EXECUTIVE SUMMARY

FOR

DHIRAULI COAL MINING OF 6.5 MTPA (5 MTPA OPEN CAST & 1.5 MTPA UNDERGROUND) CAPACITY OVER AN AREA OF 2672 HA
AT
VILLAGE: DHIRAULI, PHATPANI, SIRSWAH, AMDAND, JHALARI, AMRAIKHOH, BANSIBRIDHA, AND BELWAR, TEHSIL – SARAI, DISTRICT- SINGRAULI, MADHYA PRADESH

STUDY PERIOD: MARCH TO MAY 2021 AND OCT TO DEC 2021

(project is listed under activities 1(a) Mining of Minerals under the Schedule of EIA Notification, 2006 and categorized as Category-A.)

APPLICANT
M/s STRATATECH MINERAL RESOURCES PRIVATE LIMITED
Adani Corporate House, Shantigram, Nr. Vaishnodevi,
S G Highway Khodiyar, Ahmedabad-382421, Gujarat
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ENVIRONMENT CONSULTANT
VARDAN ENVIRONET
(QCI/NABET ACCREDITED NO. (NABET/EIA/1922/RA0166)
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PROJECT DESCRIPTION

Dhirauli Coal Mining Project of Opencast cum Underground mine with the capacity of 6.5 MTPA (5 MTPA open cast & 1.5 MTPA underground) in mine lease area of 2672 ha located at Dhirauli, Phatpani, Sirswah, Amdand, Jhalari, Amraikhoh, Bansibridha, and Belwar by M/s Stratatech Mineral Resources Private limited (SMRPL).

The proposed project is listed under activities 1(a) and 2(b), Mining of Minerals and Mineral Beneficiation under the Schedule of EIA Notification, 2006 and categorized as Category-A.

STAGES OF ENVIRONMENTAL CLEARANCE	DATE
As per the vesting order no: NA-104/7/2020-NA dated 3rd March 2021, ia, Ministry of Coal has allocated the Dhirauli coal Block to Stratatech Mineral Resources Private Limited (SMRPL), the total mining lease area of Dhirauli Coal Mining is 2672 Ha.	03.03.2021
Mining plan was approved by Ministry of Coal vide letter no. File No.MPS-34011/4/2021-MPS dated 04.05.2021.	04.05.2021.
Forestry clearance Out of the total 2672 Ha Lease Area, 1335.35 Ha is forest Land. Forest application for diversion of 1436.19 ha of forest land submitted vide proposal no. FP/MP/MIN/142344/2021 dated 08th June 2021.	03.08.2021
R&R Plan for the project affected people is prepared and will be done as per the provisions and recommendations mentioned in RTFCTLARRA, 2013	
Terms of Reference (TOR) for the project by the Ministry of Environment, Forest and Climate Change (MoEF&CC) letter no. J-11015/49/2021-IA. II (M) dated 3rd August, 2021.	03.08.2021

MINE SITE DETAILS

S. No.	Description	Particulars
1.	**Name of the Project**	Dhirauli Coal Mining Project of Opencast cum Underground mine with the capacity of 6.5 MTPA (5 MTPA open cast & 1.5 MTPA underground) in mine lease area of 2672 ha located at Dhirauli, Phatpani, Sirswah, Amdand, Jhalari, Amraikhoh, Bansibridha, and Belwar by M/s Stratatech Mineral Resources Private limited (SMRPL).
2.	**Location**	
3.	**Villages**	Dhirauli, Phatpani, Sirswah, Amdand, Jhalari, Amraikhoh, Bansibridha, and Belwar
	Tehsil	Sarai
	District	Singrauli
	State	Madhya Pradesh
	Latitude	23°56'8.050"N to 23°58'59.036"N
	Longitude	82°19'4.382"E to 82°24'20.086"E

	Toposheet No.	64 I/5
4.	**Type of the Project**	Opencast and underground mine
5.	**Life of mine**	Opencast- 40 years; Underground- 87 years
6.	**Geological Reserves**	Gross Geological Reserve – 620.013 Mt Net Geological reserves – 558.011 Mt Opencast Mine – 260.263 Mt Underground Mine – 297.748 Mt
7.		
8.		
9.		
10.	**Net Minable Reserves**	Total- 313.79 Mt Opencast Mine – 195.74 Mt Underground Mine – 118.05 Mt
11.	**working regimen**	330 Days/ 3 shift per day / 8 hrs.
12.	**Employment potentiality**	Total 900 (Direct/Indirect)
13.	**Water Requirement**	Existing Water Requirement- 1400 **per day** Water requirement for sprinkling at mine haul roads- 340 Service water requirement for CHP & dust suppression system- 500 Water requirement for Base Work Shop & other miscellaneous purposes- 100 Water requirement for green belt development and biological reclamation-750 Evaporation loss-20 Potable Water (Drinking and sanitation water requirement in Mine)-50
14.	**Details of Wildlife Sanctuaries, National Park, eco-sensitive Zones, within 10 km radius?**	No vulnerable park, wildlife sanctuary, reserve etc. exist within 10 km of the study area
15.	**Total cost of the project**	Rs 2800 Crores
16.	**Fund Provision for EMP**	Capital-1285.28 Recurring-190 Total-1475.28

Need of Project:

Coal is the primary source of energy supply in India. About 55% of the current commercial energy use is met by coal. Rising demand for energy and coal as the primary energy source make it a significant resource in the country. Opening of Dhirauli coal mine will have the following benefits:

- Increase supply of coal for India's power programme.
- Reduces power shortages hindering growth, foreign investment and productivity.

- Generate additional employment, both direct and indirect which will lead to economic growth of the industrial sector as well as country.
- Quality of life of local populace in villages shall improve due to company's community development programmes.

MACHINERY TO BE DEPLOYED IS LISTED BELOW:

Sl no	Particulars	Capacity	No. of equipment
HEMM			
Overburden:			
1.	Hydraulic shovel	3-4.5 cu.m.	20
2.	Rear Dumper	35 T	98
3.	Dozer	410 HP	2
4.	Ripper Attachment		2
5.	Hydraulic shovel	10-12 cu.m.	7
6.	Rear Dumper	100 T	49
7.	Dozer	410 HP	8
8.	Blast Hole Drill	160 mm	15
Coal (OCP)			
1.	Surface Miner	2200/3800	2
2.	Hyd. Shovel	5-6 m3	2
3.	Front End Loader	5-6 m3	3
4.	Rear Dumper	35	22
5.	Wheel Dozer	410 HP	6
6.	Ripper attachment		2
7.	Blast Hole Drill	160 mm	2
Coal (UG)			
1.	Continuous Miner (CM)		3
2.	Shuttle Cars		6
3.	Twin Roof Bolting Machines		6
4.	Feeder Breaker with suitable power pack		3
5.	Belt Conveyors		
6.	LHD		3
7.	Material Haulage		
8.	Main & Auxiliary Fan		4
Common			

Sl no	Particulars	Capacity	No. of equipment
HEMM			
Overburden:			
1.	Hyd. Exc.(Backhoe)	1.2-2.5m3	2
2.	Motor Grader	280 HP	2
3.	Vibratory Compactor	30 T	1
4.	Explosive Van	10T	2
5.	Wheel Dozer	410HP	1
6.	Mobile R.T. Crane	75T	1
7.	R.T. Crane	30T	1
8.	R.T. Crane	8T	2
9.	Front End Loader	5-6M3	1
10.	Water Sprinkler	28 Kl	4
11.	Wagon Drill	100-120mm	2
12.	Diesel Bowser	10KL	2
13.	Tyre Handler		2
14.	Fire Tender		1
15.	Tipping Trucks	10T 2	2
16.	Maintenance Van		2
17.	Ambulance		1

BASELINE STUDY:

Parameters	(March to May 2021)	(October to December 2021)
Ambient Air Quality	PM_{10} – 61.30 to 26.50 µg/m^3 $PM_{2.5}$ – 40.2 to 15.8 µg/m^3 SO_2 – 25.1 to 12.5 µg/m^3 NOx – 34.2 to 16.4 µg/m^3	PM_{10} – 63.30 to 30.80 µg/m^3 $PM_{2.5}$ – 50.40 to 24.60 µg/m^3 SO_2 – 35.10 to 17.40 µg/m^3 NOx – 26.30 to 12.30 µg/m^3
Noise Level	Noise Level During Day Time – 65.2 and 42.2 dB (A) Noise Level During Night Time – 62.1 to 39.3 dB(A)	Noise Level During Day Time – 65.2 and 42.2 dB (A) Noise Level During Night Time – 62.1 to 39.3 dB(A)
Water Quality	**Ground Water:** All the Parameters Like pH varies from 6.61 to 7.54, Total Hardness varies from 77.9 to 263.4 mg/L,Total Dissolved Solids varies from 162 to 389 mg/L, Chlorides – 27.4 to 66.4 mg/l etc.are found within the permissible limits.	**Ground Water:** All the Parameters Like pH varies from 7.32 to 7.58, Total Hardness varies from 170.12 to 325.12 mg/L, Total Dissolved Solids varies from 376 to 473 mg/L, Chlorides – 46.89 to 81.53 mg/l etc. are found within the permissible limits.
	Surface Water: All the Parameters Like pH varies from 7.34 to 7.67,Total Hardness varies from 48.1 to 93.1 mg/L, Total	**Surface Water:** All the Parameters Like pH varies from 7.45 to 7.64, Total Hardness varies from 336.25 to 436.89 mg/L, Total

Parameters	(March to May 2021)	(October to December 2021)
	Dissolved Solids varies from 97 to 152 mg/L, Dissolved Oxygen – 5.1 mg/l to 5.7 mg/l etc. are found within the permissible limits.	Dissolved Solids varies from 995 to 1051 mg/L, Dissolved Oxygen – 5.7 mg/l to 6.5 mg/l etc. are found within the permissible limits.
Soil Quality	pH- 4.89 to 7.06 Organic matter- 0.43% to 1.34 %	pH- 7.43 to 7.76 Organic matter- 0.26 %to 0.51 %
Ecology And Biodiversity	There is no wildlife sanctuary/biosphere reserve/national parks present within 10 Km radius of the study area. No species of schedule-I was observed during study.	There is no wildlife sanctuary/biosphere reserve/national parks present within 10 Km radius of the study area. No species of schedule-I was observed during study.
Socio Economic	The proposed expention case will provide positive impact to the nearby area. The project will provide direct and indirect employment to nearby villagers.	The proposed expention case will provide positive impact to the nearby area. The project will provide direct and indirect employment to nearby villagers.

ECONOMIC PROVISION FOR BASIC AMENITIES (CER)

The project cost is 2800 Crores,. The activities to be undertaken under CER shall be restricted to the affected area around the project only as per public hearing issues.

ECONOMIC PROVISION FOR ENVIRONMENTAL MANAGEMENT

Sl. No.	Environmental Protection Measures	Capital Cost (Rs. In lakhs)	Recurring Cost (Rs. In lakhs/year)
1	**Air Pollution Control Measures** Dry fog Dust Suppression Systems at CHP, and Loading Point	75	60
2	**Water Pollution Control Measures**		50
	Construction of Garland drain	43	
	Construction of Garland drain around the OB dump	15	
	Toe wall around the dump	60	
3	Noise Pollution Control Measures	6	10
4	Greenbelt Development		
i	Plantation over virgin area Plantation over virgin area	37	50
ii	**Technical and Biological reclamation of Mines out land & OB dump plantation	83.35 895.93	
5	Rainwater Harvesting	50	10

6	Fire Fighting and Safety measures	20	10
Total		**1285.28**	**190**
Total EMP Budget		**1475.28**	

WATER REQUIREMENT:

The demand of water for the project has been estimated as per industrial norms. The requirement of water for various purposes has been furnished below:

Sl.no.	Industrial water	m3 /day
1	Water requirement for sprinkling at mine haul roads	340
2	Service water requirement for CHP & dust suppression system	500
3	Water requirement for Base Work Shop & other miscellaneous purposes	100
4	Water requirement for green belt development and biological reclamation	750
5	Evaporation loss	20
6	Potable Water (Drinking and sanitation water requirement in Mine)	50
Total		**1400**
Add 10 % design allowance		140
Net water demand		1540
considering 18 hrs/day of operation		85.56m3/Hr

MAN POWER REQUIREMENT:

Mine shall provide an opportunity of direct and indirect employment to 900 peoples.

ENVIRONMENTAL MANAGEMENT PLAN

Remedial Measures for Noise Control

- Selection of low noise generating machinery/equipment.
- Engineering specifications shall be stipulated during tendering as a condition to maintain noise level equal to or less than 85 dB (A) at 1 m from each source.
- Provision of rubber padding/noise isolators/silencers to modulate the noise generated by machinery/equipment, wherever possible.
- Provision of protective devices like earmuff/ plugs for the workers.
- Preventive maintenance of machinery/equipment and vehicles.
- The high noise zones at site will be properly mark, information on noise, the risks of exposure to noise and the appropriate control measures shall be displayed at the workplace.

Remedial Measures for Air Pollution Control

To minimize the dust pollution due to vehicular traffic, proper upkeep and maintenance of vehicles, sprinkling of water on haul roads & construction site and providing sufficient vegetation all-around

- Proper mitigation measures like water sprinkling on haul roads will be adopted to control fugitive
- dust emission.
- To control the emissions regular preventive maintenances of equipments will be done to adopt
- Conveyer belt will be utilized

Development of Green Belt: Project proponent has proposed to plant 60,30,275 trees on 2412.11 Ha (2500 trees/Ha) area till the conceptual period of the mine with 90% survival rate.