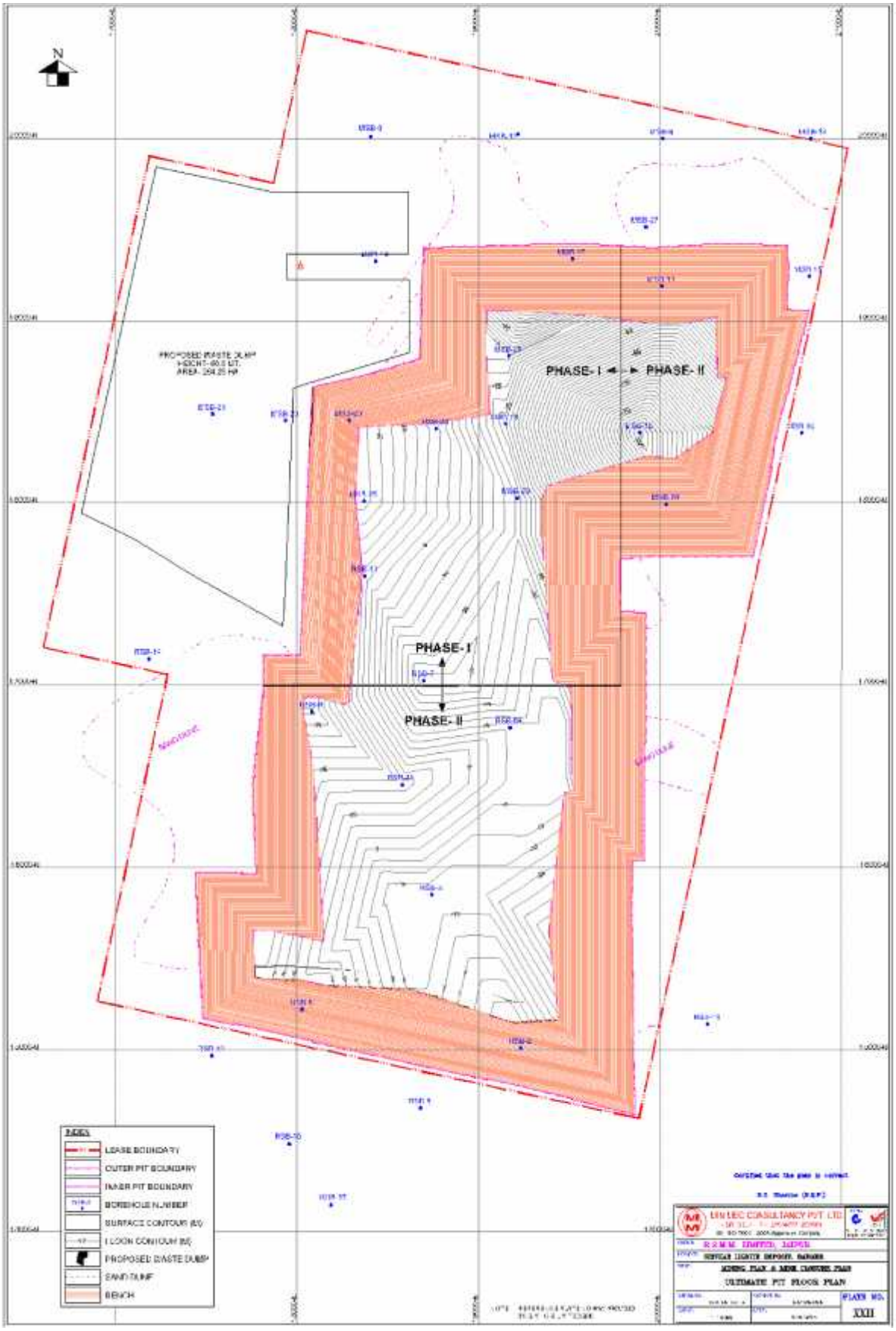


Plate – 8 : Ultimate Pit Floor Plan of Shivkar Lignite Block

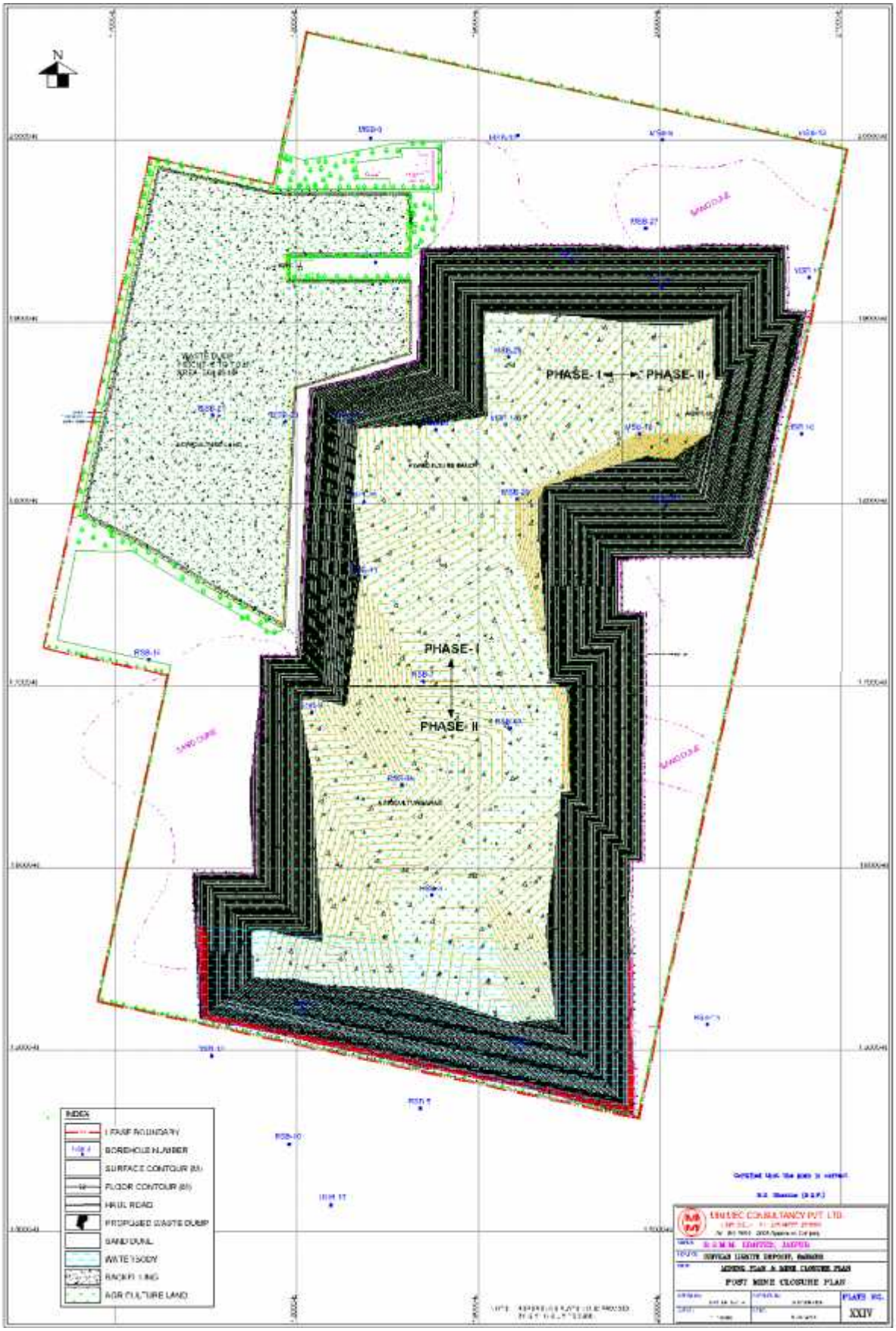


Plate – 9 : Post-Mine Closure Plan for Shivkar Lignite Block

ANNEXURE-I

No.13016/39/2006-CA-I
Government of India
Ministry of Coal

New Delhi, the 13th November 2006

To

The Chairman and Managing Director,
Rajasthan State Mines and Minerals Limited,
Khanij Bhawan, 'C' Scheme,
Talak Marg, Jaipur 302 005

Subject: Allocation of i) Jalipa, ii) Kapurdi, iii) Shivkar and iv) Saccha Sauda lignite blocks to Rajasthan State Mines and Minerals Limited – reg.

Sir,

I am directed refer to your letters No. i) SMML/SBU(L)/VBD/JALIPA/05/11543 dated 05.09.2005; ii) RSMM/SBU(L)/VBD/KAPURDI/2005/901 dated 28.06.2005; iii) RSMML/SBU-L/SMG/SKR(a)/244 dated 04.12.2004; and iv) RSMML/SBU-I/VBDGRH(a)/2432 dated 12/15.04.2005 on the above subject and to convey 'in principle approval' of the Government to the working of i) Jalipa, ii) Kapurdi, iii) Shivkar and iv) Saccha Sauda lignite blocks under Government company dispensation in pursuance of Section 3(3)(a)(i) of the Coal Mines (Nationalisation) Act, 1973 subject to the following conditions:

(i) Lignite mining shall be carried out M/s Rajasthan State Mines and Minerals Limited (RSMML) or a separate company to be created with participation of M/s RSMML provided that the separate created company is a Government company eligible to do lignite mining as per the provisions of the Coal Mines (Nationalisation) Act, 1983.

(ii) The allocatee will do coal mining in accordance with the provisons of the Coal Mines (Natinalsiation) Act, 1973 the Mines and Minerals (Development & Regulation) Act, 1957, The Contract Labour (Regulation & Abolition) Act, 1970, all the mineral, environmental and labour laws along with other regulations governing coal industry.

iii) The mining lease will be executed between the State Government and the allocatee as per the provisions of MMDR Act, 1957 and the rules framed hereunder.

Lignite mined from these blocks will be used exclusively for power generation.

The lignite production from these blocks shall commence within 36 months (42 months in case the area is in forest land) of the date of this letter in OC mine and in 48 months (54 months in case the area fall under forest land) from the date of this letter in UG mines. The end use project schedule and the

lignite mine development schedule should be modified accordingly and submitted to this Ministry within 3 months from the date of this letter.

vi) Company shall buy the Geological Report, in case blocks are explored, from CMPDIL/NLC within six weeks of the date of allocation.

vii) The company shall submit mining plans for approval by the competent authority under the Central Government within six months from the date of this letter.

viii) Those of the above conditions relevant at the time of grant of mining lease shall be included as additional conditions in the mining lease in addition to any further conditions imposed by or agreed to by the Central Government.

ix) The State Government at the time of seeking previous approval for grant of mining lease shall submit a draft of the mining lease containing the above relevant conditions for vetting by the Central Government. The final mining leases shall be as vetted/modified by the Central Government. Any deviation from the vetted/modified draft shall render the mining lease deed ab-initio null and void and without effect.

x) Allocation/mining lease of the lignite blocks may be cancelled, inter-alia, on the following grounds:-

(a) Unsatisfactory progress of implementation of their end use power plant;
(b) Unsatisfactory progress in the development of lignite mining project;
(c) For breach of any of the conditions of allocation.

The de-allocation/cancellation of mining lease shall be without any liability to the Government or its agencies, whatsoever. Any expenses incurred by the allocatee or any right or liability arising on the allocate out of the measures taken by allocatee shall solely be to their account and in no way be transferred to or borne by the Government or its agencies.

Yours faithfully,

(V.S. Rana)
Under Secretary to the Government of India

Copy to:

i) Secretary, Ministry of Power, Government of India, New Delhi.
ii) Chief Secretary, Government of Rajasthan, Jaipur
iii) Chiarman, CIL, Kolkatta/CMD, CMPDIL, Ranchi
iv) CMD, NLC, Neyveli.
v) Coal Controller, Kolkatta.
vi) Office Folder.

12/10/10
SHRI S. G. PATEL

ANNEXURE-II

RAJASTHAN STATE MINES & MINERALS LIMITED

(A Government of Rajasthan Enterprise)

SBU-PC LIGNITE

Khanij Bhawan, 'C' Scheme, Tilak Marg, Jaipur - 302 005

Phone Jaipur-(0141) 2227938, 2227949,5103348

No.Rsmml(Sbu(l)/Vbd/F.5/ Shivkar (a)/l/ 1657 Dated : 11.02..2014

613

The Mining Engineer,
Department of Mines & Geology
Govt. of Rajasthan
Barmer

Sub:- Application for mining lease for mineral lignite in 1855.45 hects. area near village Shivkar, Tehsil & Distt. Barmer.

Ref: Our earlier mining lease application dated **14.12.2004** for **mineral lignite for 1662.25 hects.** near village Shivkar, Tehsil & Distt. Barmer.

Dear Sir,

In continuation to our above referred earlier application dated 14.12.2004, we are submitting herewith another application for mining lease of mineral lignite for 1855.45 hects area near village Shivkar, Tehsil and Distt. Barmer in 5 sets with following enclosures. For accommodating dump area for overburden , we have selected additional area of 193.20 hectare towards western periphery of lease area which is non mineralized area and is also not approaching any other block boundary of lignite block. We have also submitted mining plan tothe Ministry of Coal, New Delhi for an area of 1855.45 hectares. For this reason , we are submitting revised mining lease application for 1855.45 hectares incorporating an additional area of 193.20 hects:

1. Application in Form-I
2. Location plan of the area alongwith description report
3. Attested copy of General Power of Attorney.
4. Affidavits under rule 22(3) (i) f.g.h. original with one set and copies with other sets.
5. Articles of Association and Memorandum of Association of RSMML Ltd.
6. List of existing and applied ML/PL areas and applied areas.
7. List of Directors on the Board of Rajasthan State Mines and Minerals Ltd.
8. DD no. 010818 dated 10.2.14 for Rs.**3500**/- drawn on the Bank of ICICI, Barmer.

The receipt of above application may kindly be acknowledged.
Thanking you,

Yours faithfully,

(R.K. Joshi)
04/02/14
Group General Manager
SBU-PC (Lignite)
Rajasthan State Mines & Minerals Ltd.
Khanij Bhawan, Tilak Marg
JAIPUR-302 00

Encl: As above

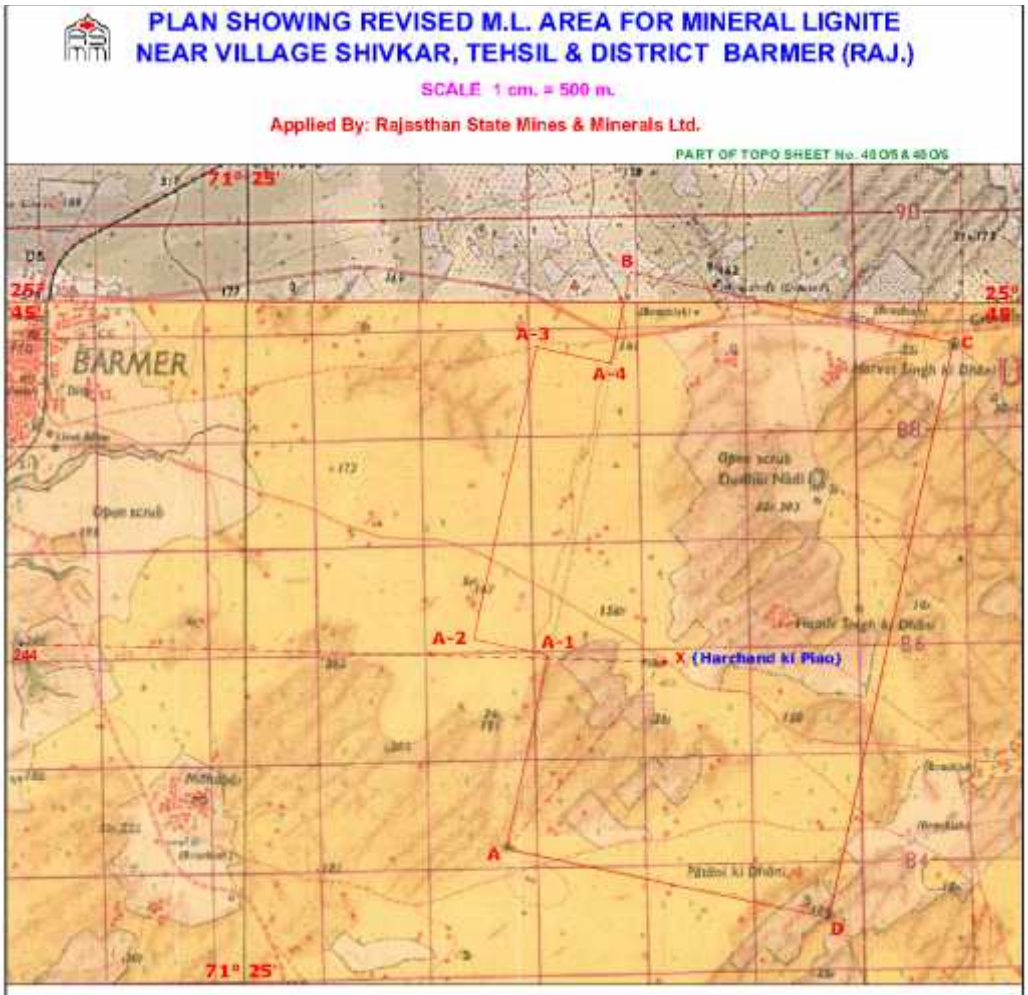
Group General Manager (Lignite)

Copy to :1. The Principal Secretary, Deptt. of Mines & Petroleum, GOR, Jaipur
2. The Director, DMG, Khanij Bhawan, Shastri Circle, Udaipur
3. Dy. General Manager (Mining) , RSMML,Barmer.

Group General Manager (Lignite)

04/02/14
Group General Manager
SBU-PC (Lignite)
Rajasthan State Mines & Minerals Ltd.
Khanij Bhawan, Tilak Marg
JAIPUR-302 00

10/3/14



DESCRIPTION REPORT

FRP :- T.I. 244 (SITUATED S-E OF BARMER TOWN) (TOPO SHEET No. 40 O/6)
T.I. 244 TO X (HARCHAND KI PIAO) ON BARMER - SHIVKAR ROAD IS AT 91°-00' & 5975 m.

FROM	TO	BEARING	DISTANCE
X (PIAO)	A	220°-00'	2250 m
A	A-1	12°-00'	1835 m.
A-1	A-2	282°-00'	700 m.
A-2	A-3	12°-00'	2760 m.
A-3	A-4	102°-00'	700 m.
A-4	B	12°-00'	855 m.
B	C	102°-00'	3050 m.
C	D	192°-00'	5450 m.
D	A	282°-00'	3050 m.

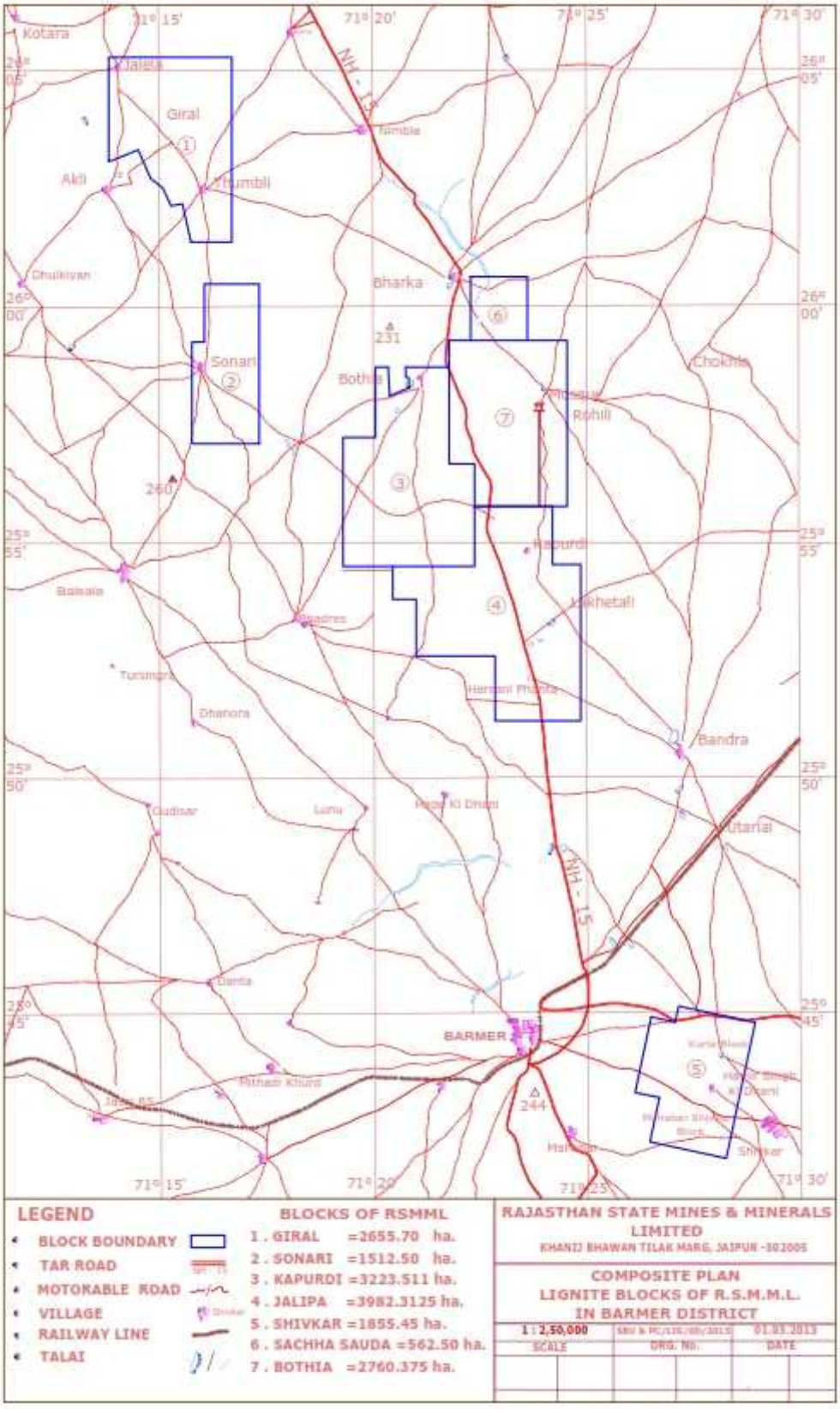
REVISED AREA =1855.45 ha.

(P.R. Gehlot)
Surveyor

(R.K. Verma)
Manager (Geol.)

(R. K. Joshi)
Gr. General Manager (Lignite)

ANNEXURE-III



List of plates:

Plate No.	Title
1	Location Map
2	Key Plan
3	Surface Plan
4	Geological Plan
5	Position of pit at the end of 5th Year
6	Position of pit at the end of 25th Year
7	Position of pit at the end of life of mine
8	Ultimate Pit floor plan
9	Post Mine Closure

List of Annexures :

Annexure	Title
I	Block Allocation letter
II	Revised ML Application & Plan Showing area
III	Composite Plan of Lignite Blocks