MINERAL BLOCK SUMMARY

KANTHER KOIRA MANGANESE MINES, DIST: SUNDERGARH, ODISHA

<table>
<tr><th>Sl No.</th><th>Features</th><th>Details</th></tr>
<tr><td rowspan="8">1</td><td>Location</td><td>Located in Sundergarh district of Odisha.</td></tr>
<tr><td>Mineral Block</td><td>Kanther-Koira Manganese Mine</td></tr>
<tr><td>Longitude & Latitude</td><td>
<table>
<tr><th>PILLAR</th><th>LONGITUDE</th><th>LATITUDE</th></tr>
<tr><td>BP-A</td><td>85°20'09.67128"</td><td>21°53'45.34519"</td></tr>
<tr><td>BP-B</td><td>85°20'09.45960"</td><td>21°53'37.52322"</td></tr>
<tr><td>BP-C</td><td>85°20'19.04712"</td><td>21°53'35.45181"</td></tr>
<tr><td>BP-D</td><td>85°20'18.38148"</td><td>21°53'33.43425"</td></tr>
<tr><td>BP-E</td><td>85°20'07.90944"</td><td>21°53'31.76120"</td></tr>
<tr><td>BP-E1</td><td>85°20'06.82764"</td><td>21°53'30.86401"</td></tr>
<tr><td>BP-E2</td><td>85°20'05.27856"</td><td>21°53'30.17322"</td></tr>
<tr><td>BP-E3</td><td>85°20'04.14780"</td><td>21°53'28.45605"</td></tr>
<tr><td>BP-E4</td><td>85°20'04.03260"</td><td>21°53'26.64665"</td></tr>
<tr><td>BP-F</td><td>85°20'04.68996"</td><td>21°53'25.24575"</td></tr>
<tr><td>BP-G</td><td>85°19'48.23580"</td><td>21°53'22.41041"</td></tr>
<tr><td>BP-H</td><td>85°19'48.09324"</td><td>21°53'19.42033"</td></tr>
<tr><td>BP-I</td><td>85°19'19.66116"</td><td>21°53'12.60373"</td></tr>
<tr><td>BP-J</td><td>85°19'21.99900"</td><td>21°53'15.21582"</td></tr>
<tr><td>BP-K</td><td>85°19'21.97884"</td><td>21°53'29.30542"</td></tr>
<tr><td>BP-L</td><td>85°19'23.71440"</td><td>21°53'31.02164"</td></tr>
<tr><td>BP-M</td><td>85°19'25.15728"</td><td>21°53'30.65136"</td></tr>
<tr><td>BP-N</td><td>85°19'30.38664"</td><td>21°53'39.72271"</td></tr>
<tr><td>BP-O</td><td>85°19'28.17336"</td><td>21°53'40.40494"</td></tr>
<tr><td>BP-P</td><td>85°19'28.19712"</td><td>21°53'43.78671"</td></tr>
<tr><td>BP-Q</td><td>85°19'28.03764"</td><td>21°53'45.78566"</td></tr>
</table>
</td></tr>
<tr><td>Villages</td><td><u>Village</u>: Kanther-Koira</td></tr>
<tr><td>Tahasil</td><td>Koira</td></tr>
<tr><td>District</td><td>Sundergarh</td></tr>
<tr><td>State</td><td>Odisha</td></tr>
<tr><td rowspan="4">2</td><td colspan="2">Area (Hects)</td></tr>
<tr><td>Total block area</td><td>73.653 Ha (Area as per DGPS computation =73.301 Ha)</td></tr>
<tr><td>Mineralised area</td><td>14.796 Ha</td></tr>
<tr><td>Non-Mineralised area</td><td>58.857 Ha</td></tr>
<tr><td rowspan="3">3</td><td colspan="2">Exploration</td></tr>
<tr><td>Status (G2/G3/G4)</td><td>The total lease area of 73.653 Ha is explored under G2 level of exploration.</td></tr>
<tr><td>Exploration agency</td><td><u>Name of prospecting /exploration agency</u>:
M/s. Rungta Mines Ltd.
<u>Address</u>:<u>Village</u>: Kanther-Koira</td></tr>
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		Koira, Dist.: Sundergarh State: Odisha
	Total Nos. of boreholes with meterage	358 Boreholes, 15838.80m
	Borehole Spacing	20 m to 100m
4	**Qty. of minerals grade wise**	
	Mineral	Manganese (100% Lumpy)
	Total Geological Resources	

Level of Exploration	Resources of Manganese Ore in tonnes as on 01.01.2019	Grade	Average Grade of ore (Mn%)
Upto G2-General exploration level	**609990**	10% - 25% Mn	15.23
	28233	25% Mn & above	27.60
Total	**638223**	10% Mn & above	16.01

	Projected Resources As on Date 31.03.2020 considering depletion (Production up to 31.03.2019 is 0.00293 mt & likely production as per EC limit-0.02 mt= Total 0.022955mt)	

Level of Exploration	Resources of Manganese Ore in tonnes	Grade	Average Grade of ore (Mn%)
Upto G2-General exploration level	**588050.20**	10% - 25% Mn	15.23
	27217.53	25% Mn & above	27.60
Total	**615267.73**	10% Mn & above	16.01

5	**Mineralised Zone**	
	Nos. of Mineralised zones	5
	Trend (Dip & Strike)	General strike of the ore body is NNE-SSW. The dip is generally towards south and the dip amount varies 34 to 40^0
	Total thickness	3 – 4 metres
6	**Grade**	
	Grade	10% - 25% Mn, Average Mn% 15.23

		25% Mn & above, Average Mn% 27.60 100% Lumps
	Minerals	Manganese
7	**Accessibility**	
	Nearest Railhead	Nearest railway station Barbil is 35 Kms from the lease, to connect Tata Nagar, Kolkata & Bhubaneswar
	Road	National Highway-215 is 1 Km away from the lease area
	Airport	Bhubaneswar
8	**Hydrography**	
	Local surface drainage pattern (channels)	The drainage system within the lease hold area is very poor. A few sets of dry nallas are found to traverse the area. A set of dry nalla to the extreme southern corner of the mining lease flows towards west and is of very small magnitude. Another null flowing from south east to north direction, along the north eastern lease boundary. The nallas are seasonal and contain water only during the rainy season.
	River/ Streams	TeheraiNala (3Km)
9	**Climate**	
	Mean Annual Rainfall	The average annual rainfall in the past one decade was 748.6mm with the highest precipitation in august when about 80% of the rainfall was received in the area during the SW Monsoon(June to September) every year.
	Temperature (December)	4.8^0C
	Temperature (June)	47^0C
10	**Topography**	
	Toposheet Nos.	73 G/5
	Morphology of the area	The area is a hilly terrain with rugged topography and a few set of dry nalla are found to traverse the area. A part of the lease area falls under BhaniPahar reserve forest. The highest and lowest contours are 678m and 576m respectively and passes through the south west part of the lease hold (highest contour) and north east part of the lease hold (lowest contour) respectively.

PART B-PARTICULARS OF STATUTORY LICENSE, PERMITS, PERMISSIONS,

CONCESSIONS, APPROVALS AND CONSENTS RELATED TO MINING OPERATIONS

Sl. No.	Particulars	Details/Status
1	Forest Clearance	*To be obtained by the Successful bidder/not applicable/if available, State to provide details*
2	Wild life Clearance(Sanctuary, Reserve or Special Zone Clearances	-do-
3	Environmental Clearance	-do-
4	Consent to Establish	-do-
5	Explosive License	-do-
6	Permission for Mines opening	-do-
7	Permission of Installation, tiral operation of equipment	-do-
8	Ground water clearance (Centre/State)	-do-
9	Railway Siding approval	-do-
10	Approval of Diesel storage	-do-
11	Power line from State Discom	-do-

12	Clearanc relating to work under an existing transmission line or shifting of the transmission line	-do-
13	Gramasabha consent	-do-

PART C – PARTICULARS OF LAND		
Sl. No.	**Area**	**Details**
1	Total concession area	73.301 Ha.
2	Forestland with status	Forest : 35.487 Hect.
3	Non-Forest Govt & Private land with status	37.814 Hect.
4	Revenue survey details of the area	Referred to Land Schedule