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Mining Happiness

Letter No. 7916 /OMC/F&E/2025

19th May, 2025

To

The Divisional Forest Officer
Keonjhar Wildlife Division
Anandapur

Sub: Proposal for diversion of balance forest land of 746.3325 ha in favour of M/s OMC Ltd. within total forest land of 846.3995 ha located within approved Mining lease area of 1018.3085 ha for Iron Ore Mining in Daitari Mining lease in Cuttack Forest Division of Jajpur District and Keonjhar (WL) Division of Keonjhar District, Odisha) - reg.

Ref.: Letter No.8-28/2015 FC dt.17.05.2024byMoEF&CC, Govt. of India (FC Division).

Sir,

MoEF&CC, Govt. of India while examining the proposal for diversion of 746.3325 ha of balance forest land pertaining to Daitari Iron Ore Mines of OMC Ltd. in Keonjhar and Jajpur district of Odisha has sought information on eight observations vide letter cited under reference for consideration of Stage-I Forest Clearance in respect of the captioned proposal. The point wise reply to the observations raised is given as under:

i) The revised KML of project area along with attributes of forest and non-forest area & ownership/managing agency;

Reply by OMC: It is submitted that the revised KML of project area over 405.26 ha [Forest: 344.25 ha (Diverted: 95.60 ha + Virgin: 248.65 ha) + Non-forest: 61.01 ha] is given in the CD enclosed herewith. The attributes of forest and non-forest area& ownership/managing agency is given as under:

Sl. No.	Name of the area	Area in Ha	Managed by	Remarks
Keonjhar (WL) Division, Anandapur, Keonjhar District				
1	Rebena Reserved Forest (RF)	142.62	Forest Dept.	RF part of area proposed for Diversion
2	Rebena RF	59.254	Forest Dept.	Approved by MoEF& CC
3	Rakhita, Gramya Jungle	3.78	Revenue Dept.	RF part of area proposed for Diversion
	Sub-Total	**205.654**		
4	Non-forest land	61.01	Revenue Dept.	
	Total (A)	**266.664**		
Cuttack Forest Division, Jajpur District				
5	Daitari Protected Forest (PF)	102.25	Forest Dept.	PF part of area proposed for Diversion
6	DaitariPF	36.346	Forest Dept.	Approved by MoEF& CC
	Total (B)	**138.596**		
	Grand Total (A+B)	**405.26**		

The authenticated details of the same is enclosed as **Annexure-I**.

ii) Updated report on the number and species of trees affected after reassessment of the reduced area (forest as well as non-forest area) recommended by the ICFRE for taking up mining activities.

Reply by OMC: It is submitted that out of the reduced area of 405.26 ha recommended by ICFRE 205.654 ha of forest land and 61.01 ha of non-forest land is coming under Keonjhar Wildlife Division, Anandapur and 138. 596 ha of forest land is coming under Cuttack Forest Division. OMCvide letter No. 8908/OMC/F&E/2024 dt. 01.06.2024 requested DFO, Cuttack and vide letter No. 8906/OMC/F&E/2024 dt. 01.06.2024 requested DFO, Keonjhar Wildlife Division, Anandapur to pass necessary instruction to carryout enumeration of trees standing on the revised forest and non forest area. The entire enumeration work has been completed under the direct supervision of Cuttack Forest Division and Keonjhar (WL) Division. Enumeration has been carried out taking 10 no. sample plots of 2 Ha each both in Rebena RF and Daitari PF, whereas detail tree enumeration has been carried out over 3.78 ha of Revenue Forest and 61.01 ha of non-forest land. The brief of the tree enumeration conducted is given as under:

Sl. No.	Name of the area	Area in Ha	No. of trees enumerated	No. of trees to be felled.
Keonjhar (WL) Division, Anandapur, Keonjhar District				
1	Rebena RF	142.62	8266 (10 Sample plots)	58945
2	Rebena RF	59.254	0	0
3	Rakhita, Gramya Jungle	3.78	705	705
Sub-Total				59650
4	Non-forest land	61.01	10803	10803
Total (A)				70453
Cuttack Forest Division, Jajpur District				
5	Daitari Protected Forest	102.25	11247 (10 Sample plots)	57501
6	Daitari Protected Forest	36.346	0	0
Total (B)				57501
Grand Total (A+B)				127954

As per above, 70453 no. of trees standing in area coming under Keonjhar (WL) Forest Division (59650 nos. in forest land and 10803 nos. in non forest land) and 57501 no. of trees standing in area coming under in Cuttack Forest Division will be affected due to mining and ancillary activities.

The detailed updated report on the number and species of trees going to be affected considering the reduced area of 405.26 ha, recommended by ICFRE, duly authenticated by DFO, Cuttack Forest Division and DFO, Keonjhar (WL) Division is enclosed as **Annexure-II**.

iii) A considered opinion on impact of mining operations on 28 rare, endangered and threatened species found in the area and mitigation measures proposed for their conservation and protection.

Reply by OMC: It is submitted that ICFRE vide F. No. 1-99/2019-ADG (EM)/IOM DML (WL) ICFRE/1101 dt. 15.07.2024 has submitted a suitable reply referring Chapter-7, Section 7.3.1.1 of their final report. The copy of the letter by ICFRE with enclosures is given as **Annexure-III** for kind perusal.

In the said letter, threat to 27 RET species (out of 28) has been suggested to be mitigated through in-situ conservation. One species named *Entadarheedei* has been suggested to be protected through *ex-situ* conservation and for this, a species-specific conservation plan is required to be prepared and implemented. Hence, in line with the suggestion, a request has been made before DFO, Keonjhar WL Division vide letter no. 7857 dt. 17.05.2025, copy of the letter is enclosed as **Annexure – IV**.

iv) Comments and recommendations of the Water Resource Department on the impact of the mining on the local hydrological regime in the and around the lease area on the proposed mining may be submitted by the State.

Reply by OMC: Comments and recommendations of the Water Resource Department on the impact of the mining on the local hydrological regime in the and around the lease area on the proposed mining has been obtained vide letter No. 35618, dt. 26.12.2024, copy of the same is enclosed as **Annexure-V(A)**and an undertaking by OMC Ltd. to adhere the recommendations made by Water Resource Department is given at **Annexure-V(B)**.

v) A summary of the total mining leases approved under the Adhiniyam vis-à-vis their approved peak capacity and production level actually achieved in general and in r/o OMC leases in particular. The State Government shall also submit its comments on opening of such a huge area having sensitive conservation issues vis-a-vis the target of production and estimated shortfall in coming years;

Reply by OMC: A summary of total mining leases approved under the Adhiniyam with their approved peak capacity and production level actually achieved during FY 2024-25 of mining leases of OMC is enclosed as **Annexure-VI**.

Further it is submitted that, OMC vide letter No. 10642/OMC/F&E/2024 requested the Director of Mining & Geology, Department of Steel and Mines, Govt. of Odisha to share its comments on opening of such a huge area having sensitive conservation issues vis-a-vis the target of production and estimated shortfall in coming years to submit with MoEF&CC, Govt. of India to comply the condition. It is learnt that, Dept. of Steel and Mines, Govt. of Odisha has shared comments on the justification of using the reduced area within Daitari ML considering the conservation issues and production and estimated shortfall in coming years. Copy of the letter is enclosed as **Annexure-VII**. It has been clarified that following the Viksit Bharat Vision Document, the target for production of Iron Ore would be about 250 Million tonnes and 320 million tonnes by the end of 2036 & 2047 respectively. To achieve the huge target of 320 MMT by 2047, around 403 Sq. Kms of iron Ore bearing land would be required to be brought under mining operations. Currently, OMC Ltd. contributes 20% of the total iron ore production in the State. Following, the same pace and ratio of production, the OMC Ltd. would be required to produce at least 64 MMT of Ore annually in order to contribute towards the target production of 320 MMT by 2047.

vi) The revised mining plan for reduced area recommended by the ICFRE in its report, may be provided by the State Government.

Reply by OMC: It is submitted that the Mining Plan (MP) already approved by IBM vide letter No.BBS/IIP/ IRON/2197/MRMP/2022-23 dt 28.11.2022 over the ML area of 1018.3085 ha has been revised and approved vide letterNo. RMP-2308/2024-25-IBM_RO_BBS dt. 26.12.2024considering the mine working till conceptual period confined to the revised area of 405.26 ha recommended by ICFRE out of the total ML area over 1018.3085 ha. The copy of the revised approved MP by IBM showing mine working within the reduced area recommended by ICFRE is enclosed as **Annexure-VIII**.

vii) The revised cost benefit analysis after accounting the EG & S being lost and net economic gains from project to be submitted by the State.

Reply by OMC: It is submitted that basing on the request made by OMC vide letter No. 9960/OMC/F&E/2024 dt 19.06.2024, ICFRE vide F. No. 1-99/2019-ADG (EM)/IOM-DML(WL)-ICFRE/1101 dt

15.07.2024 has submitted a suitable reply referring Chapter-5, Table No.5.8 of the Final Report (Vol-I) by ICFRE. ICFRE has also intimated that the EG&S losses in monetary terms have been given at Column-I of the Table 5.8. The copy of the letter by ICFRE along with enclosures are given at **Annexure-IX** for kind perusal.

viii) The ICFRE has recommended mining over reduced area which was further suggested to be reduced by the Sub-Committee of AC. The State Government and user agency may comment on the economic feasibility of mining operations over reduced area.

Reply by OMC: It is submitted that, comments on the economic feasibility of mining operation over reduced area is given at **Annexure-X**, as examined the requirement of revised area of 405.26 ha is the bare necessity to continue mining at Daitari Iron Ore Mines.

Yours faithfully,

Encl.: As above

(Debendra Kumar Nanda)
Chief Vigilance Officer and Land Officer
Authorized Signatory

Annexure-I

ATTRIBUTES OF THE REVISED FOREST AND NON-FOREST AREA OVER 405.26 HA WITH OWNERSHIP/MANAGING AGENCY PERTAINING TO DAITARI IRON ORE MINES OF OMC LTD.

A. ATTRIBUTES OF REVISED FOREST AND NON-FOREST AREA:

NON-FOREST PATCH-1						
SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING	REMARKS
1	1	21° 6' 42.892"	85° 47' 30.739"	374527.588	2335010.138	Keonjhar-Division
2	2	21° 6' 42.689"	85° 47' 29.432"	374489.839	2335004.162	Keonjhar-Division
3	3	21° 6' 41.548"	85° 47' 28.493"	374462.463	2334969.278	Keonjhar-Division
4	4	21° 6' 39.658"	85° 47' 27.438"	374431.587	2334911.396	Keonjhar-Division
5	5	21° 6' 37.382"	85° 47' 23.969"	374330.978	2334842.192	Keonjhar-Division
6	6	21° 6' 36.267"	85° 47' 21.511"	374259.776	2334808.433	Keonjhar-Division
7	7	21° 6' 36.566"	85° 47' 19.026"	374188.154	2334818.178	Keonjhar-Division
8	8	21° 6' 36.195"	85° 47' 16.347"	374110.787	2334807.365	Keonjhar-Division
9	29F2	21° 6' 33.750"	85° 47' 15.400"	374082.865	2334732.393	Keonjhar-Division
10	30F2	21° 6' 33.826"	85° 47' 16.073"	374102.306	2334734.570	Keonjhar-Division
11	9	21° 6' 36.162"	85° 47' 15.652"	374090.701	2334806.502	Keonjhar-Division
12	10	21° 6' 36.986"	85° 47' 16.264"	374108.552	2334831.716	Keonjhar-Division
13	11	21° 6' 37.201"	85° 47' 18.975"	374186.839	2334837.734	Keonjhar-Division
14	12	21° 6' 36.992"	85° 47' 21.663"	374264.328	2334830.699	Keonjhar-Division
15	13	21° 6' 39.274"	85° 47' 25.882"	374386.597	2334899.947	Keonjhar-Division
16	14	21° 6' 40.198"	85° 47' 23.003"	374303.747	2334928.973	Keonjhar-Division
17	15	21° 6' 40.266"	85° 47' 19.363"	374198.752	2334931.876	Keonjhar-Division
18	16	21° 6' 41.540"	85° 47' 15.986"	374101.621	2334971.803	Keonjhar-Division
19	17	21° 6' 40.158"	85° 47' 12.635"	374004.595	2334930.034	Keonjhar-Division
20	18	21° 6' 39.125"	85° 47' 11.342"	373967.064	2334898.550	Keonjhar-Division
21	19	21° 6' 38.718"	85° 47' 10.028"	373929.056	2334886.331	Keonjhar-Division
22	20	21° 6' 40.093"	85° 47' 7.003"	373842.094	2334929.279	Keonjhar-Division
23	21	21° 6' 41.533"	85° 47' 3.170"	373731.847	2334974.404	Keonjhar-Division
24	22	21° 6' 43.538"	85° 47' 0.553"	373656.805	2335036.638	Keonjhar-Division
25	23	21° 6' 45.191"	85° 46' 58.537"	373599.028	2335087.891	Keonjhar-Division
26	24	21° 6' 46.498"	85° 46' 58.793"	373606.710	2335128.016	Keonjhar-Division
27	25	21° 6' 47.992"	85° 47' 0.452"	373654.945	2335173.587	Keonjhar-Division
28	26	21° 6' 48.200"	85° 47' 2.213"	373705.785	2335179.618	Keonjhar-Division
29	27	21° 6' 51.660"	85° 47' 6.065"	373817.736	2335285.145	Keonjhar-Division
30	28	21° 6' 55.717"	85° 47' 6.216"	373823.051	2335409.862	Keonjhar-Division
31	29	21° 6' 58.716"	85° 47' 6.468"	373831.026	2335502.014	Keonjhar-Division
32	30	21° 7' 3.302"	85° 47' 8.873"	373901.485	2335642.506	Keonjhar-Division
33	31	21° 7' 5.444"	85° 47' 12.552"	374008.138	2335707.558	Keonjhar-Division
34	32	21° 7' 5.195"	85° 47' 18.351"	374175.391	2335698.611	Keonjhar-Division
35	33	21° 7' 4.843"	85° 47' 26.519"	374410.961	2335686.010	Keonjhar-Division
36	34	21° 7' 4.627"	85° 47' 31.542"	374555.830	2335678.260	Keonjhar-Division
37	35	21° 7' 3.868"	85° 47' 32.327"	374578.295	2335654.732	Keonjhar-Division
38	36	21° 7' 0.573"	85° 47' 32.262"	374575.643	2335553.445	Keonjhar-Division

SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING	REMARKS
39	37	21° 6' 55.980"	85° 47' 32.287"	374575.310	2335412.213	Keonjhar-Division
40	6F1	21° 6' 53.966"	85° 47' 33.965"	374623.237	2335349.910	Keonjhar-Division
41	5F1	21° 6' 53.964"	85° 47' 32.489"	374580.656	2335350.181	Keonjhar-Division
42	4F1	21° 6' 43.073"	85° 47' 32.497"	374578.357	2335015.308	Keonjhar-Division
FOREST PATCH-1						
1	1	21° 6' 51.442"	85° 47' 36.142"	374685.456	2335271.840	Keonjhar-Division
2	2	21° 6' 47.365"	85° 47' 37.529"	374724.530	2335146.178	Keonjhar-Division
3	3	21° 6' 43.578"	85° 47' 36.445"	374692.382	2335029.967	Keonjhar-Division
4	4F1	21° 6' 43.073"	85° 47' 32.497"	374578.357	2335015.308	Keonjhar-Division
5	5F1	21° 6' 53.964"	85° 47' 32.489"	374580.656	2335350.181	Keonjhar-Division
6	6F1	21° 6' 53.966"	85° 47' 33.965"	374623.237	2335349.910	Keonjhar-Division
FOREST PATCH-2						
1	1	21° 5' 44.030"	85° 48' 45.770"	376678.903	2333183.961	Keonjhar-Division
2	2	21° 5' 38.202"	85° 48' 44.503"	376641.001	2333005.024	Cuttack-Division
3	3	21° 5' 36.920"	85° 48' 41.969"	376567.575	2332966.163	Cuttack-Division
4	4	21° 5' 38.386"	85° 48' 38.272"	376461.226	2333012.012	Cuttack-Division
5	5	21° 5' 43.562"	85° 48' 25.222"	376085.853	2333174.004	Cuttack-Division
6	6	21° 5' 54.683"	85° 48' 21.096"	375969.372	2333516.825	Cuttack-Division
7	7	21° 6' 2.718"	85° 48' 21.539"	375984.003	2333763.793	Cuttack-Division
8	8	21° 6' 4.828"	85° 48' 11.909"	375706.623	2333830.746	Cuttack-Division
9	9	21° 6' 3.985"	85° 48' 3.557"	375465.437	2333806.658	Cuttack-Division
10	10	21° 5' 56.137"	85° 47' 52.397"	375141.600	2333567.779	Cuttack-Division
11	11	21° 6' 0.860"	85° 47' 41.532"	374829.198	2333715.378	Cuttack-Division
12	12	21° 6' 7.729"	85° 47' 37.990"	374728.584	2333927.354	Cuttack-Division
13	13	21° 6' 11.606"	85° 47' 36.654"	374690.950	2334046.861	Cuttack-Division
14	14	21° 6' 15.523"	85° 47' 31.373"	374539.481	2334168.451	Cuttack-Division
15	15	21° 6' 14.288"	85° 47' 26.207"	374390.134	2334131.616	Cuttack-Division
16	16	21° 6' 10.217"	85° 47' 17.286"	374131.781	2334008.381	Cuttack-Division
17	17	21° 6' 11.819"	85° 47' 13.844"	374032.852	2334058.396	Cuttack-Division
18	18	21° 6' 14.213"	85° 47' 8.711"	373885.288	2334133.136	Keonjhar-Division
19	19	21° 6' 16.265"	85° 47' 4.301"	373758.525	2334197.203	Keonjhar-Division
20	20	21° 6' 21.938"	85° 47' 3.383"	373733.370	2334371.857	Keonjhar-Division
21	21	21° 6' 26.287"	85° 47' 5.089"	373783.627	2334505.197	Keonjhar-Division
22	22	21° 6' 27.184"	85° 47' 6.814"	373833.592	2334532.380	Keonjhar-Division
23	23	21° 6' 28.897"	85° 47' 7.544"	373855.080	2334584.909	Keonjhar-Division
24	24	21° 6' 30.013"	85° 47' 8.905"	373894.606	2334618.924	Keonjhar-Division
25	25	21° 6' 30.535"	85° 47' 10.266"	373933.991	2334634.674	Keonjhar-Division
26	26	21° 6' 30.694"	85° 47' 13.463"	374026.266	2334638.841	Keonjhar-Division
27	27	21° 6' 30.928"	85° 47' 14.028"	374042.628	2334645.912	Keonjhar-Division
28	28	21° 6' 31.550"	85° 47' 14.708"	374062.406	2334664.912	Keonjhar-Division
29	29F2	21° 6' 33.750"	85° 47' 15.400"	374082.865	2334732.393	Keonjhar-Division
30	30F2	21° 6' 33.826"	85° 47' 16.073"	374102.306	2334734.570	Keonjhar-Division
31	31	21° 6' 33.037"	85° 47' 15.947"	374098.486	2334710.356	Keonjhar-Division
32	32	21° 6' 31.223"	85° 47' 15.248"	374077.910	2334654.720	Keonjhar-Division

SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING	REMARKS
33	33	21° 6' 30.438"	85° 47' 14.381"	374052.693	2334630.780	Keonjhar-Division
34	34	21° 6' 30.118"	85° 47' 13.618"	374030.597	2334621.096	Keonjhar-Division
35	35	21° 6' 29.956"	85° 47' 10.406"	373937.906	2334616.822	Keonjhar-Division
36	36	21° 6' 29.506"	85° 47' 9.236"	373904.043	2334603.243	Keonjhar-Division
37	37	21° 6' 28.544"	85° 47' 8.063"	373869.955	2334573.946	Keonjhar-Division
38	38	21° 6' 27.634"	85° 47' 7.685"	373858.835	2334546.024	Keonjhar-Division
39	39	21° 6' 29.257"	85° 47' 10.810"	373949.376	2334595.259	Keonjhar-Division
40	40	21° 6' 30.863"	85° 47' 18.078"	374159.468	2334643.029	Keonjhar-Division
41	41	21° 6' 28.404"	85° 47' 24.508"	374344.406	2334566.014	Keonjhar-Division
42	42	21° 6' 28.580"	85° 47' 33.727"	374610.461	2334569.417	Keonjhar-Division
43	43	21° 6' 23.360"	85° 47' 49.992"	375078.537	2334405.358	Keonjhar-Division
44	44	21° 6' 25.693"	85° 47' 53.480"	375179.731	2334476.326	Keonjhar-Division
45	45	21° 6' 29.758"	85° 48' 8.773"	375621.918	2334597.970	Keonjhar-Division
46	46	21° 6' 34.157"	85° 48' 24.304"	376071.030	2334729.868	Keonjhar-Division
47	47	21° 6' 32.990"	85° 48' 31.604"	376281.409	2334692.425	Keonjhar-Division
48	48	21° 6' 27.842"	85° 48' 35.460"	376391.469	2334533.303	Keonjhar-Division
49	49	21° 6' 13.694"	85° 48' 39.942"	376517.537	2334097.317	Keonjhar-Division
50	50	21° 6' 4.324"	85° 48' 43.780"	376626.115	2333808.359	Keonjhar-Division
51	51	21° 5' 59.644"	85° 48' 44.356"	376641.661	2333664.335	Keonjhar-Division
52	52	21° 5' 59.093"	85° 48' 44.420"	376643.405	2333647.386	Keonjhar-Division
53	BK-51	21° 5' 58.322"	85° 48' 45.720"	376680.727	2333623.418	Keonjhar-Division
54	53	21° 5' 55.136"	85° 48' 44.910"	376656.624	2333525.630	Keonjhar-Division
55	54	21° 5' 54.978"	85° 48' 44.928"	376657.107	2333520.756	Keonjhar-Division
56	ML1-15	21° 5' 58.081"	85° 48' 45.882"	376685.346	2333615.967	Keonjhar-Division
57	ML1-13	21° 5' 57.980"	85° 48' 46.300"	376697.373	2333612.777	Keonjhar-Division
58	55	21° 5' 53.844"	85° 48' 45.137"	376662.872	2333485.843	Keonjhar-Division
59	56	21° 5' 52.890"	85° 48' 45.184"	376664.003	2333456.499	Keonjhar-Division
60	BK-53	21° 5' 52.012"	85° 48' 45.749"	376680.111	2333429.369	Keonjhar-Division
61	DTS1	21° 5' 51.605"	85° 48' 46.256"	376694.664	2333416.752	Keonjhar-Division
62	DTS5	21° 5' 52.573"	85° 48' 47.207"	376722.310	2333446.323	Keonjhar-Division
63	DTS7	21° 5' 52.969"	85° 48' 48.146"	376749.513	2333458.297	Keonjhar-Division
64	DTS12	21° 5' 54.262"	85° 48' 49.363"	376784.919	2333497.774	Keonjhar-Division
65	DTS17	21° 5' 55.180"	85° 48' 50.875"	376828.758	2333525.675	Keonjhar-Division
66	DTS21	21° 5' 56.238"	85° 48' 51.239"	376839.492	2333558.140	Keonjhar-Division
67	DTS24	21° 5' 57.232"	85° 48' 51.408"	376844.602	2333588.654	Keonjhar-Division
68	DTS25	21° 5' 57.502"	85° 48' 51.746"	376854.428	2333596.884	Keonjhar-Division
69	DTS27	21° 5' 57.476"	85° 48' 52.279"	376869.796	2333595.994	Keonjhar-Division
70	DTS29	21° 5' 56.882"	85° 48' 52.387"	376872.777	2333577.707	Keonjhar-Division
71	DTS32	21° 5' 56.130"	85° 48' 52.506"	376876.032	2333554.547	Keonjhar-Division
72	DTS40	21° 5' 55.165"	85° 48' 52.265"	376868.851	2333524.933	Keonjhar-Division
73	DTS41	21° 5' 54.755"	85° 48' 52.016"	376861.590	2333512.368	Keonjhar-Division
74	ML1-23	21° 5' 55.727"	85° 48' 53.802"	376913.335	2333541.871	Keonjhar-Division
75	DTS98	21° 5' 58.402"	85° 48' 53.899"	376916.753	2333624.094	Keonjhar-Division
76	DTS105	21° 5' 59.420"	85° 48' 52.801"	376885.304	2333655.656	Keonjhar-Division
77	DTS110	21° 6' 0.410"	85° 48' 52.657"	376881.375	2333686.127	Keonjhar-Division

SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING	REMARKS
78	DTS115	21° 6' 1.537"	85° 48' 52.628"	376880.802	2333720.779	Keonjhar-Division
79	DTS120	21° 6' 1.678"	85° 48' 54.234"	376927.163	2333724.751	Keonjhar-Division
80	DTS123	21° 6' 1.832"	85° 48' 55.213"	376955.453	2333729.301	Keonjhar-Division
81	DTS127	21° 6' 2.221"	85° 48' 55.832"	376973.408	2333741.122	Keonjhar-Division
82	DTS127-A	21° 6' 3.067"	85° 48' 56.344"	376988.352	2333767.025	Keonjhar-Division
83	DTS140	21° 6' 4.136"	85° 48' 56.801"	377001.789	2333799.802	Keonjhar-Division
84	DTS147	21° 6' 4.752"	85° 48' 56.412"	376990.711	2333818.814	Keonjhar-Division
85	DTS150	21° 6' 5.213"	85° 48' 55.379"	376961.005	2333833.205	Keonjhar-Division
86	DTS153	21° 6' 5.393"	85° 48' 54.007"	376921.470	2333839.034	Keonjhar-Division
87	DTS154	21° 6' 6.066"	85° 48' 54.191"	376926.921	2333859.694	Keonjhar-Division
88	DTS156	21° 6' 5.915"	85° 48' 55.192"	376955.764	2333854.830	Keonjhar-Division
89	DTS159	21° 6' 5.623"	85° 48' 57.100"	377010.751	2333845.454	Keonjhar-Division
90	57	21° 6' 5.191"	85° 48' 57.712"	377028.311	2333832.040	Keonjhar-Division
91	58	21° 6' 5.544"	85° 48' 57.773"	377030.157	2333842.874	Keonjhar-Division
92	59	21° 6' 6.826"	85° 48' 56.974"	377007.390	2333882.452	Keonjhar-Division
93	60	21° 6' 9.252"	85° 48' 54.274"	376930.040	2333957.638	Keonjhar-Division
94	61	21° 6' 10.058"	85° 48' 52.481"	376878.495	2333982.818	Keonjhar-Division
95	62	21° 6' 10.390"	85° 48' 52.096"	376867.457	2333993.085	Keonjhar-Division
96	63	21° 6' 10.930"	85° 48' 52.153"	376869.242	2334009.676	Keonjhar-Division
97	64	21° 6' 11.470"	85° 48' 54.169"	376927.535	2334025.847	Keonjhar-Division
98	65	21° 6' 12.557"	85° 48' 56.192"	376986.161	2334058.841	Keonjhar-Division
99	66	21° 6' 15.548"	85° 48' 57.830"	377034.108	2334150.474	Keonjhar-Division
100	67	21° 6' 16.560"	85° 48' 59.260"	377075.577	2334181.272	Keonjhar-Division
101	68	21° 6' 17.197"	85° 48' 59.602"	377085.591	2334200.791	Keonjhar-Division
102	69	21° 6' 19.220"	85° 49' 1.610"	377144.014	2334262.568	Keonjhar-Division
103	70	21° 6' 19.933"	85° 49' 2.204"	377161.316	2334284.358	Keonjhar-Division
104	71	21° 6' 20.254"	85° 49' 2.233"	377162.220	2334294.203	Keonjhar-Division
105	72	21° 6' 20.182"	85° 49' 2.053"	377157.010	2334292.028	Keonjhar-Division
106	73	21° 6' 21.445"	85° 49' 0.368"	377108.687	2334331.242	Keonjhar-Division
107	74	21° 6' 21.899"	85° 48' 59.098"	377072.124	2334345.462	Keonjhar-Division
108	75	21° 6' 23.144"	85° 48' 56.963"	377010.813	2334384.220	Keonjhar-Division
109	76	21° 6' 24.217"	85° 48' 56.434"	376995.790	2334417.320	Keonjhar-Division
110	77	21° 6' 26.312"	85° 48' 56.480"	376997.620	2334481.732	Keonjhar-Division
111	78	21° 6' 29.056"	85° 48' 58.817"	377065.660	2334565.578	Keonjhar-Division
112	79	21° 6' 29.434"	85° 48' 56.527"	376999.685	2334577.692	Keonjhar-Division
113	80	21° 6' 30.193"	85° 48' 54.997"	376955.714	2334601.377	Keonjhar-Division
114	81	21° 6' 32.609"	85° 48' 54.688"	376947.334	2334675.717	Keonjhar-Division
115	82	21° 6' 35.460"	85° 48' 54.194"	376933.757	2334763.491	Keonjhar-Division
116	83	21° 6' 37.811"	85° 48' 53.755"	376921.623	2334835.868	Keonjhar-Division
117	84	21° 6' 40.630"	85° 48' 51.926"	376869.504	2334922.932	Keonjhar-Division
118	85	21° 6' 43.459"	85° 48' 50.317"	376823.724	2335010.282	Keonjhar-Division
119	86	21° 6' 43.610"	85° 48' 48.114"	376760.192	2335015.406	Keonjhar-Division
120	87	21° 6' 44.006"	85° 48' 46.487"	376713.334	2335027.932	Keonjhar-Division
121	88	21° 6' 44.298"	85° 48' 46.138"	376703.326	2335036.973	Keonjhar-Division
122	89	21° 6' 45.180"	85° 48' 44.345"	376651.803	2335064.479	Keonjhar-Division

SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING	REMARKS
123	90	21° 6' 45.493"	85° 48' 43.488"	376627.154	2335074.294	Keonjhar-Division
124	91	21° 6' 45.972"	85° 48' 42.757"	376606.179	2335089.173	Keonjhar-Division
125	92	21° 6' 49.097"	85° 48' 41.227"	376562.753	2335185.584	Keonjhar-Division
126	93	21° 6' 50.911"	85° 48' 40.028"	376528.583	2335241.631	Keonjhar-Division
127	94	21° 6' 51.818"	85° 48' 37.944"	376468.653	2335269.975	Keonjhar-Division
128	95	21° 6' 53.521"	85° 48' 35.950"	376411.503	2335322.763	Keonjhar-Division
129	96	21° 6' 54.115"	85° 48' 35.154"	376388.685	2335341.199	Keonjhar-Division
130	97	21° 6' 55.368"	85° 48' 32.738"	376319.280	2335380.242	Keonjhar-Division
131	98	21° 6' 55.667"	85° 48' 31.730"	376290.266	2335389.647	Keonjhar-Division
132	99	21° 6' 55.732"	85° 48' 30.211"	376246.450	2335391.968	Keonjhar-Division
133	100	21° 6' 55.148"	85° 48' 29.282"	376219.518	2335374.236	Keonjhar-Division
134	101	21° 6' 54.785"	85° 48' 29.167"	376216.111	2335363.081	Keonjhar-Division
135	102	21° 6' 54.364"	85° 48' 29.200"	376216.949	2335350.123	Keonjhar-Division
136	103	21° 6' 54.353"	85° 48' 29.203"	376217.050	2335349.791	Keonjhar-Division
137	104	21° 6' 54.346"	85° 48' 29.214"	376217.360	2335349.567	Keonjhar-Division
138	105	21° 6' 54.148"	85° 48' 31.496"	376283.165	2335342.985	Keonjhar-Division
139	106	21° 6' 53.867"	85° 48' 32.666"	376316.857	2335334.099	Keonjhar-Division
140	107	21° 6' 53.060"	85° 48' 34.211"	376361.230	2335308.970	Keonjhar-Division
141	108	21° 6' 52.038"	85° 48' 35.204"	376389.661	2335277.319	Keonjhar-Division
142	109	21° 6' 50.188"	85° 48' 37.372"	376451.763	2335219.955	Keonjhar-Division
143	110	21° 6' 49.572"	85° 48' 37.768"	376463.047	2335200.941	Keonjhar-Division
144	111	21° 6' 49.151"	85° 48' 37.778"	376463.262	2335187.988	Keonjhar-Division
145	112	21° 6' 48.974"	85° 48' 37.631"	376458.963	2335182.596	Keonjhar-Division
146	113	21° 6' 48.910"	85° 48' 37.177"	376445.860	2335180.702	Keonjhar-Division
147	114	21° 6' 49.075"	85° 48' 36.731"	376433.019	2335185.890	Keonjhar-Division
148	115	21° 6' 51.440"	85° 48' 33.862"	376350.782	2335259.234	Keonjhar-Division
149	116	21° 6' 51.941"	85° 48' 32.483"	376311.116	2335274.918	Keonjhar-Division
150	117	21° 6' 52.070"	85° 48' 31.388"	376279.571	2335279.139	Keonjhar-Division
151	118	21° 6' 51.599"	85° 48' 29.898"	376236.462	2335264.961	Keonjhar-Division
152	119	21° 6' 50.969"	85° 48' 28.685"	376201.313	2335245.852	Keonjhar-Division
153	120	21° 6' 50.792"	85° 48' 27.382"	376163.673	2335240.710	Keonjhar-Division
154	121	21° 6' 50.825"	85° 48' 26.550"	376139.687	2335241.886	Keonjhar-Division
155	122	21° 6' 49.442"	85° 48' 26.554"	376139.473	2335199.380	Keonjhar-Division
156	123	21° 6' 49.435"	85° 48' 23.371"	376047.653	2335199.847	Keonjhar-Division
157	124	21° 6' 52.690"	85° 48' 23.389"	376048.923	2335299.909	Keonjhar-Division
158	125	21° 6' 52.686"	85° 48' 26.507"	376138.870	2335299.123	Keonjhar-Division
159	126	21° 6' 50.990"	85° 48' 26.546"	376139.622	2335246.979	Keonjhar-Division
160	127	21° 6' 50.962"	85° 48' 27.374"	376163.504	2335245.914	Keonjhar-Division
161	128	21° 6' 51.127"	85° 48' 28.649"	376200.311	2335250.730	Keonjhar-Division
162	129	21° 6' 51.743"	85° 48' 29.812"	376234.002	2335269.407	Keonjhar-Division
163	130	21° 6' 52.236"	85° 48' 31.374"	376279.193	2335284.234	Keonjhar-Division
164	131	21° 6' 52.099"	85° 48' 32.526"	376312.399	2335279.779	Keonjhar-Division
165	132	21° 6' 51.581"	85° 48' 33.944"	376353.203	2335263.533	Keonjhar-Division
166	133	21° 6' 49.216"	85° 48' 36.824"	376435.752	2335190.187	Keonjhar-Division
167	134	21° 6' 49.133"	85° 48' 37.541"	376456.402	2335187.486	Keonjhar-Division

SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING	REMARKS
168	135	21° 6' 49.522"	85° 48' 37.602"	376458.257	2335199.428	Keonjhar-Division
169	136	21° 6' 50.083"	85° 48' 37.242"	376448.000	2335216.773	Keonjhar-Division
170	137	21° 6' 51.919"	85° 48' 35.082"	376386.103	2335273.692	Keonjhar-Division
171	138	21° 6' 52.931"	85° 48' 34.106"	376358.188	2335305.008	Keonjhar-Division
172	139	21° 6' 52.934"	85° 48' 34.103"	376358.085	2335305.119	Keonjhar-Division
173	140	21° 6' 53.712"	85° 48' 32.602"	376314.952	2335329.359	Keonjhar-Division
174	141	21° 6' 53.986"	85° 48' 31.471"	376282.401	2335338.010	Keonjhar-Division
175	142	21° 6' 54.248"	85° 48' 29.038"	376212.248	2335346.616	Keonjhar-Division
176	143	21° 6' 54.803"	85° 48' 28.991"	376211.026	2335363.673	Keonjhar-Division
177	144	21° 6' 55.246"	85° 48' 29.128"	376215.075	2335377.259	Keonjhar-Division
178	145	21° 6' 55.901"	85° 48' 30.175"	376245.450	2335397.178	Keonjhar-Division
179	146	21° 6' 55.825"	85° 48' 31.759"	376291.134	2335394.511	Keonjhar-Division
180	147	21° 6' 55.519"	85° 48' 32.807"	376321.288	2335384.876	Keonjhar-Division
181	148	21° 6' 54.248"	85° 48' 35.248"	376391.416	2335345.274	Keonjhar-Division
182	149	21° 6' 53.644"	85° 48' 36.065"	376414.855	2335326.502	Keonjhar-Division
183	150	21° 6' 51.955"	85° 48' 38.038"	376471.385	2335274.161	Keonjhar-Division
184	151	21° 6' 51.192"	85° 48' 39.874"	376524.181	2335250.299	Keonjhar-Division
185	152	21° 6' 54.734"	85° 48' 41.458"	376570.696	2335358.878	Keonjhar-Division
186	153	21° 6' 58.576"	85° 48' 43.852"	376640.649	2335476.470	Keonjhar-Division
187	154	21° 7' 0.674"	85° 48' 45.299"	376682.885	2335540.692	Keonjhar-Division
188	155	21° 7' 1.391"	85° 48' 46.721"	376724.076	2335562.413	Keonjhar-Division
189	156	21° 7' 0.937"	85° 48' 57.272"	377028.397	2335546.196	Keonjhar-Division
190	157	21° 7' 0.214"	85° 48' 58.180"	377052.121	2335523.769	Keonjhar-Division
191	158	21° 6' 58.255"	85° 49' 1.924"	377161.977	2335462.732	Keonjhar-Division
192	159	21° 6' 55.256"	85° 49' 8.904"	377362.685	2335369.029	Keonjhar-Division
193	160	21° 6' 53.417"	85° 49' 14.578"	377525.957	2335311.251	Keonjhar-Division
194	161	21° 6' 50.742"	85° 49' 14.812"	377532.099	2335228.957	Keonjhar-Division
195	162	21° 6' 48.582"	85° 49' 14.704"	377528.490	2335162.565	Keonjhar-Division
196	163	21° 6' 47.084"	85° 49' 13.213"	377485.148	2335116.836	Keonjhar-Division
197	164	21° 6' 44.129"	85° 49' 12.274"	377457.365	2335026.159	Keonjhar-Division
198	165	21° 6' 42.174"	85° 49' 12.112"	377452.245	2334966.088	Keonjhar-Division
199	166	21° 6' 40.680"	85° 49' 12.720"	377469.458	2334920.021	Keonjhar-Division
200	167	21° 6' 40.208"	85° 49' 13.487"	377491.474	2334905.356	Keonjhar-Division
201	168	21° 6' 37.976"	85° 49' 14.833"	377529.812	2334836.439	Keonjhar-Division
202	169	21° 6' 35.226"	85° 49' 15.427"	377546.323	2334751.744	Keonjhar-Division
203	170	21° 6' 29.002"	85° 49' 15.125"	377536.180	2334560.423	Keonjhar-Division
204	171	21° 6' 28.228"	85° 49' 14.880"	377528.940	2334536.677	Keonjhar-Division
205	172	21° 6' 27.324"	85° 49' 14.214"	377509.518	2334509.035	Keonjhar-Division
206	173	21° 6' 26.489"	85° 49' 12.922"	377472.038	2334483.631	Keonjhar-Division
207	174	21° 6' 25.574"	85° 49' 9.682"	377378.346	2334456.209	Keonjhar-Division
208	175	21° 6' 23.159"	85° 49' 6.488"	377285.661	2334382.619	Keonjhar-Division
209	176	21° 6' 20.765"	85° 49' 3.551"	377200.354	2334309.639	Keonjhar-Division
210	177	21° 6' 20.466"	85° 49' 2.784"	377178.161	2334300.616	Keonjhar-Division
211	178	21° 6' 19.764"	85° 49' 2.672"	377174.781	2334279.055	Keonjhar-Division
212	179	21° 6' 18.194"	85° 49' 1.250"	377133.393	2334231.098	Keonjhar-Division

SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING	REMARKS
213	180	21° 6' 16.931"	85° 49' 0.001"	377097.060	2334192.514	Keonjhar-Division
214	181	21° 6' 16.927"	85° 49' 0.001"	377097.059	2334192.403	Keonjhar-Division
215	182	21° 6' 16.373"	85° 48' 59.717"	377088.726	2334175.418	Keonjhar-Division
216	183	21° 6' 15.174"	85° 48' 58.136"	377042.852	2334138.896	Keonjhar-Division
217	184	21° 6' 12.474"	85° 48' 56.772"	377002.866	2334056.171	Keonjhar-Division
218	185	21° 6' 12.150"	85° 48' 56.444"	376993.339	2334046.279	Keonjhar-Division
219	186	21° 6' 11.120"	85° 48' 54.511"	376937.323	2334015.036	Keonjhar-Division
220	187	21° 6' 10.656"	85° 48' 52.610"	376882.372	2334001.165	Keonjhar-Division
221	188	21° 6' 10.418"	85° 48' 52.772"	376886.992	2333993.825	Keonjhar-Division
222	189	21° 6' 9.634"-	85° 48' 54.533"	376937.606	2333969.316	Keonjhar-Division
223	190	21° 6' 7.153"	85° 48' 57.312"	377017.230	2333892.452	Keonjhar-Division
224	191	21° 6' 5.620"	85° 48' 58.273"	377044.613	2333845.091	Keonjhar-Division
225	192	21° 6' 4.835"	85° 48' 58.216"	377042.772	2333820.973	Keonjhar-Division
226	DTS166	21° 6' 4.712"	85° 48' 58.388"	377047.730	2333817.172	Keonjhar-Division
227	DTS172	21° 6' 2.621"	85° 48' 57.935"	377034.163	2333752.958	Keonjhar-Division
228	DTS179	21° 6' 0.526"	85° 48' 57.856"	377031.398	2333688.552	Keonjhar-Division
229	DTS182	21° 5' 59.233"	85° 48' 57.377"	377017.287	2333648.917	Keonjhar-Division
230	CVC3	21° 5' 58.045"	85° 48' 58.097"	377037.791	2333612.234	Keonjhar-Division
231	DTS359	21° 6' 4.334"	85° 49' 12.641"	377458.885	2333802.495	Keonjhar-Division
232	DTS362	21° 6' 5.144"	85° 49' 11.752"	377433.412	2333827.591	Keonjhar-Division
233	DTS364	21° 6' 5.443"	85° 49' 11.492"	377426.001	2333836.834	Keonjhar-Division
234	DTS367	21° 6' 6.052"	85° 49' 11.442"	377424.686	2333855.552	Keonjhar-Division
235	DTS370	21° 6' 6.682"	85° 49' 12.317"	377450.071	2333874.736	Keonjhar-Division
236	DTS373	21° 6' 7.265"	85° 49' 13.264"	377477.523	2333892.465	Keonjhar-Division
237	DTS376	21° 6' 7.913"	85° 49' 14.117"	377502.289	2333912.207	Keonjhar-Division
238	DTS376_1	21° 6' 8.244"	85° 49' 14.477"	377512.752	2333922.314	Keonjhar-Division
239	DTS376_2	21° 6' 7.657"	85° 49' 14.448"	377511.787	2333904.277	Keonjhar-Division
240	DTS372	21° 6' 7.060"	85° 49' 13.465"	377483.293	2333886.113	Keonjhar-Division
241	DTS371	21° 6' 6.718"	85° 49' 12.911"	377467.219	2333875.715	Keonjhar-Division
242	DTS368	21° 6' 6.178"	85° 49' 11.989"	377440.504	2333859.309	Keonjhar-Division
243	DTS366	21° 6' 5.677"	85° 49' 11.860"	377436.650	2333843.950	Keonjhar-Division
244	DTS363	21° 6' 5.177"	85° 49' 12.126"	377444.223	2333828.507	Keonjhar-Division
245	DTS360	21° 6' 4.619"	85° 49' 12.731"	377461.546	2333811.221	Keonjhar-Division
246	ML1-26	21° 6' 4.439"	85° 49' 13.188"	377474.698	2333805.588	Keonjhar-Division
247	ML1-25	21° 6' 4.651"	85° 49' 14.300"	377506.843	2333811.881	Keonjhar-Division
248	DTS360_3	21° 6' 3.622"	85° 49' 14.254"	377505.258	2333780.234	Keonjhar-Division
249	C-1	21° 6' 3.654"	85° 49' 14.185"	377503.292	2333781.244	Keonjhar-Division
250	PR5a30	21° 6' 3.056"	85° 49' 11.734"	377432.417	2333763.394	Keonjhar-Division
251	PR5a32	21° 6' 3.071"	85° 49' 12.032"	377441.042	2333763.773	Keonjhar-Division
252	PR5a40	21° 6' 3.301"	85° 49' 13.948"	377496.356	2333770.447	Keonjhar-Division
253	PR5a42	21° 6' 3.341"	85° 49' 14.228"	377504.467	2333771.605	Keonjhar-Division
254	PR5a42_A	21° 6' 2.815"	85° 49' 14.214"	377503.932	2333755.447	Keonjhar-Division
255	PR5a6	21° 6' 2.754"	85° 49' 13.764"	377490.934	2333753.662	Keonjhar-Division
256	PR5a15	21° 6' 2.552"	85° 49' 12.090"	377442.586	2333747.821	Keonjhar-Division
257	PR5a22	21° 6' 2.509"	85° 49' 10.103"	377385.236	2333746.918	Keonjhar-Division

SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING	REMARKS
258	ML1-27	21° 6' 1.019"	85° 49' 6.312"	377275.515	2333701.903	Keonjhar-Division
259	DTS269	21° 6' 0.889"	85° 49' 6.427"	377278.810	2333697.894	Keonjhar-Division
260	DTS271	21° 6' 0.338"	85° 49' 6.906"	377292.500	2333680.855	Keonjhar-Division
261	DTS273	21° 5' 59.924"	85° 49' 6.971"	377294.275	2333668.112	Keonjhar-Division
262	DTS275	21° 5' 59.255"	85° 49' 7.298"	377303.575	2333647.453	Keonjhar-Division
263	DTS278	21° 5' 58.736"	85° 49' 7.817"	377318.415	2333631.403	Keonjhar-Division
264	DTS281	21° 5' 58.560"	85° 49' 8.252"	377330.943	2333625.885	Keonjhar-Division
265	DTS283	21° 5' 58.600"	85° 49' 8.530"	377338.951	2333627.044	Keonjhar-Division
266	DTS285	21° 5' 59.006"	85° 49' 8.918"	377350.262	2333639.469	Keonjhar-Division
267	DTS287	21° 5' 59.946"	85° 49' 9.822"	377376.549	2333668.166	Keonjhar-Division
268	DTS290	21° 6' 0.486"	85° 49' 10.916"	377408.251	2333684.535	Keonjhar-Division
269	DTS291	21° 6' 0.288"	85° 49' 11.654"	377429.500	2333678.289	Keonjhar-Division
270	DTS296	21° 5' 59.766"	85° 49' 12.018"	377439.873	2333662.161	Keonjhar-Division
271	DTS299	21° 5' 58.106"	85° 49' 11.906"	377436.274	2333611.156	Keonjhar-Division
272	DTS302	21° 5' 56.976"	85° 49' 11.831"	377433.835	2333576.415	Keonjhar-Division
273	DTS303	21° 5' 56.256"	85° 49' 12.050"	377440.007	2333554.230	Keonjhar-Division
274	DTS306	21° 5' 55.586"	85° 49' 12.824"	377462.188	2333533.476	Keonjhar-Division
275	DTS308	21° 5' 54.949"	85° 49' 13.566"	377483.442	2333513.725	Keonjhar-Division
276	DTS308_A	21° 5' 54.730"	85° 49' 13.818"	377490.663	2333506.919	Keonjhar-Division
277	DTS308_B	21° 5' 54.427"	85° 49' 13.804"	377490.179	2333497.624	Keonjhar-Division
278	DTS309	21° 5' 54.730"	85° 49' 13.390"	377478.302	2333507.010	Keonjhar-Division
279	DTS307	21° 5' 55.295"	85° 49' 12.612"	377455.993	2333524.555	Keonjhar-Division
280	DTS304	21° 5' 55.745"	85° 49' 11.996"	377438.333	2333538.523	Keonjhar-Division
281	DTS300	21° 5' 56.569"	85° 49' 11.654"	377428.652	2333563.945	Keonjhar-Division
282	DTS298	21° 5' 58.114"	85° 49' 11.664"	377426.408	2333611.451	Keonjhar-Division
283	DTS295	21° 5' 59.633"	85° 49' 11.723"	377431.325	2333658.129	Keonjhar-Division
284	DTS294	21° 6' 0.054"	85° 49' 11.392"	377421.864	2333671.150	Keonjhar-Division
285	DTS293	21° 6' 0.083"	85° 49' 11.003"	377410.652	2333672.119	Keonjhar-Division
286	DTS289	21° 5' 59.888"	85° 49' 10.348"	377391.702	2333666.282	Keonjhar-Division
287	DTS282	21° 5' 58.430"	85° 49' 8.796"	377346.599	2333621.784	Keonjhar-Division
288	DTS280	21° 5' 58.261"	85° 49' 8.350"	377333.680	2333616.677	Keonjhar-Division
289	DTS277	21° 5' 58.474"	85° 49' 7.547"	377310.564	2333623.380	Keonjhar-Division
290	DTS268	21° 6' 0.860"	85° 49' 6.082"	377268.831	2333697.082	Keonjhar-Division
291	DTS265	21° 6' 0.580"	85° 49' 5.725"	377258.483	2333688.525	Keonjhar-Division
292	DTS260	21° 5' 58.272"	85° 49' 6.766"	377287.977	2333617.349	Keonjhar-Division
293	DTS259	21° 5' 57.761"	85° 49' 6.848"	377290.249	2333601.613	Keonjhar-Division
294	DTS257	21° 5' 56.587"	85° 49' 6.395"	377276.893	2333565.624	Keonjhar-Division
295	DTS252	21° 5' 56.461"	85° 49' 7.032"	377295.250	2333561.614	Keonjhar-Division
296	DTS249	21° 5' 57.055"	85° 49' 8.936"	377350.336	2333579.470	Keonjhar-Division
297	DTS247	21° 5' 56.782"	85° 49' 9.610"	377369.699	2333570.913	Keonjhar-Division
298	DTS244	21° 5' 56.393"	85° 49' 9.808"	377375.323	2333558.916	Keonjhar-Division
299	DTS242	21° 5' 54.967"	85° 49' 9.757"	377373.544	2333515.093	Keonjhar-Division
300	DTS239	21° 5' 53.812"	85° 49' 10.643"	377398.834	2333479.372	Keonjhar-Division
301	DTS237	21° 5' 52.818"	85° 49' 11.341"	377418.760	2333448.671	Keonjhar-Division
302	DTS234	21° 5' 51.630"	85° 49' 11.726"	377429.604	2333412.061	Keonjhar-Division

SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING	REMARKS
303	DTS233	21° 5' 51.245"	85° 49' 11.737"	377429.828	2333400.214	Keonjhar-Division
304	DTS231	21° 5' 50.960"	85° 49' 11.456"	377421.660	2333391.530	Keonjhar-Division
305	DTS229	21° 5' 50.935"	85° 49' 11.028"	377409.293	2333390.847	Keonjhar-Division
306	DTS227	21° 5' 51.076"	85° 49' 10.708"	377400.080	2333395.232	Keonjhar-Division
307	DTS226	21° 5' 52.080"	85° 49' 10.499"	377394.284	2333426.160	Keonjhar-Division
308	DTS221	21° 5' 53.059"	85° 49' 9.134"	377355.138	2333456.560	Keonjhar-Division
309	DTS218	21° 5' 53.171"	85° 49' 8.828"	377346.334	2333460.057	Keonjhar-Division
310	DTS217	21° 5' 53.066"	85° 49' 8.162"	377327.093	2333456.989	Keonjhar-Division
311	DTS214	21° 5' 52.631"	85° 49' 7.259"	377300.920	2333443.789	Keonjhar-Division
312	DTS211	21° 5' 52.055"	85° 49' 6.427"	377276.793	2333426.257	Keonjhar-Division
313	DTS209	21° 5' 51.695"	85° 49' 5.232"	377242.224	2333415.444	Keonjhar-Division
314	DTS207	21° 5' 51.727"	85° 49' 5.027"	377236.310	2333416.484	Keonjhar-Division
315	DTS205	21° 5' 52.062"	85° 49' 3.371"	377188.603	2333427.133	Keonjhar-Division
316	DTS201	21° 5' 52.462"	85° 49' 2.345"	377159.089	2333439.640	Keonjhar-Division
317	DTS196	21° 5' 53.452"	85° 49' 1.146"	377124.724	2333470.337	Keonjhar-Division
318	DTS193	21° 5' 54.830"	85° 48' 59.810"	377086.501	2333513.018	Keonjhar-Division
319	DTS189	21° 5' 55.730"	85° 48' 59.090"	377065.931	2333540.846	Keonjhar-Division
320	CVC1	21° 5' 57.257"	85° 48' 58.140"	377038.857	2333587.983	Keonjhar-Division
321	DTS82	21° 5' 54.787"	85° 48' 53.683"	376909.692	2333513.006	Keonjhar-Division
322	DTS78	21° 5' 54.283"	85° 48' 53.226"	376896.385	2333497.607	Keonjhar-Division
323	DTS67	21° 5' 52.562"	85° 48' 51.260"	376839.273	2333445.119	Keonjhar-Division
324	DTS62	21° 5' 51.832"	85° 48' 49.997"	376802.645	2333422.920	Keonjhar-Division
325	DTS61	21° 5' 51.986"	85° 48' 49.723"	376794.786	2333427.739	Keonjhar-Division
326	DTS58	21° 5' 52.433"	85° 48' 49.586"	376790.941	2333441.494	Keonjhar-Division
327	DTS57	21° 5' 52.645"	85° 48' 49.680"	376793.690	2333448.005	Keonjhar-Division
328	193	21° 5' 51.112"	85° 48' 46.850"	376711.691	2333401.459	Keonjhar-Division
329	BK-54	21° 5' 49.970"	85° 48' 48.247"	376751.734	2333366.069	Keonjhar-Division
330	BK-56	21° 5' 42.673"	85° 48' 52.164"	376863.082	2333140.855	Keonjhar-Division
331	BK-57	21° 5' 43.195"	85° 48' 53.752"	376909.012	2333156.564	Keonjhar-Division
332	BK-58	21° 5' 42.950"	85° 48' 54.432"	376928.589	2333148.891	Keonjhar Division
333	BK-59	21° 5' 42.360"	85° 48' 55.526"	376960.033	2333130.502	Keonjhar-Division
334	BK-61	21° 5' 40.232"	85° 48' 57.215"	377008.266	2333064.721	Keonjhar-Division
335	BK-62	21° 5' 39.797"	85° 48' 58.669"	377050.134	2333051.015	Keonjhar-Division
336	BK-63	21° 5' 39.646"	85° 48' 59.720"	377080.432	2333046.141	Keonjhar-Division
337	BK-64	21° 5' 39.692"	85° 49' 1.942"	377144.537	2333047.103	Keonjhar-Division
338	BK-65	21° 5' 42.666"	85° 49' 0.872"	377114.364	2333138.764	Keonjhar-Division
339	BK-65_A	21° 5' 43.811"	85° 48' 59.929"	377087.410	2333174.166	Keonjhar-Division
340	BK-67	21° 5' 43.994"	85° 49' 0.847"	377113.941	2333179.614	Keonjhar-Division
341	BK-67_A	21° 5' 44.635"	85° 49' 1.427"	377130.812	2333199.193	Keonjhar-Division
342	BK-69	21° 5' 42.551"	85° 49' 2.615"	377164.615	2333134.848	Keonjhar-Division
343	BK-69_A	21° 5' 44.210"	85° 49' 3.421"	377188.264	2333185.704	Keonjhar-Division
344	VF107_1	21° 5' 42.792"	85° 49' 4.177"	377209.754	2333141.929	Keonjhar-Division
345	VF107_2	21° 5' 42.187"	85° 49' 5.311"	377242.338	2333123.090	Keonjhar-Division
346	BK-74	21° 5' 42.173"	85° 49' 8.191"	377325.438	2333122.031	Keonjhar-Division
347	VF107_3	21° 5' 43.314"	85° 49' 7.896"	377317.181	2333157.183	Keonjhar-Division

SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING	REMARKS
348	BK-76	21° 5' 42.428"	85° 49' 9.534"	377364.244	2333129.602	Keonjhar-Division
349	BK-77	21° 5' 42.490"	85° 49' 10.078"	377379.943	2333131.368	Keonjhar-Division
350	BK-78	21° 5' 43.958"	85° 49' 9.908"	377375.396	2333176.566	Keonjhar-Division
351	BK-79	21° 5' 41.626"	85° 49' 12.529"	377450.488	2333104.277	Keonjhar Division
352	VF107_4	21° 5' 41.885"	85° 49' 13.195"	377469.765	2333112.104	Keonjhar-Division
353	VF107_5	21° 5' 40.214"	85° 49' 13.112"	377466.995	2333060.761	Keonjhar-Division
354	BK-1	21° 5' 40.006"	85° 49' 11.957"	377433.602	2333054.588	Keonjhar-Division
355	BK-2	21° 5' 39.736"	85° 49' 10.913"	377403.415	2333046.510	Keonjhar-Division
356	BK-2_A	21° 5' 38.591"	85° 49' 8.328"	377328.568	2333011.863	Keonjhar-Division
357	BK-4	21° 5' 38.130"	85° 49' 6.884"	377286.807	2332998.004	Keonjhar-Division
358	BK-5	21° 5' 37.928"	85° 49' 5.516"	377247.287	2332992.098	Keonjhar-Division
359	BK-06	21° 5' 38.004"	85° 49' 3.734"	377195.884	2332994.805	Keonjhar-Division
360	BK-06_A	21° 5' 38.767"	85° 48' 58.406"	377042.315	2333019.414	Keonjhar-Division
361	BK-8	21° 5' 38.756"	85° 48' 56.412"	376984.763	2333019.510	Keonjhar-Division
362	BK-9a	21° 5' 37.802"	85° 48' 55.868"	376968.859	2332990.293	Keonjhar-Division
363	BK-10	21° 5' 36.841"	85° 48' 55.829"	376967.497	2332960.747	Keonjhar-Division
364	BK-10_A	21° 5' 36.208"	85° 48' 55.501"	376957.898	2332941.336	Keonjhar-Division
365	BK-10_B	21° 5' 35.992"	85° 48' 52.769"	376879.004	2332935.281	Keonjhar-Division
366	BK-13	21° 5' 36.215"	85° 48' 51.361"	376838.437	2332942.447	Keonjhar-Division
367	BK-14	21° 5' 36.200"	85° 48' 50.710"	376819.632	2332942.144	Cuttack-Division
368	BK-15	21° 5' 36.427"	85° 48' 49.691"	376790.285	2332949.336	Cuttack-Division
369	BRO-16	21° 5' 37.756"	85° 48' 48.161"	376746.441	2332990.511	Keonjhar-Division
370	ML1-29	21° 6' 1.044"	85° 49' 4.139"	377212.827	2333703.135	Keonjhar-Division
371	DTS8	21° 5' 52.696"	85° 48' 48.348"	376755.267	2333449.858	Keonjhar-Division
372	ML1-33	21° 5' 52.009"	85° 48' 47.052"	376717.714	2333429.009	Keonjhar-Division
373	DTS4	21° 5' 52.243"	85° 48' 47.257"	376723.683	2333436.159	Keonjhar-Division
374	PRD10a2	21° 5' 53.343"	85° 48' 49.563"	376790.474	2333469.486	Keonjhar-Division
375	PRD10a4	21° 5' 53.848"	85° 48' 50.180"	376808.393	2333484.881	Keonjhar-Division
376	DTS16	21° 5' 54.652"	85° 48' 50.770"	376825.602	2333509.475	Keonjhar-Division
377	DTS19	21° 5' 55.451"	85° 48' 51.619"	376850.283	2333533.860	Keonjhar-Division
378	DTS20	21° 5' 56.116"	85° 48' 51.932"	376859.466	2333554.240	Keonjhar-Division
379	DTS22	21° 5' 56.695"	85° 48' 51.804"	376855.906	2333572.070	Keonjhar-Division
380	DTS28	21° 5' 56.883"	85° 48' 52.076"	376863.797	2333577.792	Keonjhar-Division
381	DTS31	21° 5' 56.438"	85° 48' 52.259"	376868.976	2333564.070	Keonjhar-Division
382	DTS36	21° 5' 55.977"	85° 48' 52.143"	376865.523	2333549.920	Keonjhar-Division
383	DTS39	21° 5' 55.193"	85° 48' 51.997"	376861.131	2333525.846	Keonjhar-Division
384	DTS43	21° 5' 54.685"	85° 48' 51.677"	376851.781	2333510.295	Keonjhar-Division
385	DTS46	21° 5' 54.430"	85° 48' 51.456"	376845.345	2333502.501	Keonjhar-Division
386	PR1a24	21° 5' 57.005"	85° 48' 56.133"	376980.888	2333580.672	Keonjhar-Division
387	PR1a24_A	21° 5' 55.894"	85° 48' 54.106"	376922.146	2333546.947	Keonjhar-Division
388	DTS99	21° 5' 58.451"	85° 48' 54.258"	376927.117	2333625.536	Keonjhar-Division
389	DTS107	21° 5' 59.697"	85° 48' 53.015"	376891.536	2333664.114	Keonjhar-Division
390	DTS109	21° 6' 0.247"	85° 48' 52.898"	376888.286	2333681.051	Keonjhar-Division
391	DTS114	21° 6' 1.240"	85° 48' 52.950"	376890.014	2333711.572	Keonjhar-Division
392	DTS117	21° 6' 1.436"	85° 48' 53.111"	376894.704	2333717.564	Keonjhar-Division

SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING	REMARKS
393	DTS122	21° 6' 1.498"	85° 48' 54.281"	376928.478	2333719.219	Keonjhar-Division
394	DTS124	21° 6' 1.564"	85° 48' 55.020"	376949.817	2333721.090	Keonjhar-Division
395	DTS126	21° 6' 1.791"	85° 48' 55.707"	376969.692	2333727.922	Keonjhar-Division
396	DTS128	21° 6' 2.114"	85° 48' 56.042"	376979.432	2333737.781	Keonjhar-Division
397	DTS130	21° 6' 2.666"	85° 48' 56.458"	376991.561	2333754.665	Keonjhar-Division
398	DTS130_A	21° 6' 3.321"	85° 48' 56.772"	377000.772	2333774.737	Keonjhar-Division
399	DTS138	21° 6' 4.056"	85° 48' 57.246"	377014.617	2333797.235	Keonjhar-Division
400	DTS144	21° 6' 4.470"	85° 48' 57.393"	377018.953	2333809.933	Keonjhar-Division
401	DTS148	21° 6' 5.030"	85° 48' 56.546"	376994.642	2333827.333	Keonjhar-Division
402	DTS151	21° 6' 5.439"	85° 48' 55.193"	376955.695	2333840.200	Keonjhar-Division
403	DTS155	21° 6' 5.753"	85° 48' 55.195"	376955.825	2333849.854	Keonjhar-Division
404	DTS158	21° 6' 5.695"	85° 48' 55.526"	376965.363	2333848.000	Keonjhar-Division
405	DTS160	21° 6' 5.229"	85° 48' 57.023"	377008.451	2333833.350	Keonjhar-Division
406	DTS163	21° 6' 5.111"	85° 48' 57.371"	377018.465	2333829.647	Keonjhar-Division
407	DTS64	21° 6' 4.907"	85° 48' 57.685"	377027.478	2333823.307	Keonjhar-Division
408	DTS165	21° 6' 4.664"	85° 48' 57.907"	377033.828	2333815.787	Keonjhar-Division
409	DTS168	21° 6' 3.919"	85° 48' 57.861"	377032.331	2333792.890	Keonjhar-Division
410	DTS173	21° 6' 1.733"	85° 48' 57.473"	377020.635	2333725.759	Keonjhar-Division
411	DTS177	21° 6' 1.288"	85° 48' 57.563"	377023.130	2333712.057	Keonjhar-Division
412	PR2a1	21° 6' 0.907"	85° 48' 57.582"	377023.591	2333700.338	Keonjhar-Division
413	PR1a5	21° 6' 0.249"	85° 48' 56.477"	376991.557	2333680.343	Keonjhar-Division
414	PR1a7	21° 6' 0.169"	85° 48' 56.361"	376988.191	2333677.909	Keonjhar-Division
415	PR1a9	21° 5' 59.736"	85° 48' 56.062"	376979.465	2333664.659	Keonjhar-Division
416	PR1a11	21° 5' 59.550"	85° 48' 56.018"	376978.152	2333658.949	Keonjhar-Division
417	PR1a13	21° 5' 59.378"	85° 48' 55.990"	376977.305	2333653.667	Keonjhar-Division
418	PR1a14	21° 5' 59.105"	85° 48' 56.004"	376977.647	2333645.270	Keonjhar-Division
419	PR1a18	21° 5' 58.405"	85° 48' 56.079"	376979.650	2333623.730	Keonjhar-Division
420	PR1a24	21° 5' 57.005"	85° 48' 56.133"	376980.888	2333580.672	Keonjhar-Division
421	PR1a26	21° 5' 57.290"	85° 48' 56.668"	376996.391	2333589.320	Keonjhar-Division
422	PR1a32	21° 5' 58.498"	85° 48' 56.628"	376995.513	2333626.472	Keonjhar-Division
423	PR1a36	21° 5' 59.306"	85° 48' 56.539"	376993.130	2333651.335	Keonjhar-Division
424	PR1a39	21° 5' 59.529"	85° 48' 56.575"	376994.219	2333658.184	Keonjhar-Division
425	PR1a41	21° 5' 59.806"	85° 48' 56.766"	376999.794	2333666.660	Keonjhar-Division
426	PR1a44	21° 6' 0.066"	85° 48' 57.207"	377012.578	2333674.560	Keonjhar-Division
427	PR1a45	21° 6' 0.108"	85° 48' 57.331"	377016.166	2333675.825	Keonjhar-Division
428	DTS180	21° 5' 59.421"	85° 48' 56.970"	377005.592	2333654.779	Keonjhar-Division
429	DTS180_A	21° 5' 59.117"	85° 48' 57.086"	377008.870	2333645.406	Keonjhar-Division
430	CVC2	21° 5' 57.879"	85° 48' 57.777"	377028.525	2333607.192	Keonjhar-Division
431	PR1a26	21° 5' 57.290"	85° 48' 56.668"	376996.391	2333589.320	Keonjhar-Division
432	PR4a25	21° 6' 0.066"	85° 49' 3.978"	377207.952	2333673.107	Keonjhar-Division
433	ML1-28	21° 6' 0.621"	85° 49' 5.370"	377248.244	2333689.874	Keonjhar-Division
434	DTS262	21° 5' 59.803"	85° 49' 5.806"	377260.638	2333664.629	Keonjhar-Division
435	DTS258	21° 5' 58.070"	85° 49' 6.497"	377280.180	2333611.195	Keonjhar-Division
436	PR4a45	21° 5' 57.361"	85° 49' 6.202"	377271.506	2333589.458	Keonjhar-Division
437	PR4a44	21° 5' 57.874"	85° 49' 6.115"	377269.113	2333605.250	Keonjhar-Division

SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING	REMARKS
438	PR4a34	21° 5' 59.152"	85° 49' 5.442"	377249.986	2333644.690	Keonjhar-Division
439	PR4a30	21° 5' 59.493"	85° 49' 4.987"	377236.935	2333655.273	Keonjhar-Division
440	PR4a25	21° 6' 0.066"	85° 49' 3.978"	377207.952	2333673.107	Keonjhar-Division
441	PR4a23	21° 5' 59.809"	85° 49' 3.346"	377189.646	2333665.347	Keonjhar-Division
442	PR4a16	21° 5' 59.050"	85° 49' 4.692"	377228.322	2333641.702	Keonjhar-Division
443	PR4a14	21° 5' 58.788"	85° 49' 5.041"	377238.337	2333633.436	Keonjhar-Division
444	PR4a9	21° 5' 57.721"	85° 49' 5.584"	377253.756	2333600.660	Keonjhar-Division
445	PR4a6	21° 5' 57.468"	85° 49' 5.648"	377255.545	2333592.867	Keonjhar-Division
446	PR4a5	21° 5' 57.090"	85° 49' 5.647"	377255.430	2333581.245	Keonjhar-Division
447	PR4a2	21° 5' 56.547"	85° 49' 5.499"	377251.036	2333564.580	Keonjhar-Division
448	PR4a46	21° 5' 56.098"	85° 49' 5.591"	377253.588	2333550.755	Keonjhar-Division
449	PR4a45	21° 5' 56.082"	85° 49' 5.818"	377260.134	2333550.214	Keonjhar-Division
450	DTS254	21° 5' 55.956"	85° 49' 6.409"	377277.159	2333546.213	Keonjhar-Division
451	DTS250	21° 5' 56.721"	85° 49' 8.632"	377341.477	2333569.259	Keonjhar-Division
452	DTS246	21° 5' 56.736"	85° 49' 9.257"	377359.514	2333569.587	Keonjhar-Division
453	DTS245	21° 5' 56.515"	85° 49' 9.438"	377364.687	2333562.753	Keonjhar-Division
454	DTS241	21° 5' 54.908"	85° 49' 9.509"	377366.369	2333513.326	Keonjhar-Division
455	DTS238	21° 5' 53.638"	85° 49' 10.479"	377394.068	2333474.069	Keonjhar-Division
456	DTS235	21° 5' 52.128"	85° 49' 11.302"	377417.471	2333427.464	Keonjhar-Division
457	DTS232	21° 5' 51.368"	85° 49' 11.348"	377418.625	2333404.086	Keonjhar-Division
458	DTS228	21° 5' 51.312"	85° 49' 11.082"	377410.937	2333402.421	Keonjhar-Division
459	DTS224	21° 5' 52.206"	85° 49' 10.786"	377402.600	2333429.972	Keonjhar-Division
460	DTS220	21° 5' 53.288"	85° 49' 9.406"	377363.027	2333463.537	Keonjhar-Division
461	DTS216	21° 5' 53.505"	85° 49' 8.507"	377337.136	2333470.402	Keonjhar-Division
462	DTS213	21° 5' 53.326"	85° 49' 7.848"	377318.080	2333465.039	Keonjhar-Division
463	DTS210	21° 5' 52.239"	85° 49' 6.201"	377270.308	2333431.969	Keonjhar-Division
464	DTS206	21° 5' 52.063"	85° 49' 5.138"	377239.595	2333426.785	Keonjhar-Division
465	DTS204	21° 5' 52.341"	85° 49' 3.729"	377199.002	2333435.635	Keonjhar-Division
466	DTS200	21° 5' 53.015"	85° 49' 2.219"	377155.586	2333456.683	Keonjhar-Division
467	DTS195	21° 5' 54.045"	85° 49' 1.111"	377123.850	2333488.590	Keonjhar-Division
468	PR3a41	21° 5' 54.723"	85° 49' 1.210"	377126.861	2333509.416	Keonjhar-Division
469	PR3a40	21° 5' 55.122"	85° 49' 1.071"	377122.942	2333521.714	Keonjhar-Division
470	PR3a36	21° 5' 56.073"	85° 49' 0.514"	377107.087	2333551.075	Keonjhar-Division
471	PR3a34	21° 5' 56.459"	85° 49' 0.557"	377108.416	2333562.934	Keonjhar-Division
472	PR3a31	21° 5' 57.110"	85° 49' 0.726"	377113.441	2333582.915	Keonjhar-Division
473	PR3a28	21° 5' 57.617"	85° 49' 0.648"	377111.307	2333598.520	Keonjhar-Division
474	PR3a26	21° 5' 57.995"	85° 49' 0.347"	377102.708	2333610.208	Keonjhar-Division
475	PR3a24	21° 5' 58.240"	85° 49' 0.023"	377093.409	2333617.798	Keonjhar-Division
476	PR4a23	21° 5' 59.809"	85° 49' 3.346"	377189.646	2333665.347	Keonjhar-Division
477	PR3a23	21° 5' 57.949"	85° 48' 59.506"	377078.431	2333608.974	Keonjhar-Division
478	PR3a20	21° 5' 57.635"	85° 48' 59.958"	377091.401	2333599.216	Keonjhar-Division
479	PR3a19	21° 5' 57.393"	85° 49' 0.138"	377096.540	2333591.742	Keonjhar-Division
480	PR3a17	21° 5' 57.124"	85° 49' 0.168"	377097.344	2333583.465	Keonjhar-Division
481	PR3a13	21° 5' 56.450"	85° 48' 59.986"	377091.938	2333562.780	Keonjhar-Division
482	PR3a11	21° 5' 55.936"	85° 48' 59.970"	377091.359	2333546.979	Keonjhar-Division

SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING	REMARKS
483	PR3a6	21° 5' 54.890"	85° 49' 0.574"	377108.548	2333514.687	Keonjhar-Division
484	PR3a4	21° 5' 54.665"	85° 49' 0.650"	377110.690	2333507.753	Keonjhar-Division
485	PR3a4_A	21° 5' 54.557"	85° 49' 0.563"	377108.149	2333504.445	Keonjhar-Division
486	DTS191	21° 5' 55.016"	85° 49' 0.067"	377093.947	2333518.670	Keonjhar-Division
487	DTS188	21° 5' 57.416"	85° 48' 58.474"	377048.531	2333592.807	Keonjhar-Division
488	PR3a23	21° 5' 57.949"	85° 48' 59.506"	377078.431	2333608.974	Keonjhar-Division
489	DTS79	21° 5' 54.512"	85° 48' 53.062"	376891.705	2333504.678	Keonjhar-Division
490	DTS63	21° 5' 52.292"	85° 48' 50.370"	376813.519	2333436.996	Keonjhar-Division
491	DTS59	21° 5' 52.491"	85° 48' 50.062"	376804.677	2333443.181	Keonjhar-Division
492	DTS55	21° 5' 52.654"	85° 48' 50.142"	376807.023	2333448.176	Keonjhar-Division
493	DTS53	21° 5' 53.152"	85° 48' 50.679"	376822.632	2333463.373	Keonjhar-Division
494	DTS79	21° 5' 54.512"	85° 48' 53.062"	376891.705	2333504.678	Keonjhar-Division
FOREST PATCH-3						
1	1	21° 5' 56.381"	85° 49' 13.899"	377493.390	2333557.668	Keonjhar-Division
2	DTS327	21° 5' 56.551"	85° 49' 13.723"	377488.335	2333562.929	Keonjhar-Division
3	DTS329	21° 5' 56.877"	85° 49' 13.453"	377480.610	2333573.039	Keonjhar-Division
4	DTS332	21° 5' 57.586"	85° 49' 13.417"	377479.733	2333594.834	Keonjhar-Division
5	DTS333	21° 5' 58.331"	85° 49' 13.545"	377483.620	2333617.699	Keonjhar-Division
6	DTS336	21° 5' 59.101"	85° 49' 13.876"	377493.323	2333641.329	Keonjhar-Division
7	2	21° 5' 59.400"	85° 49' 14.046"	377498.320	2333650.469	Keonjhar-Division
8	3	21° 5' 58.858"	85° 49' 14.020"	377497.435	2333633.806	Keonjhar-Division
9	DTS334	21° 5' 58.221"	85° 49' 13.758"	377489.725	2333614.289	Keonjhar-Division
10	DTS335	21° 5' 58.186"	85° 49' 13.746"	377489.369	2333613.220	Keonjhar-Division
11	DTS331	21° 5' 57.530"	85° 49' 13.675"	377487.181	2333593.056	Keonjhar-Division
12	4	21° 5' 57.083"	85° 49' 13.698"	377487.750	2333579.302	Keonjhar-Division
13	DTS328	21° 5' 56.805"	85° 49' 13.920"	377494.083	2333570.701	Keonjhar-Division

Representative of OMC

Forester
Ransol Section

Section Forest Officer
Daitari (W/L) Section

REVENUE INSPECTOR
Rebanapalasa

17.02.25
Dy. Ranger Officer
Sukinda Forest Range

Forest Range Officer
Baisinghpal (W.L) Range
Daitari

TAHASILDAR
JAJPUR

Dy. Ranger
I/C Tomka Range

OWNERSHIP/MANAGING AGENCY OF REVISED FOREST AND NON-FOREST AREA:

1. Keonjhar District:

Sl. No.	Khata No	Plot No.	Name of Tenant	Kissam	Area in Ha	Managed by	Remarks
1	29	324	Abada Ajogya Anabadi	Parbat-2	0.14	Revenue Dept.	Non Forest
2	29	338	Abada Ajogya Anabadi	Parbat-2	2.89	Revenue Dept.	Non Forest
3	28	342	Abada Jogya Anabadi	Talla	0.08	Revenue Dept.	Non Forest
4	28	343	Abada Jogya Anabadi	Talla	0.15	Revenue Dept.	Non Forest
5	28	344	Abada Jogya Anabadi	Sarada-3	0.03	Revenue Dept.	Non Forest
6	28	345	Abada Jogya Anabadi	Sarada-3	0.07	Revenue Dept.	Non Forest
7	28	346	Abada Jogya Anabadi	Talla	0.12	Revenue Dept.	Non Forest
8	29	347	Abada Ajogya Anabadi	Parbat-2	16.88	Revenue Dept.	Non Forest
9	29	348	Abada Ajogya Anabadi	Parbat-2	5.46	Revenue Dept.	Non Forest
10	29	349	Abada Ajogya Anabadi	Parbat-2	12.65	Revenue Dept.	Non Forest
11	29	350	Abada Ajogya Anabadi	Parbat-2	15.10	Revenue Dept.	Non Forest
12	29	351	Abada Ajogya Anabadi	Patharabani	7.44	Revenue Dept.	Non Forest
	Total Non-Forest				61.01		
13	26	416	Rakhita	G. Jungle	3.780	Revenue Dept.	Rev. Forest
14	Rebana RF				142.62	Forest Dept.	RF
15	Rebana RF				59.254	Forest Dept.	Approved by MoEF & CC.
	Total Forest				205.654		

(61.01 ha (Non-Forest) + 205.654 ha (Forest in Keonjhar Dist.)

Representative of OMC

Rev. Inspector Rebana-Pataspal

Forester Brahmanipal

Range Officer Brahmanipal (WL) Range

REVENUE INSPECTOR Rebana

Section Forest Officer Daitari (WL) Section

Forest Range Officer Daitari

Tahasildar

REVENUE INSPECTOR Rebana

TAHASILDAR HARICHANDANPUR

OWNERSHIP/MANAGING AGENCY OF REVISED FOREST AND NON-FOREST AREA:

2. Jajpur District:

Sl. No.	Khata No	Plot No.	Name of Tenant	Kissam	Area in Ha	Managed by	Remarks
1			Daitari Protected Forest		102.25	Forest Dept.	Daitari PF
2			Daitari Protected Forest		36.346	Forest Dept.	Approved by MoEF & CC.
			Total Forest		138.596		

138.596 ha(Forest in Jajpur dist.)

Representative of OMC

Forester Kansa

Dy. Ranger I/C Tomka Range

Forester Kansol Section

17.03.25

Dy. Range Officer Sukinda Forest Range

MAP SHOWING THE ATTRIBUTES OF THE REVISED FOREST AND NON-FOREST AREA OVER 405.26 HA PERTAINING TO DAITARI IRON ORE MINES OF OMC LTD.

SCALE 1:3,960

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- ▭ ML BOUNDARY
- ● FOREST PILLAR
- ● NON-FOREST PILLAR

NON-FOREST PATCH-1

SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING
1	1	21° 6' 42.892"	85° 47' 30.739"	374527.588	2335010.138
2	2	21° 6' 42.689"	85° 47' 29.432"	374489.839	2335004.162
3	3	21° 6' 41.548"	85° 47' 28.493"	374462.463	2334969.278
4	4	21° 6' 39.658"	85° 47' 27.438"	374431.587	2334911.396
5	5	21° 6' 37.382"	85° 47' 23.969"	374330.978	2334842.192
6	6	21° 6' 36.267"	85° 47' 21.511"	374259.776	2334808.433
7	7	21° 6' 36.566"	85° 47' 19.026"	374188.154	2334818.178
8	8	21° 6' 36.195"	85° 47' 16.347"	374110.787	2334807.365
9	29F2	21° 6' 33.750"	85° 47' 15.400"	374082.865	2334732.393
10	30F2	21° 6' 33.826"	85° 47' 16.073"	374102.306	2334734.570
11	9	21° 6' 36.162"	85° 47' 15.652"	374090.701	2334806.502
12	10	21° 6' 36.986"	85° 47' 16.264"	374108.552	2334831.716
13	11	21° 6' 37.201"	85° 47' 18.975"	374186.839	2334837.734
14	12	21° 6' 36.992"	85° 47' 21.663"	374264.328	2334830.699
15	13	21° 6' 39.274"	85° 47' 25.882"	374386.597	2334899.947
16	14	21° 6' 40.198"	85° 47' 23.003"	374303.747	2334928.973
17	15	21° 6' 40.266"	85° 47' 19.363"	374198.752	2334931.876
18	16	21° 6' 41.540"	85° 47' 15.986"	374101.621	2334971.803
19	17	21° 6' 40.158"	85° 47' 12.635"	374004.595	2334930.034
20	18	21° 6' 39.125"	85° 47' 11.342"	373967.064	2334898.550
21	19	21° 6' 38.718"	85° 47' 10.028"	373929.056	2334886.331
22	20	21° 6' 40.093"	85° 47' 7.003"	373842.094	2334929.279
23	21	21° 6' 41.533"	85° 47' 3.170"	373731.847	2334974.404
24	22	21° 6' 43.538"	85° 47' 0.553"	373656.805	2335036.638
25	23	21° 6' 45.191"	85° 46' 58.537"	373599.028	2335087.891
26	24	21° 6' 46.498"	85° 46' 58.793"	373606.710	2335128.016
27	25	21° 6' 47.992"	85° 47' 0.452"	373654.945	2335173.587
28	26	21° 6' 48.200"	85° 47' 2.213"	373705.785	2335179.618
29	27	21° 6' 51.660"	85° 47' 6.065"	373817.736	2335285.145
30	28	21° 6' 55.717"	85° 47' 6.216"	373823.051	2335409.862
31	29	21° 6' 58.716"	85° 47' 6.468"	373831.026	2335502.014
32	30	21° 7' 3.302"	85° 47' 8.873"	373901.485	2335642.506
33	31	21° 7' 5.444"	85° 47' 12.552"	374008.138	2335707.558
34	32	21° 7' 5.195"	85° 47' 18.351"	374175.391	2335698.611
35	33	21° 7' 4.843"	85° 47' 26.519"	374410.961	2335686.010
36	34	21° 7' 4.627"	85° 47' 31.542"	374555.830	2335678.260
37	35	21° 7' 3.868"	85° 47' 32.327"	374578.295	2335654.732
38	36	21° 7' 0.573"	85° 47' 32.262"	374575.643	2335553.445
39	37	21° 6' 55.980"	85° 47' 32.287"	374575.310	2335412.213
40	6F1	21° 6' 53.966"	85° 47' 33.965"	374623.237	2335349.910
41	5F1	21° 6' 53.964"	85° 47' 32.489"	374580.656	2335350.181
42	4F1	21° 6' 43.073"	85° 47' 32.497"	374578.357	2335015.308

FOREST PATCH-1

SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING
1	1	21° 6' 51.442"	85° 47' 36.142"	374685.456	2335271.840
2	2	21° 6' 47.365"	85° 47' 37.529"	374724.530	2335146.178
3	3	21° 6' 43.578"	85° 47' 36.445"	374692.382	2335029.967
4	4F1	21° 6' 43.073"	85° 47' 32.497"	374578.357	2335015.308
5	5F1	21° 6' 53.964"	85° 47' 32.489"	374580.656	2335350.181
6	6F1	21° 6' 53.966"	85° 47' 33.965"	374623.237	2335349.910

FOREST PATCH-2

SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING
1	1	21° 5' 44.030"	85° 48' 45.770"	376678.903	2333183.961
2	2	21° 5' 38.202"	85° 48' 44.503"	376641.001	2333005.024
3	3	21° 5' 36.920"	85° 48' 41.969"	376567.575	2332966.163
4	4	21° 5' 38.386"	85° 48' 38.272"	376461.226	2333012.012
5	5	21° 5' 43.562"	85° 48' 25.222"	376085.853	2333174.004
6	6	21° 5' 54.683"	85° 48' 21.096"	375969.372	2333516.825
7	7	21° 6' 2.718"	85° 48' 21.539"	375984.003	2333763.793
8	8	21° 6' 4.828"	85° 48' 11.909"	375706.623	2333830.746
9	9	21° 6' 3.985"	85° 48' 3.557"	375465.437	2333806.658
10	10	21° 5' 56.137"	85° 47' 52.397"	375141.600	2333567.779
11	11	21° 6' 0.860"	85° 47' 41.532"	374829.198	2333715.378
12	12	21° 6' 7.729"	85° 47' 37.990"	374728.584	2333927.354
13	13	21° 6' 11.606"	85° 47' 36.654"	374690.950	2334046.861
14	14	21° 6' 15.523"	85° 47' 31.373"	374539.481	2334168.451
15	15	21° 6' 14.288"	85° 47' 26.207"	374390.134	2334131.616
16	16	21° 6' 10.217"	85° 47' 17.286"	374131.781	2334008.381
17	17	21° 6' 11.819"	85° 47' 13.844"	374032.852	2334058.396
18	18	21° 6' 14.213"	85° 47' 8.711"	373885.288	2334133.136
19	19	21° 6' 16.265"	85° 47' 4.301"	373758.525	2334197.203
20	20	21° 6' 21.938"	85° 47' 3.383"	373733.370	2334371.857
21	21	21° 6' 26.287"	85° 47' 5.089"	373783.627	2334505.197
22	22	21° 6' 27.184"	85° 47' 6.814"	373833.592	2334532.380
23	23	21° 6' 28.897"	85° 47' 7.544"	373855.080	2334584.909
24	24	21° 6' 30.013"	85° 47' 8.905"	373894.606	2334618.924
25	25	21° 6' 30.535"	85° 47' 10.266"	373933.991	2334634.674
26	26	21° 6' 30.694"	85° 47' 13.463"	374026.266	2334638.841
27	27	21° 6' 30.928"	85° 47' 14.028"	374042.628	2334645.912
28	28	21° 6' 31.550"	85° 47' 14.708"	374062.406	2334664.912
29	29F2	21° 6' 33.750"	85° 47' 15.400"	374082.865	2334732.393
30	30F2	21° 6' 33.826"	85° 47' 16.073"	374102.306	2334734.570
31	31	21° 6' 33.037"	85° 47' 15.947"	374098.486	2334710.356
32	32	21° 6' 31.223"	85° 47' 15.248"	374077.910	2334654.720
33	33	21° 6' 30.438"	85° 47' 14.381"	374052.693	2334630.780
34	34	21° 6' 30.118"	85° 47' 13.618"	374030.597	2334621.096
35	35	21° 6' 29.956"	85° 47' 10.406"	373937.906	2334616.822
36	36	21° 6' 29.506"	85° 47' 9.236"	373904.043	2334603.243
37	37	21° 6' 28.544"	85° 47' 8.063"	373869.955	2334573.946
38	38	21° 6' 27.634"	85° 47' 7.685"	373858.835	2334546.024
39	39	21° 6' 29.257"	85° 47' 10.810"	373949.376	2334595.259
40	40	21° 6' 30.863"	85° 47' 18.078"	374159.468	2334643.029
41	41	21° 6' 28.404"	85° 47' 24.508"	374344.406	2334566.014
42	42	21° 6' 28.580"	85° 47' 33.727"	374610.461	2334569.417
43	43	21° 6' 23.360"	85° 47' 49.992"	375078.537	2334405.358
44	44	21° 6' 25.693"	85° 47' 53.480"	375179.731	2334476.326
45	45	21° 6' 29.758"	85° 48' 8.773"	375621.918	2334597.970
46	46	21° 6' 34.157"	85° 48' 24.304"	376071.030	2334729.868
47	47	21° 6' 32.990"	85° 48' 31.604"	376281.409	2334692.425
48	48	21° 6' 27.842"	85° 48' 35.460"	376391.469	2334533.303
49	49	21° 6' 13.694"	85° 48' 39.942"	376517.537	2334097.317
50	50	21° 6' 4.324"	85° 48' 43.780"	376626.115	2333808.359
51	51	21° 5' 59.644"	85° 48' 44.356"	376641.661	2333664.335
52	52	21° 5' 59.093"	85° 48' 44.420"	376643.405	2333647.386
53	BK-51	21° 5' 58.322"	85° 48' 45.720"	376680.727	2333623.418
54	53	21° 5' 55.136"	85° 48' 44.910"	376656.624	2333525.630
55	54	21° 5' 54.978"	85° 48' 44.928"	376657.107	2333520.756
56	ML1-15	21° 5' 58.081"	85° 48' 45.882"	376685.346	2333615.967
57	ML1-13	21° 5' 57.980"	85° 48' 46.300"	376697.373	2333612.777
58	55	21° 5' 53.844"	85° 48' 45.137"	376662.872	2333485.843
59	56	21° 5' 52.890"	85° 48' 45.184"	376664.003	2333456.499
60	BK-53	21° 5' 52.012"	85° 48' 45.749"	376680.111	2333429.369
61	DTS1	21° 5' 51.605"	85° 48' 46.256"	376694.664	2333416.752
62	DTS5	21° 5' 52.573"	85° 48' 47.207"	376722.310	2333446.323
63	DTS7	21° 5' 52.969"	85° 48' 48.146"	376749.513	2333458.297
64	DTS12	21° 5' 54.262"	85° 48' 49.363"	376784.919	2333497.774
65	DTS17	21° 5' 55.180"	85° 48' 50.875"	376828.758	2333525.675
66	DTS21	21° 5' 56.238"	85° 48' 51.239"	376839.492	2333558.140
67	DTS24	21° 5' 57.232"	85° 48' 51.408"	376844.602	2333588.654
68	DTS25	21° 5' 57.502"	85° 48' 51.746"	376854.428	2333596.884
69	DTS27	21° 5' 57.476"	85° 48' 52.279"	376869.796	2333595.994
70	DTS29	21° 5' 56.882"	85° 48' 52.387"	376872.777	2333577.707
71	DTS32	21° 5' 56.130"	85° 48' 52.506"	376876.032	2333554.547
72	DTS40	21° 5' 55.165"	85° 48' 52.265"	376868.851	2333524.933
73	DTS41	21° 5' 54.755"	85° 48' 52.016"	376861.590	2333512.368
74	ML1-23	21° 5' 55.727"	85° 48' 53.802"	376913.335	2333541.871
75	DTS98	21° 5' 58.402"	85° 48' 53.899"	376916.753	2333624.094
76	DTS105	21° 5' 59.420"	85° 48' 52.801"	376885.304	2333655.656
77	DTS110	21° 6' 0.410"	85° 48' 52.657"	376881.375	2333686.127
78	DTS115	21° 6' 1.537"	85° 48' 52.628"	376880.802	2333720.779
79	DTS120	21° 6' 1.678"	85° 48' 54.234"	376927.163	2333724.751
80	DTS123	21° 6' 1.832"	85° 48' 55.213"	376955.453	2333729.301
81	DTS127	21° 6' 2.221"	85° 48' 55.832"	376973.408	2333741.122
82	DTS127-A	21° 6' 3.067"	85° 48' 56.344"	376988.352	2333767.025
83	DTS140	21° 6' 4.136"	85° 48' 56.801"	377001.789	2333799.802
84	DTS147	21° 6' 4.752"	85° 48' 56.412"	376990.711	2333818.814
85	DTS150	21° 6' 5.213"	85° 48' 55.379"	376961.005	2333833.205
86	DTS153	21° 6' 5.393"	85° 48' 54.007"	376921.470	2333839.034
87	DTS154	21° 6' 6.066"	85° 48' 54.191"	376926.921	2333859.694
88	DTS156	21° 6' 5.915"	85° 48' 55.192"	376955.764	2333854.830
89	DTS159	21° 6' 5.623"	85° 48' 57.100"	377010.751	2333845.454
90	57	21° 6' 5.191"	85° 48' 57.712"	377028.311	2333832.040
91	58	21° 6' 5.544"	85° 48' 57.773"	377030.157	2333842.874
92	59	21° 6' 6.826"	85° 48' 56.974"	377007.390	2333882.452
93	60	21° 6' 9.252"	85° 48' 54.274"	376930.040	2333957.638
94	61	21° 6' 10.058"	85° 48' 52.481"	376878.495	2333982.818
95	62	21° 6' 10.390"	85° 48' 52.096"	376867.457	2333993.085
96	63	21° 6' 10.930"	85° 48' 52.153"	376869.242	2334009.676
97	64	21° 6' 11.470"	85° 48' 54.169"	376927.535	2334025.847
98	65	21° 6' 12.557"	85° 48' 56.192"	376986.161	2334058.841
99	66	21° 6' 15.548"	85° 48' 57.830"	377034.108	2334150.474
100	67	21° 6' 16.560"	85° 48' 59.260"	377075.577	2334181.272
101	68	21° 6' 17.197"	85° 48' 59.602"	377085.591	2334200.791
102	69	21° 6' 19.220"	85° 49' 1.610"	377144.014	2334262.568
103	70	21° 6' 19.933"	85° 49' 2.204"	377161.316	2334284.358
104	71	21° 6' 20.254"	85° 49' 2.233"	377162.220	2334294.203
105	72	21° 6' 20.182"	85° 49' 2.053"	377157.010	2334292.028
106	73	21° 6' 21.445"	85° 49' 0.368"	377108.687	2334331.242
107	74	21° 6' 21.899"	85° 48' 59.098"	377072.124	2334345.462
108	75	21° 6' 23.144"	85° 48' 56.963"	377010.813	2334384.220
109	76	21° 6' 24.217"	85° 48' 56.434"	376995.790	2334417.320
110	77	21° 6' 26.312"	85° 48' 56.480"	376997.620	2334481.732
111	78	21° 6' 29.056"	85° 48' 58.817"	377065.660	2334565.578
112	79	21° 6' 29.434"	85° 48' 56.527"	376999.685	2334577.692
113	80	21° 6' 30.193"	85° 48' 54.997"	376955.714	2334601.377
114	81	21° 6' 32.609"	85° 48' 54.688"	376947.334	2334675.717
115	82	21° 6' 35.460"	85° 48' 54.194"	376933.757	2334763.491
116	83	21° 6' 37.811"	85° 48' 53.755"	376921.623	2334835.868
117	84	21° 6' 40.630"	85° 48' 51.926"	376869.504	2334922.932
118	85	21° 6' 43.459"	85° 48' 50.317"	376823.724	2335010.282
119	86	21° 6' 43.610"	85° 48' 48.114"	376760.192	2335015.406
120	87	21° 6' 44.006"	85° 48' 46.487"	376713.334	2335027.932
121	88	21° 6' 44.298"	85° 48' 46.138"	376703.326	2335036.973
122	89	21° 6' 45.180"	85° 48' 44.345"	376651.803	2335064.479
123	90	21° 6' 45.493"	85° 48' 43.488"	376627.154	2335074.294
124	91	21° 6' 45.972"	85° 48' 42.757"	376606.179	2335089.173
125	92	21° 6' 49.097"	85° 48' 41.227"	376562.753	2335185.584
126	93	21° 6' 50.911"	85° 48' 40.028"	376528.583	2335241.631
127	94	21° 6' 51.818"	85° 48' 37.944"	376468.653	2335269.975
128	95	21° 6' 53.521"	85° 48' 35.950"	376411.503	2335322.763
129	96	21° 6' 54.115"	85° 48' 35.154"	376388.685	2335341.199
130	97	21° 6' 55.368"	85° 48' 32.738"	376319.280	2335380.242
131	98	21° 6' 55.667"	85° 48' 31.730"	376290.266	2335389.647
132	99	21° 6' 55.732"	85° 48' 30.211"	376246.450	2335391.968
133	100	21° 6' 55.148"	85° 48' 29.282"	376219.518	2335374.236
134	101	21° 6' 54.785"	85° 48' 29.167"	376216.111	2335363.081
135	102	21° 6' 54.364"	85° 48' 29.200"	376216.949	2335350.123
136	103	21° 6' 54.353"	85° 48' 29.203"	376217.050	2335349.791
137	104	21° 6' 54.346"	85° 48' 29.214"	376217.360	2335349.567
138	105	21° 6' 54.148"	85° 48' 31.496"	376283.165	2335342.985
139	106	21° 6' 53.867"	85° 48' 32.666"	376316.857	2335334.099
140	107	21° 6' 53.060"	85° 48' 34.211"	376361.230	2335308.970
141	108	21° 6' 52.038"	85° 48' 35.204"	376389.661	2335277.319
142	109	21° 6' 50.188"	85° 48' 37.372"	376451.763	2335219.955
143	110	21° 6' 49.572"	85° 48' 37.768"	376463.047	2335200.941
144	111	21° 6' 49.151"	85° 48' 37.778"	376463.262	2335187.988
145	112	21° 6' 48.974"	85° 48' 37.631"	376458.963	2335182.596
146	113	21° 6' 48.910"	85° 48' 37.177"	376445.860	2335180.702
147	114	21° 6' 49.075"	85° 48' 36.731"	376433.019	2335185.890
148	115	21° 6' 51.440"	85° 48' 33.862"	376350.782	2335259.234
149	116	21° 6' 51.941"	85° 48' 32.483"	376311.116	2335274.918
150	117	21° 6' 52.070"	85° 48' 31.388"	376279.571	2335279.139
151	118	21° 6' 51.599"	85° 48' 29.898"	376236.462	2335264.961
152	119	21° 6' 50.969"	85° 48' 28.685"	376201.313	2335245.852
153	120	21° 6' 50.792"	85° 48' 27.382"	376163.673	2335240.710
154	121	21° 6' 50.825"	85° 48' 26.550"	376139.687	2335241.886
155	122	21° 6' 49.442"	85° 48' 26.554"	376139.473	2335199.380
156	123	21° 6' 49.435"	85° 48' 23.371"	376047.653	2335199.847
157	124	21° 6' 52.690"	85° 48' 23.389"	376048.923	2335299.909
158	125	21° 6' 52.686"	85° 48' 26.507"	376138.870	2335299.123
159	126	21° 6' 50.990"	85° 48' 26.546"	376139.622	2335246.979
160	127	21° 6' 50.962"	85° 48' 27.374"	376163.504	2335245.914
161	128	21° 6' 51.127"	85° 48' 28.649"	376200.311	2335250.730
162	129	21° 6' 51.743"	85° 48' 29.812"	376234.002	2335269.407
163	130	21° 6' 52.236"	85° 48' 31.374"	376279.193	2335284.234
164	131	21° 6' 52.099"	85° 48' 32.526"	376312.399	2335279.779
165	132	21° 6' 51.581"	85° 48' 33.944"	376353.203	2335263.533
166	133	21° 6' 49.216"	85° 48' 36.824"	376435.752	2335190.187
167	134	21° 6' 49.133"	85° 48' 37.541"	376456.402	2335187.486
168	135	21° 6' 49.522"	85° 48' 37.602"	376458.257	2335199.428
169	136	21° 6' 50.083"	85° 48' 37.242"	376448.000	2335216.773
170	137	21° 6' 51.919"	85° 48' 35.082"	376386.103	2335273.692
171	138	21° 6' 52.931"	85° 48' 34.106"	376358.188	2335305.008
172	139	21° 6' 52.934"	85° 48' 34.103"	376358.085	2335305.119
173	140	21° 6' 53.712"	85° 48' 32.602"	376314.952	2335329.353
174	141	21° 6' 53.986"	85° 48' 31.471"	376282.401	2335338.010
175	142	21° 6' 54.248"	85° 48' 29.038"	376212.248	2335346.616
176	143	21° 6' 54.803"	85° 48' 28.991"	376211.026	2335363.673
177	144	21° 6' 55.246"	85° 48' 29.128"	376215.075	2335377.259
178	145	21° 6' 55.901"	85° 48' 30.175"	376245.450	2335397.178
179	146	21° 6' 55.825"	85° 48' 31.759"	376291.134	2335394.511
180	147	21° 6' 55.519"	85° 48' 32.807"	376321.288	2335384.876
181	148	21° 6' 54.248"	85° 48' 35.248"	376391.416	2335345.274
182	149	21° 6' 53.644"	85° 48' 36.065"	376414.855	2335326.502
183	150	21° 6' 51.955"	85° 48' 38.038"	376471.385	2335274.161
184	151	21° 6' 51.192"	85° 48' 39.874"	376524.181	2335250.299
185	152	21° 6' 54.734"	85° 48' 41.458"	376570.696	2335358.878
186	153	21° 6' 58.576"	85° 48' 43.852"	376640.649	2335476.470
187	154	21° 7' 0.674"	85° 48' 45.299"	376682.885	2335540.692
188	155	21° 7' 1.391"	85° 48' 46.721"	376724.076	2335562.413
189	156	21° 7' 0.937"	85° 48' 57.272"	377028.397	2335546.196
190	157	21° 7' 0.214"	85° 48' 58.100"	377052.121	2335523.769
191	158	21° 6' 58.255"	85° 49' 1.924"	377161.977	2335462.732
192	159	21° 6' 55.256"	85° 49' 8.904"	377362.685	2335369.029
193	160	21° 6' 53.417"	85° 49' 14.578"	377525.957	2335311.251
194	161	21° 6' 50.742"	85° 49' 14.812"	377532.099	2335228.957
195	162	21° 6' 48.582"	85° 49' 14.704"	377528.490	2335162.565
196	163	21° 6' 47.084"	85° 49' 13.213"	377485.148	2335116.836
197	164	21° 6' 44.129"	85° 49' 12.274"	377457.365	2335026.159
198	165	21° 6' 42.174"	85° 49' 12.112"	377452.245	2334966.088
199	166	21° 6' 40.680"	85° 49' 12.720"	377469.458	2334920.021
200	167	21° 6' 40.208"	85° 49' 13.487"	377491.474	2334905.356
201	168	21° 6' 37.976"	85° 49' 14.833"	377529.812	2334836.439
202	169	21° 6' 35.226"	85° 49' 15.427"	377546.323	2334751.744
203	170	21° 6' 29.002"	85° 49' 15.125"	377536.180	2334560.423
204	171	21° 6' 28.228"	85° 49' 14.880"	377528.940	2334536.677
205	172	21° 6' 27.324"	85° 49' 14.214"	377509.518	2334509.035
206	173	21° 6' 26.489"	85° 49' 12.922"	377472.038	2334483.631
207	174	21° 6' 25.574"	85° 49' 9.682"	377378.346	2334456.209
208	175	21° 6' 23.159"	85° 49' 6.488"	377285.661	2334382.619
209	176	21° 6' 20.765"	85° 49' 3.551"	377200.354	2334309.639
210	177	21° 6' 20.466"	85° 49' 2.784"	377178.161	2334300.616
211	178	21° 6' 19.764"	85° 49' 2.672"	377174.781	2334279.055
212	179	21° 6' 18.194"	85° 49' 1.250"	377133.393	2334231.098
213	180	21° 6' 16.931"	85° 49' 0.001"	377097.060	2334192.514
214	181	21° 6' 16.927"	85° 49' 0.001"	377097.059	2334192.403
215	182	21° 6' 16.373"	85° 48' 59.717"	377088.726	2334175.418
216	183	21° 6' 15.174"	85° 48' 58.136"	377042.852	2334138.896
217	184	21° 6' 12.474"	85° 48' 56.772"	377002.866	2334056.171
218	185	21° 6' 12.150"	85° 48' 56.444"	376993.339	2334046.279
219	186	21° 6' 11.120"	85° 48' 54.511"	376937.323	2334015.036
220	187	21° 6' 10.656"	85° 48' 52.610"	376882.372	2334001.165
221	188	21° 6' 10.418"	85° 48' 52.772"	376886.992	2333993.825
222	189	21° 6' 9.634"	85° 48' 54.533"	376937.606	2333969.316
223	190	21° 6' 7.153"	85° 48' 57.312"	377017.230	2333892.452
224	191	21° 6' 5.620"	85° 48' 58.273"	377044.613	2333845.091
225	192	21° 6' 4.835"	85° 48' 58.216"	377042.772	2333820.973
226	DTS166	21° 6' 4.712"	85° 48' 58.388"	377047.730	2333817.172
227	DTS172	21° 6' 2.621"	85° 48' 57.935"	377034.163	2333752.958
228	DTS179	21° 6' 0.526"	85° 48' 57.856"	377031.398	2333688.552
229	DTS182	21° 5' 59.233"	85° 48' 57.377"	377017.287	2333648.917
230	CVC3	21° 5' 58.045"	85° 48' 58.097"	377037.791	2333612.234
231	DTS359	21° 6' 4.334"	85° 49' 12.641"	377458.885	2333802.495
232	DTS362	21° 6' 5.144"	85° 49' 11.752"	377433.412	2333827.591
233	DTS364	21° 6' 5.443"	85° 49' 11.492"	377426.001	2333836.834
234	DTS367	21° 6' 6.052"	85° 49' 11.442"	377424.686	2333855.552
235	DTS370	21° 6' 6.682"	85° 49' 12.317"	377450.071	2333874.736
236	DTS373	21° 6' 7.265"	85° 49' 13.264"	377477.523	2333892.465
237	DTS376	21° 6' 7.913"	85° 49' 14.117"	377502.289	2333912.207
238	DTS376_1	21° 6' 8.244"	85° 49' 14.477"	377512.752	2333922.314
239	DTS376_2	21° 6' 7.657"	85° 49' 14.448"	377511.787	2333904.277
240	DTS372	21° 6' 7.060"	85° 49' 13.465"	377483.293	2333886.113
241	DTS371	21° 6' 6.718"	85° 49' 12.911"	377467.219	2333875.715
242	DTS368	21° 6' 6.178"	85° 49' 11.989"	377440.504	2333859.309
243	DTS366	21° 6' 5.677"	85° 49' 11.860"	377436.650	2333843.950
244	DTS363	21° 6' 5.177"	85° 49' 12.126"	377444.223	2333828.507
245	DTS360	21° 6' 4.619"	85° 49' 12.731"	377461.546	2333811.221
246	ML1-26	21° 6' 4.439"	85° 49' 13.188"	377474.698	2333805.588
247	ML1-25	21° 6' 4.651"	85° 49' 14.300"	377506.843	2333811.881
248	DTS360_3	21° 6' 3.622"	85° 49' 14.254"	377505.258	2333780.234
249	C-1	21° 6' 3.654"	85° 49' 14.185"	377503.292	2333781.244
250	PR5a30	21° 6' 3.056"	85° 49' 11.734"	377432.417	2333763.394
251	PR5a32	21° 6' 3.071"	85° 49' 12.032"	377441.042	2333763.773
252	PR5a40	21° 6' 3.301"	85° 49' 13.948"	377496.356	2333770.447
253	PR5a42	21° 6' 3.341"	85° 49' 14.228"	377504.467	2333771.605
254	PR5a42_A	21° 6' 2.815"	85° 49' 14.214"	377503.932	2333755.447
255	PR5a6	21° 6' 2.754"	85° 49' 13.764"	377490.934	2333753.662
256	PR5a15	21° 6' 2.552"	85° 49' 12.090"	377442.586	2333747.821
257	PR5a22	21° 6' 2.509"	85° 49' 10.103"	377385.236	2333746.918
258	ML1-27	21° 6' 1.019"	85° 49' 6.312"	377275.515	2333701.903
259	DTS269	21° 6' 0.889"	85° 49' 6.427"	377278.810	2333697.894
260	DTS271	21° 6' 0.338"	85° 49' 6.906"	377292.500	2333680.855
261	DTS273	21° 5' 59.924"	85° 49' 6.971"	377294.275	2333668.112
262	DTS275	21° 5' 59.255"	85° 49' 7.298"	377303.575	2333647.453
263	DTS278	21° 5' 58.736"	85° 49' 7.817"	377318.415	2333631.403
264	DTS281	21° 5' 58.560"	85° 49' 8.252"	377330.943	2333625.885
265	DTS283	21° 5' 58.600"	85° 49' 8.530"	377338.951	2333627.044
266	DTS285	21° 5' 59.006"	85° 49' 8.918"	377350.262	2333639.469
267	DTS287	21° 5' 59.946"	85° 49' 9.822"	377376.549	2333668.166
268	DTS290	21° 6' 0.486"	85° 49' 10.916"	377408.251	2333684.535
269	DTS291	21° 6' 0.288"	85° 49' 11.654"	377429.500	2333678.289
270	DTS296	21° 5' 59.766"	85° 49' 12.018"	377439.873	2333662.161
271	DTS299	21° 5' 58.106"	85° 49' 11.906"	377436.274	2333611.156
272	DTS302	21° 5' 56.976"	85° 49' 11.831"	377433.835	2333576.415
273	DTS303	21° 5' 56.256"	85° 49' 12.050"	377440.007	2333554.230
274	DTS306	21° 5' 55.586"	85° 49' 12.824"	377462.188	2333533.476
275	DTS308	21° 5' 54.949"	85° 49' 13.566"	377483.442	2333513.725
276	DTS308_A	21° 5' 54.730"	85° 49' 13.818"	377490.663	2333506.919
277	DTS308_B	21° 5' 54.427"	85° 49' 13.804"	377490.179	2333497.624
278	DTS309	21° 5' 54.730"	85° 49' 13.390"	377478.302	2333507.010
279	DTS307	21° 5' 55.295"	85° 49' 12.612"	377455.993	2333524.555
280	DTS304	21° 5' 55.745"	85° 49' 11.996"	377438.333	2333538.523
281	DTS300	21° 5' 56.569"	85° 49' 11.654"	377428.652	2333563.945
282	DTS298	21° 5' 58.114"	85° 49' 11.564"	377426.408	2333611.451
283	DTS295	21° 5' 59.633"	85° 49' 11.723"	377431.325	2333658.129
284	DTS294	21° 6' 0.054"	85° 49' 11.392"	377421.864	2333671.150
285	DTS293	21° 6' 0.083"	85° 49' 11.003"	377410.652	2333672.119
286	DTS289	21° 5' 59.888"	85° 49' 10.348"	377391.702	2333666.282
287	DTS282	21° 5' 58.430"	85° 49' 8.796"	377346.599	2333621.784
288	DTS280	21° 5' 58.261"	85° 49' 8.350"	377333.680	2333616.677
289	DTS277	21° 5' 58.474"	85° 49' 7.547"	377310.564	2333623.380
290	DTS268	21° 6' 0.860"	85° 49' 6.082"	377268.831	2333697.082
291	DTS265	21° 6' 0.580"	85° 49' 5.725"	377258.483	2333688.525
292	DTS260	21° 5' 58.272"	85° 49' 6.766"	377287.977	2333617.349
293	DTS259	21° 5' 57.761"	85° 49' 6.848"	377290.249	2333601.613
294	DTS257	21° 5' 56.587"	85° 49' 6.395"	377276.893	2333565.624
295	DTS252	21° 5' 56.461"	85° 49' 7.032"	377295.250	2333561.614
296	DTS249	21° 5' 57.055"	85° 49' 8.936"	377350.336	2333579.470
297	DTS247	21° 5' 56.782"	85° 49' 9.610"	377369.699	2333570.913
298	DTS244	21° 5' 56.393"	85° 49' 9.808"	377375.323	2333558.916
299	DTS242	21° 5' 54.967"	85° 49' 9.757"	377373.544	2333515.093
300	DTS239	21° 5' 53.812"	85° 49' 10.643"	377398.834	2333479.372
301	DTS237	21° 5' 52.818"	85° 49' 11.341"	377418.760	2333448.671
302	DTS234	21° 5' 51.630"	85° 49' 11.726"	377429.604	2333412.061
303	DTS233	21° 5' 51.245"	85° 49' 11.737"	377429.828	2333400.214
304	DTS231	21° 5' 50.960"	85° 49' 11.456"	377421.660	2333391.530
305	DTS229	21° 5' 50.935"	85° 49' 11.028"	377409.293	2333390.847
306	DTS227	21° 5' 51.076"	85° 49' 10.708"	377400.080	2333395.232
307	DTS226	21° 5' 52.080"	85° 49' 10.499"	377394.284	2333426.160
308	DTS221	21° 5' 53.059"	85° 49' 9.134"	377355.138	2333456.560
309	DTS218	21° 5' 53.171"	85° 49' 8.828"	377346.334	2333460.057
310	DTS217	21° 5' 53.066"	85° 49' 8.162"	377327.093	2333456.989
311	DTS214	21° 5' 52.631"	85° 49' 7.259"	377300.920	2333443.789
312	DTS211	21° 5' 52.055"	85° 49' 6.427"	377276.793	2333426.257
313	DTS209	21° 5' 51.695"	85° 49' 5.232"	377242.224	2333415.444
314	DTS207	21° 5' 51.727"	85° 49' 5.027"	377236.310	2333416.484
315	DTS205	21° 5' 52.062"	85° 49' 3.371"	377188.603	2333427.133
316	DTS201	21° 5' 52.462"	85° 49' 2.345"	377159.089	2333439.640
317	DTS196	21° 5' 53.452"	85° 49' 1.146"	377124.724	2333470.337
318	DTS193	21° 5' 54.830"	85° 48' 59.810"	377086.501	2333513.018
319	DTS189	21° 5' 55.730"	85° 48' 59.090"	377065.931	2333540.846
320	CVC1	21° 5' 57.257"	85° 48' 58.140"	377038.857	2333587.983
321	DTS82	21° 5' 54.787"	85° 48' 53.683"	376909.692	2333513.006
322	DTS78	21° 5' 54.283"	85° 48' 53.226"	376896.385	2333497.607
323	DTS67	21° 5' 52.562"	85° 48' 51.260"	376839.273	2333445.119
324	DTS62	21° 5' 51.832"	85° 48' 49.997"	376802.645	2333422.920
325	DTS61	21° 5' 51.986"	85° 48' 49.723"	376794.786	2333427.739
326	DTS58	21° 5' 52.433"	85° 48' 49.586"	376790.941	2333441.494
327	DTS57	21° 5' 52.645"	85° 48' 49.680"	376793.690	2333448.005
328	193	21° 5' 51.112"	85° 48' 46.850"	376711.691	2333401.459
329	BK-54	21° 5' 49.970"	85° 48' 48.247"	376751.734	2333366.069
330	BK-56	21° 5' 42.673"	85° 48' 52.164"	376863.082	2333140.855
331	BK-57	21° 5' 43.195"	85° 48' 53.752"	376909.012	2333156.564
332	BK-58	21° 5' 42.950"	85° 48' 54.432"	376928.589	2333148.891
333	BK-59	21° 5' 42.360"	85° 48' 55.526"	376960.033	2333130.502
334	BK-61	21° 5' 40.232"	85° 48' 57.215"	377008.266	2333064.721
335	BK-62	21° 5' 39.797"	85° 48' 58.669"	377050.134	2333051.015
336	BK-63	21° 5' 39.646"	85° 48' 59.720"	377080.432	2333046.141
337	BK-64	21° 5' 39.692"	85° 49' 1.942"	377144.537	2333047.103
338	BK-65	21° 5' 42.666"	85° 49' 0.872"	377114.364	2333138.764
339	BK-65_A	21° 5' 43.811"	85° 48' 59.929"	377087.410	2333174.166
340	BK-67	21° 5' 43.994"	85° 49' 0.847"	377113.941	2333179.614
341	BK-67_A	21° 5' 44.635"	85° 49' 1.427"	377130.812	2333199.193
342	BK-69	21° 5' 42.551"	85° 49' 2.615"	377164.615	2333134.848
343	BK-69_A	21° 5' 44.210"	85° 49' 3.421"	377188.264	2333185.704
344	VF107_1	21° 5' 42.792"	85° 49' 4.177"	377209.754	2333141.929
345	VF107_2	21° 5' 42.187"	85° 49' 5.311"	377242.338	2333123.090
346	BK-74	21° 5' 42.173"	85° 49' 8.191"	377325.438	2333122.031
347	VF107_3	21° 5' 43.314"	85° 49' 7.896"	377317.181	2333157.183
348	BK-76	21° 5' 42.428"	85° 49' 9.534"	377364.244	2333129.602
349	BK-77	21° 5' 42.490"	85° 49' 10.078"	377379.943	2333131.368
350	BK-78	21° 5' 43.958"	85° 49' 9.908"	377375.396	2333176.566
351	BK-79	21° 5' 41.626"	85° 49' 12.529"	377450.488	2333104.277
352	VF107_4	21° 5' 41.885"	85° 49' 13.195"	377469.765	2333112.104
353	VF107_5	21° 5' 40.214"	85° 49' 13.112"	377466.995	2333060.761
354	BK-1	21° 5' 40.006"	85° 49' 11.957"	377433.602	2333054.588
355	BK-2	21° 5' 39.736"	85° 49' 10.913"	377403.415	2333046.510
356	BK-2_A	21° 5' 38.591"	85° 49' 8.328"	377328.568	2333011.863
357	BK-4	21° 5' 38.130"	85° 49' 6.884"	377286.807	2332998.004
358	BK-5	21° 5' 37.928"	85° 49' 5.516"	377247.287	2332992.098
359	BK-06	21° 5' 38.004"	85° 49' 3.734"	377195.884	2332994.805
360	BK-06_A	21° 5' 38.767"	85° 48' 58.406"	377042.315	2333019.414
361	BK-8	21° 5' 38.756"	85° 48' 56.412"	376984.763	2333019.510
362	BK-9a	21° 5' 37.802"	85° 48' 55.868"	376968.859	2332990.293
363	BK-10	21° 5' 36.841"	85° 48' 55.829"	376967.497	2332960.747
364	BK-10_A	21° 5' 36.208"	85° 48' 55.501"	376957.898	2332941.336
365	BK-10_B	21° 5' 35.992"	85° 48' 52.769"	376879.004	2332935.281
366	BK-13	21° 5' 36.215"	85° 48' 51.361"	376838.437	2332942.447
367	BK-14	21° 5' 36.200"	85° 48' 50.710"	376819.632	2332942.144
368	BK-15	21° 5' 36.427"	85° 48' 49.691"	376790.285	2332949.336
369	BRO-16	21° 5' 37.756"	85° 48' 48.161"	376746.441	2332990.511
370	ML1-29	21° 6' 1.044"	85° 49' 4.139"	377212.827	2333703.135
371	DTS8	21° 5' 52.696"	85° 48' 48.348"	376755.267	2333449.853
372	ML1-33	21° 5' 52.009"	85° 48' 47.052"	376717.714	2333429.009
373	DTS4	21° 5' 52.243"	85° 48' 47.257"	376723.683	2333436.159
374	PRD10a2	21° 5' 53.343"	85° 48' 49.563"	376790.474	2333469.486
375	PRD10a4	21° 5' 53.848"	85° 48' 50.180"	376808.393	2333484.881
376	DTS16	21° 5' 54.652"	85° 48' 50.770"	376825.602	2333509.475
377	DTS19	21° 5' 55.451"	85° 48' 51.619"	376850.283	2333533.860
378	DTS20	21° 5' 56.116"	85° 48' 51.932"	376859.466	2333554.240
379	DTS22	21° 5' 56.695"	85° 48' 51.804"	376855.906	2333572.070
380	DTS28	21° 5' 56.883"	85° 48' 52.076"	376863.797	2333577.792
381	DTS31	21° 5' 56.438"	85° 48' 52.259"	376868.976	2333564.070
382	DTS36	21° 5' 55.977"	85° 48' 52.143"	376865.523	2333549.920
383	DTS39	21° 5' 55.193"	85° 48' 51.997"	376861.131	2333525.846
384	DTS43	21° 5' 54.685"	85° 48' 51.677"	376851.781	2333510.295
385	DTS46	21° 5' 54.430"	85° 48' 51.456"	376845.345	2333502.501
386	PR1a24	21° 5' 57.005"	85° 48' 56.133"	376980.888	2333580.672
387	PR1a24_A	21° 5' 55.894"	85° 48' 54.106"	376922.146	2333546.947
388	DTS99	21° 5' 58.451"	85° 48' 54.258"	376927.117	2333625.536
389	DTS107	21° 5' 59.697"	85° 48' 53.015"	376891.536	2333664.114
390	DTS109	21° 6' 0.247"	85° 48' 52.898"	376888.286	2333681.051
391	DTS114	21° 6' 1.240"	85° 48' 52.950"	376890.014	2333711.572
392	DTS117	21° 6' 1.436"	85° 48' 53.111"	376894.704	2333717.564
393	DTS122	21° 6' 1.498"	85° 48' 54.281"	376928.478	2333719.219
394	DTS124	21° 6' 1.564"	85° 48' 55.020"	376949.817	2333721.090
395	DTS126	21° 6' 1.791"	85° 48' 55.707"	376969.692	2333727.922
396	DTS128	21° 6' 2.114"	85° 48' 56.042"	376979.432	2333737.781
397	DTS130	21° 6' 2.666"	85° 48' 56.458"	376991.561	2333754.665
398	DTS130_A	21° 6' 3.321"	85° 48' 56.772"	377000.772	2333774.737
399	DTS138	21° 6' 4.056"	85° 48' 57.246"	377014.617	2333797.235
400	DTS144	21° 6' 4.470"	85° 48' 57.393"	377018.953	2333809.933
401	DTS148	21° 6' 5.030"	85° 48' 56.546"	376994.642	2333827.333
402	DTS151	21° 6' 5.439"	85° 48' 55.193"	376955.695	2333840.200
403	DTS155	21° 6' 5.753"	85° 48' 55.195"	376955.825	2333849.854
404	DTS158	21° 6' 5.695"	85° 48' 55.526"	376965.363	2333848.000
405	DTS160	21° 6' 5.229"	85° 48' 57.023"	377008.451	2333833.350
406	DTS163	21° 6' 5.111"	85° 48' 57.371"	377018.465	2333829.647
407	DTS64	21° 6' 4.907"	85° 48' 57.685"	377027.478	2333823.307
408	DTS165	21° 6' 4.664"	85° 48' 57.907"	377033.828	2333815.787
409	DTS168	21° 6' 3.919"	85° 48' 57.861"	377032.331	2333792.890
410	DTS173	21° 6' 1.733"	85° 48' 57.473"	377020.635	2333725.759
411	DTS177	21° 6' 1.288"	85° 48' 57.563"	377023.130	2333712.057
412	PR2a1	21° 6' 0.907"	85° 48' 57.582"	377023.591	2333700.338
413	PR1a5	21° 6' 0.249"	85° 48' 56.477"	376991.557	2333680.343
414	PR1a7	21° 6' 0.169"	85° 48' 56.361"	376988.191	2333677.909
415	PR1a9	21° 5' 59.736"	85° 48' 56.062"	376979.465	2333664.659
416	PR1a11	21° 5' 59.550"	85° 48' 56.018"	376978.152	2333658.949
417	PR1a13	21° 5' 59.378"	85° 48' 55.990"	376977.305	2333653.667
418	PR1a14	21° 5' 59.105"	85° 48' 56.004"	376977.647	2333645.270
419	PR1a18	21° 5' 58.405"	85° 48' 56.079"	376979.650	2333623.730
420	PR1a24	21° 5' 57.005"	85° 48' 56.133"	376980.888	2333580.672
421	PR1a26	21° 5' 57.290"	85° 48' 56.668"	376996.391	2333589.320
422	PR1a32	21° 5' 58.498"	85° 48' 56.628"	376995.513	2333626.472
423	PR1a36	21° 5' 59.306"	85° 48' 56.539"	376993.130	2333651.335
424	PR1a39	21° 5' 59.529"	85° 48' 56.575"	376994.219	2333658.184
425	PR1a41	21° 5' 59.806"	85° 48' 56.766"	376999.794	2333666.660
426	PR1a44	21° 6' 0.066"	85° 48' 57.207"	377012.578	2333674.560
427	PR1a45	21° 6' 0.108"	85° 48' 57.331"	377016.166	2333675.825
428	DTS180	21° 5' 59.421"	85° 48' 56.970"	377005.592	2333654.779
429	DTS180_A	21° 5' 59.117"	85° 48' 57.086"	377008.870	2333645.406
430	CVC2	21° 5' 57.879"	85° 48' 57.777"	377028.525	2333607.192
431	PR1a26	21° 5' 57.290"	85° 48' 56.668"	376996.391	2333589.320
432	PR4a25	21° 6' 0.066"	85° 49' 3.978"	377207.952	2333673.107
433	ML1-28	21° 6' 0.621"	85° 49' 5.370"	377248.244	2333689.874
434	DTS262	21° 5' 59.803"	85° 49' 5.806"	377260.638	2333664.629
435	DTS258	21° 5' 58.070"	85° 49' 6.497"	377280.180	2333611.195
436	PR4a45	21° 5' 57.361"	85° 49' 6.202"	377271.506	2333589.458
437	PR4a44	21° 5' 57.874"	85° 49' 6.115"	377269.113	2333605.250
438	PR4a34	21° 5' 59.152"	85° 49' 5.442"	377249.986	2333644.690
439	PR4a30	21° 5' 59.493"	85° 49' 4.987"	377236.935	2333655.273
440	PR4a25	21° 6' 0.066"	85° 49' 3.978"	377207.952	2333673.107
441	PR4a23	21° 5' 59.809"	85° 49' 3.346"	377189.646	2333665.347
442	PR4a16	21° 5' 59.050"	85° 49' 4.692"	377228.322	2333641.702
443	PR4a14	21° 5' 58.783"	85° 49' 5.041"	377238.337	2333633.436
444	PR4a9	21° 5' 57.721"	85° 49' 5.584"	377253.756	2333600.660
445	PR4a6	21° 5' 57.468"	85° 49' 5.648"	377255.545	2333592.867
446	PR4a5	21° 5' 57.090"	85° 49' 5.647"	377255.430	2333581.245
447	PR4a2	21° 5' 56.547"	85° 49' 5.499"	377251.036	2333564.580
448	PR4a46	21° 5' 56.098"	85° 49' 5.591"	377253.588	2333550.755
449	PR4a45	21° 5' 56.082"	85° 49' 5.818"	377260.134	2333550.214
450	DTS254	21° 5' 55.956"	85° 49' 6.409"	377277.159	2333546.213
451	DTS250	21° 5' 56.721"	85° 49' 8.632"	377341.477	2333569.259
452	DTS246	21° 5' 56.736"	85° 49' 9.257"	377359.514	2333569.587
453	DTS245	21° 5' 56.515"	85° 49' 9.438"	377364.687	2333562.753
454	DTS241	21° 5' 54.908"	85° 49' 9.509"	377366.369	2333513.326
455	DTS238	21° 5' 53.638"	85° 49' 10.479"	377394.068	2333474.069
456	DTS235	21° 5' 52.128"	85° 49' 11.302"	377417.471	2333427.464
457	DTS232	21° 5' 51.368"	85° 49' 11.348"	377418.625	2333404.086
458	DTS228	21° 5' 51.312"	85° 49' 11.082"	377410.937	2333402.421
459	DTS224	21° 5' 52.206"	85° 49' 10.786"	377402.600	2333429.972
460	DTS220	21° 5' 53.288"	85° 49' 9.406"	377363.027	2333463.537
461	DTS216	21° 5' 53.505"	85° 49' 8.507"	377337.136	2333470.402
462	DTS213	21° 5' 53.326"	85° 49' 7.848"	377318.080	2333465.039
463	DTS210	21° 5' 52.239"	85° 49' 6.201"	377270.308	2333431.969
464	DTS206	21° 5' 52.063"	85° 49' 5.138"	377239.595	2333426.785
465	DTS204	21° 5' 52.341"	85° 49' 3.729"	377199.002	2333435.635
466	DTS200	21° 5' 53.015"	85° 49' 2.219"	377155.586	2333456.683
467	DTS195	21° 5' 54.045"	85° 49' 1.111"	377123.850	2333488.590
468	PR3a41	21° 5' 54.723"	85° 49' 1.210"	377126.861	2333509.416
469	PR3a40	21° 5' 55.122"	85° 49' 1.071"	377122.942	2333521.714
470	PR3a36	21° 5' 56.073"	85° 49' 0.514"	377107.087	2333551.075
471	PR3a34	21° 5' 56.459"	85° 49' 0.557"	377108.416	2333562.934
472	PR3a31	21° 5' 57.110"	85° 49' 0.726"	377113.441	2333582.915
473	PR3a28	21° 5' 57.617"	85° 49' 0.648"	377111.307	2333598.520
474	PR3a26	21° 5' 57.995"	85° 49' 0.347"	377102.708	2333610.208
475	PR3a24	21° 5' 58.240"	85° 49' 0.023"	377093.409	2333617.798
476	PR4a23	21° 5' 59.809"	85° 49' 3.346"	377189.646	2333665.347
477	PR3a23	21° 5' 57.949"	85° 48' 59.506"	377078.431	2333608.974
478	PR3a20	21° 5' 57.635"	85° 48' 59.958"	377091.401	2333599.216
479	PR3a19	21° 5' 57.393"	85° 49' 0.138"	377096.540	2333591.742
480	PR3a17	21° 5' 57.124"	85° 49' 0.168"	377097.344	2333583.465
481	PR3a13	21° 5' 56.450"	85° 48' 59.986"	377091.938	2333562.780
482	PR3a11	21° 5' 55.936"	85° 48' 59.970"	377091.359	2333546.979
483	PR3a6	21° 5' 54.890"	85° 49' 0.574"	377108.548	2333514.687
484	PR3a4	21° 5' 54.665"	85° 49' 0.650"	377110.690	2333507.753
485	PR3a4_A	21° 5' 54.557"	85° 49' 0.563"	377108.149	2333504.445
486	DTS191	21° 5' 55.016"	85° 49' 0.067"	377093.947	2333518.670
487	DTS188	21° 5' 57.416"	85° 48' 58.474"	377048.531	2333592.807
488	PR3a23	21° 5' 57.949"	85° 48' 59.506"	377078.431	2333608.974
489	DTS79	21° 5' 54.512"	85° 48' 53.062"	376891.705	2333504.678
490	DTS63	21° 5' 52.292"	85° 48' 50.370"	376813.519	2333436.996
491	DTS59	21° 5' 52.491"	85° 48' 50.062"	376804.677	2333443.181
492	DTS55	21° 5' 52.654"	85° 48' 50.142"	376807.023	2333448.176
493	DTS53	21° 5' 53.152"	85° 48' 50.679"	376822.632	2333463.373
494	DTS79	21° 5' 54.512"	85° 48' 53.062"	376891.705	2333504.678

FOREST PATCH-3

SL.NO	PILLAR	LATITUDE	LONGITUDE	EASTING	NORTHING
1	DTS332	21° 5' 57.586"	85° 49' 13.417"	377479.733	2333594.834
2	DTS329	21° 5' 56.877"	85° 49' 13.453"	377480.610	2333573.039
3	DTS333	21° 5' 58.331"	85° 49' 13.545"	377483.620	2333617.699
4	DTS331	21° 5' 57.530"	85° 49' 13.675"	377487.181	2333593.056
5	DTS327	21° 5' 56.551"	85° 49' 13.723"	377488.335	2333562.929
6	DTS335	21° 5' 58.186"	85° 49' 13.746"	377489.369	2333613.220
7	DTS334	21° 5' 58.221"	85° 49' 13.758"	377489.725	2333614.289
8	DTS336	21° 5' 59.101"	85° 49' 13.876"	377493.323	2333641.329
9	DTS328	21° 5' 56.805"	85° 49' 13.920"	377494.083	2333570.701
10	1	21° 5' 56.381"	85° 49' 13.899"	377493.390	2333557.668
11	2	21° 5' 59.400"	85° 49' 14.046"	377498.320	2333650.469
12	3	21° 5' 58.858"	85° 49' 14.020"	377497.435	2333633.806
13	4	21° 5' 57.083"	85° 49' 13.698"	377487.750	2333579.302

P.Sahoo
Forester
Kansa Section

Surveyor
F&E, OMC

Forester
Kansol Section

17.03.25
Dy. Range Officer
Sukinda Forest Range

Section Forest Officer
Daitari (W/L) Section

Range Officer
(W/L) Range
Daitari

Dy. Ranger
I/C Tomka Range

REVENUE INSPECTOR
Rebananpala

TAHASILDAR
HARICHANDANPUR

ANNEXURE – I

GRAND ABSTRACT OF ENUMERATION OF TREES IN 10 NOS OF SAMPLE PLOTS

FALLING IN REBANA RF AND REVENUE FOREST IN VILLAGE TALAPADA(146.40 HA) IN DAITARI IRON ORE ML AREA OVER 1018.3085 HA OF OMC LTD UNDER KEONJHAR (WL) DIVISION, ANANDAPUR IN KEONJHAR DISTRICT OF ODISHA

Class	Species	30cm>59cm		60cm>89cm		90cm>119cm		120cm>149cm		150cm>179cm		180cm & above		Total		Grand Total
		S	US	S	US	S	US	S	US	S	US	S	US	S	US	
1 st Class	Kangara	268	175	91	36	40	15	20	14	9	4	10	0	438	244	682
	Sal	1270	358	505	72	125	22	56	3	34	6	33	7	2023	468	2491
	Bandhan	18	17	2	5	0	1	0	0	0	0	0	0	20	23	43
	Piasal	6	1	3	0	0	0	0	0	0	0	0	0	9	1	10
	Sisoo	12	1	3	2	0	0	0	0	0	0	0	0	15	3	18
	Kuruma	16	7	5	3	2	0	0	0	0	1	0	0	23	11	34
	Gambhari	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1
	Saguan	384	5	30	0	1	0	0	0	0	0	0	0	415	5	420
Total		**1974**	**564**	**640**	**118**	**168**	**38**	**76**	**17**	**43**	**11**	**43**	**7**	**2944**	**755**	**3699**
2 nd Class	Asan	218	82	46	22	19	12	7	0	5	2	2	0	297	118	415
	Dhaura	45	20	9	8	3	2	3	0	2	4	1	0	63	34	97
	Kendu	44	21	4	9	0	2	1	0	0	0	0	0	49	32	81
	Jamu	69	61	32	27	22	7	9	6	5	3	6	4	143	108	251
	Mango	0	1	1	0	0	0	0	0	1	0	7	2	9	3	12
	Pani Gambhari	97	81	45	56	18	23	11	10	4	2	1	3	176	175	351
	Sidha	24	15	10	5	5	1	1	2	0	0	0	0	40	23	63
	Mahula	47	6	10	1	2	1	0	2	0	0	0	0	59	10	69
	Kasi	25	11	8	1	0	0	0	0	0	0	1	0	34	12	46
	Tentala	8	7	4	5	2	1	2	0	1	0	3	1	20	14	34
Total		**577**	**305**	**169**	**134**	**71**	**49**	**34**	**20**	**18**	**11**	**21**	**10**	**890**	**529**	**1419**
3 rd Class	Bahada	23	12	5	3	1	1	1	0	3	1	3	0	36	18	54
	Bhalia	70	2	11	2	2	0	0	0	0	0	0	0	83	4	87
	Chara	331	26	100	9	7	0	3	1	1	0	0	0	442	36	478
	Harida	43	22	22	6	4	0	1	1	3	0	0	0	73	29	102
	Kumbhi	43	10	11	3	3	0	2	0	2	0	0	0	61	13	74
	Kusuma	29	22	18	4	7	2	2	1	5	0	6	1	67	30	97
	Mahi	19	5	11	0	4	0	1	0	2	0	0	0	37	5	42
	Poi jamu	167	116	53	48	13	16	3	5	2	0	1	1	239	186	425
	Rai	18	16	4	2	7	2	4	3	6	1	5	3	44	27	71

Mines Manager
Daitari Iron Ore Mine
Odisha Mining Corporation

J. K. Mishra
Dy. Manager (Survey)

Beat Forest Officer
Talapada Beat

Section Forest Officer
Daitari (W/L) Section

Forest Range Officer
Bramhanipal (W.L) Range
Daitari

REVENUE INSPECTOR
Rebanapalaspal

Class	Species	30cm>59cm		60cm>89cm		90cm>119cm		120cm>149cm		150cm>179cm		180cm & above		Total		Grand Total
		S	US	S	US	S	US	S	US	S	US	S	US	S	US	
3 rd Class	Sunari	19	6	2	0	0	0	0	0	0	0	0	0	21	6	27
	Amla	0	3	0	0	0	1	0	0	0	0	0	0	0	4	4
	Baranga	91	71	55	33	19	12	8	4	3	0	0	0	176	120	296
	Baincha	4	9	3	2	0	0	0	0	0	0	0	0	7	11	18
	Bara	0	0	0	0	0	1	0	0	0	0	0	1	0	3	3
	Gandha Palasa	1	0	1	2	0	0	0	0	0	0	0	0	2	2	4
	Halda	28	13	16	6	5	0	1	0	1	1	0	0	51	20	71
	Kali Kendu	30	7	5	4	2	1	3	0	0	0	1	1	41	13	54
	Khakada	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	Karoda	2	3	0	2	0	0	0	0	0	1	0	0	2	6	8
	Katha Kusuma	40	22	13	6	9	1	1	2	0	1	0	0	63	32	95
	Karei	34	57	7	5	1	0	0	0	0	0	0	0	42	62	104
	Ambada	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1
	Karanja	5	0	1	0	0	0	0	0	1	0	0	0	7	0	7
	Phaura	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1
	Ostha	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
	Pijuli	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	Kulchi	21	31	6	5	1	0	0	0	0	0	0	0	28	36	64
	Makal Kendu	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
	Bela	3	1	2	1	0	0	0	0	0	0	0	0	5	2	7
	Dimiri	7	8	10	10	3	4	1	0	0	1	0	0	21	23	44
	Sirisa	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	Matasura	2	0	0	0	0	0	0	0	0	0	0	0	2	0	2
	Chanchani	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1
	Gangasiuli	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	Chatiami	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1
	Chhatni	1	1	2	0	0	0	0	0	0	0	0	0	3	1	4
	Gisu	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1
	Kurumi	1	8	0	0	0	0	0	0	0	0	0	0	1	8	9
	Mamuli	1	1	0	0	0	0	0	0	0	0	0	0	1	1	2
	Rimili	8	6	12	12	5	4	4	1	0	0	1	0	30	23	53
	Bada Karei	13	4	0	3	0	0	0	0	0	0	0	0	13	7	20

Mines Manager
Daitari Iron Ore Mine
M/s. Odisha Mining Corporation

J. K. Mishra

Beat Forest Officer
Talapada Beat

Section Forest Officer
Daitari (W/L) Section

Forest Range Officer
Bramhanipal (W.L.) Range
Daitari

REVENUE INSPECTOR
Rabanapalaspal

Class	Species	30cm>59cm		60cm>89cm		90cm>119cm		120cm>149cm		150cm>179cm		180cm & above		Total		Grand Total
		S	US	S	US	S	US	S	US	S	US	S	US	S	US	
3 rd Class	Bada Kulchi	14	2	1	1	0	0	0	0	0	0	0	0	15	3	18
	Bada Kurumi	0	6	0	0	0	0	0	0	0	0	0	0	0	6	6
	Katha Sundar	149	84	67	14	19	10	1	2	0	0	0	0	236	110	346
	Khas Khasia	9	8	5	8	4	3	4	1	2	0	0	0	24	20	44
	Neem	1	0	4	0	0	0	0	0	0	0	1	0	6	0	6
	Nudha	18	17	1	3	0	0	0	0	0	0	0	0	19	20	39
	Sundari	84	64	43	31	11	1	0	0	0	1	0	0	138	97	235
	Kulthar	31	18	9	4	1	2	1	0	0	0	0	0	42	24	66
	Chadei Guda	12	18	4	5	3	0	1	0	0	0	1	0	21	23	44
	Dhalu	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
	Khili Pana	11	8	5	0	0	1	0	0	0	0	0	0	16	9	25
	Tilen	3	2	0	0	0	1	0	0	0	0	0	0	3	3	6
	Gouri Bandhan	4	2	2	1	1	0	0	0	0	0	0	0	7	3	10
	Bada Pataria	5	10	2	1	1	0	1	0	0	0	0	0	9	11	20
	Kundura	2	1	0	0	0	0	0	0	0	0	0	0	2	1	3
	Kanda Khai	2	0	0	0	0	0	0	0	0	0	0	0	2	0	2
	Jadi	4	2	7	2	0	0	0	0	0	0	0	0	11	4	15
	Damana	2	0	0	0	0	0	0	0	0	0	0	0	2	0	2
	Katha Pataria	3	1	0	0	0	0	0	0	0	0	0	0	3	1	4
	Misc.	236	221	58	45	33	14	5	3	3	1	3	4	338	288	626
Total		**1648**	**948**	**579**	**283**	**167**	**77**	**49**	**24**	**35**	**9**	**23**	**13**	**2501**	**1354**	**3855**
GRAND TOTAL		**4199**	**1817**	**1388**	**535**	**406**	**164**	**159**	**61**	**96**	**31**	**87**	**30**	**6335**	**2636**	**8971**

J. K. Mishra
Dy. Manager (Survey)

Beat Forest Officer
Talapada Beat

Section Forest Officer
Daitari (W/L) Section

Forest Range Officer
Bramhanipal (W.L.) Range
Daitari

REVENUE INSPECTOR
Rebanapalaspal

Mines Manager
Daitari Iron Ore Mine
M/s. Odisha Mining Corporation Ltd.

TAHASILDAR
HARICHANDANPUR

GRAND ABSTRACT OF ENUMERATION OF TREES IN 10 NOS OF SAMPLE PLOTS FALLING IN DAITARI PF (102.25 HA) IN DAITARI IRON ORE ML AREA OVER 1018.3085 HA UNDER CUTTACK FOREST DIVISION, CUTTACK IN JAJPUR DISTRICT OF ODISHA.

Class	Species	30cm>59cm		60cm>89cm		90cm>119cm		120cm>149cm		150cm>179cm		180cm & above		Total		Grand Total
		S	US	S	US	S	US	S	US	S	US	S	US	S	US	
1st Class	Kangara	747	761	323	162	75	18	16	7	2	2	1	2	1162	952	2114
	Sal	527	243	471	163	178	32	30	11	12	8	4	6	1222	463	1685
	Bandhan	1	2	0	0	0	0	0	0	0	0	0	0	1	2	3
	Piasal	1	0	1	0	0	0	0	0	0	0	0	0	2	0	2
	Sisu	66	46	6	4	0	0	0	0	0	0	0	0	72	50	122
	Kuruma	11	6	5	1	1	0	0	0	0	0	0	0	17	7	24
	Gambhari	2	4	3	4	11	7	1	6	6	5	10	14	33	40	73
Total		**1355**	**1062**	**807**	**334**	**265**	**57**	**47**	**24**	**20**	**15**	**15**	**22**	**2509**	**1514**	**4023**
2nd Class	Asan	99	127	34	27	1	1	6	5	1	0	0	0	141	160	301
	Dhaura	3	0	0	0	0	0	0	0	0	0	0	0	3	0	3
	Kendu	10	5	3	7	1	7	1	2	1	0	0	0	16	21	37
	Jamu	92	103	46	63	17	22	10	5	8	1	6	3	179	197	376
	Mango	1	9	8	7	4	1	0	0	0	0	3	1	16	18	34
	Pani Gambhari	15	13	13	11	7	7	2	4	1	3	1	0	39	38	77
	Sidha	291	282	152	72	17	2	6	5	4	1	0	0	470	362	832
	Mahula	3	12	2	5	7	2	5	0	8	0	2	0	27	19	46
	Kasi	14	11	6	2	3	5	0	0	0	0	0	0	23	18	41
	Tentala	111	97	43	36	15	5	8	1	5	2	1	3	183	144	327
Total		639	659	307	230	72	52	38	22	28	7	13	7	1097	977	2074
3 rd Class	Bahada	56	58	15	6	22	3	6	1	2	1	3	0	104	69	173
	Bada Pataria	10	12	5	7	0	0	0	0	0	1	0	0	15	20	35
	Bara	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	Baranga	371	323	204	122	28	18	7	7	2	0	0	0	612	470	1082
	Bhalia	1	4	0	0	0	0	0	0	0	0	0	0	1	4	5
	Chara	21	4	11	0	3	0	0	0	0	0	0	0	35	4	39

J. K. Mishra
Dy. Manager (Survey)

FORESTER
RANSA SECTION

Dy. Ranger
I/C Tomka Range

Range Officer
Sukinda Range

Class	Species	30cm>59cm		60cm>89cm		90cm>119cm		120cm>149cm		150cm>179cm		180cm & above		Total		Grand Total
		S	US	S	US	S	US	S	US	S	US	S	US	S	US	
3rd Class	Chadei Guda	51	39	12	17	7	6	0	0	0	0	0	0	70	62	132
	Chatiana	0	0	0	0	0	1	0	0	1	0	3	0	4	1	5
	Damana	4	1	0	0	0	0	0	0	0	0	0	0	4	1	5
	Dangua Pana	2	3	0	3	0	0	0	0	0	0	0	0	2	6	8
	Dhala	5	2	1	0	0	0	0	0	0	0	0	0	6	2	8
	Dimiri	15	14	7	3	1	7	0	1	0	0	1	0	24	25	49
	Harida	120	118	50	28	14	4	6	3	1	1	0	0	191	154	345
	Kali Kendu	58	29	15	10	11	1	1	1	0	0	0	0	85	41	126
	Karei	12	61	2	11	1	1	0	0	0	0	0	0	15	73	88
	Khas Khasia	0	2	0	0	0	1	0	0	0	0	0	1	0	4	4
	Kulchi	230	295	70	71	8	6	3	6	1	0	0	1	312	379	691
	Kultha	43	32	17	13	6	0	0	0	0	0	0	0	66	45	111
	Kumbhi	54	20	11	5	5	2	0	0	1	0	0	1	71	28	99
	Krushna Chuda	9	3	2	3	2	1	0	0	0	0	0	0	13	7	20
	Kusuma	19	21	10	5	5	2	2	1	3	0	1	2	40	31	71
	Katha Kusuma	62	52	18	13	11	3	2	3	1	2	0	0	94	73	167
	Katha Sundar	90	81	29	25	5	3	2	0	0	1	0	0	126	110	236
	Khili Pana	33	38	15	4	1	2	0	0	0	0	0	0	49	44	93
	Maha Nima	0	0	1	0	1	0	0	0	0	0	2	0	4	0	4
	Mahi	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
	Nudha	11	12	4	5	0	0	0	0	0	0	0	0	15	17	32
	Pani Sundara	2	7	2	4	0	0	0	0	0	0	0	0	4	11	15
	Palasa	17	16	0	0	0	0	0	0	0	0	0	0	17	16	33
	Poi jamu	118	113	57	41	18	4	2	2	3	0	0	0	198	160	358
	Rai	11	2	8	6	8	6	2	4	3	1	3	2	35	21	56
	Simili	2	1	0	0	0	0	1	0	0	0	0	0	3	1	4
	Sundari	27	63	17	13	1	0	0	0	0	0	0	0	45	76	121
	Sunari	12	10	7	2	1	0	1	0	0	0	0	0	21	12	33
	Ambada	0	0	0	1	0	0	0	0	1	0	0	0	1	1	2
	Rimili	4	3	2	0	0	0	0	0	0	0	0	0	6	3	9
	Gouri Bandhan	9	7	4	1	2	0	0	1	0	0	0	0	15	9	24

J. K. Mishra
Manager (Survey)

Kansa

P. Sahoo
FORESTER
KANSA SECTION

Dy. Ranger
I/C Pagamka Range

Range Officer
Sukinda Range

Class	Species	30cm>59cm		60cm>89cm		90cm>119cm		120cm>149cm		150cm>179cm		180cm & above		Total		Grand Total
		S	US	S	US	S	US	S	US	S	US	S	US	S	US	
3rd Class	Gandha Palasa	4	1	1	1	0	0	0	0	0	0	0	0	5	2	7
	Halda	112	70	94	45	14	9	5	1	0	0	0	0	225	125	350
	Misc.	153	253	35	37	6	10	4	4	2	0	3	1	203	305	508
Total		1750	1770	726	502	181	90	44	35	21	7	16	8	2738	2412	5150
GRAND TOTAL		3744	3491	1840	1066	518	199	129	81	69	29	44	37	6344	4903	11247

J. K. Mishra
Manager (Survey)

Kamra

R Sahoo
FORESTER
ISA SECT

Dy. Ranger
I/C Tomka Range

Range Officer
Sukinda Range

ANNEXURE - III

पर्यावरण प्रबंधन प्रभाग
Environment Management Division
विस्तार निदेशालय
Directorate of Extension
भारतीय वानिकी अनुसंधान एवं शिक्षा परिषद्
Indian Council of Forestry Research & Education
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार की एक स्वायत्त परिषद्)
(An Autonomous Body of Ministry of Environment, Forest & Climate Change, Govt. of India)
पो0 ओ0 न्यू फॉरेस्ट, देहरादून – 248 006
P.O. New Forest, Dehradun-248006 (Uttarakhand)

F. No. 1-99/2019-ADG (EM)/IOM-DML(WL)-OMC/ICFRE/110/ Dated: 15.07.2024

To

The Chief Vigilance Office and Land Officer
Forest & Environment Section
Odisha Mining Corporation Limited (OMCL)
Govt. of Odisha, Bhubaneswar

Subject: Proposal for diversion of balance forest land of 746.3325 ha in favour of M/s. OMC Ltd. within total forest land of 846.3995 ha located within approved Mining Lease area of 1018.3085 ha for Iron Ore Mining in Daitari Mining Lease in Cuttack Forest Division of Jajpur District and Keonjhar (WL) Division of Keonjhar District, Odisha – reg.

Reference: Your office letter No. 10453/OMC/F&E/2024 dated 26.06.2024

Sir

With subject and reference as cited above, please find reply from the ICFRE pertaining to conditions no. iii and vii as under:

Condition No.	Condition	Reply from the ICFRE
iii.	A considered opinion on impact of mining operations on 28 rare, endangered and threatened species found in the area and mitigation measures proposed for their conservation and protection.	▪ Mining operation will lead to loss of habitat of 10 RET species reported from core zone. However, common occurrence of 09 species among these in buffer zone will provide habitat for their survival and sustenance. ▪ RET species- *Entada rheedei* only recorded from core zone is under threat due to loss of its habitat resultant from mining operation. Therefore, it is required to be protected through *ex-situ conservation*. A Species Specific Conservation Plan for this species is required to be prepared and implemented. ▪ Threat to 27 RET species has been suggested to be mitigated though *in-situ* conservation in Chapter-7, section 7.3.1.1 at page 417 of the final report-vol-I (*Annexure-I*).
vii.	The revised cost benefit analysis after	▪ A comparative account of ES&G losses

Contd.

Condition No.	Condition	Reply from the ICFRE
	accounting the EG&S lost and net economic gains from project to be submitted by the State.	under column I-IV for different scenarios of forest diversion (i.e. 248.647 ha, 317.541 ha, 746.33 ha and 1018.30 ha) area and benefits from enhanced iron ore production @ 6MTPA beside net economic gain/expected profit is given in Table- 5.8, Chapter-5, page 353 of the final report-vol-I (*Annexure-II*). Further ES&G losses in monetary terms for ICFRE suggested forest diversion (248.647 ha) in given at Column-I of the Table 5.8

Further, please feel free to contact this office for any further clarification in the matter. It is also requested to release the balance funds due in favour of the ICFRE at an early date please.

This is for information and needful.

Thanks

Yours faithfully,

Encl.- As above

(Dr. A. N. Singh) 15/07/24
Asstt. Director General (EM)

Copy to: DDG (Extn.), ICFRE for information.

As a result of various alternatives discussed in the report an area of 309.66 ha *i.e.*, 41.49% will be utilised against the OMCL applied diversion area (746.33 ha) and therefore 58.51% of forest area from the applied area will be available for maintaining the forest cover intact, if expansion is considered by MoEF&CC.

The area (309.66 ha) suggested by ICFRE for mining and allied activities for DIOM of M/s. OMCL have considerably contributed to reduction forest area applied for diversion and approved in the mining plan (2020-25). The area suggested to preserve intact within the core area of the mine lease area is documented with significant stand density (1753.19 ind./ha), 3.50 Shannon wiener index and significant number of RET species as compared to the proposed mine site will facilitate in maintain the forest cover in the core of the mine lease also part of proposed corridor Similipal and Saktosia. The proposed forest area to be preserved intact 613.05 ha (include 28.21 ha non-forest area) shall be made in association with the State Forest Department that fall both in Keonjhar Wild life Division and Cuttack Forest Division, also part of the proposed corridor has connectivity with the adjacent forest cover. The proposed forest area (613.05 ha) to be preserved will continue to provide the environmental service specific to the forest for the wellbeing of the dependants

7.3.1.1 Terrestrial flora

The Mining Lease Area (MLA) and its buffer zone is very important in view of its phytogeography and occurrence of Rare, Endangered and Threatened (RET) plant species. A total of 28 **RET plant species** were reported from the entire area *i.e.*, both in core and buffer areas. The RET plants are having conservation importance needs to be rehabilitated appropriately (*In-situ* conservation) within their natural habitat prior to initiation of mining and its allied activities in the proposed area.

7.3.1.2 Habitat protection

The abundance and diversity of animal species is largely dependent on the availability of suitable habitats and characteristic vegetation cover on which they depend for their various biological needs. The approved **Site-Specific Wildlife Conservation Plan** for Daitari iron ore mine with a total financial outlay of Rs. 2,410.015 Lakhs as on 16.08.2018 holistically dealt with the measures required for conservation of wildlife in Keonjhar Wildlife Division and Cuttack Forest Division. In addition, following are the specific recommendations for appropriate implementation to achieve additional safeguards to enhance the habitats for wildlife forms.

7.3.1.3 Terrestrial fauna (wildlife)

- The 11 km long conveyer belt that starts from Hill Top pit to Baliparbat Stockyad and passes through both the Talapada and Baliparbat beats of Keonjhar WL Division hampers the free movement of wildlife in the forest corridor connecting the Similipal and Satkosia Tiger Reserves. It is therefore recommended to raise the height of the conveyer belt to six to eight meters at the place of five to six meters as in draft report (changes made 6.8

Environmental Service Loss and Economic Benefit

Benefit analysis for proposed production enhancement from 3 MTPA to 6 MTPA to extract 168.668MT for 28 years using direct and indirect benefit expected to incurred were estimated using statistical data projecting cost escalation and Social Discount Rate (SDR). Environmental loss estimated for the forest area as comparative for the life of mine (28 years), the rotation period of the forest (64 years) and total (28+64=92 years) estimated for 1%,4% and 10% Social Discount Rate (SDR) are presented in Table 5.8. The value for the forest increases with the decrease in SDR.

Table 5.8: Comparative analysis of ecological service loss for the forest area and economic benefit perceived to be incurred for the enhanced production of iron ore 6 MTPA for DIOM, OMCL, Odisha

Ecological service loss monetary valuation for the forest area perceived to be lost due to mining					
No. of Years	SDC	Net Present Value (Rs. in crore) 248.647 ha	Net Present (Rs. in crore) 317.541 ha	Net Present Value (Rs. in crore) 746.33 ha	Net Present Value (Rs. in crore) 1018.3* ha
28 years (Life of mine)	4%	1,923.54	2,208.72	3,983.68	5,109.49
64 years (Rotation period of moist deciduous forest)		2,651.43	3,044.53	5,491.15	7,042.98
92 years (Total)		2,807.73	3,224.00	5,814.86	7,458.17
28 years (Life of mine)	1%	2,807.02	3,223.19	5,813.39	7,456.29
64 years (Rotation period of moist deciduous forest)		5,437.42	6,243.58	11,261.01	14,443.43
92 years (Total)		6,922.26	7,948.56	14,336.12	18,387.60
28 years (Life of mine)	10%	1,074.32	1,233.60	2,224.94	2,853.73
64 years (Rotation period of moist deciduous forest)		1,151.78	1,322.55	2,385.36	3,059.48
92 years (Total time)		1,154.19	1,325.31	2,390.35	3,065.88

248.647 ha is the ICFRE suggested forest area; 317.541 ha is as per DIOM mine plan 2020; 746.33 ha is the area applied for diversion to MoEF&CC by M/s. OMCL; 1018.3 ha is the total mine lease area comprising of 846.39950 ha forest area for which the ecological service was quantified; SDC= Social Discount Rate, 4% as per the directions of Hon'ble Supreme Court

Economic benefit monetary valuation for the enhance production of Iron ore reserve 6 MTPA for 28 Years of life (life of mine) summary of the benefit			
	SDC	Approach-I (Rs. in crore)	Approach -II (Rs. in crore)
Number of years 28 years / 6 MTPA	2%*	Total revenue = Rs 52618 Cr Expected profit = 15825Cr Taxes & royalty = Rs 22153 Cr	Total revenue = Rs. 105584.56 Cr Expected profit =31531.82Cr Taxes & royalty = Rs 42123.52 Cr

SDC- Social Discount Rate
Approach -I the price for the enhance production of 6 MTPA were assumed constant
Approach -II production and sale value used to estimate the annual growth rate @ 6.8% for projection for 28 years.
*Hon'ble Supreme Court ,2005-page 10 para 4- Social discount rate non-renewable can be as low as 1-2%

ANNEXURE – IV

(122)

Government of Odisha
Department of Water Resources
****

No. 35618 /WR., Date: 26/12/2024
Irr.-II-WRC-108/2024

31/12/24

From

Smt. Arali Rout, OAS (SAG)
Additional Secretary to Government.

To

The Chief Vigilance Officer and Land Officer,
M/s OMC Ltd.

Sub: Proposal for diversion of forest land of 746.3325 ha in favour of M/s OMC Ltd. within the total forest land of 846.3995 ha located within approved mining lease area of 1018.3085 ha for iron ore mining in Daitari Mining lease in Cuttack Forest Division of Jajpur District and Keonjhar (WL) Division of Keonjhar District.

Ref:- Letter No. 9224/ OMC dated 05.06.2024 of OMC Ltd.

Sir

I am directed to invite reference to the subject and letter cited above and say that after careful consideration, Department of Water Resources have recommended to adhere the following points by OMC Ltd. to mitigate the impact of mining on the local hydrological regime in and around the lease area of OMC for diversion of balance 746.3325 ha. of Forest land.

1. Removal of accumulated silt in the check dam at base of hill road on regular basis.
2. Construction of Gabion Structure at the stream near roadside.
3. Providing proper roadside drain with slit trap.
4. The rain fall run off in this section of road provided with concrete/ paved pathway.
5. Regular cleaning of old culvert with proper silt traps in hill side of road also systematic silt management and water conservation action plan in the entire hill road.
6. Optimum utilization of Ground water from bore wells in order to avoid wastag[illegible] water. Regular monitoring of ground water level and quality to be continu[illegible] undertaken.
7. Ground water recharge structures and rainwater harvesting systems may be implemented in order to replenish the ground water storage of the area.
8. The domestic wastewater may be adequately treated with acceptable standards Stipulated by OPCB/CPCB, so that the wastewater will not have any adverse impact on the environment.

1/1/25

2/01/25

(12)

9. The mine discharge water during pumping of collected rainwater from mine pits, which may contain silt, needs sedimentation, before discharge into the natural water course/ open land.
10. De-silting ponds check dams, reservoir to facilitate recharge of ground water. Recycling & reuse of water should be practiced.
11. The raw water may be used for purposes like horticulture, dust suppression etc.
12. Automated Water sprinkler system can be used for dust suppression in and around the Mines and roads.
13. Regular environmental monitoring should be conducted to assess / monitor water quality as per guidelines.
14. Diversion proposal of Kukurangi nallah, Patna nallah and Sasubhuashuri nallah passes within the lease area of Diatari iron ore mine in Baitarani River basin if any required, alignment of the proposed diversion channel, sectional details of the diversion channel and design discharge of the diversion channel to be vetted by DoWR before execution of the diversion proposal.

Yours faithfully,

26.12.24

Additional Secretary to Government

Memo No. 35619 /WR Dtd. 26/12/2024

Copy forwarded to the PS to Additional Chief Secretary to Govt., DoWR for kind information of Additional Chief Secretary.

Sambhu 26.12.2024

Under Secretary to Government

Memo No. 35620 /WR Dtd. 26/12/2024

Copy forwarded to the EIC, P & D, Bhubaneswar for information and necessary action.

Sambhu 26.12.2024

Under Secretary to Government

Memo No. 35621 /WR Dtd. 26/12/2024

Copy forwarded to the Superintending Engineer, Baitarani Irrigation Division, Salapada for information and necessary action.

Sambhu 26/12/2024

(5)

Under Secretary to Government

Chief Vigilance officer &
Land officer, M/s. OMC Ltd.

OMC | ODISHA NEW OPPORTUNITIES

Mining Happiness

Annexure- V (B)

UNDERTAKING

[As per letter No. 35618, dt.26.12.2024 of Department of Water Resources, Govt. of Odisha, on Proposal for diversion of balance forest land of 746.3325 ha in favour of M/s OMC Ltd. within total forest land of 846.3995 ha located within approved Mining lease area of 1018.3085 ha for Iron Ore Mining in Daitari Mining lease in Cuttack Forest Division of Jajpur District and Keonjhar (WL) Division of Keonjhar District, Odisha]

I, Debendra Kumar Nanda, OAS, Chief Vigilance Officer and Land Officer, Authorized signatory O.M.C. Ltd do hereby undertake the following to mitigate the impact of mining on the local hydrological regime in and around the Daitari Mining Lease for furtherance ofdiversion of balance forest land of 746.3325 ha in favour of M/s OMC Ltd. within total forest land of 846.3995 ha located within approved Mining lease area of 1018.3085 ha in Cuttack Forest Division of Jajpur District and Keonjhar (WL) Division of Keonjhar District, Odisha

- ✓ To remove accumulated silt in the check dam at base of hill road on regular basis.
- ✓ Construction of Gabion Structure at the stream near roadside.
- ✓ To provide proper roadside drain with slit trap.
- ✓ To provide with concrete /paved pathway for rain fall run off in this section of road.
- ✓ Regular cleaning of old culvert with proper silt traps in hill side of road also systematic silt management and water conservation action plan in the entire hill road.
- ✓ Optimum utilization of Ground water from bore wells in order to avoid wastage of Ground water. Regular monitoring of ground water level and quality to be continued as being undertaken.
- ✓ To implement Ground water recharge structures and rainwater harvesting systems in order to replenish the ground water storage of the area.
- ✓ Adequate treatment of domestic wastewater with acceptable standards Stipulated by OPCB/CPCB, so that the wastewater will not have any adverse impact on the environment.

- ✓ Sedimentation of mine discharge water during pumping of collected rainwater from mine pits, which may contain silt, before discharge into the natural water course/ open land.
- ✓ De-silting ponds check dams, reservoir to facilitate recharge of ground water and to practice recycling & reuse of water.
- ✓ To use raw water for purposes like horticulture, dust suppression etc.
- ✓ To use automated Water sprinkler systemfor dust suppression in and around the Mines and roads.
- ✓ To conduct regularenvironmental monitoringto assess/ monitor water quality as per guidelines.
- ✓ Diversion Kukurangi nallah, Patna nallah and Sasubhuashuri nallah is not required. If any diversion requirement arises in future, alignment of the proposed diversion channel, sectional details of the diversion channel and design discharge of the diversion channel to be vetted by DoWR before execution of nallah diversion proposal.

(Debendra Kumar Nanda, OAS)
Chief Vigilance Officer and Land Officer
Authorised signatory

Summary of Mining leases of OMC approved under Adhiniyam Vis-à-vis their approved peak capacity and actual production achieved

Annexure-VI

Sl.No.	Mineral	Name of ML	Approved Quantity (in MTPA as per EC)	Approved Quantity (in MTPA as per CTO)	Production FY 2024-25 (in MTPA)	Remarks
1	Iron	Gandhamardan Block A	0.35	0.35	0.050	
2	Iron	Gandhamardan Block B	9.12	9.12	8.320	
3	Iron	Daitari	6	5.685	5.080	Earlier, EC had been granted for 3 MTPA on 22.09.2010. EC for 3 to 6 MTPA was granted on 15.07.2021 and further extended upto08.08.2026, and CTO for the same capacity was granted on 16.08.2024.
4	Iron	Unchabali(Mahaparbat)	1	1	0.980	
5	Iron	Khandabandha	1	1	0.854	
6	Iron	Tiringpahar	0.328	0.328	0.328	
7	Iron	Bansapani	1	1	0.900	
8	Iron	Kurmitar	6	6	4.430	
9	Iron	Guali	12	9	7.018	
10	Iron	JillingLangalotta	9.9999	9.9999	7.290	
11	Iron	Roida-C	0.46	0.46	0.460	
12	Chromite	South-Kaliapani	1.4	1.4	0.985	
13	Chromite	Sukurangi	0.3	0.3	0.300	
14	Chromite	Bangur	0.06	0.06	0.017	
15	Bauxite	Kodingamali	3	3	3.000	
16	Limestone	Ampavalli	1.001	1.001	0.126	

(Debendra Kumar Nanda)
Chief Vigilance Officer and Land Officer
Authorized Signatory

ANNEXURE -VII

Government of Odisha
Steel & Mines Department
*****

Letter No 3698 /SM, Bhubaneswar, Dated 19/04/2025
SM-MC1-MC-0044-2024

From

Sri Surendra Kumar, I.A.S.
Additional Chief Secretary to Government

To

The Additional Chief Secretary,
Forest, Environment and CC Department
Government of Odisha.

Subject: Submission of Compliance in Respect of Diversion of 746.3325 Ha of Forest Land for Daitari Iron Ore Mines of OMC Ltd. for Grant of Stage-I Forest Clearance.

Sir,

This pertains to the diversion of 746.3325 hectares of forest land out of a total forest area of 846.3995 hectares, within the approved Mining Lease (ML) area of 1018.3085 hectares, in respect of the Daitari Iron Ore Mines of Odisha Mining Corporation Ltd. (OMC Ltd.), located in the Cuttack Forest Division and Keonjhar (WL) Division.

The OMC Ltd. has complied with the observations raised during the third round of discussions by the Forest Advisory Committee (FAC), and a compliance report was was also submitted by the State Government to the Ministry of Environment, Forest and Climate Change (MoEF&CC) on 17.03.2023. Subsequently, the proposal was discussed in the fourth meeting of the FAC held on 25.04.2023 and following that, the MoEF&CC communicated eight additional observations on the proposal vide their communication on 10.05.2024 (copy enclosed), which are currently under examination and appropriate compliance will be submitted soon.

The important facts in this issue are placed herewith for kind appreciation.

The MoEF&CC, Government of India have raised the issue of opening of such huge forest area having sensitive conservation issue vis-à-vis the target of production and estimated shortfall in coming years. In response, it can be stated that following the Viksit Bharat Vision Document, the target for production of the Iron Ore would be about 250 Million Tonnes & 320 Million Tonnes of by the end of 2036 & 2047 respectively. Currently, with 214.10 Sq. Km. of total lease area & 133.19 Sq. Km of diverted forest area within the said lease area, the State of Odisha is producing 169.80 MMT of iron ore (2023-24). To achieve the huge target of 320 MMT by 2047, around 403 Sq. Kms of iron ore-bearing land would be required to be brought under mining operations.

That, currently, the OMC Ltd. contributes 20% of the total iron ore production in the State. Following the same pace and ratio of production, the OMC Ltd. would be required to produce at least 64 MMT of iron ore annually in order to meet the target of production of 320 MMT target by 2047. The OMC Ltd. being the largest merchant producer of iron ore in

the State, plays a critical role in supplying raw materials to iron and steel industries, especially, the State based end-use Industries.

Hence to ensure an uninterrupted and enhanced supply of iron ore is vital for maintaining the pace of industrial growth in the State aligning with national production targets. In view of the above the requirement for additional forest land diversion is very much essential to maintain and scale up the production of Iron Ore in accordance with national objectives while supporting the state's industrial ecosystem.

This may kindly be placed before the Ministry of Environment, Forest & Climate Control, Government of India, for favourable consideration of diversion of Forest area for the Daitari Iron Ore Mines.

Yours faithfully,

Encl: As above

Additional Chief Secretary to Government

19/1

SM-MC1-MC-0044-2024/1/2025

ANNEXURE – VIII

By e-mail

GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES
OFFICE OF THE REGIONAL CONTROLLER OF MINES, BHUBANESHWAR

No. RMP-2308/2024-25-IBM_RO_BBS Dt : 26/12/2024

Shri/M/s. THE ORISSA MINING CORPORATION LIMITED ,
A GOVT. OF ORISSA UNDERTAKING OMC HOUSE, UNIT-5, POST BOX NO.34 BHUBANESWAR

Sub : Approval of the Review of Mining Plan along with Progressive Mine Closure Plan (PMCP) in respect of Daitari Iron Ore Mine over an area of 1018.3085 ha. of M/s The Odisha Mining Corporation Ltd. situated in Village- Daitari, Tehsil- Daitari, District– Keonjhar of Odisha State.

Approved

Sir,

In exercise of the powers conferred by clause (b) of sub-section (2) of section 5 of the Mines & Minerals (Development & Regulation) Act, 1957 and Rule 16, clause (2) of Rule 17 of the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016 read with Government of India Order No. S.O. 1857(E) dated 18th May, 2016; I hereby **Approve** the Review of Mining Plan along with Progressive Mine Closure Plan (PMCP) in respect of Daitari Iron Ore Mine over an area of 1018.3085 ha. of M/s The Odisha Mining Corporation Ltd. situated in Village- Daitari, Tehsil- Daitari, District– Keonjhar of Odisha State. This approval is subject to the following conditions:-

(1). The Review of Mining Plan is approved without prejudice to any other law applicable to the mine area from time to time whether made by the Central Government, State Government or any other authority and without prejudice to any order or direction from any court of competent jurisdiction.

(2). That this approval of aforesaid Review of Mining Plan does not in any way imply the approval of the Government in terms of any other provision of Mines & Minerals (Development & Regulation) Act, 1957, or the Mineral Concession Rules, 2016 and any other laws including Forest (Conservation) Act, 1980, Environment (Protection) Act, 1986 or the rules made there under and other relevant statutes, order and guidelines as may be applicable to the lease area from time to time.

(3). The provisions of the Mines Act, 1952 and Rules and Regulations made thereunder including submission of notices of opening, appointment of manager and other statutory officials as required by the Mines Act, 1952 shall be complied with.

(4).The execution of Review of Mining Plan shall be subjected to vacations of prohibitory orders / notices, if any.

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

(6). This approval for proposed mining operations and associated activities is restricted to the mining lease area only from this date. The mining lease area is as shown on the statutory plans by the Lessee/QP/Applicant and Indian Bureau of Mines has not undertaken any survey verification of mining lease boundary on the ground.

(7). 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 above said Mining Plan is therefore, issued without prejudice to and is subject to the said directions of the Supreme Court as applicable.

(8).This department does not undertake any responsibility regarding correctness of the boundaries of the lease area shown on the ground.

(9).At any stage, if it is observed that the information furnished in the document are incorrect or misrepresent facts, the approval of the document shall be revoked with immediate effect.

(10). If this approval conflicts with any other law or court order/ Direction under any statute, it shall be revoked immediately.

(11). It shall be mandatory for the project proponent, abstracting ground water, to obtain "No Objection Certificate" from Central Ground Water Authority or, the concerned State/Union Territory Ground Water Authority, as the case may be.

(12). Lessee shall ensure grassing/re-grassing of worked out mining lease area in accordance with Hon'ble Supreme Court Order dated 08/01/2020.

(13). This approval has been given for mining proposal for the year 2025-26 to 2029-30 and are subject to the validity of lease period.

(14).The next Review of Mining Plan for the subsequent period of five years shall become due 180 days before expiry of this document proposal period.

(15). The validity period of the financial assurance shall be renewed before the expiry of the same and should be submitted to this office on or before 01.04.2030.

(16). The feasibility report considered for reserve/resource estimation as per UNFC is submitted by the preferred bidder / lessee which is prepared based on the current data as reported and it may not establishes the future economic viability of mining project, which may be affected by the market dynamics and other related factors.

(17). Disposal of OB/Waste as minor mineral shall be carried out only after obtaining permission under Rule 12(1)(k) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.

Yours Faithfully

(ARUN KUMAR)

Regional Controller of Mines,

Copy for information to :-

(1).The Controller of Mines (EZ), Indian Bureau of Mines, E-mail: cg.kol@ibm.gov.in

(2).The Director of Mines, Directorate of Mines, Government of Odisha, Email- directorateofmines@orissaminerals.gov.in.

(3).Qualified Person. Email – spensry@odishamining.in

Chapter 1 : General Information

1.1 : Lease Details

IBM Registration Number :	IBM/4269/2011
Lease Code :	38686001
Mine Code :	30OR008015
Name of Lessee :	THE ORISSA MINING CORPORATION LIMITED
Address of Lessee :	A GOVT. OF ORISSA UNDERTAKING OMC HOUSE, UNIT-5, POST BOX NO.34 BHUBANESWAR
Type of Lessee :	PSU
Name of Mining Lease :	DAITARI
State :	ODISHA
District :	KENDUJHAR
Tehsil/ Taluk/ Mandal :	Daitari
Village :	Daitari (Ct)
Lease Area (Ha) :	1018.3085
Forest Area (Ha) :	846.3995
Name of Minerals :	IRON ORE

Name of associated minerals :	
Type :	Existing Lease
Period of the proposal (FY) from :	2025 - 26
Period of the proposal (FY) to :	2029 - 30
Type of working :	Opencast
Nature of Use :	Non Captive
Category of Mine :	Category A

1.1.1 : Initial/subsequent Lease grant details

Grant	From	To	Lease deed execution date	Lease registration date
Initial Grant	27/01/1966	26/01/1996	27/01/1966	27/01/1966
1st Extension	27/01/1996	26/01/2036	22/04/2016	22/04/2016

1.1.2 : Mining Plan Submission Criteria Details

Type of Document :	Review Of Mining Plan Under Rule 17(2) Of MCR, 2016
Reason/s For Modification :	Compliance Of Rule 17(2) The Minerals (Other Than Atomic And Hydro Carbons Energy Minerals) Concession Rules 2016 And Rule 11(4) Of MCDR 2017
Period for which modification is proposed :	2025-2026 to 2029-2030

1.2 : Land Ownership Details

View Land Ownership Details Excel	1732105695673dd5dfd1da3172431355266c6efdf8c3fel_and_Ownership_Details_.xlsx

1.3 : Existing Lease

Date of Execution :	27/01/1966

I.3.1 : Approval of earlier Mining Plan & Its Subsequent Review in Chronological Order

S.N.	Letter Number	Date	Period		Type Of Approved Document	Remark
			From	To		
1	314397MCCMCMP10	14/09/1998	01/04/1998	31/03/2003	Mining Plan	Mining Plan was prepared under rule 24(A) of MCR 1960 & PMCP under rule 23 B of MCDR 1988 respectively
2	31432005MCCMCS22203	11/07/2006	01/04/2003	31/03/2008	Scheme Of Mining	Scheme of mining & PMCP prepared under rule 12 & 23 B of MCDR 1988
3	31432008MCCMCZMP16	06/10/2008	01/04/2008	31/03/2013	Modification Of Mining Plan	Modification to approved Mining Plan under Rule 22(6) of MCR 1960 for revised area from 190.20 Ha. to 1812.99 Ha.
4	31432008MCCMCZMS12	06/10/2008	01/04/2008	31/03/2013	Scheme Of Mining	Scheme of mining & PMCP prepared under rule 12 & 23 B of MCDR 1988
5	31432012MCCMCZMS52221	12/07/2013	01/04/2013	31/03/2016	Scheme Of Mining	Scheme of mining & PMCP prepared under rule 12 & 23 B of MCDR 1988

6	MPMFM15ORIBHU2014154115	08/01/2015	01/04/2014	26/01/2016	Modification Of Mining Plan	Modification to approved Mining Plan under Rule 22(6) of MCR 1960 for revise area of 1018.3085 Ha.
7	MPMFM05ORIBHU2015163906	22/03/2016	27/01/2016	31/03/2020	Modification Of Mining Plan	Modification to Mining Plan under Rule 22(6) of MCR 1960 for an area of 1018.3085 Ha. and for the period from 27.01.2016 to 31.03.2020 along with Progressive Mine Closure Plan prepared under rule 23(II) of MCDR 1988
8	No. BBS/IJP/IRON/2197/MRMP/2022-23	28/11/2022	01/04/2022	31/03/2025	Modification In RMP	While applying for amendment in EC for production of 6 Million Tonne, the Expert Appraisal Committee(EAC) has recommended for production of entire 6 MTPA from the mine lease area of 95.6 Ha. Accordingly the production proposal has been modified under Rule 10 & 23 (B) of MCDR 1988, for the annual production of 6 Million tones for the rest of plan period and has been proposed within the already diverted forest area of 95.6 Ha.

1.3.2 : Partial Surrenderd Area During Stages of Operations in Chronological Order

Sr.no	Date	Supplementary Surrender order / Letter Number	Supplementary Lease Deed Date	Final Retained Area over which current Mining Plan is Prepared (ha)
1	15/03/2013	FMCP/FM/05-ORI/BHU-2012-13	22/04/2016	1018.3085

1.3.3 : Transfer of Lease Area Subsequent to Grant

Not Applicable

1.3.4 : Statutory Compliances

1.3.4.1 : Environment Clearance

Applicable :	Yes
Letter No :	23-236/2018-IA.III(V)
Date :	09/08/2024
Validity :	09/08/2026
ROM Mineral :	6000000.0000 (Tonnes)

1.3.4.2 : SPCB Approvals

Letter No :	12919/IND-I-CON-246
Approval of :	Consent To Operate
Date :	16/08/2024

Validity :	31/03/2025
ROM Mineral :	6000000.0000 (Tonnes)

1.3.4.3 : Forest Clearance

Applicable :	Yes
Letter No :	8-164/97-FC
Date :	27/01/2005
Validity :	26/01/2036
Area (Ha) :	95.6000

1.3.4.4 : Land Acquisition Details

Total Area Acquired in hectare:	41.4800
Total Amount Paid (INR) :	0.0000

1.3.5 : Mine Location Details

Toposheet Number :	73G/12 & 72G/16

1.3.5.1 : Location of Boundary Pillars

View Location of Boundary Pillars Excel	location_boundary_pillar of DAITARI.xlsx

1.3.6 : Owner/Nominated Owner Details

Name	PAN of owner / Nominated Owner	Address of owner/ Nominated Owner	Mobile / Contact Number	Email	Please attach Minutes of Board Resolution in case of Nominated Owner
Balwant Singh IAS	BFMPS6439D	A GOVT. OF ORISSA UNDERTAKINGOMC HOUSE, UNIT-5, POST BOX NO.34BHUBANESWAR	0674-2392778	md@odishamining.in	Appointment_of_Nominated_owner.pdf

1.3.7 : Qualified Person Details as per M(OAHCEM)CR, 2016

S.N.	Prefix	Name	PAN of QP	Address	Mobile no.	Qualification	Exp in years as prescribed under the rule	Email
1	Mr	Saroj Kumar Prusty	BABPP7275G	OMC HOUSE,POST BOX NO-34,BHU BANESWAR ODISHA-751001	6372584041	B E Mining	15	sprusty@odishamining.in
2	Mr	Subrat Kumar Behera	ANZPB6290P	OMC HOUSE,POST BOX NO-34,BHU BANESWAR ODISHA-751001	9438478061	MSC MPHIL IN GEOLOGY	16	skbehera@odishamining.in

Chapter 2A : Geology & Exploration

2A.1 : Geology

2A.1.1 : Topography

Terrain :	Undulating
Highest Level (m) from MSL :	870.0000
Lowest Level (m) from MSL :	480.0000
Average Level (m) from MSL :	650.0000
Drainage Pattern :	Dendritic
Order of Stream :	Order 2
Min Dist of Stream from Lease Area(m) :	2.0000

2A.1.2 : Details of Physiographic features and Infrastructures available in and around the lease/ block area

Description	Location if existing Within the lease/block area	Distance from boundary periphery in kms, if existing outside the lease/block area. (within 5.00Kms)	Remark if any
River/Nallah/Reservoir	Seasonal nala Lat: 21:05:0.528, Long:85:48:39.492	1	Lat: 21:05:0.528, Long:85:48:39.492
Public roads (Tar road, cart road)	NIL	1	Public Road one km from lease Lat:21:05:53.3112, Long:85:48:57.0348
Railway track	NIL	0	Nil
Human settlements	NIL	1	Human settlement one km from leasel at:21:06:26.442, Long:85:48:47.984
Archaeological monuments/ places of	NIL	0	Nil

worships/public utilities etc			
Wild life sanctuaries/ national parks	NIL	0	Nil
Coastal Regulation Zone (CRZ)	NIL	0	Nil
Powertransmision lines/telephone lines	Exist. Lat: 21:05:38.36 to 21:05:57.83 and Long: 85:48:32.48 to 85:49:13.14	0	Lat: 21:05:38.36 to 21:05:57.83 and Long: 85:48:32.48 to 85:49:13.14
Firing range	NIL	0	Nil
Ordinance factory	NIL	0	Nil
grazing land/ buzial ground or cremation ground	NIL	0	Nil
Any other specify	NIL	0	Nil

Particulars	Distance from lease boundary in kms
Near by village	1.00
Nearest Railway station	4.00
Nearest Port	155.00
Distance of SH/NH from lease area	8.00

2A.1.3 : Regional Geology

Regional Geology
Daitari Iron ore deposit forms a part of the Tomka-Daitari-Kalisagar-Rebana-Haribandanpur basin, which is considered to be older to the Bonai Iron Ore Horse Shoe described by Jones & Dunn Acharya (1976 & 1984). Iron ore formation of Daitari-Tomka basin overlies the granitic basement with an unconformity. The strike of the ore body swings between NNW-SSE and E-W with steep dip due west & south. Superimposition of complex fold system and faults are evident from the BIF and associated rocks. The origin is believed to be the leaching & replacement of Ferruginous shale. The principal ore mineral is hematite and the ore types are soft laminated ore, biscuity ore, blue dust, hard massive ore, hard laminated ore, lateritic ore, goethitic and limonitic ore. Regional Stratigraphy of the area, as per Acharya 2002 described as follows. Daitari-Tomka Range BIF-2 of Iron Ore Supergroup North of Cr-bearing ultrabasic Newer Dolerite B2 folding Dhanjori Quartzite Boulder Conglomerate -------- Angular Unconformity ~~~~~~ Pyroxinite Dykes Upper Phyllite Cr-bearing Ultrabasics(Intrusive) B & B1 Folding Feldspar Porphyry (Intrusive) Actinolite-tremolite schist (Intrusive & altered) Banded & Yellow Phyllite Pillow Lava,Other volcanic Dykes Fe-Phyllites Middle Banded Hematite and Chert and its variants and Iron Ore (BIF) (Marker Horizon) Banded Black Chert Mn-phyllite and small patches of Mn bodies Peridotite (talc schist) Banded phyllite Lower Phyllite Tuffite and ignimbrites Pillow lava Quartzite, quartz-schist and fuchsitised quartzite Chlorite, chloritoidbandstilpnomelanephyllite Yellow shale/phyllite ----------Nonconformity ~~~~~~~~~~~~~~~~ Singhbhum Granite Complex

2A.1.4 : Local Geology & Structure

2A.1.4.1 : Local Geological Set-up

Daitari Iron Ore Deposit is an isolated deposit forming a conspicuous ridge along the district boundary between Keonjhar and Jajpur towards the North of Sukinda Chromite belt. The lower metapellites form the basal unit of the sequence unconformably overlying the granitic basement. Conspicuous hills and tors of granite are abundantly found along Brambaripur-Harichandanpur road to the north of Daitari. The lower metapellites represented by phyllites, chlorite and chloritoid schist, lenses of quartzite & quartz schist, metavolcanics with tuffs & sediments, banded phyllites, slates, manganese bearing shale, ferruginous pyritiferous shale/phyllites, coarse dark coloured quartzite etc. are observed abundantly along the ghat-road section from Baliparbat up to the mines. Rocks of Banded Iron Formation consisting of Banded Hematite Jasper (BHJ), Banded Hematite Quartz (BHQ) overly the lower metapellites and are found outcropping near the primary crusher house. Outcrops of BHQ are also observed behind the Canteen in the mines. Highly weathered BHQ outcrop at about CS 1100S to 1300S close to the are observed. No BHQ/BHJ sequence has been reported occurring on the footwall side of iron ore mineralization Another smaller deposit occurs along Sindurimundi Hill to the immediate west of Daitari, separated by a patch of ferruginous shale/phyllites. This area indicates a zone of structural disturbance and four different faults are interpreted to be passing through this zone (Acharya 2002). Sindurimundi appears to be the most promising iron ore deposit in the area besides Daitari. The stratigraphical succession from the sub surface exploration and mine faces is as follows. Upper Metaphilites and Meta Volcanics;Laterite, Banded Iron Formation:BIF Iron ore LowerMetaphillitesand Metavolcanics:Psammitic rocks, Pelitic / Acid tuff, Dark gray cherty quartzite and BMQ/BMJ/BHQ and BHJ etc.

2A.1.4.2 : Structure

A large dolerite dyke of coarse grained dolerite cuts across the area which is found outcropping along the Ghat Road. Exposures of this dyke can be found at about 100m south of the Tarini Gate. Outcrops of basalt can be observed to the NE of the township along the stream. Pillow structures can be delineated with right side up direction. Daitari is the largest iron ore deposit in the Tomka-Daitari range, Iron Ore has developed by leaching of banded hematite jasper and enrichment of the lower tuffacious shale. Several smaller iron ore bodies have also been reported at Champajhar, Tangasiuni, Tomka, Baghiathali, Kalisagar and Nipania. These ore bodies are fine, BHJ (Acharya 2000) and broadly parallel to bedding and form massive to laminated ore deposits. Another smaller deposit occurs along Sindurimundi Hill to the immediate west of Daitari, separated by a patch of ferruginous shale/phyllites. This area indicates a zone of structural disturbance and four different faults are interpreted to be passing through this zone (Acharya 2002).

2A.1.4.3 : Lithology, Petrographic & Mineralogical Description for Major, Associated & Indicator Minerals

a.Soft Laminated Ore (SLO)/ Friable Ore Soft Laminated Ore (SLO)/Friable Ore (FO) is the predominant ore type. At several places a still softer variety of ore can be seen (exposed around CS 700 S) which is termed as the biscuit type of ore. These ore are extensively used in the Dry Screening Plant for production of calibrated lump ore (CLO) & fines.The minimum thickness is 0.9 mtr encountered in bore hole no. BH/71 and maximum thickness is 184 mtrs encountered in bore hole no.DTR/88, b.Hard Laminated/ Hard Massive Ore The northern part of the deposit is dominated by hard laminated and hard massive variety of ore. A crude linear contact can be inferred between the hard massive/laminated ore and the soft laminated/biscuit type of ore. The minimum thickness is 0.5 mtr encountered in bore hole no. BH/08 and maximum thickness is 68 mtrs encountered in bore hole no.DTR/113, c.Limonite/ Limonitic Ore The north western part of the mines (00 N/-250 E) hosts a predominantly limonitic ore zone which indicates the proximity of multiple fault zones causing limonitisation to a deeper level.All the ore types of Daitari are predominantly rich in limonite/goethite and hence rich in alumina and phosphorous, The minimum thickness is 0.5 mtr encountered in bore hole no. BH/08 and maximum thickness is 68 mtrs encountered in bore hole no.DTR/113. d. Blue Dust/ Powdery Ore It is fine grained iron rich ore having grayish in colour. The southern part of Daitari Iron Ore Mine between -250N to -450N hosts the Blue Dust/powdery ore. The minimum thickness is 3.80 mtr encountered in bore hole no. DTR/19 and maximum thickness is 18.40 mtrs encountered in bore hole no.DTR/125. e. Laterite/ Lateritic Ore

Laterite/Lateritic Ore is predominantly hosted by Sindurimundi area between -2000E to -1200E. The minimum thickness is 0.5 mtr encountered in bore hole no. BH/74 and maximum thickness is 16.50 mts encountered in bore hole no.BH/17.

2A.1.4.4 : Mode of Occurance & Controls of Mineralization

The localization and formation of various types of iron ores, their thickness and grade variations impart a combination of lithological, paleoclimatic and structural controls. On the basis of field disposition and broad composition of different members, the BIF in the study area can be classified broadly in to following three categories. (i) Banded Hematite Jasper: BHJ is red / buff in color and show distinct banding. Often the bands are gradational. The jasper and hematite are more or less similar in thickness. Such litho units are predominantly seen in this area. (ii) Banded Chert / Ferruginous Chert: The exposures of Banded Chert/ Ferruginous Chert are seen in this area. Often banding is recognized by the fine color difference. They are very poor in iron content. (iii) Banded Hematite Shale (BHS): The Banded Ferruginous Shale is often overlain by banded hematite jasper. This unit is characteristically banded with iron minerals and shale. This is locally called as transitional ore. It is persistently noticed throughout the iron ore mines. In this unit the banding is thinner and sharper than that in BHJ. (iv) This kind of shale is mapped in the quarry area and is mostly light green or brown in colour and hard in nature. Otherwise such litho unit is explored under the iron ore strata during borehole drilling and is a may be devoid of mineralization in further depths. (v) Laterites: Most part of the area is covered by laterite of various types. The laterites have been developed mostly over the shale unit of the area and depending upon the composition of the shale, different types of laterites have been developed. Ferruginous laterite occupies most of the high lands in the vicinity and is wide-spread.

2A.1.4.5 : Extent of Weathering/ Alteration

It is difficult to inherent that banded iron-formation (BIF) to produce representative information. The qualiative effects of weathering in BIF, and the progressive stages that lead to iron enrichment are not hard to follow, but to establish even semi-quantitative data is difficult. In general, the range of minerals found in BIF is not large. Even with the variation imposed by metamorphism, it is possible to limit discussion to a handful of mineral groupsilica, iron oxides and silicates.

2A.1.4.6 : Nature/Form of Mineral	Lump
Specify If any other	Friable, The ratio of lumps to fines is 40:60.

2A.1.4.7 : Extent of Mineralization

Iron ore is associated with the following litho units and covers about 65 to 70 percent area. The rocks bearing iron ore are of various types are as follows, Soft Laminated Ore (SLO)/ Friable Ore Soft Laminated Ore (SLO)/Friable Ore (FO) is the predominant ore type. Approx. 60 percent of the total reserve comprises of SLO/Friable Ore. At several places a still softer variety of ore can be seen (exposed around CS 700 S) which is termed as the biscuit type of ore. Hard Laminated/ Hard Massive Ore The northern part of the deposit is dominated by hard laminated and hard massive variety of ore. Around 20 percent of total daitari deposit is of Hard Laminated type ore. A crude linear contact can be inferred between the hard massive/laminated ore and the soft laminated/biscuit type of ore. Limonise/ Limonitic Ore The north western part of the mines (00 N/-250 E) hosts a predominantly limonitic ore zone which indicates the proximity of multiple fault zones causing limonitisation to a deeper level. Around 5 to 8 percent ore is of limonite/limonitic ore in the deposit. Blue Dust/ Powdery Ore It is fine grained iron rich ore having grayish in colour. It constitutes around 2 percent of the Daitari iron ore Mines. The southern part of Daitari Iron Ore Mine between -250N to -450N hosts the Blue Dust/powdery ore. Laterite/ Lateritic Ore Laterite/Lateritic Ore is predominantly

located by Sindurimundi area between -2000E to -1200E. It is around 7 to 10 percent of the total deposit. Shale Variety of shale incl. Ferruginous shale, Tuffaceous Shale, Carbonaceous Shale, Brown Reddish Shale etc. are present in the area. It is predominant in the Sindurimundi area.

2A.1.4.8 : Deposit Type (as per MEMC Rule)
The ore bodies of Daitari ML area are intra BIF and broadly parallel to bedding and form massive to laminated ore deposits.As per Mineral (Evidence & Contents)Rule2015, the Daitari deposits belongs to banded stratiform and tabular deposit of regular habit.

Strike / Trend of the Ore Body						
N	0	S	to	NW	45	SE

Amount of Dip of the Ore Body (degree)	Amount of Dip of the Ore Body (degree)
51	71
(from)	(to)

Dip Direction of the Ore Body			Plunge of Mineral Body (degree) (if any)	Direction of Plunge		
E	60	W	Nil	E	Nil	W

2A.2: Exploration

2A.2.1: Summary of The Previous Exploration (for fresh grant) / During Last Plan Period (for existing leases)

Name of The Agency
NIL

2A.2.1.1: Geological Mapping

Sl.No.	Year		Scale	Area Covered (Ha)
	From	To		

1	01/04/2022	30/06/2024	1:2000	85.0000

2A.2.1.2: Airborne Geophysical Survey

Sl.No.	Type of Survey	Spacing (m)	Total line (km)	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
					From	To	From	To
1	Nil.	0	0.00	0.0000	Nil	Nil	Nil	Nil

2A.2.1.3: Ground Geophysical Survey

Sl.No.	Type of Survey	Spacing (m)	Total line (km)	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
					From	To	From	To
1	Nil	0	0	0.0000	Nil	Nil	Nil	Nil

2A.2.1.4: Geochemical Survey

Sl.No.	Type of Sample	No of Samples	Analysis report	Area Covered (Ha)
1	Nil	0	Nil	Nil

2A.2.1.5: Pitting

Number of Pits
0

Sl.No.	Year		Pit ID	Length of Pit (m)	Width of Pit (m)	Depth of Pit (m)	Depth (From)	Depth(to)	Running mtr	Litho units exposed	Name of the radical	Av Grade(in %)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
	From	To											From	To	From	To
1	Nil	Nil	NIL	0.00	0.00	0.00	0.00	0.00	0.00	Nil	Nil	0.00	Nil	Nil	Nil	Nil

2A.2.1.6: Trenching

Number of Trenches
0

2A.2.1.6.1: Spacing

Min (m)	Max (m)	Avg (m)
0.00	0.00	0.00

Sl.No.	Year		Trench ID	Length of Trench (m)	Width of Trench (m)	Depth of Trench(m)	Depth (from)	Depth(to)	Running mtr	Litho units exposed	Name of the radient	Av. Grade	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
	From	To											From	To	From	To
1	Nil	Nil	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0	0	0.0000	Nil	Nil	Nil	Nil

2A.2.1.7 Exploratory Drilling(Core/non Core)

Sl.No.	Year		Exploration agency	Core holes		Non-core (RC/DTH)		Grand total		Attach log sheet of each borehole in csv/excel format
	From	To		Number of boreholes drilled	Total mtrs	Number of boreholes drilled	Total mtrs	Number of boreholes drilled	Total mtrs	
1	01/04/2020	31/03/2021	M/s Triveni Earth Movers Ltd	2	95.70	0	0.00	2	95.70	Litho_DTR_2020_to_2021.xlsx
2	01/04/2021	31/03/2022	M/s Triveni Earth Movers Ltd	50	4320.80	0	0.00	50	4320.80	Litho_DTR_2021_to_2022.xlsx

2A.2.1.8: Exploratory Mining

Sl.No.	Pit/Adit ID	Length in Mtr	Width in Mtr	Depth in mtrs	Volume (m^3)

1	Nil	0.00	0.00	0.00	0.00

2A.2.1.9: Sampling

Sl.No.	Type of sample	No of samples collected	Number of samples analyzed	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Remark if any
				From	To	From	To	
1	Drill Core	160	160	21:05:51.85	Nil	Nil	85:48:32.63	DTR/132
2	Drill Core	54	54	21:05:43.60	Nil	Nil	85:48:40.70	DTR/133
3	Drill Core	45	45	21:06:27.85	Nil	Nil	85:48:19.99	DTR/134
4	Drill Core	48	48	21:06:30.20	Nil	Nil	85:48:25.98	DTR/135
5	Drill Core	58	58	21:06:25.34	Nil	Nil	85:48:13.59	DTR/136
6	Drill Core	83	83	21:06:21.18	Nil	Nil	85:48:11.98	DTR/137
7	Drill Core	99	99	21:06:19.48	Nil	Nil	85:48:16.65	DTR/138
8	Drill Core	17	17	21:06:27.09	Nil	Nil	85:48:09.04	DTR/139
9	Drill Core	27	27	21:06:25.59	Nil	Nil	85:48:09.71	DTR/140
10	Drill Core	51	51	21:05:47.24	Nil	Nil	85:48:33.48	DTR/141
11	Drill Core	57	57	21:05:48.70	Nil	Nil	85:48:32.71	DTR/142
12	Drill Core	25	25	21:05:53.24	Nil	Nil	85:48:30.77	DTR/143
13	Drill Core	94	94	21:05:44.51	Nil	Nil	85:48:35.52	DTR/144
14	Drill Core	32	32	21:05:55.03	Nil	Nil	85:48:30.84	DTR/145
15	Drill Core	31	31	21:05:42.13	Nil	Nil	85:48:38.46	DTR/146
16	Drill Core	87	87	21:05:57.79	Nil	Nil	85:48:30.85	DTR/147
17	Drill Core	140	140	21:05:56.68	Nil	Nil	85:48:30.10	DTR/148
18	Drill Core	21	21	21:05:52.89	Nil	Nil	85:48:38.71	DTR/149
19	Drill Core	34	34	21:06:06.32	Nil	Nil	85:48:36.87	DTR/150
20	Drill Core	19	19	21:06:12.09	Nil	Nil	85:48:34.19	DTR/151
21	Drill Core	21	21	21:06:17.96	Nil	Nil	85:48:30.79	DTR/152

22	Drill Core	60	60	21:05:59.60	Nil	Nil	85:48:38.09	DTR/153
23	Drill Core	144	144	21:06:16.88	Nil	Nil	85:48:19.04	DTR/154
24	Drill Core	157	157	21:06:10.29	Nil	Nil	85:48:24.72	DTR/155
25	Drill Core	76	76	21:06:13.94	Nil	Nil	85:48:20.54	DTR/156
26	Drill Core	88	88	21:06:12.53	Nil	Nil	85:48:21.43	DTR/157
27	Drill Core	112	112	21:06:25.22	Nil	Nil	85:48:26.81	DTR/158
28	Drill Core	104	104	21:06:25.76	Nil	Nil	85:48:28.18	DTR/159
29	Drill Core	69	69	21:06:27.73	Nil	Nil	85:48:28.70	DTR/160
30	Drill Core	74	74	21:06:24.35	Nil	Nil	85:48:29.08	DTR/161
31	Drill Core	18	18	21:06:16.20	Nil	Nil	85:48:30.82	DTR/162
32	Drill Core	82	82	21:06:22.82	Nil	Nil	85:48:29.68	DTR/163
33	Drill Core	53	53	21:06:19.21	Nil	Nil	85:48:29.48	DTR/164
34	Drill Core	56	56	21:06:20.68	Nil	Nil	85:48:28.72	DTR/165
35	Drill Core	58	58	21:06:26.48	Nil	Nil	85:48:30.01	DTR/166
36	Drill Core	59	59	21:06:28.86	Nil	Nil	85:48:27.07	DTR/167
37	Drill Core	126	126	21:06:29.23	Nil	Nil	85:48:19.00	DTR/168
38	Drill Core	18	18	21:05:51.15	Nil	Nil	85:48:38.96	DTR/169
39	Drill Core	34	34	21:05:48.82	Nil	Nil	85:48:39.32	DTR/170
40	Drill Core	20	20	21:05:45.73	Nil	Nil	85:48:40.09	DTR/171
41	Drill Core	39	39	21:06:08.52	Nil	Nil	85:48:29.23	DTR/172
42	Drill Core	29	29	21:06:07.52	Nil	Nil	85:48:35.70	DTR/173
43	Drill Core	57	57	21:06:02.68	Nil	Nil	85:48:36.85	DTR/174
44	Drill Core	18	18	21:05:48.72	Nil	Nil	85:48:41.77	DTR/175
45	Drill Core	64	64	21:06:01.62	Nil	Nil	85:48:39.57	DTR/176
46	Drill Core	58	58	21:06:26.61	Nil	Nil	85:48:16.82	DTR/177
47	Drill Core	55	55	21:06:29.01	Nil	Nil	85:48:23.24	DTR/178

48	Drill Core	35	35	21:06:26.23	Nil	Nil	85:48:11.32	DTR/179
49	Drill Core	58	58	21:06:23.46	Nil	Nil	85:48:08.78	DTR/180
50	Drill Core	20	20	21:06:20.22	Nil	Nil	85:48:09.98	DTR/181
51	Drill Core	29	29	21:06:25.83	Nil	Nil	85:48:07.72	DTR/182
52	Drill Core	31	31	21:06:24.57	Nil	Nil	85:48:07.13	DTR/183

2A.2.1.10: Chemical Analysis

Sl.No.	Sample ID	Minerals	Radical with garde in %	Name of Agency	Type of agency	Attachment
1	Core Sample DTR/132 to DTR/583	HEMATITE	Fe: 6.22 to 60.06, SiO2: 0.11 to 79.29, Al2O3: 0.14 to 50.30, P: 0.009 to 1.105, S: 0.001 to 0.2394.	M/s SUPCO Of India (P) Ltd.	NABL accredited	1_Collar_Survey_Assay_Geology.xlsx

* Chemical analysis of core /non core samples may be uploaded in CSV file which shall normally include Five files namely collar file, survey file and Geology log file, Assay file & RQD File.

2A.2.1.11: Petrology & Mineralogical Studies

Sl.No.	Type of Sample	Number of Sample Drawn	Number of Sample Analyzed	Petrographic Study Report
1	Nil	0	0	Nil

2A.2.1.12: Beneficiation Studies

Sl.No.	Type of Beneficiation	Number of Samples	Attach
1	Nil	0	Nil

2A.2.1.13: Bulk Density Study as per M(EMC) Rules, 2015 and SOP of CGPB

Method adopted for calculating bulk density of ore and waste
No Bulk Density has been carried out during plan period.

Sl.No.	Nature of Ore/OB	Mineral	Number of samples	Bulk Density Established (t/m³)
1	NA	NA	NA	0.00

2A.2.1.14: Area Covered under Exploration

Level of exploration	Area in Ha.		Total Area in Ha.
	Forest	Non Forest	
G-1	60.111200	0.000000	60.111200
G-2	103.286300	0.000000	103.286300
G-3	0.000000	0.000000	0.000000
G-4	683.002000	171.909000	854.911000
Area proved as Non-mineralized	0.000000	0.000000	0.000000
Area to be explored	683.002000	171.909000	854.911000
Total	846.399500	171.909000	1018.308500

2A.2.2: Summary of The Previous Exploration (Before Last Plan Period)

Name of The Agency
Indian Bureau of Mines, Odisha Mining Corporation Ltd, Maheswari Mining Corporation

2A.2.2.1: Geological Mapping

Sl.No.	Year		Scale	Area Covered (Ha)
	From	To		
1	01/04/1962	30/06/2022	1:2000	1018.31

2A.2.2.2: Airborne Geophysical Survey

Sl.No.	Type of Survey	Spacing (m)	Total line (km)	Area Covered (Ha)	Latitude (dd:mm:ss.ss)	Longitude (dd:mm:ss.ss)

					From	To	From	To
1	NIL	0.00	0.000000	0.00	Nil	Nil	Nil	Nil

2A.2.2.3: Ground Geophysical Survey

Sl.No.	Type of Survey	Spacing (m)	Total line (km)	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
					From	To	From	To
1	NIL	0	0	0.0000	Nil	Nil	Nil	Nil

2A.2.2.4: Geochemical Survey

Sl.No.	Type of Sample	No of Samples
1	Nil	0

2A.2.2.5: Pitting

Sl.No.	Pit ID	Length of Pit (m)	Width of Pit (m)	Depth of Pit (m)	Litho units exposed	Litho Unit From (m)	Litho Unit To (m)	Average Grade(%)	Running Metres (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
										Form	To	Form	To
1	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	Nil	Nil	Nil	Nil

2A.2.2.6: Trenching

Number of Trenches
0

Spacing

Min (m)	Max (m)	Avg (m)
0.00	0.00	0.00

Area Covered Under Trenching

Coordinates

Latitude

North	Nil
North	Nil
North	Nil
North	Nil

Longitude

East	Nil
East	Nil
East	Nil
East	Nil

Sl.No.	Trench ID	Length of Trench (m)	Width of Trench (m)	Depth of Trench (m)	Litho Units Exposed	Average Grade	Running mtr	Latitude (dd:mm:ss.ss)		Longitude (ddd:mm:ss.ss)	
								From	To	From	To
1	0	0.0000	0.0000	0.0000	0	0	0.0000	Nil	Nil	Nil	Nil

2A.2.2.7: Exploratory Drilling

2A.2.2.7.1:Core/Non-core Drilling

Sl.No.	Year		Exploration agency	Core holes		Non-core (RC/DTH)		Grand total		Attach log sheet of each borehole in xls/excel format
	From	To		Number of boreholes drilled	Total mtrs	Number of boreholes drilled	Total mtrs	Total boreholes	Total mtrs	

1	01/01/1962	31/12/1963	IBM,BBSR	11	660.95	0	0.00	11	660.95	Daitari_1962_to_63.xlsx
2	01/01/1979	31/12/1982	Geology Division, Odisha Mining Corporation Ltd. OMC House, Post Box No. 34 Bhubaneswar 751001	41	1323.70	0	0.00	41	1323.70	Daitari_1979_to_1982.xlsx
3	01/01/2001	31/12/2006	OMC Dept. & M/s Mining Associates Pvt. Limited (MAPL), Atwal Nagar, S.B. Gorai Road, Asansol - 713301 West Bengal.	37	3539.90	0	0.00	37	3539.90	Daitari_2001_TO_2006.xlsx
4	01/01/2010	31/12/2012	M/s Maheswari Mining Pvt Ltd, Dist-Paschim Bardhaman, West Bengal.	47	5084.00	0	0.00	47	5084.00	DTR_2010_TO_2012.xlsx
5	01/04/2018	31/03/2019	M/s MMPL	25	3609.40	0	0.00	25	3609.40	DTR_2018_to_19.xlsx
6	01/04/2019	31/03/2020	M/s MMPL	26	2835.75	0	0.00	26	2835.75	DTR_2019_to_20.xlsx

2A.2.2.8: Exploratory Mining

Sl.No.	Pit / Adit ID	Volume (m^3)
1	NA	0.00

2A.2.2.9: Sampling

Sl.No.	Type of sample	Number of Samples	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
				From	To	From	To
1	Drill Core	74	0.45	21:06:15.81	Nil	Nil	85:48:25.28
2	Drill Core	63	0.45	21:06:15.20	Nil	Nil	85:48:23.74
3	Drill Core	92	0.45	21:05:43.60	Nil	Nil	85:68:22.05
4	Drill Core	83	0.45	21:06:12.19	Nil	Nil	85:48:25.08
5	Drill Core	65	0.45	21:05:36:03	Nil	Nil	85:48:37.91
6	Drill Core	59	0.45	21:05:59.05	Nil	Nil	85:48:36.60
7	Drill Core	111	0.45	21:05:55.77	Nil	Nil	85:48:32.71
8	Drill Core	64	0.45	21:06:09.02	Nil	Nil	85:48:30.52
9	Drill Core	59	0.45	21:06:01.32	Nil	Nil	85:48:38.38
10	Drill Core	83	0.45	21:06:06.03	Nil	Nil	85:48:36.18
11	Drill Core	109	0.45	21:06:04.30	Nil	Nil	85:48:31.98
12	Drill Core	114	0.45	21:06:08.06	Nil	Nil	85:48:32.56
13	Drill Core	84	0.45	21:06:04.85	Nil	Nil	85:48:34.05
14	Drill Core	63	0.45	21:06:13.94	Nil	Nil	85:48:31.45
15	Drill Core	101	0.45	21:05:59.16	Nil	Nil	85:48:32.38
16	Drill Core	75	0.45	21:06:17.21	Nil	Nil	05:48:20.51
17	Drill Core	100	0.45	21:06:18.70	Nil	Nil	85:48.23.69
18	Drill Core	118	0.45	21:06:20.37	Nil	Nil	85:48.18.92
19	Drill Core	104	0.45	21:06:27.07	Nil	Nil	85:48:27.00
20	Drill Core	79	0.45	21:06:23.34	Nil	Nil	85:48:17.49
21	Drill Core	108	0.45	21:05:50.67	Nil	Nil	85:48:32.78
22	Drill Core	115	0.45	21:06:01.77	Nil	Nil	85:48:34.97

23	Drill Core	104	0.45	21:05:45.76	Nil	Nil	85:48:38.72
24	Drill Core	80	0.45	21:06:15.07	Nil	Nil	85:48:31.22
25	Drill Core	91	0.45	21:06:23.53	Nil	Nil	85:48:26.99
26	Drill Core	73	0.45	21:06:17.14	Nil	Nil	85:48:28.71
27	Drill Core	88	0.45	21:05:50.52	Nil	Nil	85:48:37.36
28	Drill Core	96	0.45	21:05:46.57	Nil	Nil	85:48:36.30
29	Drill Core	55	1.70	21:06:22.76	Nil	Nil	85:48:10.75
30	Drill Core	36	1.70	21:06:22.73	Nil	Nil	85:48:12.30
31	Drill Core	207	0.45	21:05:53.98	Nil	Nil	85:48:17.30
32	Drill Core	143	0.45	21:06:00.79	Nil	Nil	85:48:32.05
33	Drill Core	200	0.45	21:06:11.69	Nil	Nil	85:48:23.80
34	Drill Core	205	0.45	21:06:21.84	Nil	Nil	85:48:22.67
35	Drill Core	195	0.45	21:06:22.29	Nil	Nil	85:48:20.21
36	Drill Core	16	0.45	21:06:20.70	Nil	Nil	85:48:21.30
37	Drill Core	15	0.45	21:06:19.33	Nil	Nil	85:48:21.67
38	Drill Core	23	0.45	21:06:16.27	Nil	Nil	85:48:23.29
39	Drill Core	20	0.45	21:06:16.85	Nil	Nil	85:48:24.89
40	Drill Core	21	0.45	21:06:18.44	Nil	Nil	85:48:24.18
41	Drill Core	21	0.45	21:06:19.97	Nil	Nil	85:48:23.50
42	Drill Core	19	0.45	21:06:21.33	Nil	Nil	85:48:22.90
43	Drill Core	21	0.45	21:06:23.10	Nil	Nil	85:48:22.11
44	Drill Core	24	0.45	21:06:21.98	Nil	Nil	85:48:24.56
45	Drill Core	21	0.45	21:06:20.61	Nil	Nil	85:48:25.13
46	Drill Core	13	0.45	21:06:19.07	Nil	Nil	85:48:25.78
47	Drill Core	17	0.45	21:06:17.47	Nil	Nil	85:48:26.49
48	Drill Core	23	0.45	21:06:18.10	Nil	Nil	85:48:28.09

49	Drill Core	25	0.45	21:06:18.10	Nil	Nil	85:48:27.42
50	Drill Core	21	0.45	21:06:21.20	Nil	Nil	85:48:26.72
51	Drill Core	16	0.45	21:06:22.58	Nil	Nil	85:48:26.10
52	Drill Core	24	0.45	21:06:15.02	Nil	Nil	85:48:23.82
53	Drill Core	13	0.45	21:06:14.88	Nil	Nil	85:48:23.47
54	Drill Core	22	0.45	21:06:15.64	Nil	Nil	85:48:25.43
55	Drill Core	25	0.45	21:06:14.65	Nil	Nil	85:48:27.75
56	Drill Core	28	0.45	21:06:13.14	Nil	Nil	85:48:28.42
57	Drill Core	19	0.45	21:06:14.87	Nil	Nil	85:48:27.86
58	Drill Core	46	0.45	21:06:16.03	Nil	Nil	85:48:28.62
59	Drill Core	45	0.45	21:06:15.28	Nil	Nil	85:48:29.35
60	Drill Core	35	0.45	21:06:11.77	Nil	Nil	85:48:30.02
61	Drill Core	18	0.45	21:06:12.29	Nil	Nil	85:48:28.95
62	Drill Core	15	0.45	21:06:09.83	Nil	Nil	85:48:30.76
63	Drill Core	39	0.45	21:06:23.61	Nil	Nil	85:48:20.00
64	Drill Core	25	0.45	21:06:24.24	Nil	Nil	85:48:21.60
65	Drill Core	14	0.45	21:06:25.98	Nil	Nil	85:48:21.60
66	Drill Core	11	0.45	21:06:24.83	Nil	Nil	85:48:26.53
67	Drill Core	18	0.45	21:06:09.05	Nil	Nil	85:48:26.53
68	Drill Core	20	0.45	21:06:09.12	Nil	Nil	85:48:32.39
69	Drill Core	19	0.45	21:06:06.67	Nil	Nil	85:48:35.06
70	Drill Core	14	0.45	21:06:06.06	Nil	Nil	85:48:33.49
71	Drill Core	15	0.45	21:06:06.42	Nil	Nil	85:48:34.42
72	Drill Core	19	0.45	21:06:25.75	Nil	Nil	85:48:27.06
73	Drill Core	22	0.45	21:06:27.19	Nil	Nil	85:48:24.09
74	Drill Core	20	0.45	21:06:26.59	Nil	Nil	85:48:22.55

75	Drill Core	12	0.45	21:06:25.33	Nil	Nil	85:48:19.23
76	Drill Core	23	0.45	21:06:24.83	Nil	Nil	85:48:17.63
77	Drill Core	20	0.45	21:06:23.95	Nil	Nil	85:48:17.63
78	Drill Core	20	0.45	21:06:21.48	Nil	Nil	85:48:26.25
79	Drill Core	26	0.45	21:06:21.48	Nil	Nil	85:48:26.25
80	Drill Core	26	0.45	21:06:16.79	Nil	Nil	85:48:21.04
81	Drill Core	35	0.45	21:06:12.32	Nil	Nil	85:48:29.73
82	Drill Core	33	0.45	21:06:10.99	Nil	Nil	85:48:26.25
83	Drill Core	39	0.45	21:06:06.52	Nil	Nil	85:48:35.39
84	Drill Core	16	0.45	21:06:00.10	Nil	Nil	85:48:32.34
85	Drill Core	21	0.45	21:05:56.49	Nil	Nil	85:48:35.75
86	Drill Core	13	0.45	21:05:49.14	Nil	Nil	85:48:38.16
87	Drill Core	18	0.45	21:06:21.53	Nil	Nil	85:48:14.23
88	Drill Core	69	1.70	21:06:23.21	Nil	Nil	85:48:03.80
89	Drill Core	80	1.70	21:06:22.17	Nil	Nil	85:48:03.80
90	Drill Core	10	1.70	21:06:50.16	Nil	Nil	85:47:36.20
91	Drill Core	80	1.70	21:06:21.03	Nil	Nil	85:48:04.08
92	Drill Core	42	1.70	21:06:19.82	Nil	Nil	85:48:00.86
93	Drill Core	94	1.70	21:06:18.05	Nil	Nil	85:47:58.07
94	Drill Core	90	1.70	21:06:17.34	Nil	Nil	85:47:54.84
95	Drill Core	50	1.70	21:06:15.85	Nil	Nil	85:47:51.80
96	Drill Core	22	1.70	21:06:13.51	Nil	Nil	85:47:52.53
97	Drill Core	50	1.70	21:06:13.09	Nil	Nil	85:47:48.87
98	Drill Core	60	1.70	21:06:10.23	Nil	Nil	85:47:53.88
99	Drill Core	30	1.70	21:06:12.99	Nil	Nil	85:47:45.06
100	Drill Core	91	1.70	21:06:15.33	Nil	Nil	85:47:59.69

101	Drill Core	59	1.70	21:06:08.25	Nil	Nil	85:47:54.98
102	Drill Core	100	1.70	21:06:19.37	Nil	Nil	85:48:08.70
103	Drill Core	96	1.70	21:06:10.58	Nil	Nil	85:47:43.02
104	Drill Core	67	1.70	21:06:10.06	Nil	Nil	85:47:49.15
105	Drill Core	81	1.70	21:06:05.73	Nil	Nil	85:47:56.52
106	Drill Core	103	1.70	21:06:13.64	Nil	Nil	85:48:02.22
107	Drill Core	85	1.70	21:06:11.23	Nil	Nil	85:48:03.14
108	Drill Core	101	1.70	21:06:17.01	Nil	Nil	85:48:10.05
109	Drill Core	82	1.70	21:06:06.28	Nil	Nil	85:47:51.97
110	Drill Core	89	1.70	21:06:03.27	Nil	Nil	85:47:53.31
111	Drill Core	89	1.70	21:05:59.69	Nil	Nil	85:47:45.56
112	Drill Core	97	1.70	21:06:15.39	Nil	Nil	85:48:05.77
113	Drill Core	104	1.70	21:06:07.18	Nil	Nil	85:47:48.24
114	Drill Core	99	1.70	21:06:22.20	Nil	Nil	85:47:35.28
115	Drill Core	90	1.70	21:06:20.72	Nil	Nil	85:47:38.73
116	Drill Core	78	0.45	21:06:15.94	Nil	Nil	85:48:20.58
117	Drill Core	94	1.70	21:06:21.90	Nil	Nil	85:47:31.66
118	Drill Core	89	1.70	21:06:21.08	Nil	Nil	85:47:28.30
119	Drill Core	89	1.70	21:06:14.79	Nil	Nil	85:48:11.52
120	Drill Core	97	1.70	21:06:14.50	Nil	Nil	85:47:55.14
121	Drill Core	83	1.70	21:06:22.49	Nil	Nil	85:47:20.74
122	Drill Core	82	1.70	21:06:22.49	Nil	Nil	85:47:20.74
123	Drill Core	86	1.70	21:06:12.12	Nil	Nil	85:47:24.61
124	Drill Core	100	1.70	21:06:22.95	Nil	Nil	85:47:17.74
125	Drill Core	101	1.70	21:06:20.13	Nil	Nil	85:47:19.07
126	Drill Core	107	1.70	21:06:12.09	Nil	Nil	85:47:56.95

127	Drill Core	157	0.45	21:06:02.27	Nil	Nil	85:48:33.06
128	Drill Core	104	1.70	21:06:11.00	Nil	Nil	85:48:13.73
129	Drill Core	124	0.45	21:06:10.06	Nil	Nil	85:48:28.34
130	Drill Core	99	1.70	21:06:22.92	Nil	Nil	85:47:14.62
131	Drill Core	88	1.70	21:06:17.92	Nil	Nil	85:47:16.64
132	Drill Core	174	0.45	21:05:52.96	Nil	Nil	85:47:12.32
133	Drill Core	92	1.70	21:06:20.25	Nil	Nil	85:47:12.32
134	Drill Core	57	1.70	21:06:16.04	Nil	Nil	85:47:13.52
135	Drill Core	84	0.45	21:06:22.33	Nil	Nil	85:48:14.92
136	Drill Core	63	0.45	21:06:24.84	Nil	Nil	85:48:21.33
137	Drill Core	54	0.45	21:06:23.84	Nil	Nil	85:48:14.26
138	Drill Core	92	0.45	21:06:28.20	Nil	Nil	85:48:25.40
139	Drill Core	144	0.45	21:06:13.38	Nil	Nil	85:48:23.61
140	Drill Core	96	0.45	21:06:22.22	Nil	Nil	85:48:28.14
141	Drill Core	146	0.45	21:06:18.58	Nil	Nil	85:48:27.88
142	Drill Core	200	0.45	21:06:19.08	Nil	Nil	85:48:20.13
143	Drill Core	114	0.45	21:06:22.08	Nil	Nil	85:48:18.80
144	Drill Core	140	0.45	21:06:24.60	Nil	Nil	85:48:25.20
145	Drill Core	113	0.45	21:06:14.07	Nil	Nil	85:48:29.89
146	Drill Core	146	0.45	21:06:14.95	Nil	Nil	85:48:27.62
147	Drill Core	30	0.45	21:06:11.63	Nil	Nil	85:48:32.67
148	Drill Core	203	0.45	21:06:11.31	Nil	Nil	85:48:27.35
149	Drill Core	78	0.45	21:06:06.87	Nil	Nil	85:48:34.03
150	Drill Core	77	0.45	21:06:08.73	Nil	Nil	85:48:34.26
151	Drill Core	205	0.45	21:06:07.43	Nil	Nil	85:48:30.96
152	Drill Core	83	0.45	21:06:04.30	Nil	Nil	85:48:36.49

153	Drill Core	181	0.45	21:05:57.53	Nil	Nil	85:48:32.73
154	Drill Core	132	0.45	21:06:06.06	Nil	Nil	85:48:31.95
155	Drill Core	126	0.45	21:05:49.64	Nil	Nil	85:48:35.11
156	Drill Core	64	0.45	21:05:57.85	Nil	Nil	85:48:38.04
157	Drill Core	12	0.45	21:05:52.40	Nil	Nil	85:48:37.65
158	Drill Core	49	0.45	21:06:26.97	Nil	Nil	85:48:22.26
159	Drill Core	188	0.45	21:06:17.33	Nil	Nil	85:48:24.68
160	Drill Core	167	0.45	21:06:18.20	Nil	Nil	85:48:22.41
161	Drill Core	130	0.45	21:06:23.72	Nil	Nil	85:48:27.48
162	Drill Core	122	0.45	21:06:20.58	Nil	Nil	85:48:19.47
163	Drill Core	50	0.45	21:06:20.09	Nil	Nil	85:48:27.21
164	Drill Core	104	0.45	21:06:20.09	Nil	Nil	85:48:24.54
165	Drill Core	49	0.45	21:06:09.88	Nil	Nil	85:48:32.69
166	Drill Core	38	0.45	21:06:24.78	Nil	Nil	85:48:16.66
167	Drill Core	121	0.45	21:06:08.95	Nil	Nil	85:48:30.32
168	Drill Core	32	0.45	21:06:10.94	Nil	Nil	85:48:30.90
169	Drill Core	112	0.45	21:05:58.73	Nil	Nil	85:48:35.77
170	Drill Core	45	0.45	21:05:48.14	Nil	Nil	85:48:35.78
171	Drill Core	123	0.45	21:05:56.18	Nil	Nil	85:48:33.77
172	Drill Core	112	0.45	21:05:55.09	Nil	Nil	85:48:35.51
173	Drill Core	51	0.45	21:05:53.40	Nil	Nil	85:48:35.70
174	Drill Core	101	0.45	21:05:51.15	Nil	Nil	85:48:34.45
175	Drill Core	75	0.45	21:06:00.86	Nil	Nil	21:06:00.86
176	Drill Core	30	0.45	21:05:49.02	Nil	Nil	85:48:38.03
177	Drill Core	90	0.45	21:05:45.45	Nil	Nil	85:48:37.92
178	Drill Core	148	0.45	21:06:01.42	Nil	Nil	85:48:33.64

179	Drill Core	153	0.45	21:05:59.59	Nil	Nil	85:48:33.46
180	Drill Core	124	0.45	21:06:04.68	Nil	Nil	85:48:32.94
181	Drill Core	47	0.45	21:05:47.89	Nil	Nil	85:48:39.66
182	Drill Core	22	0.45	21:06:13.20	Nil	Nil	85:48:32.16
183	Drill Core	121	0.45	21:06:14.90	Nil	Nil	85:48:22.97
184	Drill Core	82	0.45	21:06:16.43	Nil	Nil	85:48:26.88
185	Drill Core	53	0.45	21:06:12.26	Nil	Nil	85:48:29.75
186	Drill Core	168	0.45	21:05:51.85	Nil	Nil	85:48:32.63
187	Drill Core	54	0.45	21:05:43.60	Nil	Nil	85:48:40.70

2A.2.2.10: Chemical Analysis

Sl.No.	Sample ID	Minerals	Radical Analysis	Attachment
1	Core Sample DTA/01-05, BH/03-79,DT/01-10,DTR/01-131	IRONMATTER	Fe: 1.71 to 67.11, SiO2: 0.03 to 95.00, Al2O3: 0.02 to 47.06, P: 0.001 to 1.134, S: 0.001 to 13.00	2_Collar_Survey_Assay_Geology.xls x

2A.2.2.11:Petrology & Mineralogical Studies

Sl.No.	Type of Sample	Number of Sample Drawn	Number of Sample Analyzed	Petrographic Study Report
1	Nil	0	0	Nil

2A.2.2.12: Beneficiation Test

Sl.No.	Type of Beneficiation	Number of Samples	Attachment
1	Nil	0	Nil

2A.2.2.13: Bulk Density

Sl.No.	Rock Type	Number of Samples	Minerals	Bulk Density Established (t/m^3)
1	Lateritic Iron Ore (LIO)	1	Fe	2.50
2	Limonitic Ore (LIMO)	1	Fe	2.50
3	Ore with Shale (ORS)	1	Fe	2.50
4	Goethite	1	Fe	2.50
5	Soft Laminated Ore (SLO)	1	Fe	3.20
6	Powdery Ore	1	Fe	3.20
7	Hard Laminated Ore (HLO)	1	Fe	3.50
8	Hard Massive Ore (HMO)	1	Fe	3.50

2A.2.2.14: Area Covered under Exploration

Level of exploration	Area in Ha.		Total Area in Ha.
	Forest	Non Forest	
G-1	60.1112	0.0000	60.1112
G-2	103.2863	0.0000	103.2863
G-3	0.0000	0.0000	0.0000
G-4	683.0020	171.9090	854.9110
Area proved as Non-mineralized	0.0000	0.0000	0.0000
Area to be explored	683.0020	171.9090	854.9110
Total	846.3995	171.9090	1018.3085

Sl.No.	Year		Area converted to G1 from G2, G3 & G4	% increase in G-1 Area	Remaining Area % in G2	Remaining Area % in G3	Remaining Area % in G4	Remaining Area in G2	Remaining Area in G3	Remaining Area in G4
	From	To								
1	30/06/2022	30/06/2024	0.00	0.00	0.00	0.00	0.00	103.29	0.00	854.91
Potentially Mineralised area (Ha)										163.40

2A.2.3 Ore Body Geometry & Grade

Sl.No.	Name of the ore hand	General Strike / Trend	Dip Of Mineral Body	Average Strike Length (m)	Average Width (m)	Chemical parameters				
						Average Depth (m)	Name of the radical	Min Grade (%)	Max Grade (%)	Avg Grade (%)
1	Hilltop iron ore deposit	NW-SE	SW	1500.00	350.00	250.00	Fe	45.03	69.70	62.45
2	Sindurmundi iron deposit	E-W	S	1650.00	100.00	100.00	Fe	45.77	68.48	56.42

2A.2.4: Reserve / Resource Estimation Method

2A.2.4.1: Methodology

Resource / Reserve Estimation Method
Sectional Area Method
Methodology
Minerals (Evidence of Mineral Contents) Rule 2015 came into effect on 17th April 2015. As per Minerals (Evidence of Mineral Contents) Rule 2015, lateral extension of the mineral continuity shall be limited to a distance of 50% of the borehole spacing & depth continuity of G1 & detailed G2 category mineral resource shall be limited up to the depth of evidence of established mineral evidence. Accordingly, geological cross-sections have been modified & re-assessment of the balance geological & balance mineable reserve has been carried out considering above factors. A fresh estimate has been made on the basis of all the boreholes drilled till date using state of the art mining software i.e. 'SURPAC' at 45% Fe cut off and the resources/ reserves figures have been established as per the guidelines of UNFC.

2A.2.4.2: Resource Calculation

Sl.No.	Cross Section/Block	Section Area/ Block Area(sq mt)	Influence(m)	Depth in mtr	Volume (m^3)	Bulk Density (t/m^3)	Resource Quantity (t)	Level of Exploration	Type of Land	Name of the radical	Grade (%)	Method used for resource estimation
1	100NHilltop HMO	676	50.00	21.04	33800.00	3.50	118300.00000	G1	Diverted Forest Land	Fe	64.42	Cross-Sectional Method
2	100NHilltop goethite	844	50.00	15.62	42200.00	2.50	105500.00000	G1	Diverted Forest Land	Fe	55.57	Cross-Sectional

												Method
3	300NHillop hlo	4425	50.00	18.14	221250.00	3.50	774375.0000	GI	Diverted Forest Land	Fe	63.55	Cross-Sectional Method
4	100NHillop ors	5173	50.00	24.32	258650.00	7.50	646375.0000	GI	Diverted Forest Land	Fe	57.1	Cross-Sectional Method
5	100NHillop slo	5018	50.00	11.65	250900.00	3.20	802880.0000	GI	Diverted Forest Land	Fe	63.45	Cross-Sectional Method
6	50NHillopHMO	2059	50.00	10.24	102950.00	3.50	360325.0000	GI	Diverted Forest Land	Fe	64.65	Cross-Sectional Method
7	50NHillopgeshite	210	50.00	7.80	10500.00	2.50	26250.00000	GI	Diverted Forest Land	Fe	61.99	Cross-Sectional Method
8	50NHillop6lo	794	50.00	10.52	39700.00	3.50	138950.0000	GI	Diverted Forest Land	Fe	58.79	Cross-Sectional Method
9	50NHillopHmo	3166	50.00	16.21	158300.00	2.50	395750.0000	GI	Diverted Forest Land	Fe	55.42	Cross-Sectional Method
10	50NHillop3lo	15363	50.00	20.14	768150.00	3.20	2458080.0000	GI	Diverted Forest Land	Fe	61.22	Cross-Sectional Method
11	50Hillopgeshite	1689	50.00	14.85	84450.00	2.50	211125.0000	GI	Diverted Forest Land	Fe	61.98	Cross-Sectional Method
12	0Hillop6lo	5299	50.00	13.70	264950.00	3.50	927325.0000	GI	Diverted Forest Land	Fe	62.66	Cross-Sectional Method
13	0Hillop6lo	1546	50.00	9.54	77300.00	2.50	193250.0000	GI	Diverted Forest Land	Fe	58.8	Cross-Sectional Method

14	0Hilltopslo	8823	50.00	11.24	441150.00	3.20	1411680.00000	G1	Diverted Forest Land	Fe	61.97	Cross-Sectional Method
15	50SHilltopHMO	880	50.00	11.08	44000.00	3.50	154000.00000	G1	Diverted Forest Land	Fe	61.78	Cross-Sectional Method
16	50SHilltopgoethite	8003	50.00	12.60	400150.00	2.50	1000375.00000	G1	Diverted Forest Land	Fe	58.2	Cross-Sectional Method
17	50SHilltophlo	9722	50.00	16.80	486100.00	3.50	1701350.00000	G1	Diverted Forest Land	Fe	63.26	Cross-Sectional Method
18	50SHilltoplimo	8111	50.00	11.52	405550.00	2.50	1013875.00000	G1	Diverted Forest Land	Fe	55.94	Cross-Sectional Method
19	50SHilltoplio	293	50.00	6.50	14650.00	2.50	36625.00000	G1	Diverted Forest Land	Fe	58.96	Cross-Sectional Method
20	50SHilltopslo	24249	50.00	23.80	1212450.00	3.20	3879840.00000	G1	Diverted Forest Land	Fe	63.33	Cross-Sectional Method
21	100SHilltopHMO	6216	50.00	11.60	310800.00	3.50	1087800.00000	G1	Diverted Forest Land	Fe	59.36	Cross-Sectional Method
22	100SHilltopgoethite	4395	50.00	8.70	219750.00	2.50	549375.00000	G1	Diverted Forest Land	Fe	55.58	Cross-Sectional Method
23	100SHilltophlo	2082	50.00	12.60	104100.00	3.50	364350.00000	G1	Diverted Forest Land	Fe	62.74	Cross-Sectional Method
24	100SHilltoplimo	5210	50.00	9.80	260500.00	2.50	651250.00000	G1	Diverted Forest Land	Fe	57.06	Cross-Sectional Method
25	100SHilltoplio	0	50.00	0.00	0.00	2.50	0.00000	G1	Diverted Forest Land	Fe	0	Cross-Sectional

												Method
26	100SHilltopo ss	0	50.00	0.00	0.00	2.50	0.00000	GI	Diverted Forest Land	Fe	0	Cross-Sectional Method
27	100SHilltopg lo	34144	50.00	12.50	1707200.00	3.20	5463040.000 00	GI	Diverted Forest Land	Fe	62.47	Cross-Sectional Method
28	150SHilltop BMD	1923	50.00	11.24	96150.00	3.50	336525.0000 0	GI	Diverted Forest Land	Fe	57.54	Cross-Sectional Method
29	150SHilltopg oethite	1137	50.00	10.80	56850.00	2.50	142125.0000 0	GI	Diverted Forest Land	Fe	62.09	Cross-Sectional Method
30	150SHilltoph lo	439	50.00	7.80	21950.00	3.50	76825.00000	GI	Diverted Forest Land	Fe	63.23	Cross-Sectional Method
31	150SHilltopli mo	8190	50.00	14.87	409500.00	2.50	1023750.000 00	GI	Diverted Forest Land	Fe	60.64	Cross-Sectional Method
32	150SHilltopli o	0	50.00	0.00	0.00	2.50	0.00000	GI	Diverted Forest Land	Fe	0	Cross-Sectional Method
33	150SHilltops lo	40909	50.00	16.23	2045450.00	3.20	6545440.000 00	GI	Diverted Forest Land	Fe	64.31	Cross-Sectional Method
34	200SHilltop BMQ	3201	50.00	8.50	160050.00	3.50	560175.0000 0	GI	Diverted Forest Land	Fe	63.19	Cross-Sectional Method
35	200SHilltopg oethite	961	50.00	7.80	48050.00	2.50	120125.0000 0	GI	Diverted Forest Land	Fe	62.74	Cross-Sectional Method
36	200SHilltoph lo	6737	50.00	24.32	336850.00	3.50	1178975.000 00	GI	Diverted Forest Land	Fe	63.36	Cross-Sectional Method

37	200SHilltoplimo	2279	50.00	11.65	113950.00	2.50	284875.00000	Gl	Diverted Forest Land	Fe	60.58	Cross Sectional Method
38	200SHilltoplio	133	50.00	10.24	6650.00	2.50	16625.00000	Gl	Diverted Forest Land	Fe	55.87	Cross-Sectional Method
39	200SHilltopslo	32718	50.00	7.80	1635900.00	3.20	5234880.00000	Gl	Diverted Forest Land	Fe	64.57	Cross-Sectional Method
40	250SHilltopHMO	3547	50.00	10.52	177350.00	3.50	620725.00000	Gl	Diverted Forest Land	Fe	55.7	Cross-Secticanl Method
41	250SHilltopgoethite	1181	50.00	16.21	59050.00	2.50	147625.00000	Gl	Diverted Forest Land	Fe	61.04	Cross-Sectional Method
42	250SHilltophlo	677	50.00	20.14	33850.00	3.50	118475.00000	Gl	Diverted Forest Land	Fe	64.21	Cross Sectional Method
43	250SHilltoplimo	713	50.00	14.85	35650.00	2.50	89125.00000	Gl	Diverted Forest Land	Fe	55.31	Cross-Sectional Method
44	250SHilltopslo	26845	50.00	13.70	1342250.00	3.20	4295200.00000	Gl	Diverted Forest Land	Fe	63.04	Cross-Sectional Method
45	300SHilltopblo	544	50.00	9.54	27200.00	3.50	95200.00000	Gl	Diverted Forest Land	Fe	62.88	Cross-Sectional Method
46	300SHilltoplio	453	50.00	11.24	22650.00	2.50	56625.00000	Gl	Diverted Forest Land	Fe	55.11	Cross Sectional Method
47	300SHilltopslo	27850	50.00	11.08	1392500.00	3.20	4456000.00000	Gl	Diverted Forest Land	Fe	63.65	Cross-Sectional Method
48	350SHilltopHMO	7088	50.00	16.80	354400.00	3.50	1240400.00000	Gl	Diverted Forest Land	Fe	62.68	Cross-Sectional

												Method
49	350SHilltoplo	1250	50.00	11.52	625000.00	3.50	2187500.00000	G1	Diverted Forest Land	Fe	57.3	Cross Sectional Method
50	350SHilltoplimo	4070	50.00	6.50	2035000.00	2.50	5087500.00000	G1	Diverted Forest Land	Fe	59.12	Cross-Sectional Method
51	350SHilltoplim	1022	50.00	23.80	511000.00	2.50	1277500.00000	G1	Diverted Forest Land	Fe	61.87	Cross-Sectional Method
52	350SHilltoplo	27197	50.00	11.60	1359850.00	3.20	4351520.00000	G1	Diverted Forest Land	Fe	61.03	Cross-Sectional Method
53	400SHilltopHMO	3838	50.00	8.70	1919081.00	3.50	6716650.03001	G1	Diverted Forest Land	Fe	61.11	Cross-Sectional Method
54	400SHilltoplin	361	50.00	12.60	180500.00	3.50	631750.00000	G1	Diverted Forest Land	Fe	62.6	Cross-Sectional Method
55	400SHilltoplimo	1353	50.00	21.04	676500.00	2.50	1691250.00000	G1	Diverted Forest Land	Fe	60.62	Cross-Sectional Method
56	400SHilltoplo	29815	50.00	15.62	1490750.00	3.20	4770400.00000	G1	Diverted Forest Land	Fe	64.41	Cross-Sectional Method
57	450SHilltopHMO	2777	50.00	28.14	1388500.00	3.50	4859750.00300	G1	Diverted Forest Land	Fe	63.08	Cross-Sectional Method
58	450SHilltopgranite	1170	50.00	24.32	58500.00	2.50	146250.00000	G1	Diverted Forest Land	FeFe	64.54	Cross-Sectional Method
59	450SHilltoplo	486	50.00	11.65	24300.00	3.50	85050.00000	G1	Diverted Forest Land	Fe	63.57	Cross-Sectional Method

60	450SHilltoplimo	2267	50.00	10.24	113350.00	2.50	283375.00000	G1	Diverted Forest Land	Fe	59.9	Cross-Sectional Method
61	450SHilltoplio	1898	50.00	7.80	94900.00	2.50	237250.00000	G1	Diverted Forest Land	Fe	55.73	Cross-Sectional Method
62	450SHilltopslo	19133	50.00	10.52	956650.00	3.50	3348275.00000	G1	Diverted Forest Land	Fe	65.64	Cross-Sectional Method
63	500SHilltopHMO	39	50.00	16.21	1950.00	3.50	6825.00000	G1	Diverted Forest Land	Fe	61.23	Cross-Sectional Method
64	500SHilltopgoethite	2117	50.00	20.14	105850.00	2.50	264625.00000	G1	Diverted Forest Land	Fe	59.82	Cross-Sectional Method
65	500SHilltophlo	6768	50.00	14.85	338400.00	3.50	1184400.00000	G1	Diverted Forest Land	Fe	63.94	Cross-Sectional Method
66	500SHilltoplio	65	50.00	13.70	3250.00	2.50	8125.00000	G1	Diverted Forest Land	Fe	55.97	Cross-Sectional Method
67	500SHilltopslo	16000	50.00	24.32	800000.00	3.20	2560000.00000	G1	Diverted Forest Land	Fe	64.11	Cross-Sectional Method
68	550SHilltopgoethite	762	50.00	11.65	38100.00	2.50	95250.00000	G1	Diverted Forest Land	FeFe	61.13	Cross-Sectional Method
69	550SHilltophlo	5284	50.00	10.24	264200.00	3.50	924700.00000	G1	Diverted Forest Land	Fe	62.55	Cross-Sectional Method
70	550SHilltoplimo	119	50.00	7.80	5950.00	2.50	14875.00000	G1	Diverted Forest Land	Fe	59.25	Cross-Sectional Method
71	550SHilltoplio	120	50.00	10.52	6000.00	2.50	15000.00000	G1	Diverted Forest Land	Fe	58.91	Cross-Sectional

												Method
72	550SHilltopslo	755	50.00	16.21	37750.00	3.20	120800.00000	G1	Diverted Forest Land	Fe	66.09	Cross-Sectional Method
73	600SHilltopHMO	64	50.00	20.14	3200.00	3.50	11200.00000	G1	Diverted Forest Land	Fe	62.6	Cross-Sectional Method
74	600SHilltopgoethite	4451	50.00	14.85	222550.00	2.50	556375.00000	G1	Diverted Forest Land	Fe	61.88	Cross-Sectional Method
75	600SHilltophlo	1825	50.00	13.70	91250.00	3.50	319375.00000	G1	Diverted Forest Land	Fe	64.33	Cross-Sectional Method
76	600SHilltoplimo	128	50.00	9.54	6400.00	2.50	16000.00000	G1	Diverted Forest Land	Fe	59.6	Cross-Sectional Method
77	600SHilltopslo	11386	50.00	11.24	569300.00	3.20	1821760.00000	G1	Diverted Forest Land	Fe	65.03	Cross-Sectional Method
78	650SHilltopHMO	1119	50.00	11.08	55950.00	3.50	195825.00000	G1	Diverted Forest Land	Fe	63.43	Cross-Sectional Method
79	650SHilltopgoethite	661	50.00	12.60	33050.00	2.50	82625.00000	G1	Diverted Forest Land	Fe	63.81	Cross-Sectional Method
80	650SHilltophlo	123	50.00	16.80	6150.00	3.50	21525.00000	G1	Diverted Forest Land	Fe	63.21	Cross-Sectional Method
81	650SHilltoplimo	2476	50.00	11.52	123800.00	2.50	309500.00000	G1	Diverted Forest Land	Fe	60.05	Cross-Sectional Method
82	650SHilltoplio	21	50.00	6.50	1050.00	2.50	2625.00000	G1	Diverted Forest Land	Fe	61.35	Cross-Sectional Method

83	650SHilltops lo	9939	50.00	23.80	496950.00	3.20	1590240.00000	G1	Diverted Forest Land	Fe	65.31	Cross-Sectional Method
84	700SHilltoph lo	1167	50.00	11.60	58350.00	3.50	204225.00000	G1	Diverted Forest Land	Fe	61.59	Cross-Sectional Method
85	700SHilltopli mo	1015	50.00	8.70	50750.00	2.50	126875.00000	G1	Diverted Forest Land	Fe	59.73	Cross-Sectional Method
86	700SHilltopli n	238	50.00	12.60	11900.00	2.50	29750.00000	G1	Diverted Forest Land	Fe	61.44	Cross-Sectional Method
87	700SHilltops lo	9399	50.00	9.80	469950.00	3.20	1503840.00000	G1	Diverted Forest Land	Fe	64.63	Cross-Sectional Method
88	750SHilltopg oethite	1953	50.00	14.75	97650.00	2.50	244125.00000	G1	Diverted Forest Land	Fe	60.35	Cross-Sectional Method
89	750SHilltoph lo	7194	50.00	11.26	109700.00	3.50	383950.00000	G1	Diverted Forest Land	Fe	63.58	Cross-Sectional Method
90	750SHilltopli n	0	50.00	0.00	0.00	2.50	0.00000	G1	Diverted Forest Land	Fe	0	Cross-Sectional Method
91	750SHilltops lo	18844	50.00	11.24	942200.00	3.20	3015040.00000	G1	Diverted Forest Land	Fe	63.27	Cross-Sectional Method
92	800SHilltop HMO	1122	50.00	10.80	56100.00	3.50	196350.00000	G1	Diverted Forest Land	Fe	61.82	Cross-Sectional Method
93	800SHilltopg oethite	134	50.00	7.80	6700.00	2.50	16750.00000	G1	Diverted Forest Land	Fe	59.95	Cross-Sectional Method
94	800SHilltoph lo	1095	50.00	14.87	54750.00	3.50	191625.00000	G1	Diverted Forest Land	Fe	66	Cross-Sectional

												Method
95	800SHilltopli mo	2722	50.00	9.50	136100.00	2.50	340250.00000	G1	Diverted Forest Land	Fe	58.99	Cross-Sectional Method
96	800SHilltopli o	122	50.00	16.23	6100.00	2.50	15250.00000	G1	Diverted Forest Land	Fe	56.99	Cross-Sectional Method
97	800SHilltopo ss	150	50.00	8.50	7500.00	2.50	18750.00000	G1	Diverted Forest Land	Fe	59.8	Cross-Sectional Method
98	800SHilltops lo	17247	50.00	7.80	862350.00	3.20	2759520.00000	G1	Diverted Forest Land	Fe	63.73	Cross-Sectional Method
99	850SHilltopg oethite	1280	50.00	24.32	64000.00	2.50	160000.00000	G1	Diverted Forest Land	Fe	61.12	Cross-Sectional Method
100	850SHilltopli mo	1609	50.00	11.65	80450.00	2.50	201125.00000	G1	Diverted Forest Land	Fe	61.12	Cross-Sectional Method
101	850SHilltopli o	1041	50.00	10.24	52050.00	2.50	130125.00000	G1	Diverted Forest Land	Fe	57.01	Cross-Sectional Method
102	850SHilltopo ss	2499	50.00	7.80	124950.00	2.50	312375.00000	G1	Diverted Forest Land	Fe	60.19	Cross-Sectional Method
103	850SHilltops lo	21571	50.00	10.52	1078550.00	3.20	3451360.00000	G1	Diverted Forest Land	Fe	64.35	Cross-Sectional Method
104	900SHilltopHMO	5245	50.00	16.21	262250.00	3.50	917875.00000	G1	Diverted Forest Land	Fe	62.64	Cross-Sectional Method
105	900SHilltopg oethite	1573	50.00	20.14	78650.00	2.50	196625.00000	G1	Diverted Forest Land	Fe	60.43	Cross-Sectional Method

106	900SHilltoplio	676	50.00	14.85	33800.00	2.50	84500.00000	G1	Diverted Forest Land	Fe	57.81	Cross-Sectional Method
107	900SHilltopslo	25345	50.00	13.70	1267250.00	3.20	4055200.00000	G1	Diverted Forest Land	Fe	65.09	Cross-Sectional Method
108	950SHilltopHMO	143	50.00	9.54	7150.00	3.50	25025.00000	G1	Diverted Forest Land	Fe	62.94	Cross-Sectional Method
109	950SHilltopgoethite	1096	50.00	11.24	54800.00	2.50	137000.00000	G1	Diverted Forest Land	Fe	61.92	Cross-Sectional Method
110	950SHilltophlo	27	50.00	11.08	1350.00	3.50	4725.00000	G1	Diverted Forest Land	Fe	62.76	Cross-Sectional Method
111	950SHilltoplimo	871	50.00	16.80	43550.00	2.50	108875.00000	G1	Diverted Forest Land	Fe	56.56	Cross-Sectional Method
112	950SHilltoplio	896	50.00	11.52	44800.00	2.50	112000.00000	G1	Diverted Forest Land	Fe	59.1	Cross-Sectional Method
113	950SHilltopslo	19541	50.00	6.50	977050.00	3.50	3419675.00000	G1	Diverted Forest Land	Fe	63.22	Cross-Sectional Method
114	1000SHilltopHMO	1316	50.00	23.80	65800.00	3.50	230300.00000	G1	Diverted Forest Land	Fe	62.68	Cross-Sectional Method
115	1000SHilltopgoethite	558	50.00	11.60	27900.00	2.50	69750.00000	G1	Diverted Forest Land	Fe	61.11	Cross-Sectional Method
116	1000SHilltophlo	878	50.00	8.70	43900.00	3.50	153650.00000	G1	Diverted Forest Land	Fe	62.75	Cross-Sectional Method
117	1000SHilltoplimo	695	50.00	12.60	34750.00	2.50	86875.00000	G1	Diverted Forest Land	Fe	61	Cross-Sectional

												Method
118	1000SHilltop slo	24244	50.00	21.04	1212200.00	3.20	3879040.00000	G1	Diverted Forest Land	Fe	62.26	Cross-Sectional Method
119	1050SHilltop goethite	2327	50.00	15.62	116350.00	2.50	290875.00000	G1	Diverted Forest Land	Fe	63.16	Cross-Sectional Method
120	1050SHilltop hlo	5820	50.00	18.14	291000.00	3.50	1018500.00000	G1	Diverted Forest Land	Fe	62.33	Cross-Sectional Method
121	1050SHilltop limo	3336	50.00	24.32	166800.00	2.50	417000.00000	G1	Diverted Forest Land	Fe	60.25	Cross-Sectional Method
122	1050SHilltop lio	596	50.00	11.65	29800.00	2.50	74500.00000	G1	Diverted Forest Land	Fe	59.58	Cross-Sectional Method
123	1050SHilltop slo	9993	50.00	10.24	499650.00	3.50	1748775.00000	G1	Diverted Forest Land	Fe	62.39	Cross-Sectional Method
124	1100SHilltop HMO	761	50.00	7.80	38050.00	3.50	133175.00000	G1	Diverted Forest Land	Fe	64.46	Cross-Sectional Method
125	1100SHilltop goethite	2925	50.00	10.52	146250.00	2.50	365625.00000	G1	Diverted Forest Land	Fe	63.64	Cross-Sectional Method
126	1100SHilltop hlo	232	50.00	16.21	11600.00	3.50	40600.00000	G1	Diverted Forest Land	Fe	62.92	Cross-Sectional Method
127	1100SHilltop limo	1534	50.00	20.14	76700.00	2.50	191750.00000	G1	Diverted Forest Land	Fe	55.54	Cross-Sectional Method
128	1100SHilltop lio	1377	50.00	14.85	68850.00	2.50	172125.00000	G1	Diverted Forest Land	Fe	58.17	Cross-Sectional Method

129	1100SHilltop slo	13973	50.00	13.70	698650.00	3.20	2235680.00000	G1	Diverted Forest Land	Fe	64.51	Cross-Sectional Method
130	1150SHilltop goethite	1938	50.00	16.23	96900.00	2.50	242250.00000	G1	Diverted Forest Land	Fe	62.27	Cross-Sectional Method
131	1150SHilltop hlo	1254	50.00	8.50	62700.00	3.50	219450.00000	G1	Diverted Forest Land	Fe	64.71	Cross-Sectional Method
132	1150SHilltop limo	3777	50.00	7.80	188850.00	2.50	472125.00000	G1	Diverted Forest Land	Fe	58.57	Cross-Sectional Method
133	1150SHilltop lio	1275	50.00	24.32	63750.00	2.50	159375.00000	G1	Diverted Forest Land	Fe	58.37	Cross-Sectional Method
134	1150SHilltop slo	5226	50.00	11.65	261300.00	3.20	836160.00000	G1	Diverted Forest Land	Fe	62.65	Cross-Sectional Method
135	1200SHilltop goethite	2684	50.00	10.24	134200.00	2.50	335500.00000	G1	Diverted Forest Land	Fe	57.58	Cross-Sectional Method
136	1200SHilltop limo	2787	50.00	7.80	139350.00	2.50	348375.00000	G1	Diverted Forest Land	Fe	55.63	Cross-Sectional Method
137	1200SHilltop lio	1709	50.00	10.52	85450.00	2.50	213625.00000	G1	Diverted Forest Land	Fe	58.26	Cross-Sectional Method
138	1200SHilltop slo	1074	50.00	16.21	53700.00	3.20	171840.00000	G1	Diverted Forest Land	Fe	62.34	Cross-Sectional Method
139	1250SHilltop HMO	108	50.00	20.14	5400.00	3.50	18900.00000	G1	Diverted Forest Land	Fe	60.73	Cross-Sectional Method
140	1250SHilltop goethite	105	50.00	14.85	5250.00	2.50	13125.00000	G1	Diverted Forest Land	Fe	58.53	Cross-Sectional

												Method
141	1250SHilltoplime	4285	50.00	13.70	214250.00	2.50	535625.00000	G1	Diverted Forest Land	Fe	59.08	Cross-Sectional Method
142	1250SHilltoplio	1626	50.00	9.54	81300.00	2.50	203250.00000	G1	Diverted Forest Land	Fe	56.68	Cross-Sectional Method
143	1300SHilltopHMO	2095	50.00	11.24	157125.00	3.50	549937.50000	G1	Diverted Forest Land	Fe	60.38	Cross-Sectional Method
144	1300SHilltopslo	9817	50.00	11.08	736275.00	3.20	2356080.00000	G1	Diverted Forest Land	Fe	62.33	Cross-Sectional Method
145	1400SHilltoplio	1006	50.00	16.80	100600.00	2.50	251500.00000	G1	Diverted Forest Land	Fe	57.2	Cross-Sectional Method
146	1400SHilltopslo	3837	50.00	11.52	383700.00	3.20	1227840.00000	G1	Diverted Forest Land	Fe	64.34	Cross-Sectional Method
147	100NEHilltoplime	2812	50.00	6.50	140600.00	2.50	351500.00000	G1	Diverted Forest Land	Fe	54.97	Cross-Sectional Method
148	100NEHilltoplio	1901	50.00	23.80	95050.00	2.50	237625.00000	G1	Diverted Forest Land	Fe	49.19	Cross-Sectional Method
149	50NEHilltoplio	3585	50.00	11.60	179250.00	2.50	448125.00000	G1	Diverted Forest Land	Fe	49.82	Cross-Sectional Method
150	0Hilltoplime	7319	50.00	8.70	365950.00	2.50	914875.00000	G1	Diverted Forest Land	Fe	54.91	Cross-Sectional Method
151	50SHilltopores	137	50.00	12.60	6850.00	2.50	17125.00000	G1	Diverted Forest Land	Fe	54.85	Cross-Sectional Method

152	150SHilltopo rs	932	50.00	21.04	46600.00	2.50	116500.0000 0	G1	Diverted Forest Land	Fe	54.13	Cross-Sectional Method
153	200SHilltopo rs	496	50.00	15.62	24800.00	2.50	62000.00000	G1	Diverted Forest Land	Fe	48.67	Cross-Sectional Method
154	300SHilltopli no	1321	50.00	18.14	66050.00	2.50	165125.0000 0	G1	Diverted Forest Land	Fe	53.57	Cross-Sectional Method
155	500SHilltopli no	2268	50.00	24.32	113400.00	2.50	283500.0000 0	G1	Diverted Forest Land	Fe	53.83	Cross-Sectional Method
156	500SHilltopo rs	182	50.00	11.65	9100.00	2.50	22750.00000	G1	Diverted Forest Land	Fe	52.97	Cross-Sectional Method
157	550SHilltopo rs	229	50.00	10.24	11450.00	2.50	28625.00000	G1	Diverted Forest Land	Fe	43.99	Cross-Sectional Method
158	750SHilltopli no	932	50.00	7.80	46600.00	2.50	116500.0000 0	G1	Diverted Forest Land	Fe	49.08	Cross-Sectional Method
159	900SHilltopli no	4182.48	50.00	10.52	209124.00	2.50	522810.0000 0	G1	Diverted Forest Land	Fe	54.73	Cross-Sectional Method
160	1100SHilltop os	48	50.00	11.65	2400.00	2.50	6000.00000	G1	Diverted Forest Land	Fe	46.66	Cross-Sectional Method
161	1150SHilltop os	1467	50.00	10.24	73350.00	2.50	183375.0000 0	G1	Diverted Forest Land	Fe	46.78	Cross-Sectional Method
162	1200SHilltop os	771	50.00	7.80	38550.00	2.50	96375.00000	G1	Diverted Forest Land	Fe	49.93	Cross-Sectional Method
163	1250SHilltop os	549	50.00	10.52	27450.00	2.50	68625.00000	G1	Diverted Forest Land	Fe	46.46	Cross-Sectional

												Method
164	1250SHilltopSio	5235	50.00	16.21	261750.00	3.20	837600.00000	G1	Diverted Forest Land	Fe	54.35	Cross-Sectional Method
165	1300SHilltopORS	2036	75.00	20.14	152700.00	2.50	381750.00000	G1	Diverted Forest Land	Fe	49.36	Cross-Sectional Method
166	300SSinduramundiLHO	242	50.00	14.85	12100.00	2.50	30250.00000	G1	Diverted Forest Land	Fe	55.65	Cross-Sectional Method
167	300SSinduramundiSLO	2734	50.00	13.70	136700.00	3.20	437440.00000	G1	Diverted Forest Land	Fe	62.23	Cross-Sectional Method
168	250SSinduramundiLHO	1474	50.00	9.54	73700.00	2.50	184250.00000	G1	Diverted Forest Land	Fe	56.84	Cross-Sectional Method
169	250SSinduramundiORS	591	50.00	31.74	29550.00	2.50	73875.00000	G1	Diverted Forest Land	Fe	58.33	Cross-Sectional Method
170	200SSinduramundiLMO	118	50.00	11.08	5900.00	2.50	14750.00000	G1	Diverted Forest Land	Fe	57.74	Cross-Sectional Method
171	200SSinduramundiLHO	1181	50.00	12.60	59050.00	2.50	147625.00000	G1	Diverted Forest Land	Fe	58.33	Cross-Sectional Method
172	200SSinduramundiORS	2363	50.00	16.80	116150.00	2.50	295375.00000	G1	Diverted Forest Land	Fe	58.88	Cross-Sectional Method
173	200SSinduramundiSLO	118	50.00	11.57	5900.00	3.20	18880.00000	G1	Diverted Forest Land	Fe	60.6	Cross-Sectional Method
174	150SSinduramundiHLO	315	50.00	6.30	15750.00	3.50	55125.00000	G1	Diverted Forest Land	Fe	59.44	Cross-Sectional Method

175	150SSindura mundiLIMO	197	50.00	23.80	9850.00	2.50	24625.00000	G1	Diverted Forest Land	Fe	57.88	Cross-Sectional Method
176	150SSindura mundiLIO	585	50.00	11.60	29250.00	2.50	73125.00000	G1	Diverted Forest Land	Fe	57.94	Cross-Sectional Method
177	150SSindura mundiORS	2976	50.00	8.70	148800.00	2.50	372000.0000 0	G1	Diverted Forest Land	Fe	58.38	Cross-Sectional Method
178	150SSindura mundiSLO	906	50.00	12.60	45300.00	3.20	144960.0000 0	G1	Diverted Forest Land	Fe	60.9	Cross-Sectional Method
179	100SSindura mundiHLO	1418	50.00	9.80	70900.00	3.50	248150.0000 0	G1	Diverted Forest Land	Fe	58.27	Cross-Sectional Method
180	100SSindura mundiLIMO	709	50.00	12.43	35450.00	2.50	88625.00000	G1	Diverted Forest Land	Fe	58.6	Cross-Sectional Method
181	100SSindura mundiLIO	388	50.00	8.95	19400.00	2.50	48500.00000	G1	Diverted Forest Land	Fe	58.16	Cross-Sectional Method
182	100SSindura mundiORS	1811	50.00	12.50	90550.00	2.50	226375.0000 0	G1	Diverted Forest Land	Fe	55.86	Cross-Sectional Method
183	100SSindura mundiSLO	512	50.00	11.24	25600.00	3.20	81920.00000	G1	Diverted Forest Land	Fe	59.72	Cross-Sectional Method
184	50SSindura mundiLIMO	1693	50.00	10.80	84650.00	2.50	211625.0000 0	G1	Diverted Forest Land	Fe	56.26	Cross-Sectional Method
185	50SSindura mundiSLO	118	50.00	7.80	5900.00	3.20	18880.00000	G1	Diverted Forest Land	Fe	58.42	Cross-Sectional Method
186	00NSindura mundiLIMO	3938	50.00	14.87	196900.00	2.50	492250.0000 0	G1	Diverted Forest Land	Fe	55.7	Cross-Sectional

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187	300NSinduramundiHLO	433	50.00	9.20	21650.00	3.50	75775.00000	GI	Diverted Forest Land	Fe	57.15	Cross-Sectional Method
188	100NSinduramundiSLO	338	50.00	16.23	16900.00	3.20	56080.00000	GI	Diverted Forest Land	Fe	55.98	Cross-Sectional Method
189	150NSinduramundiHLO	79	50.00	8.50	3950.00	3.50	13825.00000	GI	Diverted Forest Land	Fe	57.91	Cross-Sectional Method
190	150NSinduramundiLLO	1001	50.00	7.80	50050.00	2.50	125125.00000	GI	Diverted Forest Land	Fe	56.01	Cross-Sectional Method
191	250NSinduramundiORS	186	50.00	24.32	9300.00	2.50	23250.00000	GI	Diverted Forest Land	Fe	56.79	Cross-Sectional Method
192	300SSinduramundiORSMR	405	50.00	11.65	20250.00	2.50	50625.00000	GI	Diverted Forest Land	Fe	53.01	Cross-Sectional Method
193	50SSinduramundiHLOMR	512	50.00	10.24	25600.00	3.50	89600.00000	GI	Diverted Forest Land	Fe	54.61	Cross-Sectional Method
194	50SSinduramundiLLOMR	551	50.00	7.80	27550.00	2.50	68875.00000	GI	Diverted Forest Land	Fe	51.71	Cross-Sectional Method
195	50SSinduramundiORSMR	748	50.00	10.52	37400.00	2.50	93500.00000	GI	Diverted Forest Land	Fe	54.58	Cross-Sectional Method
196	00NSinduramundiHLOMR	354	50.00	16.21	17700.00	3.50	61950.00000	GI	Diverted Forest Land	Fe	51.38	Cross-Sectional Method
197	00NSinduramundiLLOMR	2182	50.00	20.14	109100.00	3.50	381850.00000	GI	Diverted Forest Land	Fe	52.70	Cross-Sectional Method

198	00NSindura mundiORSM R	1772	50.00	14.85	88600.00	2.50	221500.00000	G1	Diverted Forest Land	Fe	51.41	Cross-Sectional Method
199	50NSindura mundiLIMO MR	2835	50.00	13.70	141750.00	2.50	354375.00000	G1	Diverted Forest Land	Fe	52.43	Cross-Sectional Method
200	50NSindura mundiLIOM R	1845	50.00	9.54	92250.00	2.50	230625.00000	G1	Diverted Forest Land	Fe	51.8	Cross-Sectional Method
201	50NSindura mundiORSM R	236	50.00	11.24	11800.00	2.50	29500.00000	G1	Diverted Forest Land	Fe	52.26	Cross-Sectional Method
202	100NSindura mundiGoethi teMR	608	50.00	11.08	30400.00	2.50	76000.00000	G1	Diverted Forest Land	Fe	53.16	Cross-Sectional Method
203	100NSindura mundiLIMO MR	2138	50.00	16.80	106900.00	2.50	267250.00000	G1	Diverted Forest Land	Fe	52.4	Cross-Sectional Method
204	100NSindura mundiLIOM R	906	50.00	11.52	45300.00	2.50	113250.00000	G1	Diverted Forest Land	Fe	52.07	Cross-Sectional Method
205	100NSindura mundiORSM R	338	50.00	6.50	16900.00	2.50	42250.00000	G1	Diverted Forest Land	Fe	53.85	Cross-Sectional Method
206	150NSindura mundiORSM R	1091	50.00	23.80	54550.00	2.50	136375.00000	G1	Diverted Forest Land	Fe	54.21	Cross-Sectional Method
207	200NSindura mundiLIMO MR	197	50.00	11.60	9850.00	2.50	24625.00000	G1	Diverted Forest Land	Fe	52.22	Cross-Sectional Method
208	200NSindura mundiLIOM R	371	50.00	8.70	18550.00	2.50	46375.00000	G1	Diverted Forest Land	Fe	54.98	Cross-Sectional Method
209	200NSindura mundiORSM	675	50.00	12.60	33750.00	2.50	84375.00000	G1	Diverted Forest Land	Fe	52.15	Cross-Sectional

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210	350SSindurmundiHLO	223	50.00	21.04	11150.00	3.50	39025.00000	G2	Forest Land	Fe	59.93	Cross-Sectional Method
211	350SSindurmundiSLO	55	50.00	15.62	2750.00	3.20	8800.00000	G2	Forest Land	Fe	62.11	Cross-Sectional Method
212	300SSindurmundiHLO	4294	50.00	18.14	214700.00	3.50	751450.00000	G2	Forest Land	Fe	60.1	Cross-Sectional Method
213	300SSindurmundiLIMO	749	50.00	24.32	37450.00	2.50	93625.00000	G2	Forest Land	Fe	57.01	Cross-Sectional Method
214	300SSindurmundiSLO	675	50.00	12.65	33750.00	3.20	108000.00000	G2	Forest Land	Fe	60.83	Cross-Sectional Method
215	250SSindurmundiHLO	4756	50.00	10.24	237800.00	3.50	832300.00000	G2	Forest Land	Fe	57.49	Cross-Sectional Method
216	250SSindurmundiLIMO	623	50.00	17.80	31150.00	2.50	77875.00000	G2	Forest Land	Fe	59.56	Cross-Sectional Method
217	250SSindurmundiLIO	4300	50.00	10.52	215000.00	2.50	537500.00000	G2	Forest Land	Fe	55.2	Cross-Sectional Method
218	250SSindurmundiORS	3782	50.00	16.21	189100.00	2.50	472750.00000	G2	Forest Land	Fe	55.13	Cross-Sectional Method
219	250SSindurmundiSLO	713	50.00	20.14	35650.00	3.20	114080.00000	G2	Forest Land	Fe	55.85	Cross-Sectional Method
220	200SSindurmundiHLO	3769	50.00	14.85	188450.00	3.50	659575.00000	G2	Forest Land	Fe	58	Cross-Sectional Method

221	200SSindura mundiLIO	6520	50.00	13.70	326000.00	2.50	815000.00000	G2	Forest Land	Fe	55.53	Cross-Sectional Method
222	200SSindura mundiORS	5102	50.00	24.32	255100.00	2.50	637750.00000	G2	Forest Land	Fe	55.69	Cross-Sectional Method
223	150SSindura mundiHLO	4461	50.00	11.65	223050.00	3.50	780675.00000	G2	Forest Land	Fe	56.48	Cross-Sectional Method
224	150SSindura mundiLIO	7070	50.00	10.24	353500.00	2.50	883750.00000	G2	Forest Land	Fe	55.11	Cross-Sectional Method
225	150SSindura mundiSLO	2299	50.00	7.80	114950.00	3.20	367840.00000	G2	Forest Land	Fe	57.27	Cross-Sectional Method
226	100SSindura mundiHLO	4666	50.00	10.52	233300.00	3.50	816550.00000	G2	Forest Land	Fe	56.69	Cross-Sectional Method
227	100SSindura mundiLIMO	252	50.00	16.21	12600.00	2.50	31500.00000	G2	Forest Land	Fe	60.95	Cross-Sectional Method
228	100SSindura mundiSLO	6944	50.00	20.14	347200.00	3.20	1111040.00000	G2	Forest Land	Fe	58.29	Cross-Sectional Method
229	50SSindura mundiHLO	4324	50.00	14.85	216200.00	3.50	756700.00000	G2	Forest Land	Fe	55.58	Cross-Sectional Method
230	50SSindura mundiSLO	6431	50.00	13.70	321550.00	2.50	803875.00000	G2	Forest Land	Fe	57.16	Cross-Sectional Method
231	00nSindura mundiHLO	5355	50.00	19.54	267750.00	3.50	937125.00000	G2	Forest Land	Fe	56.69	Cross-Sectional Method
232	00nSindura mundiSLO	3536	50.00	21.24	176800.00	3.20	565760.00000	G2	Forest Land	Fe	57.88	Cross-Sectional

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233	50NSinduramundiSLO	3130	50.00	11.08	156500.00	3.20	500800.00000	G2	Forest Land	Fe	55.93	Cross-Sectional Method
234	100NSinduramundiSLO	1019	50.00	12.60	50950.00	3.20	163040.00000	G2	Forest Land	Fe	55.37	Cross-Sectional Method
235	150NSinduramundiHLO	66	50.00	16.80	3300.00	3.50	11550.00000	G2	Forest Land	Fe	58.39	Cross-Sectional Method
236	300NSinduramundiHLO	148	50.00	11.52	7400.00	3.50	25900.00000	G2	Forest Land	Fe	60.03	Cross-Sectional Method
237	300NSinduramundiORS	682	50.00	6.50	34100.00	2.50	85250.00000	G2	Forest Land	Fe	56.08	Cross-Sectional Method
238	350NSinduramundiHLO	900	50.00	23.80	45000.00	3.50	157500.00000	G2	Forest Land	Fe	59.65	Cross-Sectional Method
239	350NSinduramundiORS	3066	50.00	11.60	153300.00	2.50	383250.00000	G2	Forest Land	Fe	55.07	Cross-Sectional Method
240	350NSinduramundiSLO	280	50.00	8.70	14000.00	3.20	44800.00000	G2	Forest Land	Fe	55.50	Cross-Sectional Method
241	400NSinduramundiHLO	415	50.00	11.65	20750.00	3.50	72625.00000	G2	Forest Land	FeFe	50.90	Cross-Sectional Method
242	400NSinduramundiORS	3882	50.00	10.24	194100.00	2.50	485250.00000	G2	Forest Land	Fe	55.72	Cross-Sectional Method
243	400NSinduramundiSLO	478	50.00	7.80	23900.00	3.20	76480.00000	G2	Forest Land	Fe	56.63	Cross-Sectional Method

244	450NSindura mundiHLO	896	50.00	21.52	44800.00	3.50	156800.00000	G2	Forest LandForest Land	Fe	58.53	Cross-Sectional Method
245	450NSindura mundiORS	10553	50.00	16.21	527650.00	2.50	1319125.00000	G2	Forest Land	Fe	56.24	Cross-Sectional Method
246	450NSindura mundiPO	179	50.00	20.14	8950.00	3.20	28640.00000	G2	Forest Land	Fe	64.22	Cross-Sectional Method
247	450NSindura mundiSLO	1192	50.00	14.85	59600.00	3.20	190720.00000	G2	Forest Land	Fe	59.82	Cross-Sectional Method
248	500NSindura mundiHLO	315	50.00	13.70	15750.00	3.50	55125.00000	G2	Forest Land	Fe	58.81	Cross-Sectional Method
249	500NSindura mundiLIMO	1574	50.00	9.54	78700.00	2.50	196750.00000	G2	Forest Land	Fe	61.04	Cross-Sectional Method
250	500NSindura mundiORS	9221	50.00	19.58	461050.00	2.50	1152625.00000	G2	Forest Land	Fe	56.07	Cross-Sectional Method
251	500NSindura mundiPO	2216	50.00	17.59	110800.00	3.20	354560.00000	G2	Forest Land	Fe	62.41	Cross-Sectional Method
252	500NSindura mundiSLO	3836	50.00	12.60	191800.00	3.20	613760.00000	G2	Forest Land	Fe	61.63	Cross-Sectional Method
253	550NSindura mundiLIMO	804	50.00	16.80	40200.00	2.50	100500.00000	G2	Forest Land	Fe	59.38	Cross-Sectional MethodCross - Sectional Method
254	550NSindura mundiORS	6234	50.00	11.52	311700.00	2.50	779250.00000	G2	Forest LandForest Land	Fe	56.34	Cross-Sectional Method

255	550NSindura mundiPO	3390	50.00	16.57	169500.00	3.20	542400.00000	G2	Forest Land	Fe	63.41	Cross-Sectional Method
256	550NSindura mundiSLO	5035	50.00	23.80	251750.00	3.20	805600.00000	G2	Forest Land	Fe	61.14	Cross-Sectional Method
257	600NSindura mundiLIMO	736	50.00	11.60	36800.00	2.50	92000.00000	G2	Forest Land	Fe	58.78	Cross-Sectional Method
258	600NSindura mundiORS	6324	50.00	18.70	316200.00	2.50	790500.00000	G2	Forest Land	Fe	56.56	Cross-Sectional Method
259	600NSindura mundiPO	4435	50.00	12.60	221750.00	3.20	709600.00000	G2	Forest Land	Fe	60.24	Cross-Sectional Method
260	600NSindura mundiSLO	7250	50.00	9.80	362500.00	3.20	1160000.00000	G2	Forest Land	Fe	58.56	Cross-Sectional Method
261	650NSindura mundiLIMO	2440	50.00	16.80	122000.00	2.50	305000.00000	G2	Forest Land	Fe	58.64	Cross-Sectional Method
262	650NSindura mundiLIO	3711	50.00	11.48	185550.00	2.50	463875.00000	G2	Forest Land	Fe	56.12	Cross-Sectional Method
263	650NSindura mundiORS	5107	50.00	12.50	255350.00	2.50	638375.00000	G2	Forest Land	Fe	57.32	Cross-Sectional Method
264	650NSindura mundiPO	5860	50.00	11.24	293000.00	3.20	937600.00000	G2	Forest Land	Fe	60.76	Cross-Sectional Method
265	650NSindura mundiSLO	7515	50.00	10.80	375750.00	3.20	1202400.00000	G2	Forest Land	Fe	59.06	Cross-Sectional Method
266	700NSindura mundiLIMO	2055	50.00	17.80	102750.00	2.50	256875.00000	G2	Forest Land	Fe	60.5	Cross-Sectional

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267	700NSinduramundiLJO	1149	50.00	14.87	57450.00	2.50	143625.00000	G2	Forest Land	Fe	58.88	Cross-Sectional Method
268	700NSinduramundiORS	1263	50.00	13.58	63150.00	2.50	157875.00000	G2	Forest Land	Fe	57.69	Cross-Sectional Method
269	700NSinduramundiPO	1594	50.00	16.23	79700.00	3.20	255040.00000	G2	Forest Land	Fe	63.39	Cross-Sectional Method
270	700NSinduramundiSLO	1956	50.00	8.50	97800.00	3.20	312960.00000	G2	Forest Land	Fe	62.51	Cross-Sectional Method
271	750NSinduramundiPO	142	50.00	7.80	7100.00	3.20	22720.00000	G2	Forest Land	Fe	64.53	Cross-Sectional Method
272	750NSinduramundiSLO	200	50.00	24.[illegible]2	10000.00	3.20	32000.00000	G2	Forest Land	Fe	61.66	Cross-Sectional Method
273	350SSinduramundiORSMR	332	50.00	11.65	16600.00	2.50	41500.00000	G2	Forest Land	Fe	48.84	Cross-Sectional Method
274	300SSinduramundiLJOMR	1369	50.00	10.24	68450.00	2.50	171125.00000	G2	Forest Land	Fe	54.86	Cross-Sectional Method
275	400SSinduramundiORSMR	2507	50.00	7.80	125350.00	2.50	313375.00000	G2	Forest Land	Fe	49.51	Cross-Sectional Method
276	200SSinduramundiSLOMR	658	50.00	10.32	32900.00	3.20	105280.00000	G2	Forest Land	Fe	53.62	Cross-Sectional Method
277	150SSinduramundiORSMR	13525	50.00	16.21	676250.00	2.50	1690625.00000	G2	Forest Land	Fe	54.27	Cross-Sectional Method

278	100SSinduramundiLIOMR	5504	50.00	20.14	275200.00	2.50	688000.00000	G2	Forest Land	Fe	54.55	Cross Sectional Method
279	100SSinduramundiORSMR	23237	50.00	14.85	1161850.00	2.50	2904625.00000	G2	Forest Land	Fe	53.5	Cross-Sectional Method
280	50SSinduramundiLIMOMR	675	50.00	13.70	33750.00	2.50	84375.00000	G2	Forest Land	Fe	45.5	Cross-Sectional Method
281	50SSinduramundiLIOMR	9104	50.00	9.54	455200.00	2.50	1138000.00000	G2	Forest Land	Fe	54.59	Cross-Sectional Method
282	50SSinduramundiORSMR	19483	50.00	11.24	974150.00	2.50	2435375.00000	G2	Forest Land	Fe	53.89	Cross-Sectional Method
283	00nsSinduramundiLIMOMR	1090	50.00	11.08	54500.00	2.50	136250.00000	G2	Forest Land	Fe	46.62	Cross-Sectional Method
284	00nsSinduramundiLIOMR	11585	50.00	16.80	579250.00	2.50	1448125.00000	G2	Forest Land	Fe	52.98	Cross-Sectional Method
285	00nsSinduramundiORSMR	18732	50.00	11.52	936600.00	2.50	2341500.00000	G2	Forest Land	Fe	51.54	Cross-Sectional Method
286	50NSinduramundiHLOMR	850	50.00	16.50	42500.00	2.50	106250.00000	G2	Forest Land	Fe	51.81	Cross-Sectional Method
287	50NSinduramundiLIMOMR	1510	50.00	23.80	75500.00	2.50	188750.00000	G2	Forest Land	Fe	52.08	Cross-Sectional Method
288	50NSinduramundiLIOMR	7378	50.00	11.80	368900.00	2.50	922250.00000	G2	Forest Land	Fe	52.52	Cross-Sectional Method
289	50NSinduramundiORSM	12219	50.00	18.70	610950.00	2.50	1527375.00000	G2	Forest Land	Fe	51.69	Cross-Sectional

	R											Method
290	100NSinduramundiLLOMR	225	50.00	12.60	11250.00	3.50	39375.00000	G2	Forest Land	Fe	53.96	Cross-Sectional Method
291	100NSinduramundiLMOMR	559	50.00	21.04	27950.00	2.50	69875.00000	G2	Forest LandForest Land	Fe	51.68	Cross-Sectional Method
292	100NSinduramundiLIOMR	1207	50.00	15.62	60350.00	2.50	150875.00000	G2	Forest Land	Fe	52.53	Cross-Sectional Method
293	100NSinduramundiORSMR	3927	50.00	18.14	196350.00	2.50	490875.00000	G2	Forest Land	Fe	51.19	Cross-Sectional Method
294	150NSinduramundiLJOMR	47	50.00	24.32	2350.00	2.50	5875.00000	G2	Forest Land	Fe	49.94	Cross-Sectional Method
295	350NSinduramundiLJOMR	267	50.00	11.65	13350.00	2.50	33375.00000	G2	Forest Land	Fe	49.21	Cross-Sectional Method
296	400NSinduramundiLIOMR	488	50.00	10.24	24400.00	2.50	61000.00000	G2	Forest Land	Fe	54.65	Cross-Sectional Method
297	450NSinduramundiLIOMR	2646	50.00	7.80	132300.00	2.50	330750.00000	G2	Forest LandForest Land	Fe	52.35	Cross-Sectional Method
298	500NSinduramundiLIOMR	2954	50.00	10.52	147700.00	2.50	369250.00000	G2	Forest Land	Fe	53.39	Cross-Sectional Method
299	550NSinduramundiLIOMR	6760	50.00	16.21	338000.00	2.50	845000.00000	G2	Forest Land	Fe	54.62	Cross-Sectional Method
300	600NSinduramundiLIOMR	6201	50.00	6.50	310050.00	2.50	775125.00000	G2	Forest Land	Fe	54.21	Cross-Sectional Method

Total	59114424.00		176575437.50000	

2A.2.4.3: Mineral Resource Estimate for Conversion to Mineral Reserve

Mineral resources estimated purely based on level of exploration. For the calculation of ore reserve the following parameters have been considered. a) Shape, size and continuity of ore zone, as plotted in the Geological Plan and sections. b) The depth extension of ore zone is plotted precisely in all Geological sections both cross-section and Longitudinal sections for the calculation of resource separately. c) Based on the past experience and field observation data of mine working the resource have been estimated. d) The threshold value has been considered as per the IBM guidelines is 45% Fe. e) The Cutoff grade considered for estimation of resource/reserve is 45 % Fe. (f)Updated pit position as on 30.06.2024. (g)Borehole collar, survey, assay & litho data from exploration. (h)Pit exposures data & Ultimate Pit. (i) The influence of the ore body has been taken @50 mtrs on either side of the grid along the strike of the bore hole drilled. No extrapolation of the ore section has been done beyond 50mtrs. (j)The depth continuity of mineralization has been considered limited to the depth up to which direct evidence of mineralization is established. (k)The lateral extension has been considered for resource assessment depending on geological continuity by mapping and has not been more than 50 mtrs of the probe point. (l)Entire data has been transferred to create a geological database in an ore body modeling software namely 'SURPAC'. (m)Bulk density of individual ore types has been used as a tonnage conversion factor (TCF) in this document. The bulk density considered in this report has been taken from the exploration report of OMC & carried out by NABL accredited Laboratory. ((n) In total, deposit wise 50 nos. of cross sections have been prepared for estimations of resource.

2A.2.4.4: Threshold value & Cut off Parameters

i) The threshold value has been considered as per the IBM guidelines is 45% Fe. ii) The Cutoff grade considered for estimation of resource/reserve is 45 % Fe.

2A.2.4.5: Mining Factors or Assumptions

The Daitari Iron Ore Mines comes under Category-A (fully mechanized opencast category)as per the IBM guidelines with present EC capacity 6.00 MTPA Iron Ore. The deposit is being worked by mechanized opencast mining method engaging HEMM & deep hole blasting. The maximum bench height has been kept 10 mtr and width 15-20 mtr with average bench slope of 700-800. Drilling is carried out by 115-150 mm drill machine &controlled blasting is being carried out with use of NONEL to control ground vibration & optimization in blasting. After blasting, the blasted ROM is feed to crusher& screen AT OHP for further sizing to CLO (10-40mm) and fines (-10 mm). The output is sent to designated stock yard for further selling in domestic near by states.

2A.2.4.6: Metallurgical Factors or Assumptions

The mine is supposed to produce calibrated lump ore (+10 to -40mm) size fraction & fines ore (-10 mm) size fraction for its dispatch to different sponge Iron Plant /steel plants having Final Submitted on Fe % in the range of 145 %.

2A.2.4.7: Cost & Revenue Factors

The entire ore production including lumps and fines produced from Daitari Iron Ore Mines will be sold to iron ore consumers of Odisha and nearby states. To meet market demand with about +45 %. Fe the ore produced can be sold after processing i.e. sizing and sorting. To meet market demand with +45 %. % Fe, both Iron ore +55% Fe and Lateritic Ore of +45 to 55% Fe will be proposed to be blended suitable to make it saleable. The Cash Flow analysis, NPV and IRR projected for the 10 years has been shown in the above table. As NPV is positive and IRR is around 68%, so the project is an economic viable proposition.

2A.2.4.8: Market Assessment

The entire ore production including lumps and fines produced from Daitari iron Ore Mines will be sold to iron ore consumers of Odisha and nearby states. To meet market demand with about +45 %. Fe the ore produced can be sold after processing i.e. sizing and sorting. To meet market demand with +45 %. % Fe, both Iron ore +55% Fe and Lateritic Ore of +45 to 55% Fe will be proposed to be blended suitable to make it saleable. Market demand is there for both fines (<10 mm) and lump which are produced from the mines. If required the ore of Fe% 45 to 55 will be sold directly in market as per demand.

2A.2.4.9: Other Modifying Factors

Public acceptance: The mining project has been well accepted by the public have so far been provided by the lessee. Government factors: Lease deed for Daitari lease was executed on 27.01.1966 for a lease area of 1812.99 Ha for a period of 30 years. Copy of lease deed for Daitari lease is enclosed at annexure 6. Subsequently, application for 1st RML was made on 09.02.2006. Copy of Form D & Form J for 1st RML of Daitarilease is given at annexure 8. Application for 2nd RML was made on 14.11.2012. Copy of Form D & Form J for 2nd RML of Daitarilease is given at annexure 9. As per Rule 3 (2) of Mineral (Mining by Government Company) Rules, 2015, the lease is deemed to be valid till 29.11.2033. Application for extending the validity of lease has been made to Dy. Director of Mines, Govt. of Odisha vide letter no. 15800/OMC/GS/2017. Copy of the letter is enclosed at annexure 10. Copy of lease extension letter from state Govt. is enclosed as annexure 7. The Present Ec capacity of the mine is 6 MTPA. National Park: There is no National Park within 10 km radius of the ML area. Rights and Ownership: The entire area of 1018.3085 Ha. Daitari Iron Ore Mines in Village Talapada, under Harichandanpur Tahasil of Keonjhar district of Odisha state has been granted to OMC Ltd. The validity of lease period is upto 26/01/2036 . Infrastructure: Basic Infrastructure is available in the mine to facilitate the workings. They are mine office, work shop, garage, rest shelter, first aid station, fire fighting stations, site Stores, VT centre, Time office, canteen, laboratory, welfare centre, post office etc.

2A.2.4.10: Classification

i. Borehole spacing within 50x50 & 50m x 100m on a grid pattern has been considered as G1 category under 331 as per UNFC code and Borehole spacing more than 100m X 100m & less than 200m x 200m grid interval has been considered as G2 category under 332 as per UNFC code. ii. Geological mapping has been done in 1:2000 scale. iii. Detailed three-dimensional delineation of an ore body has been achieved though sampling, pit mapping etc. and relevant characteristics of the deposit are established with high degree of accuracy using software.

2A.2.4.11: Calculation of blocked resources

Sl.No.	Reserves blocked due to	Cross section/Block	Sectional area/ block area (in Sq mtr)	Influence (m)	Depth (m)	Volume (m^3)	Bulk Density (t/m^3)	Resource Quantity (t)	UNFC code	Type of Land	Name of the radical	Grade (%)	Method used for resource estimation
1	Ultimate Pit Limit	300SSindur amandiSLO	68.00	50.00	2.00	3400.00	3.20	10880.00000	221	Diverted Forst Land	Fe	62.23	Cross sectional area
2	Ultimate Pit Limit	150SSindur amandiORS	79.00	50.00	3.08	3950.00	2.50	9875.00000	221	Diverted Forst Land	Fe	58.18	Cross sectional area
3	Ultimate Pit Limit	100SSindur amandiORS	28.00	50.00	6.50	1400.00	2.50	3500.00000	221	Diverted Forst Land	Fe	55.86	Cross sectional area
4	Ultimate Pit Limit	50SSindura mandiLIMO	22.00	50.00	7.10	1100.00	2.50	2750.00000	221	Diverted Forst Land	Fe	56.28	Cross sectional area
5	Ultimate Pit Limit	00NSindura mandiLIMO	130.00	50.00	2.35	6500.00	2.50	16250.00000	221	Diverted Forst Land	Fe	55.7	Cross sectional area
6	Ultimate Pit Limit	150NSindur amandiLIO	33.00	50.00	1.58	1650.00	2.50	4125.00000	221	Diverted Forst Land	Fe	56.91	Cross sectional area
7	Ultimate Pit Limit	250NSindur amandiORS	186.00	50.00	3.74	9300.00	2.50	23250.00000	221	Diverted Forst Land	Fe	56.79	Cross sectional area
8	Ultimate Pit Limit	50NSindura mandiORSMR	11.00	50.00	6.24	550.00	2.50	1375.00000	221	Diverted Forst Land	Fe	51.31	Cross sectional area
9	Ultimate Pit Limit	200NSindur amandiLIMOMR	28.00	50.00	3.67	1400.00	2.50	3500.00000	221	Diverted Forst Land	Fe	52.22	Cross sectional area
10	Ultimate Pit Limit	200NSindur amandiORSMR	39.00	50.00	2.45	1950.00	2.50	4875.00000	221	Diverted Forst Land	Fe	57.35	Cross sectional area
11	Ultimate Pit	250SSindur	50.00	50.00	5.15	2500.00	2.50	6250.00000	222	Forest	Fe	59.56	Cross

	Limit	amundiLIM O											sectional area
12	Ultimate Pit Limit	200SSindur amundiHL O	104.00	50.00	3.27	5200.00	3.50	18200.00000	222	Forest	Fe	58	Cross sectional area
13	Ultimate Pit Limit	200SSindur amundiORS	121.00	50.00	3.70	6050.00	2.50	15125.00000	222	Forest	Fe	55.69	Cross sectional area
14	Ultimate Pit Limit	150SSindur amundiHL O	3.00	50.00	1.87	150.00	3.50	525.00000	222	Forest	Fe	56.48	Cross sectional area
15	Ultimate Pit Limit	100SSindur amundiHL O	58.00	50.00	2.72	2900.00	3.50	10150.00000	222	Forest	Fe	56.69	Cross sectional area
16	Ultimate Pit Limit	50SSindura mundiHLO	77.00	50.00	2.31	3850.00	3.50	13475.00000	222	Forest	Fe	55.58	Cross sectional area
17	Ultimate Pit Limit	50SSindura mundiSLO	53.00	50.00	2.45	2650.00	2.50	6625.00000	222	Forest	Fe	57.16	Cross sectional area
18	Ultimate Pit Limit	00nsSindura mundiHLO	63.00	50.00	1.96	3150.00	3.50	11025.00000	222	Forest	Fe	56.69	Cross sectional area
19	Ultimate Pit Limit	00nsSindura mundiSLO	39.00	50.00	1.59	1950.00	3.20	6240.00000	222	Forest	Fe	57.88	Cross sectional area
20	Ultimate Pit Limit	300NSindur amundiORS	12.00	50.00	3.96	600.00	2.50	1500.00000	222	Forest	Fe	56.08	Cross sectional area
21	Ultimate Pit Limit	450NSindur amundiORS	21.00	50.00	1.86	1050.00	2.50	2625.00000	222	Forest	Fe	56.24	Cross sectional area
22	Ultimate Pit Limit	500NSindur amundiORS	79.00	50.00	5.93	3950.00	2.50	9875.00000	222	Forest	Fe	56.07	Cross sectional area

23	Ultimate Pit Limit	500NSindur amundiPO	75.00	50.00	2.95	3750.00	3.20	12000.0000 0	222	Forest	Fe	62.41	Cross sectional area
24	Ultimate Pit Limit	550NSindur amundiPO	265.00	50.00	1.37	13250.00	3.20	42400.0000 0	222	Forest	Fe	63.41	Cross sectional area
25	Ultimate Pit Limit	550NSindur amundiSLO	306.00	50.00	4.30	15300.00	3.20	48960.0000 0	222	Forest	Fe	61.14	Cross sectional area
26	Ultimate Pit Limit	600NSindur amundiORS	97.00	50.00	4.02	4850.00	2.50	12125.0000 0	222	Forest	Fe	56.56	Cross sectional area
27	Ultimate Pit Limit	600NSindur amundiPO	25.00	50.00	1.36	1250.00	3.20	4000.00000	222	Forest	Fe	60.24	Cross sectional area
28	Ultimate Pit Limit	600NSindur amundiSLO	19.00	50.00	1.30	950.00	3.20	3040.00000	222	Forest	Fe	58.56	Cross sectional area
29	Ultimate Pit Limit	650NSindur amundiORS	484.00	50.00	2.92	24200.00	2.50	60500.0000 0	222	Forest	Fe	57.32	Cross sectional area
30	Ultimate Pit Limit	700NSindur amundiLIM O	201.00	50.00	4.15	10050.00	2.50	25125.0000 0	222	Forest	Fe	60.5	Cross sectional area
31	Ultimate Pit Limit	150SSindur amundiORS MR	175.00	50.00	1.53	8750.00	2.50	21875.0000 0	222	Forest	Fe	54.27	Cross sectional area
32	Ultimate Pit Limit	100SSindur amundiORS MR	211.00	50.00	2.20	10550.00	2.50	26375.0000 0	222	Forest	Fe	53.5	Cross sectional area
33	Ultimate Pit Limit	50SSindura mundiORS MR	81.00	50.00	1.67	4050.00	2.50	10125.0000 0	222	Forest	Fe	53.89	Cross sectional area
34	Ultimate Pit Limit	00nsSindura mundiORS	339.00	50.00	1.74	16950.00	2.50	42375.0000 0	222	Forest	Fe	51.54	Cross sectional

		MR											area
35	Ultimate Pit Limit	S0NSindura mundiHLO MR	86.00	50.00	3.96	4300.00	3.50	15050.00000	222	Forest	Fe	51.81	Cross sectional area
36	Ultimate Pit Limit	S0NSindura mundiORS MR	63.00	50.00	5.45	3150.00	2.50	7875.00000	222	Forest	Fe	51.69	Cross sectional area
37	Ultimate Pit Limit	100NSindur amundiHL OMR	102.00	50.00	2.35	5100.00	3.50	17850.00000	222	Forest	Fe	53.96	Cross sectional area
38	Ultimate Pit Limit	100NSindur amundiORS MR	81.00	50.00	2.56	4050.00	2.50	10125.00000	222	Forest	Fe	51.19	Cross sectional area
Total						195700.00		541795.00					

2A.2.4.12: Calulation of Reserves - I

Sl.No.	Cross section/Block	Sectional area/ block area (in Sq mtr)	Influence (m)	Depth (m)	Volume (m^3)	Bulk Density (t/m^3)	Resource Quantity (t)	UNFC code	Type of Land	Name of the radical	Grade (%)	Method used for resource estimation
1	100N/Hilltop /HMO	676	50.00	21.04	33800.00	3.50	118300.00	121	Diverted Forest land	Fe	64.42	Cross Sectional area Method
2	100N/Hilltop /goethite	844	50.00	15.62	42200.00	2.50	105500.00	121	Diverted Forest land	Fe	55.57	Cross Sectional area Method
3	100N/Hilltop /hlo	4425	50.00	18.14	221250.00	3.50	774375.00	121	Diverted Forest land	Fe	63.55	Cross Sectional area Method
4	100N/Hilltop /ors	5171	50.00	24.32	258550.00	2.50	646375.00	121	Diverted Forest land	Fe	57.1	Cross Sectional area Method
5	100N/Hilltop	5018	50.00	11.65	250900.00	3.20	802880.00	121	Diverted	Fe	63.45	Cross

	/slo								Forest land			Sectional area Method
6	50N/Hilltop/HMO	2059	50.00	10.24	102950.00	3.50	360325.00	121	Diverted Forest land	Fe	64.65	Cross Sectional area Method
7	50N/Hilltop/goethite	210	50.00	7.80	10500.00	2.50	26250.00	121	Diverted Forest land	Fe	61.99	Cross Sectional area Method
8	50N/Hilltop/hlo	794	50.00	10.52	39700.00	3.50	138950.00	121	Diverted Forest land	Fe	58.79	Cross Sectional area Method
9	50N/Hilltop/limo	3106	50.00	16.21	155300.00	2.50	388250.00	121	Diverted Forest land	Fe	55.42	Cross Sectional area Method
10	50N/Hilltop/slo	15361	50.00	20.14	768150.00	3.20	2458080.00	121	Diverted Forest land	Fe	61.22	Cross Sectional area Method
11	0/0/hilltop/goethite	1689	50.00	14.85	84450.00	2.50	211125.00	121	Diverted Forest land	Fe	61.98	Cross Sectional area Method
12	0/0/Hilltop/hlo	5299	50.00	13.70	264950.00	3.50	927325.00	121	Diverted Forest land	Fe	62.68	Cross Sectional area Method
13	0/Hilltop/hlo	1546	50.00	9.54	77300.00	2.50	193250.00	121	Diverted Forest land	Fe	58.8	Cross Sectional area Method
14	0/Hilltop/slo	8823	50.00	13.24	441150.00	3.20	1411680.00	121	Diverted Forest land	Fe	61.97	Cross Sectional area Method
15	50S/HRHop/HMO	880	50.00	11.08	44000.00	3.50	154000.00	121	Diverted Forest land	Fe	61.78	Cross Sectional area Method
16	50S/Hilltop/goethite	8003	50.00	12.60	400150.00	2.50	1000375.00	121	Diverted Forest land	Fe	58.2	Cross Sectional area Method

17	50S/Hilltop/hlo	9722	50.00	16.80	486100.00	3.50	1701350.00	121	Diveted Forest land	Fe	63.26	Cross Sectional area Method
18	50S/Hilltop/lmo	8111	50.00	11.52	405550.00	2.50	1013875.00	121	Diveted Forest land	Fe	55.94	Cross Sectional area Method
19	50S/Hilltop/lio	293	50.00	6.50	14650.00	2.50	36625.00	121	Diveted Forest land	Fe	58.96	Cross Sectional area Method
20	50S/Hilltop/slo	24249	50.00	23.80	1212450.00	3.20	3879840.00	121	Diveted Forest land	Fe	63.33	Cross Sectional area Method
21	100S/Hilltop/HMO	6216	50.00	11.60	310800.00	3.50	1087800.00	121	Diveted Forest land	Fe	59.36	Cross Sectional area Method
22	100S/Hilltop/goethite	4395	50.00	8.70	219750.00	2.50	549375.00	121	Diveted Forest land	Fe	55.58	Cross Sectional area Method
23	100S/Hilltop/hlo	2082	50.00	12.60	104100.00	3.50	364350.00	121	Diveted Forest land	Fe	62.74	Cross Sectional area Method
24	100S/Hilltop/lmo	5210	50.00	9.80	260500.00	2.50	651250.00	121	Diveted Forest land	Fe	57.06	Cross Sectional area Method
25	100S/Hilltop/lio	0	50.00	0.00	0.00	2.50	0.00	121	Diveted Forest land	Fe	0	Cross Sectional area Method
26	100S/Hilltop/ors	0	50.00	0.00	0.00	2.50	0.00	121	Diveted Forest land	Fe	0	Cross Sectional area Method
27	100S/Hilltop/slo	34144	50.00	12.50	1707200.00	3.20	5463040.00	121	Diveted Forest land	Fe	62.47	Cross Sectional area Method
28	150S/Hilltop/HMO	1923	50.00	11.24	96150.00	3.50	336525.00	121	Diveted Forest land	Fe	57.54	Cross Sectional

												area Method
29	150S/Hilltop /goethite	1137	50.00	10.80	56850.00	2.50	142125.00	121	Diverted Forest land	Fe	62.09	Cross Sectional area Method
30	150S/Hilltop /hlo	439	50.00	7.80	21950.00	3.50	76825.00	121	Diverted Forest land	Fe	63.23	Cross Sectional area Method
31	150S/Hilltop /limo	8190	50.00	14.87	409500.00	2.50	1023750.00	121	Diverted Forest land	Fe	60.24	Cross Sectional area Method
32	150S/Hilltop /lio	0	50.00	0.00	0.00	2.50	0.00	121	Diverted Forest land	Fe	0	Cross Sectional area Method
33	150S/Hilltop /slo	40909	50.00	16.23	2045450.00	3.20	6545440.00	121	Diverted Forest land	Fe	64.31	Cross Sectional area Method
34	200S/Hilltop /LIMO	3201	50.00	8.50	160050.00	3.50	560175.00	121	Diverted Forest land	Fe	63.19	Cross Sectional area Method
35	200S/Hilltop /goethite	961	50.00	7.80	48050.00	2.50	120125.00	121	Diverted Forest land	Fe	62.74	Cross Sectional area Method
36	200S/Hilltop /hlo	6737	50.00	24.32	336850.00	3.50	1178975.00	121	Diverted Forest land	Fe	63.36	Cross Sectional area Method
37	200S/Hilltop /limo	2279	50.00	11.65	113950.00	2.50	284875.00	121	Diverted Forest land	Fe	60.58	Cross Sectional area Method
38	200S/Hilltop /lio	133	50.00	10.24	6650.00	2.50	16625.00	121	Diverted Forest land	Fe	55.87	Cross Sectional area Method
39	200S/Hilltop /slo	32718	50.00	7.80	1635900.00	3.20	5234880.00	121	Diverted Forest land	Fe	64.57	Cross Sectional area Method

40	250S/Hilltop /HMO	3547	50.00	10.52	177350.00	3.50	620725.00	121	Diverted Forest land	Fe	64.57	Cross Sectional area Method
41	250S/Hilltop /geothite	1181	50.00	16.21	59050.00	2.50	147625.00	121	Diverted Forest land	Fe	61.04	Cross Sectional area Method
42	250S/Hilltop /blo	677	50.00	20.14	33850.00	3.50	118475.00	121	Diverted Forest land	Fe	64.21	Cross Sectional area Method
43	250S/Hilltop /limo	713	50.00	14.85	35650.00	2.50	89125.00	121	Diverted Forest land	Fe	55.31	Cross Sectional area Method
44	250S/Hilltop /slo	26845	50.00	13.70	1342250.00	3.20	4295200.00	121	Diverted Forest land	Fe	63.04	Cross Sectional area Method
45	300S/Hilltop /blo	544	50.00	9.54	27200.00	3.50	95200.00	121	Diverted Forest land	Fe	62.88	Cross Sectional area Method
46	300S/Hilltop /lio	453	50.00	11.24	22650.00	2.50	56625.00	121	Diverted Forest land	Fe	55.11	Cross Sectional area Method
47	300S/Hilltop /slo	27850	50.00	11.08	1392500.00	3.20	4456000.00	121	Diverted Forest land	Fe	63.65	Cross Sectional area Method
48	350S/Hilltop /HMO	7088	50.00	16.80	354400.00	3.50	1240400.00	121	Diverted Forest land	Fe	62.68	Cross Sectional area Method
49	350S/Hilltop /blo	1250	50.00	11.52	62500.00	3.50	218750.00	121	Diverted Forest land	Fe	57.3	Cross Sectional area Method
50	350S/Hilltop /limo	4070	50.00	6.50	203500.00	2.50	508750.00	121	Diverted Forest land	Fe	59.12	Cross Sectional area Method
51	350S/Hilltop /lio	1022	50.00	23.80	51100.00	2.50	127750.00	121	Diverted Forest land	Fe	61.47	Cross Sectional

												area Method
52	350S/Hilltop /slo	27197	50.00	11.60	1359850.00	3.20	4351520.00	121	Diverted Forest land	Fe	64.03	Cross Sectional area Method
53	400S/Hilltop /HMO	3838	50.00	8.70	191900.00	3.50	671650.00	121	Diverted Forest land	Fe	61.11	Cross Sectional area Method
54	400S/Hilltop /ldo	361	50.00	12.60	18050.00	3.50	63175.00	121	Diverted Forest land	Fe	62.6	Cross Sectional area Method
55	400S/Hilltop /limo	1353	50.00	21.04	67650.00	2.50	169125.00	121	Diverted Forest land	Fe	58.17	Cross Sectional area Method
56	400S/Hilltop /slo	29815	50.00	15.62	1490750.00	3.20	4770400.00	121	Diverted Forest land	Fe	64.41	Cross Sectional area Method
57	450S/Hilltop /HMO	2777	50.00	18.14	138850.00	3.50	485975.00	121	Diverted Forest land	Fe	63.08	Cross Sectional area Method
58	450S/Hilltop /goethite	1170	50.00	24.32	58500.00	2.50	146250.00	121	Diverted Forest land	Fe	64.54	Cross Sectional area Method
59	450S/Hilltop /ldo	486	50.00	11.65	24300.00	3.50	85050.00	121	Diverted Forest land	Fe	63.57	Cross Sectional area Method
60	450S/Hilltop /limo	2267	50.00	10.24	113350.00	2.50	283375.00	121	Diverted Forest land	Fe	59.9	Cross Sectional area Method
61	450S/Hilltop /lio	1898	50.00	7.80	94900.00	2.50	237250.00	121	Diverted Forest land	Fe	55.73	Cross Sectional area Method
62	450S/Hilltop /slo	19133	50.00	10.52	956650.00	3.50	3348275.00	121	Diverted Forest land	Fe	65.64	Cross Sectional area Method

63	500S/Hilltop /HMO	39	50.00	16.21	1950.00	3.50	6825.00	121	Diverted Forest land	Fe	61.23	Cross Sectional area Method
64	500S/Hilltop /goethite	2117	50.00	20.14	105850.00	2.50	264625.00	121	Diverted Forest land	Fe	59.82	Cross Sectional area Method
65	500S/Hilltop /hlo	6768	50.00	14.85	338400.00	3.50	1184400.00	121	Diverted Forest land	Fe	63.94	Cross Sectional area Method
66	500S/Hilltop /lio	65	50.00	13.70	3250.00	2.50	8125.00	121	Diverted Forest land	Fe	55.97	Cross Sectional area Method
67	500S/Hilltop /slo	16000	50.00	24.32	800000.00	3.20	2560000.00	121	Diverted Forest land	Fe	64.11	Cross Sectional area Method
68	550S/Hilltop /goethite	762	50.00	11.65	38100.00	2.50	95250.00	121	Diverted Forest land	Fe	61.13	Cross Sectional area Method
69	550S/Hilltop /hlo	5284	50.00	10.74	264200.00	3.50	924700.00	121	Diverted Forest land	Fe	62.55	Cross Sectional area Method
70	550S/Hilltop /lime	119	50.00	7.80	5950.00	2.50	14875.00	121	Diverted Forest land	Fe	59.25	Cross Sectional area Method
71	550S/Hilltop /lio	120	50.00	10.52	6000.00	2.50	15000.00	121	Diverted Forest land	Fe	58.91	Cross Sectional area Method
72	550S/Hilltop /slo	755	50.00	16.21	37750.00	3.20	120800.00	121	Diverted Forest land	Fe	66.09	Cross Sectional area Method
73	600S/Hilltop /HMO	64	50.00	20.14	3200.00	3.50	11200.00	121	Diverted Forest land	Fe	62.6	Cross Sectional area Method
74	600S/Hilltop /goethite	4451	50.00	14.85	222550.00	2.50	556375.00	121	Diverted Forest land	Fe	61.88	Cross Sectional

												area Method
75	600S/Hilltop /hlo	1825	50.00	13.70	91250.00	3.50	319375.00	121	Diveted Forest land	Fe	64.33	Cross Sectional area Method
76	600S/Hilltop /limo	128	50.00	9.54	6400.00	2.50	16000.00	121	Diveted Forest land	Fe	59.6	Cross Sectional area Method
77	600S/Hilltop /slo	11386	50.00	11.24	569300.00	3.20	1821760.00	121	Diveted Forest land	Fe	65.03	Cross Sectional area Method
78	650S/Hilltop /HMO	1119	50.00	11.08	55950.00	3.50	195825.00	121	Diveted Forest land	Fe	63.43	Cross Sectional area Method
79	650S/Hilltop /goethite	661	50.00	12.60	33050.00	2.50	82625.00	121	Diveted Forest land	Fe	63.81	Cross Sectional area Method
80	650S/Hilltop /hlo	123	50.00	16.80	6150.00	3.50	21525.00	121	Diveted Forest land	Fe	63.21	Cross Sectional area Method
81	650S/Hilltop /limo	2476	50.00	11.52	123800.00	2.50	309500.00	121	Diveted Forest land	Fe	60.05	Cross Sectional area Method
82	650S/Hilltop /lio	21	50.00	6.50	1050.00	2.50	2625.00	121	Diveted Forest land	Fe	61.35	Cross Sectional area Method
83	650S/Hilltop /slo	9939	50.00	23.80	496950.00	3.20	1590240.00	121	Diveted Forest land	Fe	65.31	Cross Sectional area Method
84	700S/Hilltop /hlo	1167	50.00	11.60	58350.00	3.50	204225.00	121	Diveted Forest land	Fe	61.59	Cross Sectional area Method
85	700S/Hilltop /limo	1015	50.00	8.70	50750.00	2.50	126875.00	121	Diveted Forest land	Fe	59.73	Cross Sectional area Method

86	700S/Hilltop /lio	238	50.00	12.60	11900.00	2.50	29750.00	121	Diveted Forest land	Fe	61.44	Cross Sectional area Method
87	700S/Hilltop /slo	9399	50.00	9.80	469950.00	3.20	1503840.00	121	Diveted Forest land	Fe	64.63	Cross Sectional area Method
88	750S/Hilltop /goethite	1953	50.00	17.65	97650.00	2.50	244125.00	121	Diveted Forest land	Fe	60.35	Cross Sectional area Method
89	750S/Hilltop /hlo	2194	50.00	11.76	109700.00	3.50	383950.00	121	Diveted Forest land	Fe	63.58	Cross Sectional area Method
90	750S/Hilltop /lio	0	50.00	0.00	0.00	2.50	0.00	121	Diveted Forest land	Fe	0	Cross Sectional area Method
91	750S/Hilltop /slo	18844	50.00	11.24	942200.00	3.20	3015040.00	121	Diveted Forest land	Fe	63.27	Cross Sectional area Method
92	800S/Hilltop /HMO	1122	50.00	10.80	56100.00	3.50	196350.00	121	Diveted Forest land	Fe	61.82	Cross Sectional area Method
93	800S/Hilltop /goethite	134	50.00	7.80	6700.00	2.50	16750.00	121	Diveted Forest land	Fe	59.95	Cross Sectional area Method
94	800S/Hilltop /hlo	1095	50.00	14.87	54750.00	3.50	191625.00	121	Diveted Forest land	Fe	66	Cross Sectional area Method
95	800S/Hilltop /limo	2722	50.00	12.65	136100.00	2.50	340250.00	121	Diveted Forest land	Fe	58.99	Cross Sectional area Method
96	800S/Hilltop /lio	122	50.00	16.23	6100.00	2.50	15250.00	121	Diveted Forest land	Fe	56.99	Cross Sectional area Method
97	800S/Hilltop /lom	150	50.00	8.50	7500.00	2.50	18750.00	121	Diveted Forest land	Fe	59.8	Cross Sectional

												area Method
98	800S/Hilltop /slo	17247	50.00	7.80	862350.00	3.20	2759520.00	121	Diverted Forest land	Fe	63.73	Cross Sectional area Method
99	850S/Hilltop /goethite	1280	50.00	24.32	64000.00	2.50	160000.00	121	Diverted Forest land	Fe	61.12	Cross Sectional area Method
100	850S/Hilltop /limo	1609	50.00	11.65	80450.00	2.50	201125.00	121	Diverted Forest land	Fe	61.12	Cross Sectional area Method
101	850S/Hilltop /lio	1041	50.00	10.24	52050.00	2.50	130125.00	121	Diverted Forest landDiverted Forest land	Fe	57.01	Cross Sectional area Method
102	850S/Hilltop /ors	2499	50.00	7.80	124950.00	2.50	312375.00	121	Diverted Forest land	Fe	60.19	Cross Sectional area Method
103	850S/Hilltop /slo	21571	50.00	10.52	1078550.00	3.20	3451360.00	121	Diverted Forest land	Fe	64.35	Cross Sectional area Method
104	900S/Hilltop /HMO	5245	50.00	16.21	262250.00	3.50	917875.00	121	Diverted Forest land	Fe	62.64	Cross Sectional area Method
105	900S/Hilltop /goethite	1573	50.00	20.14	78650.00	2.50	196625.00	121	Diverted Forest land	Fe	60.43	Cross Sectional area Method
106	900S/Hilltop /lio	676	50.00	14.85	33800.00	2.50	84500.00	121	Diverted Forest land	Fe	57.81	Cross Sectional area Method
107	900S/Hilltop /slo	25345	50.00	13.70	1267250.00	3.20	4055200.00	121	Diverted Forest land	Fe	65.09	Cross Sectional area Method
108	950S/Hilltop /HMO	143	50.00	9.54	7150.00	3.50	25025.00	121	Diverted Forest land	Fe	62.94	Cross Sectional area Method

109	950S/Hilltop /goethite	1096	50.00	11.24	54800.00	2.50	137000.00	121	Diverted Forest land	Fe	61.92	Cross Sectional area Method
110	950S/Hilltop /hlo	27	50.00	11.08	1350.00	3.50	4725.00	121	Diverted Forest land	Fe	62.76	Cross Sectional area Method
111	950S/Hilltop /limo	871	50.00	16.80	43550.00	2.50	108875.00	121	Diverted Forest land	Fe	56.56	Cross Sectional area Method
112	950S/Hilltop /lio	896	50.00	11.52	44800.00	2.50	112000.00	121	Diverted Forest land	Fe	59.1	Cross Sectional area Method
113	950S/Hilltop /slo	19541	50.00	6.50	977050.00	3.50	3419675.00	121	Diverted Forest land	Fe	63.22	Cross Sectional area Method
114	1000S/Hillto p/LIMO	1316	50.00	23.80	65800.00	3.50	230300.00	121	Diverted Forest land	Fe	62.68	Cross Sectional area Method
115	1000S/Hillto p/goethite	558	50.00	11.60	27900.00	2.50	69750.00	121	Diverted Forest land	Fe	59.95	Cross Sectional area Method
116	1000S/Hillto p/hlo	878	50.00	8.70	43900.00	3.50	153650.00	121	Diverted Forest land	Fe	62.75	Cross Sectional area Method
117	1000S/Hillto p/limo	695	50.00	12.60	34750.00	2.50	86875.00	121	Diverted Forest land	Fe	61	Cross Sectional area Method
118	1000S/Hillto p/slo	24244	50.00	21.04	1212200.00	3.20	3879040.00	121	Diverted Forest land	Fe	62.26	Cross Sectional area Method
119	1050S/Hillto p/goethite	2327	50.00	15.62	116350.00	2.50	290875.00	121	Diverted Forest land	Fe	63.16	Cross Sectional area Method
120	1050S/Hillto p/hlo	5820	50.00	18.14	291000.00	3.50	1018500.00	121	Diverted Forest land	Fe	62.33	Cross Sectional

												area Method
121	1050S/Hillto p/limo	3336	50.00	24.32	166800.00	2.50	417000.00	121	Diverted Forest land	Fe	60.25	Cross Sectional area Method
122	1050S/Hillto p/lio	596	50.00	11.65	29800.00	2.50	74500.00	121	Diverted Forest land	Fe	59.58	Cross Sectional area Method
123	1050S/Hillto p/slo	9993	50.00	10.24	499650.00	3.50	1748775.00	121	Diverted Forest land	Fe	62.39	Cross Sectional area Method
124	1100S/Hillto p/HMO	761	50.00	7.80	38050.00	3.50	133175.00	121	Diverted Forest land	Fe	64.46	Cross Sectional area Method
125	1100S/Hillto p/goethite	2925	50.00	10.52	146250.00	2.50	365625.00	121	Diverted Forest land	Fe	63.64	Cross Sectional area Method
126	1100S/Hillto p/hlo	232	50.00	16.21	11600.00	3.50	40600.00	121	Diverted Forest land	Fe	62.92	Cross Sectional area Method
127	1100S/Hillto p/limo	1534	50.00	20.14	76700.00	2.50	191750.00	121	Diverted Forest land	Fe	55.54	Cross Sectional area Method
128	1100S/Hillto p/lio	1377	50.00	14.85	68850.00	2.50	172125.00	121	Diverted Forest land	Fe	58.17	Cross Sectional area Method
129	1100S/Hillto p/slo	13973	50.00	13.70	698650.00	3.20	2235680.00	121	Diverted Forest land	Fe	64.51	Cross Sectional area Method
130	1150S/Hillto p/goethite	1938	50.00	16.23	96900.00	2.50	242250.00	121	Diverted Forest land	Fe	62.27	Cross Sectional area Method
131	1150S/Hillto p/hlo	1254	50.00	8.50	62700.00	3.50	219450.00	121	Diverted Forest land	Fe	64.71	Cross Sectional area Method

132	1150S/Hillto p/limo	3777	50.00	7.80	188850.00	2.50	472125.00	121	Diverted Forest land	Fe	58.57	Cross Sectional area Method
133	1150S/Hillto p/lio	1275	50.00	24.32	63750.00	2.50	159375.00	121	Diverted Forest land	Fe	58.37	Cross Sectional area Method
134	1150S/Hillto p/slo	5226	50.00	11.65	261300.00	3.20	836160.00	121	Diverted Forest land	Fe	62.65	Cross Sectional area Method
135	1200S/Hillto p/goethite	2684	50.00	10.24	134200.00	2.50	335500.00	121	Diverted Forest land	Fe	57.58	Cross Sectional area Method
136	1200S/Hillto p/limo	2787	50.00	7.80	139350.00	2.50	348375.00	121	Diverted Forest land	Fe	58.26	Cross Sectional area Method
137	1200S/Hillto p/lio	1709	50.00	10.52	85450.00	2.50	213625.00	121	Diverted Forest land	Fe	62.34	Cross Sectional area Method
138	1200S/Hillto p/slo	1074	50.00	16.21	53700.00	3.20	171840.00	121	Diverted Forest land	Fe	60.73	Cross Sectional area Method
139	1250S/Hillto p/HMO	108	50.00	20.14	5400.00	3.50	18900.00	121	Diverted Forest land	Fe	58.53	Cross Sectional area Method
140	1250S/Hillto p/goethite	105	50.00	14.85	5250.00	2.50	13125.00	121	Diverted Forest land	Fe	59.08	Cross Sectional area Method
141	1250S/Hillto p/limo	4285	50.00	13.70	214250.00	2.50	535625.00	121	Diverted Forest land	Fe	56.68	Cross Sectional area Method
142	1250S/Hillto p/lio	1626	50.00	9.54	81300.00	2.50	203250.00	121	Diverted Forest land	Fe	62.33	Cross Sectional area Method
143	1300S/Hillto p/HMO	2095	75.00	11.24	157125.00	3.50	549937.50	121	Diverted Forest land	Fe	57.2	Cross Sectional

												area Method
144	1300S/Hillto p/slo	9817	75.00	11.08	736275.00	3.20	2356080.00	121	Diverted Forest land	Fe	64.34	Cross Sectional area Method
145	1400S/Hillto p/lio	1006	100.00	16.80	100600.00	2.50	251500.00	121	Diverted Forest land	Fe	54.97	Cross Sectional area Method
146	1400S/Hillto p/slo	3837	100.00	11.52	383700.00	3.20	1227840.00	121	Diverted Forest land	Fe	49.19	Cross Sectional area Method
147	100N/Hilltop /limo	2812	50.00	6.50	140600.00	2.50	351500.00	121	Diverted Forest land	Fe	49.82	Cross Sectional area Method
148	100N/Hilltop /lio	1901	50.00	23.80	95050.00	2.50	237625.00	121	Diverted Forest land	Fe	54.91	Cross Sectional area Method
149	50N/Hilltop/l io	3585	50.00	11.60	179250.00	2.50	448125.00	121	Diverted Forest land	Fe	54.85	Cross Sectional area Method
150	0/Hilltop/lim o	7319.48	50.00	8.70	365974.00	2.50	914935.00	121	Diverted Forest land	Fe	54.13	Cross Sectional area Method
151	50S/Hilltop/ ors	137	50.00	12.60	6850.00	2.50	17125.00	121	Diverted Forest land	Fe	48.67	Cross Sectional area Method
152	150S/Hilltop /ors	932	50.00	21.04	46600.00	2.50	116500.00	121	Diverted Forest land	Fe	53.57	Cross Sectional area Method
153	200S/Hilltop /ors	496	50.00	15.62	24800.00	2.50	62000.00	121	Diverted Forest land	Fe	53.83	Cross Sectional area Method
154	300S/Hilltop /limo	1321	50.00	18.14	66050.00	2.50	165125.00	121	Diverted Forest land	Fe	52.97	Cross Sectional area Method

155	500S/Hilltop /limo	2268	50.00	24.32	113400.00	2.50	283500.00	121	Diverted Forest land	Fe	43.99	Cross Sectional area Method
156	500S/Hilltop /ors	182	50.00	11.65	9100.00	2.50	22750.00	121	Diverted Forest land	Fe	49.08	Cross Sectional area Method
157	550S/Hilltop /ors	229	50.00	10.24	11450.00	2.50	28625.00	121	Diverted Forest land	Fe	46.66	Cross Sectional area Method
158	750S/Hilltop /limo	932	50.00	7.80	46600.00	2.50	116500.00	121	Diverted Forest land	Fe	46.78	Cross Sectional area Method
159	900S/Hilltop /limo	4182	50.00	10.52	209100.00	2.50	522750.00	121	Diverted Forest land	Fe	49.93	Cross Sectional area Method
160	1100S/Hillto p/ors	48	50.00	11.65	2400.00	2.50	6000.00	121	Diverted Forest land	Fe	46.46	Cross Sectional area Method
161	1150S/Hillto p/ors	1467	50.00	10.24	73350.00	2.50	183375.00	121	Diverted Forest land	Fe	49.36	Cross Sectional area Method
162	1200S/Hillto p/ors	771	50.00	7.80	38550.00	2.50	96375.00	121	Diverted Forest land	Fe	64.42	Cross Sectional area Method
163	1250S/Hillto p/ors	549	50.00	10.52	27450.00	2.50	68625.00	121	Diverted Forest land	Fe	63.45	Cross Sectional area Method
164	1250S/Hillto p/lio	5235	50.00	16.21	261750.00	3.20	837600.00	121	Diverted Forest land	Fe	64.65	Cross Sectional area Method
165	1300S/Hillto p/ors	2036	75.00	20.14	152700.00	2.50	381750.00	121	Diverted Forest land	Fe	55.42	Cross Sectional area Method
166	300S/Sindur amandi/LIO	242	50.00	14.85	12100.00	2.50	30250.00	121	Diverted Forest land	Fe	61.22	Cross Sectional

												area Method
167	300S/Sindur amundi/SLO	2666	50.00	13.70	133300.00	3.20	426560.00	121	Diverted Forest land	Fe	61.98	Cross Sectional area Method
168	250S/Sindur amundi/LIO	1474	50.00	9.54	73700.00	2.50	184250.00	121	Diverted Forest land	Fe	62.66	Cross Sectional area Method
169	250S/Sindur amundi/ORS	591	50.00	11.24	29550.00	2.50	73875.00	121	Diverted Forest land	Fe	61.97	Cross Sectional area Method
170	200S/Sindur amundi/LIM O	118	50.00	11.08	5900.00	2.50	14750.00	121	Diverted Forest land	Fe	61.78	Cross Sectional area Method
171	200S/Sindur amundi/LIO	1181	50.00	12.60	59050.00	2.50	147625.00	121	Diverted Forest land	Fe	58.2	Cross Sectional area Method
172	200S/Sindur amundi/ORS	2363	50.00	16.80	118150.00	2.50	295375.00	121	Diverted Forest land	Fe	63.26	Cross Sectional area Method
173	200S/Sindur amundi/SLO	118	50.00	11.52	5900.00	3.20	18880.00	121	Diverted Forest land	Fe	55.94	Cross Sectional area Method
174	150S/Sindur amundi/HLO	315	50.00	6.30	15750.00	3.50	55125.00	121	Diverted Forest land	Fe	63.33	Cross Sectional area Method
175	150S/Sindur amundi/LIM O	197	50.00	23.80	9850.00	2.50	24625.00	121	Diverted Forest land	Fe	59.16	Cross Sectional area Method
176	150S/Sindur amundi/LIO	585	50.00	11.60	29250.00	2.50	73125.00	121	Diverted Forest land	Fe	62.74	Cross Sectional area Method
177	150S/Sindur amundi/ORS	2897	50.00	8.70	144850.00	2.50	362125.00	121	Diverted Forest land	Fe	57.06	Cross Sectional area Method

178	150S/Sindur amundi/SLO	906	50.00	12.60	45300.00	3.20	144960.00	121	Diveted Forest land	Fe	55.35	Cross Sectional area Method
179	100S/Sindur amundi/HLO	1418	50.00	9.80	70900.00	3.50	248150.00	121	Diveted Forest land	Fe	62.47	Cross Sectional area Method
180	100S/Sindur amundi/LIM O	709	50.00	5.80	35450.00	2.50	88625.00	121	Diveted Forest land	Fe	57.54	Cross Sectional area Method
181	100S/Sindur amundi/LIO	388	50.00	7.60	19400.00	2.50	48500.00	121	Diveted Forest land	Fe	60.64	Cross Sectional area Method
182	100S/Sindur amundi/ORS	1783	50.00	12.50	89150.00	2.50	222875.00	121	Diveted Forest landDiveted Forest landDiveted Forest landDiveted Forest landDiveted Forest landDivet	Fe	64.31	Cross Sectional area Method
183	100S/Sindur amundi/SLO	512	50.00	11.24	25600.00	3.20	81920.00	121	Diveted Forest land	Fe	63.19	Cross Sectional area Method
184	50S/Sindura mundi/LIM O	1671	50.00	10.80	83550.00	2.50	208875.00	121	Diveted Forest land	Fe	63.36	Cross Sectional area Method
185	50S/Sindura mundi/SLO	118	50.00	7.80	5900.00	3.20	18880.00	121	Diveted Forest land	Fe	60.58	Cross Sectional area Method
186	00N/Sindura mundi/LIM O	3808	50.00	14.87	190400.00	2.50	476000.00	121	Diveted Forest land	Fe	64.57	Cross Sectional area Method
187	100N/Sindur	433	50.00	12.60	21650.00	3.50	75775.00	121	Diveted	Fe	55.7	Cross

	amundi/HLO								Forest land			Sectional area Method
188	100N/Sindur amundi/SLO	338	50.00	16.23	16900.00	3.20	54080.00	121	Diverted Forest land	Fe	55.31	Cross Sectional area Method
189	150N/Sindur amundi/HLO	79	50.00	8.50	3950.00	3.50	13825.00	121	Diverted Forest land	Fe	63.04	Cross Sectional area Method
190	150N/Sindur amundi/LIO	968	50.00	8.50	48400.00	2.50	121000.00	121	Diverted Forest land	Fe	63.65	Cross Sectional area Method
191	250N/Sindur amundi/ORS	0	0.00	24.32	0.00	0.00	0.00	121	Diverted Forest land	Fe	0	Cross Sectional area Method
192	300S/Sindur amundi/ORS	405	50.00	11.65	20250.00	2.50	50625.00	121	Diverted Forest land	Fe	57.3	Cross Sectional area Method
193	50S/Sindura mundi/HLO	512	50.00	10.24	25600.00	3.50	89600.00	121	Diverted Forest land	Fe	59.12	Cross Sectional area Method
194	50S/Sindura mundi/LIO	551	50.00	7.80	27550.00	2.50	68875.00	121	Diverted Forest land	Fe	61.47	Cross Sectional area Method
195	50S/Sindura mundi/ORS	748	50.00	10.52	37400.00	2.50	93500.00	121	Diverted Forest land	Fe	64.03	Cross Sectional area Method
196	00N/Sindura mundi/HLO	354	50.00	16.21	17700.00	3.50	61950.00	121	Diverted Forest land	Fe	60.62	Cross Sectional area Method
197	00N/Sindura mundi/LIO	2182	50.00	20.14	109100.00	3.50	381850.00	121	Diverted Forest land	Fe	64.41	Cross Sectional area Method
198	00N/Sindura mundi/ORS	1761	50.00	14.85	88050.00	2.50	220125.00	121	Diverted Forest land	Fe	63.08	Cross Sectional area Method

199	50N/Sindura mundi/LIM O	2835	50.00	13.70	141750.00	2.50	354375.00	121	Diverted Forest land	Fe	64.54	Cross Sectional area Method
200	50N/Sindura mundi/LIO	1845	50.00	9.54	92250.00	2.50	230625.00	121	Diverted Forest land	Fe	59.9	Cross Sectional area Method
201	50N/Sindura mundi/ORS	236	50.00	11.24	11800.00	2.50	29500.00	121	Diverted Forest land	Fe	65.64	Cross Sectional area Method
202	100N/Sindur amundi/Cost lite	608	50.00	11.08	30400.00	2.50	76000.00	121	Diverted Forest land	Fe	59.82	Cross Sectional area Method
203	100N/Sindur amundi/LIM O	2138	50.00	16.80	106900.00	2.50	267250.00	121	Diverted Forest land	Fe	63.94	Cross Sectional area Method
204	100N/Sindur amundi/LIO	906	50.00	11.52	45300.00	2.50	113250.00	121	Diverted Forest land	Fe	64.11	Cross Sectional area Method
205	100N/Sindur amundi/ORS	338	50.00	6.50	16900.00	2.50	42250.00	121	Diverted Forest land	Fe	61.88	Cross Sectional area Method
206	150N/Sindur amundi/ORS	1091	50.00	23.80	54550.00	2.50	136375.00	121	Diverted Forest land	Fe	65.03	Cross Sectional area Method
207	200N/Sindur amundi/LIM O	169	50.00	11.60	8450.00	2.50	21125.00	121	Diverted Forest land	Fe	63.81	Cross Sectional area Method
208	200N/Sindur amundi/LIO	371	50.00	8.70	18550.00	2.50	46375.00	121	Diverted Forest land	Fe	63.27	Cross Sectional area Method
209	200N/Sindur amundi/ORS	636	50.00	12.60	31800.00	2.50	79500.00	121	Diverted Forest land	Fe	59.95	Cross Sectional area Method
210	350S/Sindur amundi/HLO	223	50.00	12.60	11150.00	3.50	39025.00	122	Diverted Forest land	Fe	59.93	Cross Sectional

												area Method
211	350S/Sindur amundi/SLO	55	50.00	15.62	2750.00	3.20	8800.00	122	Diveted Forest land	Fe	62.11	Cross Sectional area Method
212	300S/Sindur umundi/HLO	4294	50.00	18.14	214700.00	3.50	751450.00	122	Diveted Forest land	Fe	60.3	Cross Sectional area Method
213	300S/Sindur amundi/LJMO	749	50.00	24.32	37450.00	2.50	93625.00	122	Diveted Forest land	Fe	57.01	Cross Sectional area Method
214	300S/Sindur amundi/SLO	675	50.00	10.65	33750.00	3.20	108000.00	122	Diveted Forest land	Fe	60.83	Cross Sectional area Method
215	250S/Sindur amundi/HLO	4756	50.00	10.24	237800.00	3.50	842300.00	122	Diveted Forest land	Fe	57.49	Cross Sectional area Method
216	250S/Sindur umundi/LJMO	573	50.00	12.65	28650.00	2.50	71625.00	122	Diveted Forest land	Fe	59.56	Cross Sectional area Method
217	250S/Sindur amundi/LHO	4300	50.00	10.52	215000.00	2.50	537500.00	122	Diveted Forest land	Fe	55.2	Cross Sectional area Method
218	250S/Sindur amundi/ORS	3782	50.00	16.21	189100.00	2.50	472750.00	122	Diveted Forest land	Fe	55.13	Cross Sectional area Method
219	250S/Sindur amundi/SLO	713	50.00	20.14	35650.00	3.20	114080.00	122	Diveted Forest land	Fe	55.85	Cross Sectional area Method
220	200S/Sindur amundi/HLO	3665	50.00	11.58	183250.00	3.50	641375.00	122	Diveted Forest land	Fe	58	Cross Sectional area Method
221	200S/Sindur amundi/LHO	6520	50.00	13.70	326000.00	2.50	815000.00	122	Diveted Forest land	Fe	55.53	Cross Sectional area Method

222	200S/Sindur amundi/ORS	4981	50.00	18.62	249050.00	2.50	622625.00	122	Diverted Forest land	Fe	55.69	Cross Sectional area Method
223	150S/Sindur amundi/HLO	4658	50.00	9.78	222900.00	3.50	780150.00	122	Diverted Forest land	Fe	56.48	Cross Sectional area Method
224	150S/Sindur amundi/LIO	7070	50.00	10.24	353500.00	2.50	883750.00	122	Diverted Forest land	Fe	55.11	Cross Sectional area Method
225	150S/Sindur amundi/SLO	2299	50.00	7.80	114950.00	3.20	367840.00	122	Diverted Forest land	Fe	57.27	Cross Sectional area Method
226	100S/Sindur amundi/HLO	4608	50.00	9.80	230400.00	3.50	806400.00	122	Diverted Forest land	Fe	56.69	Cross Sectional area Method
227	100S/Sindur amundi/LIM O	252	50.00	16.21	12600.00	2.50	31500.00	122	Diverted Forest land	Fe	60.95	Cross Sectional area Method
228	100S/Sindu amundi/SLO	6944	50.00	20.14	347200.00	3.20	1111040.00	122	Diverted Forest land	Fe	58.29	Cross Sectional area Method
229	50S/Sindura mundi/HLO	4247	50.00	12.54	212350.00	3.50	743225.00	122	Diverted Forest land	Fe	55.58	Cross Sectional area Method
230	50S/Sindura mundi/SLO	6438	50.00	12.54	321900.00	2.50	797250.00	122	Diverted Forest land	Fe	57.16	Cross Sectional area Method
231	02ns/Sindura mundi/HLO	5292	50.00	17.58	264600.00	3.50	926100.00	122	Diverted Forest land	Fe	56.69	Cross Sectional area Method
232	00ns/Sindura mundi/SLO	3497	50.00	19.65	374850.00	3.20	599520.00	122	Diverted Forest land	Fe	57.88	Cross Sectional area Method
233	50N/Sindura mundi/SLO	3130	50.00	11.08	156500.00	3.20	500800.00	122	Diverted Forest land	Fe	55.93	Cross Sectional

												urea Method
234	100N/Sindur amundi/SLO	1019	50.00	12.60	50950.00	3.20	163040.00	122	Diverted Forest land	Fe	55.37	Cross Sectional area Method
235	150N/Sindur amundi/HLO	66	50.00	16.80	3300.00	3.50	11550.00	122	Diverted Forest land	Fe	58.19	Cross Sectional area Method
236	300N/Sindur amundi/HLO	148	50.00	11.52	7400.00	3.50	25900.00	122	Diverted Forest land	Fe	60.03	Cross Sectional area Method
237	300N/Sindur amundi/ORS	670	50.00	6.50	33500.00	2.50	83750.00	122	Diverted Forest land	Fe	56.08	Cross Sectional area Method
238	350N/Sindur amundi/HLO	900	50.00	24.80	45000.00	3.50	157500.00	122	Diverted Forest land	Fe	59.65	Cross Sectional area Method
239	350N/Sindur amundi/ORS	3066	50.00	11.60	153300.00	2.50	383250.00	122	Diverted Forest land	Fe	55.07	Cross Sectional area Method
240	350N/Sindur amundi/SLO	280	50.00	8.70	14000.00	3.20	44800.00	122	Diverted Forest land	Fe	55.09	Cross Sectional area Method
241	400N/Sindur amundi/HLO	415	50.00	11.65	20750.00	3.50	72625.00	122	Diverted Forest land	Fe	58.98	Cross Sectional area Method
242	400N/Sindur amundi/ORS	3882	50.00	10.24	194100.00	2.50	485250.00	122	Diverted Forest land	Fe	55.72	Cross Sectional area Method
243	400N/Sindur amundi/SLO	478	50.00	7.80	23900.00	3.20	76480.00	122	Diverted Forest land	Fe	56.63	Cross Sectional area Method
244	450N/Sindur amundi/HLO	896	50.00	17.56	44800.00	3.50	156800.00	122	Diverted Forest land	Fe	58.53	Cross Sectional area Method

245	450N/Sindur amundi/ORS	10532	50.00	14.35	526600.00	2.50	1316500.00	122	Diveted Forest land	Fe	56.24	Cross Sectional area Method
246	450N/Sindur amundi/PO	179	50.00	20.14	8950.00	3.20	28640.00	122	Diveted Forest land	Fe	64.22	Cross Sectional area Method
247	450N/Sindur amundi/SLO	1192	50.00	14.85	59600.00	3.20	190720.00	122	Diveted Forest land	Fe	59.82	Cross Sectional area Method
248	500N/Sindur amundi/HLO	315	50.00	13.70	15750.00	3.50	55125.00	122	Diveted Forest land	Fe	58.81	Cross Sectional area Method
249	500N/Sindur amundi/LIMO	1574	50.00	9.54	78700.00	2.50	196750.00	122	Diveted Forest land	Fe	61.04	Cross Sectional area Method
250	500N/Sindur amundi/ORS	9142	50.00	13.65	457100.00	2.50	1142750.00	122	Diveted Forest land	Fe	56.07	Cross Sectional area Method
251	500N/Sindur amundi/PO	2141	50.00	14.64	107050.00	3.20	342560.00	122	Diveted Forest land	Fe	62.41	Cross Sectional area Method
252	500N/Sindur amundi/SLO	3836	50.00	12.60	191800.00	3.20	613760.00	122	Diveted Forest land	Fe	61.63	Cross Sectional area Method
253	550N/Sindur amundi/LIMO	804	50.00	16.80	40200.00	2.50	100500.00	122	Diveted Forest land	Fe	59.38	Cross Sectional area Method
254	550N/Sindur amundi/ORS	6234	50.00	11.52	311700.00	2.50	779250.00	122	Diveted Forest land	Fe	56.34	Cross Sectional area Method
255	550N/Sindur amundi/PO	3125	50.00	15.20	156250.00	3.20	500000.00	122	Diveted Forest land	Fe	63.41	Cross Sectional area Method
256	550N/Sindur amundi/SLO	4729	50.00	19.50	236450.00	3.20	756640.00	122	Diveted Forest land	Fe	61.14	Cross Sectional

												area Method
257	600N/Sindur amundi/LIMO	736	50.00	11.60	36800.00	2.50	92000.00	122	Diverted Forest land	Fe	58.78	Cross Sectional area Method
258	600N/Sindur amundi/ORS	6227	50.00	14.68	311350.00	2.50	778375.00	122	Diverted Forest land	Fe	56.56	Cross Sectional area Method
259	600N/Sindur amundi/PO	4410	50.00	11.24	220500.00	3.20	705600.00	122	Diverted Forest land	Fe	60.24	Cross Sectional area Method
260	600N/Sindur amundi/SLO	7231	50.00	8.50	361550.00	3.20	1156960.00	122	Diverted Forest land	Fe	58.56	Cross Sectional area Method
261	650N/Sindur amundi/LIMO	2440	50.00	13.54	122000.00	2.50	305000.00	122	Diverted Forest land	Fe	58.64	Cross Sectional area Method
262	650N/Sindur amundi/LIO	3711	50.00	11.87	185550.00	2.50	463875.00	122	Diverted Forest land	Fe	56.12	Cross Sectional area Method
263	650N/Sindur amundi/ORS	4623	50.00	9.58	231150.00	2.50	577875.00	122	Diverted Forest land	Fe	57.32	Cross Sectional area Method
264	650N/Sindur amundi/PO	5860	50.00	11.24	293000.00	3.20	937600.00	122	Diverted Forest land	Fe	60.76	Cross Sectional area Method
265	650N/Sindur amundi/SLO	7515	50.00	10.80	375750.00	3.20	1202400.00	122	Diverted Forest land	Fe	59.06	Cross Sectional area Method
266	700N/Sindur amundi/LIMO	1854	50.00	13.65	92700.00	2.50	231750.00	122	Diverted Forest land	Fe	60.5	Cross Sectional area Method
267	700N/Sindur amundi/LIO	1149	50.00	14.87	57450.00	2.50	143625.00	122	Diverted Forest land	Fe	58.88	Cross Sectional area Method

268	700N/Sindurmundi/ORS	1263	50.00	12.45	63150.00	2.50	157875.00	122	Diverted Forest land	Fe	57.69	Cross Sectional area Method
269	700N/Sindurmundi/PO	1594	50.00	16.23	79700.00	3.20	255040.00	122	Diverted Forest land	Fe	63.39	Cross Sectional area Method
270	700N/Sindurmundi/SLO	1956	50.00	8.50	97800.00	3.20	312960.00	122	Diverted Forest land	Fe	62.51	Cross Sectional area Method
271	750N/Sindurmundi/PO	142	50.00	7.80	7100.00	3.20	22720.00	122	Diverted Forest land	Fe	64.53	Cross Sectional area Method
272	750N/Sindurmundi/SLO	200	50.00	24.32	10000.00	3.20	32000.00	122	Diverted Forest land	Fe	61.66	Cross Sectional area Method
273	350S/Sindurmundi/ORS/MR	332	50.00	11.65	16600.00	2.50	41500.00	122	Diverted Forest land	Fe	48.84	Cross Sectional area Method
274	300S/Sindurmundi/LIO/MR	1369	50.00	10.24	68450.00	2.50	171125.00	122	Diverted Forest land	Fe	54.86	Cross Sectional area Method
275	300S/Sindurmundi/ORS/MR	2507	50.00	7.80	125350.00	2.50	313375.00	122	Diverted Forest land	Fe	49.51	Cross Sectional area Method
276	200S/Sindurmundi/SLO/MR	658	50.00	10.52	32900.00	3.20	105280.00	122	Diverted Forest land	Fe	53.62	Cross Sectional area Method
277	150S/Sindurmundi/ORS/MR	13350	50.00	14.68	667500.00	2.50	1668750.00	122	Diverted Forest land	Fe	54.27	Cross Sectional area Method
278	100S/Sindurmundi/LIO/MR	5504	50.00	20.14	275200.00	2.50	688000.00	122	Diverted Forest land	Fe	54.55	Cross Sectional area Method
279	100S/Sindurmundi/ORS	23026	50.00	12.65	1151300.00	2.50	2878250.00	122	Diverted Forest land	Fe	53.5	Cross Sectional

	/MR											area Method
280	50S/Sindura mundi/LIM O/MR	675	50.00	13.70	33750.00	2.50	84375.00	122	Diverted Forest land	Fe	45.5	Cross Sectional area Method
281	50S/Sindura mundi/LIO/ MR	9104	50.00	9.54	455200.00	2.50	1138000.00	122	Diverted Forest land	Fe	54.59	Cross Sectional area Method
282	50S/Sindura mundi/ORS/ MR	19402	50.00	9.57	970100.00	2.50	2425250.00	122	Diverted Forest land	Fe	53.89	Cross Sectional area Method
283	00ns/Sindura mundi/LIM O/MR	1090	50.00	11.08	54500.00	2.50	136250.00	122	Diverted Forest land	Fe	46.62	Cross Sectional area Method
284	00ns/Sindura mundi/LIO/ MR	11585	50.00	16.80	579250.00	2.50	1448125.00	122	Diverted Forest land	Fe	52.98	Cross Sectional area Method
285	00ns/Sindura mundi/ORS/ MR	18393	50.00	9.78	919650.00	2.50	2299125.00	122	Diverted Forest land	Fe	51.54	Cross Sectional area Method
286	50N/Sindura mundi/HLO/ MR	764	50.00	12.54	38200.00	3.50	133700.00	122	Diverted Forest land	Fe	51.81	Cross Sectional area Method
287	50N/Sindura mundi/LIM O/MR	764	50.00	23.80	75500.00	2.50	188750.00	122	Diverted Forest land	Fe	52.08	Cross Sectional area Method
288	50N/Sindura mundi/LIO/ MR	7378	50.00	11.60	368900.00	2.50	922250.00	122	Diverted Forest land	Fe	52.32	Cross Sectional area Method
289	50N/Sindura mundi/ORS/ MR	12156	50.00	13.25	607800.00	2.50	1519500.00	122	Diverted Forest land	Fe	51.69	Cross Sectional area Method
290	100N/Sindur amundi/HLO /MR	123	50.00	10.25	6150.00	3.50	21525.00	122	Diverted Forest land	Fe	53.96	Cross Sectional area Method

291	100N/Sindurmundi/LIMO/MR	559	50.00	21.04	27950.00	2.50	69875.00	122	Diveted Forest land	Fe	51.68	Cross Sectional area Method
292	100N/Sindurmundi/LIO/MR	1207	50.00	15.62	60350.00	2.50	150875.00	122	Diveted Forest land	Fe	52.53	Cross Sectional area Method
293	100N/Sindurmundi/ORS/MR	3846	50.00	15.58	192300.00	2.50	480750.00	122	Diveted Forest land	Fe	51.19	Cross Sectional area Method
294	150N/Sindurmundi/LIO/MR	47	50.00	24.32	2350.00	2.50	5875.00	122	Diveted Forest land	Fe	49.94	Cross Sectional area Method
295	350N/Sindurmundi/LIO/MR	267	50.00	11.65	13350.00	2.50	33375.00	122	Diveted Forest land	Fe	49.21	Cross Sectional area Method
296	400N/Sindurmundi/LIO/MR	488	50.00	10.24	24400.00	2.50	61000.00	122	Diveted Forest land	Fe	54.65	Cross Sectional area Method
297	450N/Sindurmundi/LIO/MR	2646	50.00	7.80	132300.00	2.50	330750.00	122	Diveted Forest land	Fe	52.35	Cross Sectional area Method
298	500N/Sindurmundi/LIO/MR	2954	50.00	10.52	147700.00	2.50	369250.00	122	Diveted Forest land	Fe	53.59	Cross Sectional area Method
299	550N/Sindurmundi/LIO/MR	6760	50.00	16.21	338000.00	2.50	845000.00	122	Diveted Forest land	Fe	54.62	Cross Sectional area Method
300	600N/Sindurmundi/LIO/MR	6201	50.00	6.50	310050.00	2.50	775125.00	122	Diveted Forest land	Fe	54.21	Cross Sectional area Method
Total					58918724.00		176033642.50					

2A.2.4.13: Calculation of Reserves -II

Mineral	IRON ORE
Reserves/ Resources estimated as on	30/06/2024
UNIT of estimation	tonnes

A. Mineral Reserve

Classification	Code	Quantity			Grade		Remark
		Forest	Non Forest	Total	Forest	Non Forest	
1. Proved Mineral Reserve (A)	111	Nil	0.00	0.00	Nil	0	Nil
2. Probable Mineral Reserve (A)	121	129053112.50	0.00	129053112.50	62.39	0	Above 55 % Fe: 124097337.5 (62.83 % Fe) And 45 to Below 55 % Fe: 4955775 (51.22 % Fe)
3. Probable Mineral Reserve (A)	122	46980530.00	0.00	46980530.00	55.85	0	Above 55 % Fe: 27675525 (57.82 % Fe) And 45 to Below 55 % Fe: 19305005 (53.05 % Fe)

B. Remaining Resources

Classification	Code	Quantity			Grade		Remark
		Forest	Non Forest	Total	Forest	Non Forest	
1. Feasibility Mineral Resource (B)	211	0.00	0.00	0.00	0	0	Nil
2. Prefeasibility Mineral Resource (B)	221	80380.00	0.00	80380.00	56.85	0	Above 55 % Fe: 70630 (57.51 % Fe) And 45 to Below 55 % Fe:9750 (52.07 % Fe)
3. Prefeasibility Mineral Resource (B)	222	461415.00	0.00	461415.00	56.98	0	Above 55 % Fe: 309765 (59.07 % Fe) And 45 to Below 55 %

							Fe: 151650 (52.73 % Fe)
4. Measured Mineral Resource (B)	331	0.00	0.00	0.00	0	0	Nil
5. Indicated Mineral Resource (B)	332	0.00	0.00	0.00	0	0	Nil
6. Inferred Mineral Resource (B)	333	0.00	0.00	0.00	0	0	Nil
7. Reconnaissance Mineral Resource (B)	334	0.00	0.00	0.00	0	0	Nil

Total Mineral Resources (A+B) :	176575437.50

2A.2.4.13: Calculation of Reserves -III

No associate minerals are available!

2A.2.5: Future Exploration Proposal

2A.2.5.1: Geological Mapping

Sl.N.	Year	Scale	Area Covered (Ha)
1	2025-2026	1:2000	150.00
2	2026-2027	1:2000	150.00
3	2027-2028	1:2000	150.00
4	2028-2029	1:2000	150.00
5	2029-2030	1:2000	150.00

2A.2.5.2: Ground Geophysical Survey

Sl.No.	Year	Type of Survey	Spacing (m)	Total line (km)	Area Covered	Latitude (dd:mm:ss.ss)	Longitude (dd:mm:ss.ss)

					(Ha)	From	To	From	To
1	Nil	Nil	0	0	0.0000	Nil	Nil	Nil	Nil

2A.2.5.3: Pitting

Number of Pits
0

Sl.No.	Year	Land Type	Pit ID	Length of Pit (m)	Width of Pit (m)	Depth of Pit (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
							From	To	From	To
1	Nil	Nil	NIL	0.00	0.00	0.00	Nil	Nil	Nil	Nil

2A.2.5.4: Trenching

Number of Trenches
0

2A.2.5.4.1: SPACING

Min (m)	Max (m)	Avg (m)
0.00	0.00	0.00

2A.2.5.4.2: Area Covered Under Trenching

Co-ordinates

Sl.No.	Year	Land Type	Trench ID	Length of Trench (m)	Width of Trench (m)	Depth of Trench(m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
							From	To	From	To
1	Nil	Nil	0	0.0000	0.0000	0.0000	Nil	Nil	Nil	Nil

2A.2.5.5: Exploratory Drilling

2A.2.5.5.1: Core Drilling & Non-Core Drilling

Sl.No.	Year	In Forest Area				In Non Forest Area				Total Borehole	Total Meter
		No. of Borehole	Total Mtr	Type Borehole	Grid Interval	No. of Borehole	Total Mtr	Type Borehole	Grid Interval		
1	2025-2026	268	26800.00	Core	200.00	45	4500.00	Core	100.00	313	31300.00

2A.2.5.6: Exploratory Mining

Sl.No.	Year	Pit ID	Length in meter	Width in meter	Depth in meter	Volume (m^3)
1	Nil	0	0.00	0.00	0.00	0.00

2A.2.5.7: Sampling

Sl.No.	Year	Type of Sample	Number of Samples Proposed	Area Covered(Ha)	Latitude (dd.mm:ss.ss)		Longitude (dd:mm:ss.ss)	
					From	To	From	To
1	2026-2027	Drill Core	13000	478.95	21:05:33.09	Nil	Nil	85:46:01.89
2	2027-2028	Drill Core	13000	478.95	21:07:08.80	Nil	Nil	85:49:17.08

2A.2.5.8 Petrographic & Mineralgraphic Studies

Sl.No.	Year	Type of Sample	Number of Samples Proposed
1	2025-2026	Mineral	10
2	2025-2026	Waste	5

Chapter 2B : Geology & Exploration UG : NA

Chapter 3: Mineral Beneficiation / Processing

Name of The Ore/Mineral	Hematite

3.1: Mineralogy of the ROM ore/ Mineral

Sl.No	Valuable Mineral Name	Approx. Mineral %	Gangue Mineral/s name	Approx. Mineral Gangue %
1	Iron ore Fe	90.2100	BHC BHJ Laterite	9.7900

3.2: Complete Chemical Analysis of the ROM Ore/Mineral

Sl.No	Radical	Wt%
1	ROM LUMP	Nil
2	Fe	63.0500
3	Sio2	1.2800
4	Al2O3	2.2000
5	LOI	5.4200
6	CaO	0.2100
7	MgO	0.1500
8	P2O5	0.1680
9	SO2	0.0190
10	Na2O	0.0610
11	K2O	0.0470
12	ROM FINES	Nil
13	Fe	60.9400

14	Sio2	1.9300
15	Al2O3	3.2400
16	LOI	6.6700
17	CaO	0.2800
18	MgO	0.1900
19	P2O5	0.2040
20	SO2	0.0270
21	Na2O	0.0820
22	K2O	0.0680

3.3: Crushing Section

3.3.1: Primary Crushing

Sl.No	Type of Crusher	Make	Capacity of Crusher(tph)	Feed Size(mm)	Product Size(mm)
1	Jaw Crusher	METSO/ Sandvik/ Terex/ Puzzlano (may change as per suitability and availability)	700	-1000.0000	-250.0000
2	Jaw Crusher	METSO	800	-1000.0000	-250.0000

3.3.2: Secondary Crushing

Sl.No	Type of Crusher	Make	Capacity of Crusher(tph)	Feed Size(mm)	Product Size(mm)
1	Cone Crusher	Metso	650	-250.0000	-60.0000
2	Cone Crusher	Metso	400	-250.0000	-60.0000

3.3.3: Tertiary Crushing

Not Applicable

3.4: Grinding Section

3.4.1: Dry Grinding

Not Applicable

3.4.2: Wet Grinding

Not Applicable

3.5: Dry Processing

3.5.1: Screening and Classification

Sl.No	Type of Screen/Classifer	Stages	Make	Capacity(tph)	Aperture Size of Screen/Classifier (mm), if applicable	Feed Size(mm)	Product (mm)	Product Quality(if applicable)
1	grizzlyscreen	Single	Metso	1250.0000	150.0000	-1000.0000	-150.0000	>45 % Fe
2	Doubledeck screen	Multiple	Metso	700.0000	60.0000	-150.0000	-40.0000	>45 % Fe
3	grizzlyscreen	Single	METSO	800.0000	150.0000	-1000.0000	-150.0000	>45 % Fe
4	Doubledeck screen	Single	METSO	800.0000	40.0000	-250.0000	-40.0000	>45 % Fe

3.5.2: Other Operations

Not Applicable

3.5.3: Product Quality

Products	Wt%	In Tonnes	Size (Range) mm	Complete chemical analysis
Concentrate	100.0000	6000000.0000	+10 MM to -40 mm & -10mm	Fe% 46.48 SiO2% 17.12 Al2O3% 8.37 P% 0.109
Sub-grade	0.0000	0.0000	Nil	Nil
Rejects	0.0000	Nil	Nil	Nil

3.6: Wet Processing

3.6.1: Scrubbing / Washing

Sl.No	Type of Scrubbers / washers	Stages, if applicable	Make	Capacity(tph)	Feed Size(mm)	Product Size (mm)	Product Quality, if available	Water Requirement(l/h)	Fresh Water Requirement (l/h)	Recirculated Water (l/h)
1	NA	Nil	NA	Nil	Nil	Nil	Nil	Nil	Nil	Nil

3.6.2: Screening and Classification

Sl.No	Type of screen / classifier	Stages, if applicable	Make	Capacity(tph)	Aperture Size of Screen/Classifier (mm), if applicable	Feed Size(mm)	Product Size (mm)	Product Quality, if available	Water Requirement(l/h)	Fresh Water Requirement (l/h)	Recirculated Water (l/h)
1	NA	Nil	NA	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

3.6.3: Gravity Separation

Sl.No	Type of separators (jig, table, spiral, etc.)	Stages, if applicable	Make	Capacity(tph)	Feed Size(mm)	Product (Conc) (tph)	Product-Mid (tph), if available	Product-Tail (tph)	Water Requirement(l/h)	Fresh Water Requirement (l/h)	Recirculated Water (l/h)
1	NA	Nil	NA	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

3.6.4: Magnetic Separation

Sl.No	Type of magnetic separators (magnetic intensity)	Stages, if applicable	Make	Capacity(tph)	Feed Size(mm)	Product-Mag (tph)	Product-Mid (tph), if available	Product non-Mag (tph)	Water Requirement(l/h)	Fresh Water Requirement (l/h)	Recirculated Water (l/h)
1	NA	Nil	NA	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

3.6.5: Flotation

Sl.No	Type of flotation equipment (froth/ column)	Stages (rougher/ cleaner, etc), if applicable	Make	Capacity(tph)	Feed Size(mm)	Product-Float (tph)	Product non-Float (tph)	Water Requirement(l/h)	Fresh Water Requirement (l/h)	Recirculated Water (l/h)
1	NA	Nil	NA	Nil	Nil	Nil	Nil	Nil	Nil	Nil

3.6.6: Other Operations

Sl.No	Type of equipment / operation	Stages, if applicable	Make	Capacity(tph)	Feed Size(mm)	Product-Conc (tph)	Product-Mid (tph), if available	Product-Tail (tph)	Water Requirement(l/h)	Fresh Water Requirement (l/h)	Recirculated Water (l/h)
1	NA	Nil	NA	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

3.6.7: Product Quality (wet processing)

Products	Wt%	In Tonnes	Size (Range) mm	Complete chemical analysis
Concentrate	Nil	Nil	Nil	NA
Sub-grade	Nil	Nil	Nil	NA
Rejects	Nil	Nil	Nil	NA

3.7: Overall Product Quality (Dry cum Wet Processing)

Products	Wt%	In Tonnes	Size (Range) mm	Complete chemical analysis
Concentrate	100.0000	6000000.0000	+10 MM to -40 mm & -10mm	Fe% 46.48 SiO2% 17.12 Al2O3% 8.37 P% 0.109
Sub-grade	0.0000	0.0000	Nil	Nil
Rejects	0.0000	0.0000	Nil	Nil

3.8: Disposal Method for tailing/ rejects

a) Explain the disposal method for tailing or reject from processing plant with detail chemical / mineral analysis of tailing	Nil
b) Size and capacity of tailing pond, toxic effect of such tailings, process adopted to neutralise its effect (if any)	Nil
c) Any other data (if available)	Nil

3.9: Overall water requirement of mining and mineral processing

Indicate quantity, source of supply, disposal of water and extent of recycling and chemical analysis of water	Water balance chart_Daitari Mines.pdf

3.10: Flow sheets and charts

Material balance chart of mineral processing plant(s) (each stage of process)	Material_balance_chart.pdf
Attach flow sheet of beneficiation of plant(s)	Process_Flow_Chart.pdf
Any other data (if applicable)	Nil

Chapter 4A: Mining Operations

4A.1.1: Existing Method of Mining		Mechanized		
Choose one or more	Combination of loaders and tippers	HEMM with deephole drilling	None	None
4A.1.2: Proposed Method of Mining		Mechanized		
Choose one or more	Combination of loaders and tippers	HEMM with deephole drilling	None	None
Reasons for Proposed Changes		Daitari Iron Ore Mines comes under Category A fully mechanized opencast Mines present EC capacity 6 MTPA The deposit is being worked by mechanized opencast mining method engaging HEMM deep hole blasting The maximum bench height has been kept 10 mtr and width 23 mtr with average bench slope of 75 degree Drilling is carried out by 115 mm drill machine controlled blasting is being carried out with use of NONEL to control ground vibration		

4A.2: Operational Parameters

4A.2.1: Inventory of Existing Pits & Dumps

4A.2.1.1: Pits

Sl.No.	Pit ID	Pit Status	Area Covered by Pit(Ha)	Pit Dimensions(L*W*D)
1	Hilltop	Active	40.9000	1477 x 277 x 60

4A.2.1.2: Dumps and Stacks

4A.2.1.2.1: Dump Details

Sl.No.	Dump ID	Dump Status	Type of Dump	Total of Dump Quantity(t)	Area Covered by Dump(Ha)	Height(m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
							From	To	From	To
1	NA	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

4A.2.1.2.2: Stack Details

Sl.No.	Stack ID	Type of Stack	Total Stack of Quantity(t)	Area Covered by Stack(Ha)	Height(m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
						From	To	From	To
1	NA	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

4A.2.1.3: Details of stabilised dumps

Sl.No.	Dump ID	Number of Terraces	Average Height of Terraces(m)	Lenght of Toe Wall(m)	Lenght of Garland Drain(m)	Area Stablized(Ha)	Method of Stablization
1	NA	Nil	Nil	Nil	Nil	Nil	Nil

4A.2.2: Opencast Mining

4A.2.2.1: Bench Parameters

Pit ID	Year	Max Height of the Benches in Over Burden (m)	Min Width of the Benches in Over Burden (m)	Slope of the Bench in Over Burden (degree)	Max Height of the Benches in Mineral (m)	Minimum Width of the Benches in Mineral (m)	Slope of the Bench in Mineral (degree)	Overall Slope of Pit (degree)	Number of Benches in Top Soil	Number of Benches in Over Burden	Number of Benches in Mineral	Max Depth of Workings (m)	Depth of Water Table (mRL)	Max Slope Angle of Haul Roads (1xx in)
Hilltop	2025-2026	10.00	10.00	75.00	10.00	10.00	75.00	34.29	0	1	4	50.00	380.00	1:16
Hilltop	2026-2027	10.00	10.00	75.00	10.00	10.00	75.00	34.35	0	1	5	60.00	380.00	1:16
Hilltop	2027-2028	10.00	10.00	75.00	10.00	10.00	75.00	34.52	0	2	6	80.00	380.00	1:16

Hilltop	2028-2029	10.00	10.00	75.00	10.00	10.00	75.00	33.42	0	2	6	80.00	380.00	1:56
Hilltop	2029-2030	10.00	10.00	75.00	10.00	10.00	75.00	33.57	0	2	8	100.00	380.00	1:56

4A.2.2.2: Yearwise Opencast Development - I Continue

Sl.No.	Year	Pit ID	Bench	Direction	Bulk Density of Overburden (BD1) (ton/m³)	Bulk Density of Mineral (BD2) (tonn/m³)	Top Soil Volume (Length x Width x Height) (m³)	Over Burden Volume (Length x Width x Height) (m³)	Over Burden Quantity (t)	ROM Volume (Length x Width x Height) (m³)	ROM Quantity (t)	Recovery	Mineral Reject (t)	Production Main (t)	Production Associated (t)	OB Ratio to Ore (m³/ton)
1	2025-2026	Hilltop	Bench-740 to 800	NS	2.50	3.31	0.00	720000.00	1800000.00	1812688.82	6000000.00	1.00000	0.00	6000000.00	0.00	0.1200
2	2026-2027	Hilltop	Bench-720 to 810	NS	2.50	3.26	0.00	720000.00	1800000.00	1840490.80	6000000.00	1.00000	0.00	6000000.00	0.00	0.1200
3	2027-2028	Hilltop	Bench-700 to 810	NS	2.50	3.34	0.00	720000.00	1800000.00	1796407.19	6000000.00	1.00000	0.00	6000000.00	0.00	0.1200
4	2028-2029	Hilltop	Bench-700 to 820	NS	2.50	3.35	0.00	720000.00	1800000.00	1791044.78	6000000.00	1.00000	0.00	6000000.00	0.00	0.1200
5	2029-2030	Hilltop	Bench-700 to 820	NS	2.50	3.35	0.00	720000.00	1800000.00	1791044.78	6000000.00	1.00000	0.00	6000000.00	0.00	0.1200
Total									9000000.00		30000000.00		0.00	30000000.00	0.00	

4A.2.2.3 Yearwise Opencast Development - I End

Sl No	Year	Pit ID	Total Topsoil Volume (m³)	Total Over Burden Volume (m³)	Total Over Burden Quantity (t)	Total ROM Volume (m³)	Total ROM Quantity (t)
1	2025-2026	Hilltop	0.00	720000.00	1800000.00	1812688.82	6000000.00
2	2026-2027	Hilltop	0.00	720000.00	1800000.00	1840490.79	6000000.00
3	2027-2028	Hilltop	0.00	720000.00	1800000.00	1796407.18	6000000.00

4	2028-2029	Hilltop	0.00	720000.00	1800000.00	1791044.77	6000000.00
5	2029-2030	Hilltop	0.00	720000.00	1800000.00	1791044.77	6000000.00
		Total	0.00	3600000.00	9000000.00	9031676.33	30000000.00

4A.2.2.3: Transportation & Hauling Equipment

Sl.No.	Type	Make	Capacity (m^3)	No. of Equipments
1	Dumper	VOLVO	20.00	5
2	Water Tanker	BEML	28.00	2
3	Other	SDLG	Nil	1
4	Dumper	Tata	16.00	12

4A.3: Material Handling Summary

4A.3.1: Studies Undertaken

Title	Study Undertaken	Attachment (only pdf allowed)
Blast Vibration Study Report	Yes	Technical Studies on Blast generated Effects at Daitari Iron Ore Mines, OMC, Daitari (2).pdf
Slope Stability Study Report	Yes	Technical_Studies_on_Blast_generated_Effects_at_Daitari_Iron_Ore_Mines,_OMC,_Daitari_(2).pdf
Recovery Study Report	No	Nil
Hydrological Study Report	Yes	Hydrogeologicalstudy-compressed.pdf
Mineral Beneficiation Study Report	No	Nil
Subsidence Study Report	No	Nil
Geotechical Study Report	No	Nil
Any Other Study Report	Yes	Surfacerunoffmanagement.pdf
Bulk Density Study Report	Yes	Bulk_density_Test_report_Daitari.pdf

4A.3.2: Insitu Mining

Sl.No.	Year	Waste Quantity(t)	ROM Quantity(t)	Total Handling (t)	ROM Quantity Saleable Mineral (t)	ROM Quantity Mineral Reject (t)	OB Ratio to Ore (Waste Quantity / ROM Quantity)	Grade Range (%)
1	2025-2026	1800000.00	6000000.00	7800000.00	6000000.00	0.00	0.30	49 to 66 (Avg grade61.39
2	2026-2027	1800000.00	6000000.00	7800000.00	6000000.00	0.00	0.30	47 to 66(Avg grade-62.56
3	2027-2028	1800000.00	6000000.00	7800000.00	6000000.00	0.00	0.30	46 to 67(Avg Grade-60.73
4	2028-2029	1800000.00	6000000.00	7800000.00	6000000.00	0.00	0.30	47 to 68(63.56
5	2029-2030	1800000.00	6000000.00	7800000.00	6000000.00	0.00	0.30	50 to 68(64.27
	Total	9000000.00	30000000.00	39000000.00	30000000.00	0.00		

4A.3.3: Dump workings

Sl.No.	Year	Dump ID	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Area (m2)	Avg Height of Dump (m)	Volume (m^3)	Total Dump Quantity (t)	Proposed Dump Handling Quantity (t) (A)	Proposed Recovery of Saleable Mineral (t)(B)	Proposed Waste Quantity (t) (A-B)	Grade Range (%)	Justification
			From	To	From	To									
1	Nil	NA	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

4A.3.4: Calculation Summary

Year	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	Total
(A) Total ROM quantity (t)	6000000.00	6000000.00	6000000.00	6000000.00	6000000.00	30000000.00

(B) Saleable ore from ROM (t)	6000000.00	6000000.00	6000000.00	6000000.00	6000000.00	30000000.00
(C) Proposed Dump Handling Quantity (t)	0.00	0.00	0.00	0.00	0.00	0.00
(D) Saleable Ore recovered from dump workings (t)	0.00	0.00	0.00	0.00	0.00	0.00
(E) Total Saleable Ore (t)(=B+D)	6000000.00	6000000.00	6000000.00	6000000.00	6000000.00	30000000.00
(F) Total Quantity Handled (t)(=A+C)	6000000.00	6000000.00	6000000.00	6000000.00	6000000.00	30000000.00

4A.4: Machine Calculation

4A.4.1: Machine Requirement Summary

Number of Average Working Days in One Year (A)	300
Number of Shifts per Day (B)	3
Material Handling Required per Day (t) ((D)=Largest of (Q1,Q5)/(A))	20000
Material to be Handled per Shift (t) ((E)=(D)/(B))	6666.67
Handling Required per Hour (t) ((F)=(E)/8 hours)	1444.44
Effective Shift Time	6 hrs 00 mins

4A.4.2: Shovel / Excavator Requirement

Effective Shift Time	6 hrs	00 mins

Sl.No.	Type	Bucket Capacity (m^3)(A)	Bucket Fill Factor (B)	Swell Factor (C)	Tonnage Factor (t/m^3) (D)	Machine Utilization Factor (%) (U)	Efficiency (%) (E)	Cycle time (sec) (F)	(G) TPH =TPH (G) =((3600 x A x B x C	Total Hours (H) =Number of working	Yearly handling by one Excavator	Maximum handling of the material by	Number of excavator machines required	Standby excavator (L)

									x D x E x U) / F)	days x Number of shifts/day x Effective shift hours	(i) (I)- (G x H)	this machine during the block period (t) (J)	(K) = (J / I)	
1	Hydraulic	6.50	0.8	1.2	3.30	0.62	0.60	50	551.54	5400	2978316.00	6000000.00	2.01	2
2	Hydraulic	6.50	0.8	1.2	2.50	0.50	0.60	50	336.96	5400	1819584.00	1800000.00	0.99	1

4A.4.3: Dumper Requirement

Effective Shift Time					6 hrs					00 mins				
Sl.No.	Total Hours=Number of working days (W)x Number of shifts/day x Effective shift hours (Machine Requirement Summary) (A)	Capacity of Dumpers (t) (B)	Speed of the dumper (KMPH) (i)	Lead Distance (KM) (ii)	Time taken to cover distance in minutes(iii) =(ii/i) x 60	Queuing, Loading Time at Shovel (min) (iv)	Queuing, Unloading Time during unloading (min) (v)	Total Time to complete one trip(vi) = (iii + iv + v)	No. of Trips / hr = (60 / vi)	Total transportation per hour =(B X vii)	Yearly handling by one dumper (ix) = A x TPH	Maximum handling of the material by this machine during the block period (t) (x)	Number of dumpers will be (xi) =(x / ix)	Plus Standby dumper (xii)
1	5400	50.00	25.00	2.50	6.00	10.00	4.00	20.00	3	150	810000.00	6000000.00	8	4
2	5400	60.00	25.00	10.00	24.00	3.00	3.00	30.00	2	120	648000.00	1800000.00	3	2

4A.4.4: Drill Machine Requirement

Effective Shift Time	6 hrs	00 mins

Sl.No.	Type of Drill	Depth of Hole(including Sub-grade Drilling (m)	Spacing (m)	Burden (m)	Bulk Density of Waste (t/m^3)	Bulk Density of Mineral (t/m^3)	Yield per Hole (t)	Yield per Meter (t/m) = Yield per Hole (t)/Depth of Hole(including Sub-grade Drilling (m))	Annual Target Known (t)	Drilling Requirement per Day (m) = (Annual Target Known (t) / Yield per Meter (t/m))/Number of Average Working Days in One Year (A)	Drilling Requirement per Shift (m)	Rate of Drilling per Hours (m/hr) = Drilling Requirement per Shif t(m)/Effective Shift Time	Required No. of drills (m/c) = Required rate of drilling in meters per hr./ Actual rate of drilling in meters per hr of the machine deployed	Stand by Drill
1	Hydraulic	11.00	3.50	3.00	Nil	3.00	315.00	28.64	3000000.00	349.16	112.65	18.77	2.00	2
2	Hydraulic	11.00	3.50	3.00	2.50	Nil	231.00	21.00	900000.00	142.85	47.62	7.93	1.00	1

4A.4.5: Machine Deployment Details

4A.4.5.1: Excavator & Loading Equipment

Sl.No.	Type	Make	Capacity (m^3)	No. of Equipments
1	EXCAVATOR	VOLVO	6.50	7

4A.4.5.2: Dozers Details

Sl.No.	Type	Make	Capacity (hp)	No. of Equipments
1	DOZER	KOMATSU	380.00	3

4A.4.5.3: Drilling Details

Sl.No.	Type	Make	Capacity (m/hr)	Diameter of Hole(mm)
1	Hydraulic	METSO/ Sandvik/ Terex/ Puzzlano (may Change As Per Suitability And Availability)	15.00	115.00

4A.5 Blasting Requirement

4A.5.1: Blasting & Explosive Requirement in Waste/Development

Sl.No.	Drill Pattern / Spacing of Holes (m)	Burden of Holes (m)	Number of Rows / Rings	Yield per Holes in Waste (m^3)	Frequency of Blasting in a Week	Maximum Number of Holes Blasted in a Round	Charge per Hole (kg)	Charge per Round (kg)	Explosive Requirement Per Month in Development (kg)	Powder Factor in Development / Waste (t/kg)	Depth Of Hole
1	3.5	3	2	105	1	40	58	2320	18560	4.53	10

4A.5.2: Blasting & Explosive Requirement in Mineral / Ore

Type of Explosive	Type of Explosives used / to be Used
Slurry Explosives	Non Permitted Slurry Explosives (Large Diameter)

Sl.No.	Total ROM proposed to be handled in CUM/annu	Total ROM proposed to be handled in CUM/	Spacing of Holes (m)	Burden of Holes (m)	Number of Rows	Yield per Holes in ROM Zone (m^3)	Frequency of Blasting in a Week	Maximum Number of Holes Blasted in a	No of Holes Required to be Blasted per Round	Charge per Hole (kg)	Charge per Round (kg)	Explosive Requirement Per Month for ROM	Powder Factor in Ore (t/kg)	Pop Shooting (no of Boulders)	Plaster Shooting (no of Boulders)	Use of Rockbreaker	Capacity	Secondary Blasting Requirements	Depth Of Hole

	m	day						Round				Zone Blasting (kg)							
1	1000000	3333.333333	3.5	3	3	105	2	80	80	63	5040	40320	5	0	0	Yes	2.5	0	10

4A.6: Man Power Deployment

4A.6.1: Managerial

Sl.No.	Particular	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	1st Class	1	1	1	3	6
2	2nd Class Manager	1	1	1	1	6
3	Mining Engineer	0	0	0	1	1
4	Geologist	1	1	1	1	4
5	Mechanical Engineer	0	0	0	1	1
6	Electrical Engineer	0	0	0	1	1
7	other	0	0	0	1	1

4A.6.2: Supervisory

Sl.No.	Particular	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	Foreman	3	3	3	2	11
2	Mine mate	5	5	5	2	17
3	Blaster	0	0	0	3	3

4A.6.3: Skilled Workers / Operators

Sl.No.	Particular	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	Operator	10	10	9	1	30
2	Dumper Operator	25	25	25	5	80
3	Pump Operator	0	0	0	0	0
4	Technician	10	10	9	1	30
5	Drill Operator	2	2	2	0	6
6	Dozer/Grader Operator	1	1	1	0	3
7	Other	0	0	0	1	1

4A.6.4: Semi-skilled Workers

Sl.No.	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	18	18	18	4	58

4A.6.5: Unskilled Workers

Sl.No.	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	36	36	0	8	80

4A.6.6: Others Specify

Sl.No.	Particular	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	Nil	Nil	Nil	Nil	Nil	Nil

4A.6.7: No of Persons Engaged Per Day

Sl.No.	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	113	113	75	38	339

No of Shifts per Day ((A) = Machine Requirement Summary (B))	3
Average Daily Employment per Shift ((B) = (Total Number of Person per Day) / (A))	113
Material to be Handled per Shift ((C) = Machine Requirement Summary (E))	8666

4A.6.8: Supervision

Sl.No.	Particular	Qualification	Requirement / Proposed	In Position / Existing Strength	(Requirement / Proposed) - (In Position / Existing Strength) = (-) Shortage / (+) Excess	Remarks
1	Assistant Manager	BE Mining/1st Or 2nd Class Mine Manager Certificate Of Competency	6	5	1	Ok
2	Geologist	Msc Geology	4	3	1	Ok
3	Mines Manager	1st Class Mine Manager Competent	6	5	1	Ok
4	Mining Engineer	BE Mining	1	1	0	Ok
5	Mine Foreman	Diploma In Mining	11	11	0	Ok
6	Mining Mate	Diploma In Mining	17	17	0	Ok

4A.7: Waste Management

4A.7.1: Existing Dump

Sl.No.	Year	Dump Id	Type of Dump	Proposed	Height (m)	Latitude (ddmmss.ss)	Longitude (dddmmss.ss)	Total Dump	Existing

				Area (ha)		From	To	From	To	Quantity (m³)	Dump Location
1	Nil	NA	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

4A.7.2: New Dump

Sl.No.	Year	Dump Id	Type of Dump	Proposed Area (ha)	Height (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Total Dump Quantity (m³)	New Dump Location
						From	To	From	To		
1	2025-2026	TemporarywastedumpNorth	Waste	4.82	60.00	21:06:21.59	21:06:30.53	85:48:17.51	85:48:29.40	720000.00	Within North of Hiltop quarry
2	2026-2027	TemporarywastedumpNorth	Waste	4.82	60.00	21:06:21.59	21:06:30.53	85:48:17.51	85:48:29.40	720000.00	Within North of Hiltop quarry
3	2027-2028	TemporarywastedumpNorth	Waste	4.20	40.00	21:05:44.56	21:05:55.48	85:48:30.03	85:48:40.52	720000.00	Within south of Hiltop quarry
4	2028-2029	Magazinedump	Waste	37.90	5.00	21:06:35.18	21:06:59.93	85:48:46.86	85:49:14.20	720000.00	Nr Magazine dump
5	2029-2030	Magazinedump	Waste	37.90	10.00	21:06:35.18	21:06:59.93	85:48:46.86	85:49:14.20	720000.00	Nr Magazine dump

4A.7.3: Existing Stack

Sl.No.	Year	Stack ID	Type of Stack	Proposed Area (ha)	Height (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Total Stack Quantity (m³)	Existing Stack Location
						From	To	From	To		
1	Nil	NA	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

4A.7.4: New Stack

Sl.No.	Year	Stack ID	Type of Stack	Proposed Area (ha)	Height (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Total Stack Quantity (m³)	New Stack Location

						From	To	From	To		
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

4A.8: Mineral Waste Handling To Utilize As Minor Mineral

Sl.No.	Year	Dump ID	Type of Dump	Proposed Area (ha)	Quantity Handled (t)	Quantity Recovered (t)	Name Of Minor Mineral	Alternative Waste Utilization (m^3)
1	Nil	NA	Nil	Nil	Nil	Nil	Nil	Nil

4A.9: Use of Minerals

Sl.No.	Proposed Use Of Mineral	Name Of Mineral	Relevant Use Of Mineral	Physical Specifications	Chemical Specifications
1	Direct Selling	IRON ORE	Steel plant	+10mm to -40mm lump ore	+45% Fe,3% Al2O3 3% SiO2 +60% Fe,Al2O3 3%,SiO2,3%
2	Direct Selling	IRON ORE	Steel plant	-10mm fines ore	+45% Fe, Al2O3 3% SiO2 +60% Fe,Al2O3 3%,SiO2,3%

* Choose among these:

1. Captive use in own industry

2. Direct Selling

3. Selling Post-Beneficiation /Up-gradation

*Select more than one, if applicable

Chapter 4 B : Mining Operations UG : NA

Chapter 5: Sustainable Mining

5.1: Sustainable Mining and SDF Implementations in Compliance of Rule 35 of MCDR'2017

A multi disciplinary SDU committee formed consisting of Mines manager as chairman, all sectional representatives , CSR consultant and representative of raising agency. It's a full time committee. The functioning of SDU committee is monitored at company level with Apex SDF committee.Supplied drinking water through water tanker, Reparing of exsting drinking water structure and pipeline supply, Digging of community pond and Check Dam, for villagers for irrigation purpose. Reparing of exsting drinking water structure and pipeline .Organised need based stakeholders meeting for addressing different issues and bring better decision and solution. Free helth chekup with free medicin for villagers through 24 hrs Dispensary . Conducting periodical village health check up camp in all PD villages along with medicine support. Conducting swachhata programme in and out of mines for ensuring cleanness and mass awareness.Organizing different skill mela for identifing local youth and making aware about the different training scope available and enrolled them in different training institute .Provide bus services to local school children for better education and development different school, anganwadi infrastructure for the local students. Support financial assistance to diferent local village level institute for organizing different festival and cultural activities. 2- Organize different sports tournamnets for local youths. Construction of CC Road for public transport facilities with drainage facilities. Thus Compliance of Rule 35 of MCDR'2017 of self assessment of star rating has been ensured.

(Total 200 characters)

Compliance of Vishakha Committee Guidelines for prevention of women harassment at workplace	Implemented

5.2: CSR INITIATIVES

5.2.1: 2025-2026

Details of Work Proposed during the Year / Measures Planned for the Affected Segment	Cumulative Work done / Measures Taken
5.2.1.1: Area to be Developed for Recreation	
Area (Ha)	Area (Ha)
0.15	0.15

5.2.1.2: Area for Water Storage & Recharge Facility	
Area (Ha)	Area (Ha)

0.01	0.01

5.2.1.3: Efforts Made towards Housing for Local Communities	
Number of Houses	Number of Houses
0	0

5.2.1.4: Efforts Made towards Providing Transport to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
350	350

5.2.1.5: Efforts Made towards Providing Healthcare to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
5000	5000

5.2.1.6: Efforts Made towards Providing Hygiene & Sanitation to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
2700	2700

5.2.1.7: Efforts Made towards Skill Development Programs to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
21	21

5.2.1.8: Efforts Made to Promote Education & Knowledge Based Initiatives	
Number of Beneficiaries	Number of Beneficiaries
600	600

5.2.1.9: Communication Facilities Provided to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
4000	4000

5.2.1.10: Any Other Steps Taken for Improving the Socio-Economic Standard of Local Communities

Number of Beneficiaries	Number of Beneficiaries
80	80

5.2.1.11: Adoption of ODF		
Number of Toilets Built inside the Lease Area	Number of Toilets Built outside the Lease Area	Number of Beneficiaries
2	0	25

5.2.1.12: Awareness Program among Mine Workers for Swatchata	
Number of Swatchata Programmes Proposed	Number of Swatchata Programmes Held
1	1

5.2.1.13: Efforts for green energy	
Total energy consumption (KWh)	Green energy consumption (% of total)
3000000.00	17.00

5.2.1.14: Water & recycled use	
Total water consumption (KLD)	Water recycled (% of total)
750.00	10.00

5.2.2: 2026-2027

Details of Work Proposed during the Year / Measures Planned for the Affected Segment	Cumulative Work done / Measures Taken
5.2.2.1: Area to be Developed for Recreation	
Area (Ha)	Area (Ha)
0.25	0.40

5.2.2.2: Area for Water Storage & Recharge Facility	
Area (Ha)	Area (Ha)
0.03	0.04

5.2.2.3: Efforts Made towards Housing for Local Communities

Number of Houses	Number of Houses
0	0

5.2.2.4: Efforts Made towards Providing Transport to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
350	700

5.2.2.5: Efforts Made towards Providing Healthcare to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
5000	10000

5.2.2.6: Efforts Made towards Providing Hygiene & Sanitation to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
2700	5400

5.2.2.7: Efforts Made towards Skill Development Programs to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
30	51

5.2.2.8: Efforts Made to Promote Education & Knowledge Based Initiatives	
Number of Beneficiaries	Number of Beneficiaries
600	1200

5.2.2.9: Communication Facilities Provided to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
4000	8000

5.2.2.10: Any Other Steps Taken for Improving the Socio-Economic Standard of Local Communities	
Number of Beneficiaries	Number of Beneficiaries
100	180

5.2.2.11: Adoption of ODF		
Number of Toilets Built inside the Lease Area	Number of Toilets Built outside the Lease Area:	Number of Beneficiaries
0	0	0

5.2.2.12: Awareness Program among Mine Workers for Swatchata	
Number of Swatchata Programmes Proposed	Number of Swatchata Programmes Held
1	2

5.2.2.13: Efforts for green energy	
Total energy consumption (KWh)	Green energy consumption (% of total)
3000000.00	17.00

5.2.2.14: Water & recycled use	
Total water consumption (KLD)	Water recycled (% of total)
750.00	10.00

5.2.3: 2027-2028

Details of Work Proposed during the Year / Measures Planned for the Affected Segment	Cumulative Work done / Measures Taken
5.2.3.1: Area to be Developed for Recreation	
Area (Ha)	Area (Ha)
0.60	1.00

5.2.3.2: Area for Water Storage & Recharge Facility	
Area (Ha)	Area (Ha)
0.00	0.04

5.2.3.3: Efforts Made towards Housing for Local Communities	
Number of Houses	Number of Houses
4	4

5.2.3.4: Efforts Made towards Providing Transport to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
350	1050

5.2.3.5: Efforts Made towards Providing Healthcare to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
5000	15000

5.2.3.6: Efforts Made towards Providing Hygiene & Sanitation to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
2700	8100

5.2.3.7: Efforts Made towards Skill Development Programs to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
20	71

5.2.3.8: Efforts Made to Promote Education & Knowledge Based Initiatives	
Number of Beneficiaries	Number of Beneficiaries
600	1800

5.2.3.9: Communication Facilities Provided to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
4000	12000

5.2.3.10: Any Other Steps Taken for Improving the Socio-Economic Standard of Local Communities	
Number of Beneficiaries	Number of Beneficiaries
100	280

5.2.3.11: Adoption of ODF		
Number of Toilets Built inside the Lease Area	Number of Toilets Built outside the Lease Area:	Number of Beneficiaries
0	2	50

5.2.3.12: Awareness Program among Mine Workers for Swatchata	
Number of Swatchata Programmes Proposed	Number of Swatchata Programmes Held
1	3

5.2.3.13: Efforts for green energy	
Total energy consumption (KWh)	Green energy consumption (% of total)
5000000.00	20.00

5.2.3.14: Water & recycled use	
Total water consumption (KLD)	Water recycled (% of total)
750.00	12.00

5.2.4: 2028-2029

Details of Work Proposed during the Year / Measures Planned for the Affected Segment	Cumulative Work done / Measures Taken
5.2.4.1: Area to be Developed for Recreation	
Area (Ha)	Area (Ha)
0.15	1.15

5.2.4.2: Area for Water Storage & Recharge Facility	
Area (Ha)	Area (Ha)
0.03	0.07

5.2.4.3: Efforts Made towards Housing for Local Communities	
Number of Houses	Number of Houses
4	8

5.2.4.4: Efforts Made towards Providing Transport to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
350	1400

5.2.4.5: Efforts Made towards Providing Healthcare to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
5000	20000

5.2.4.6: Efforts Made towards Providing Hygiene & Sanitation to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
2700	10800

5.2.4.7: Efforts Made towards Skill Development Programs to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
20	91

5.2.4.8: Efforts Made to Promote Education & Knowledge Based Initiatives	
Number of Beneficiaries	Number of Beneficiaries
600	2400

5.2.4.9: Communication Facilities Provided to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
4000	16000

5.2.4.10: Any Other Steps Taken for Improving the Socio-Economic Standard of Local Communities	
Number of Beneficiaries	Number of Beneficiaries
80	330

5.2.4.11: Adoption of ODF		
Number of Toilets Built inside the Lease Area	Number of Toilets Built outside the Lease Area:	Number of Beneficiaries
0	2	50

5.2.4.12: Awareness Program among Mine Workers for Swatchata	
Number of Swatchata Programmes Proposed	Number of Swatchata Programmes Held
1	4

5.2.4.13: Efforts for green energy	
Total energy consumption (KWh)	Green energy consumption (% of total)
5000000.00	20.00

5.2.4.14: Water & recycled use	
Total water consumption (KLD)	Water recycled (% of total)
750.00	12.00

5.2.5: 2029-2030

Details of Work Proposed during the Year / Measures Planned for the Affected Segment	Cumulative Work done / Measures Taken
5.2.5.1: Area to be Developed for Recreation	
Area (Ha)	Area (Ha)
0.15	1.30

5.2.5.2: Area for Water Storage & Recharge Facility	
Area (Ha)	Area (Ha)
0.00	0.07

5.2.5.3: Efforts Made towards Housing for Local Communities	
Number of Houses	Number of Houses
0	8

5.2.5.4: Efforts Made towards Providing Transport to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
350	1750

5.2.5.5: Efforts Made towards Providing Healthcare to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
5000	25000

5.2.5.6: Efforts Made towards Providing Hygiene & Sanitation to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
2700	13500

5.2.5.7: Efforts Made towards Skill Development Programs to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
20	111

5.2.5.8: Efforts Made to Promote Education & Knowledge Based Initiatives	
Number of Beneficiaries	Number of Beneficiaries
600	3000

5.2.5.9: Communication Facilities Provided to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
4000	20000

5.2.5.10: Any Other Steps Taken for Improving the Socio-Economic Standard of Local Communities	
Number of Beneficiaries	Number of Beneficiaries
40	370

5.2.5.11: Adoption of ODF		
Number of Toilets Built inside the Lease Area	Number of Toilets Built outside the Lease Area	Number of Beneficiaries
0	2	50

5.2.5.12: Awareness Program among Mine Workers for Swatchata	
Number of Swatchata Programmes Proposed	Number of Swatchata Programmes Held
1	5

5.2.5.13: Efforts for green energy	
Total energy consumption (KWh)	Green energy consumption (% of total)
5000000.00	20.00

5.2.5.14: Water & recycled use	
Total water consumption (KLD)	Water recycled (% of total)
750.00	12.00

5.3: Rehabilitation & Resettlement of Affected Persons

Particular	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030
Proposed Number of Project Affected Persons(PAP)	0	0	0	0	0
Proposed Number of Person for Alternate Arrangement for Sustainable Livelihood	0	0	0	0	0
Proposed Number of Person for Skill Training	0	0	0	0	0
Proposed Number of Person Likely to get Direct Employment	0	0	0	0	0
Proposed Number of Person Likely to get Indirect Employment	0	0	0	0	0
Proposed Project Affected Families Skilled and Absorbed	0	0	0	0	0
Proposed Number of Project Affected Families	0	0	0	0	0

Chapter 6: Progressive Mine Closure Plan

6.1: Status of Land

Total Area Degraded					Total mined out area Reclaimed and Rehabilitated			Other Areas Reclaimed and Rehabilitated	
Total area under excavation in the lease		Area under Dumps(in hect)	Area under utility services(in hect)	Area under Stack yards(in hect)	Mined out Area Reclaimed but not rehabilitated(in hect)	Mined outArea fully Rehabilitated from Reclaimed area(in hect)	Area under Water Reservoir considered Rehabilitated (in hect)	Stabilized Waste dump Rehabilitated (in hect)	Virgin area under Green Belt (in hect)
Area under mining operation	Mined Out area in the lease								
40.90	0.00	0.00	18.38	0.03	0.00	0.00	0.00	0.00	0.00

6.2: Progressive Reclamation and Rehabilitation Plan

6.2.1: Backfilling

Quantity of Waste / Fill Material Available at Site (m^3)	Nil
Availability of Top Soil for Spreading (m^3)	Nil
Proposed Spread Area (m^2)	Nil

6.2.1.1: Year Wise Proposal

Sl.No	Year	Pit ID	Area (m^2)	Top RL	Bottom RL	Estimated Expenditure (₹ INR)
1	Nil	NA	Nil	Nil	Nil	Nil

6.2.2: Water Reservoir

Average Rainfall of The Area (mm)	1200.00
Proposed Area under Water Storage	0

6.2.2.1: Preparations For Ground Water Recharging

6.2.2.1.1: Drilling Holes	
Year	Proposed no of Holes to be Drilled
2025-2026	Nil
2026-2027	Nil
2027-2028	Nil
2028-2029	Nil
2029-2030	Nil

6.2.2.1.2:Preparation of Course Gravel Bed	
Year	Proposed Area of Bed (LxW)
2025-2026	Nil
2026-2027	Nil
2027-2028	Nil
2028-2029	Nil
2029-2030	Nil

Please specify, if others
Nil

6.2.2.2: Protective measures (Please specify running meter)

6.2.2.2.1: Fencing			
Year	Proposed Fencing Length (m)	Latitude(ddmmss.ss)	Longitude(ddmmss.ss)

		From	To	From	To
2025-2026	51.483	21:06:23.95	21:06:25.52	85:48:12.67	85:48:13.28
2026-2027	55.346	21:06:25.52	21:06:27.16	85:48:13.28	85:48:14.07
2027-2028	74.298	21:06:27.16	21:06:27.61	85:48:14.07	85:48:16.26
2028-2029	49.987	21:06:27.61	21:06:28.52	85:48:16.26	85:48:17.69
2029-2030	50	21:06:28.52	21:06:29.49	85:48:17.69	85:48:19.08

6.2.2.2.2: Retaining Wall

Year	Proposed Wall Length (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
		From	To	From	To
2025-2026	120.19	21:06:22.73	21:06:24.67	85:48:26.28	85:48:29.41
2026-2027	120.15	21:06:24.67	21:06:28.007	85:48:28.007	85:48:28.07
2027-2028	120.114	21:06:28.00	21:06:30.56	85:48:28.07	85:48:25.21
2028-2029	930.31	21:07:05.14	21:07:04.82	85:47:12.61	85:47:19.54
2029-2030	929.87	21:07:04.82	21:07:04.54	85:47:19.54	85:47:26.46

6.2.2.2.3: Garland Drains

Year	Proposed Bund Length (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
		From	To	From	To
2025-2026	122.802	21:06:22.67	21:06:24.67	85:48:26.31	85:48:29.48
2026-2027	121.829	21:06:24.67	21:06:28.05	85:48:29.48	85:48:28.12
2027-2028	122.169	21:06:28.05	21:06:30.63	85:48:28.12	85:48:25.20
2028-2029	929.846	21:06:30.63	21:06:29.52	85:48:25.20	85:48:21.23
2029-2030	931.086	21:06:29.52	21:06:28.14	85:48:21.23	85:48:17.42

6.2.3: Green Belt Development

6.2.3.1: Cumulative work done (upto end of previous block of five years)

Sl.No	Total Expenditure Incurred up to Last Year (INR)	Area Covered (Ha)	Number of Plants	Survival Rate (%)
1	0.00	Nil	Nil	Nil

6.2.3.2: Year Wise Proposal

Sl.No	Year	Green Belt Location (s)	Area Proposed to be Covered (Ha)	Number of Plants Proposed	Expected Survival Rate (%)	Estimated Expenditure (₹ INR)
1	2025-2026	21 6 17144 N to 21 6 8367 N 85 49 14909 E to 85 49 14223 E	0.2	700	90	800000.00
2	2026-2027	21 6 4357 N to 21 6 8025 N 85 49 14033 E to 85 49 14466 E	0.081	200	90	200000.00
3	2027-2028	21 6 4215 N 21 5 57215 N 85 49 13707 E to 85 49 14278 E	0.141	200	90	200000.00
4	2028-2029	21 5 55265 N 85 49 13591 E to 85 49 13916 E	0.035	200	90	200000.00
5	2029-2030	21 5 46324 N to 21 5 55002 N 85 49 13151 E to 85 49 13826 E	0.2	200	90	200000.00

6.2.4: Use of Shallow Pits

6.2.4.1: Cumulative Work Done (upto end of previous block of five years)

Sl.No	Pit ID	Work Done	Area covered (m^2)	Total Expenditure Incurred (up to last five year block) (₹ INR)

1	Nil	NA	Nil	Nil

6.2.4.2: Year Wise Proposal

Sl.No	Year	Pit ID	Total Area(Ha)	Area Proposed for Crops (Ha)	Suitable Crops	Area Proposed for Grass (Ha)	Total Proposed Expenditure (₹ INR)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Remarks
								From	To	From	To	
1	Nil	Not applicable	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

6.2.5: Pisciculture

6.2.5.1: Total Expenditure incurred as on Date (INR)	0

6.2.5.2: Cumulative work done as on Date

Sl.No	Pit ID	Area (m^2)	Expenditure (₹ INR)
1	Not applicable	Nil	Nil

6.2.5.3: Year Wise Proposal

Sl.No	Year	Pit ID	Area (m^2)	Estimated Expenditure (₹ INR)
1	Nil	Not applicable	Nil	Nil

6.2.5.4: Source of Water for Pisciculture	Not applicable
6.2.5.5: Whether the quality of water has been assessed & found to be suitable for Pisciculture	No

6.2.6: Recreational Facility

6.2.6.1: Total Expenditure Incurred (up to last five year block) (INR)	0.00

6.2.6.2: Cumulative work done as on Date

Sl.No	Pit ID	Area (m^2)	Expenditure (₹ INR)
1	Not applicable	Nil	Nil

6.2.6.3: Year Wise Proposal

Sl.No	Year	Type of Recreational Facility	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Estimated Expenditure (INR)
				From	To	From	To	
1	2025-2026	Park	0.50	21:06:22.04	21:06:27.44	85:48:15.40	85:48:12.45	250000.00
2	2026-2027	Open Gym	0.50	21:06:22.04	21:06:27.44	85:48:15.40	85:48:12.45	250000.00
3	2027-2028	Nil	Nil	Nil	Nil	Nil	Nil	Nil
4	2028-2029	Nil	Nil	Nil	Nil	Nil	Nil	Nil
5	2029-2030	Nil	Nil	Nil	Nil	Nil	Nil	Nil

6.2.7: Dump Area Stabilization & Development

Sl.No	Year	Dump ID	No of Terraces	Average Height of Terraces (m)	Length of Toe Wall (m)	Length of Garland Drain (m)	Area Stabilized (Ha)	Method of Stabilization	Estimated Expenditure (₹ INR)	No of Check Dams
1	Nil	Not applicable	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

6.2.8: Other Form of Reclaiming the Area

6.2.8.1: Cumulative work done as on Date

Sl.No	Total Expenditure incurred as on Date (INR)	Work Done
1	Nil	Not applicable

6.2.8.2: Year Wise Proposal

Sl.No	Year	Work Proposals	Estimated Expenditure (INR)
1	2025-2026	Not applicable	Nil
2	2026-2027	Not applicable	Nil
3	2027-2028	Not applicable	Nil
4	2028-2029	Not applicable	Nil
5	2029-2030	Not applicable	Nil

6.2.9: TopSoil Management

6.2.9.1: Cummulative Work Done as on Date

Sl.No	Top Soil Generated (m^3)	Top Soil Utilized (m^3)	Topsoil Stored (m^3)	Total expenditure incurred as on date (₹)
1	0.00	0.00	0.00	0.00

6.2.9.2: Year Wise Proposal

Sl.No	Year	Topsoil Generated (m^3) (A)	Topsoil Utilized (m^3) (B)	Topsoil Stored (m^3) (A-B)	Estimated Expenditure (INR)
1	2025-2026	0.00	0.00	0.00	0.00
2	2026-2027	0.00	0.00	0.00	0.00
3	2027-2028	0.00	0.00	0.00	0.00
4	2028-2029	0.00	0.00	0.00	0.00
5	2029-2030	0.00	0.00	0.00	0.00

6.2.10: Tailings Dam Management

Sl.No	Year	Yearly generation of Tailing (m^3) (A)	Total capacity of Tailing Pond (m^3)	Measures Proposed for Periodic Desilting	Yearly Utilization of Tailing (m^3) (B)	Disposal of Tailing to Tailing Pond (m^3) (A-B)	Tailing Dam Design	Structural Stability Studies
1	2025-2026	0.00	0.00	0	0.00	0.00	Nil	Nil
2	2026-2027	0.00	0.00	0	0.00	0.00	Nil	Nil
3	2027-2028	0.00	0.00	0	0.00	0.00	Nil	Nil
4	2028-2029	0.00	0.00	0	0.00	0.00	Nil	Nil
5	2029-2030	0.00	0.00	0	0.00	0.00	Nil	Nil

6.2.11: Land Use of Lease Area at the Expiry of Lease Period

Total Area Degraded				Non Degraded area	Total mined out area Reclaimed and Rehabilitated			Other Areas Reclaimed and Rehabilitated			
Mined Out area in the lease	Area under Dumps(in hect)	Area under the Tailing Dam	Area under utility services(in hect)	Area undistur bed/virgin	Mined out Area Reclaimed but not rehabilitated(i n hect)	Mined outArea fully Rehabilitated from Reclaimed area(in hect)	Area under Water Reservoir considered Rehabilitated (in hect)	Stabilized Waste dump Rehabilitated (in hect)	Virgin area under Green Belt (in hect)	Rehabilitated Area under utility services(in hect)	Rehabilitated Area under Tailing dam (in hect)
240	138.16	0.00	27.10	612.75	69.58	76.20	94.22	138.16	13.28	27.10	0.00

Chapter 7: Financial Assurance/ Performance Surety (AREA PUT TO USE)

2025-2026

Consolidated View of Financial Assurance

Sl.No	Particular	Area put to use at Start of Year (ha) (A)	Additional Requirement (ha) (B)	Total (ha) (C = A + B)
1	Area under Mining	40.90	2.47	43.37
2	Topsoil stacking	0.00	0.00	0.00
3	Overburden/Waste Dumping	0.00	0.00	0.00
4	Mineral Storage	0.03	0.00	0.03
5	Infrastructure (Workshop, Administrative Building etc.)	2.22	0.00	2.22
6	Roads	5.50	0.00	5.50
7	Railway	0.00	0.00	0.00
8	Tailing Pond	0.00	0.00	0.00
9	Effluent Treatment Plant	0.00	0.00	0.00
10	Mineral Separation Plant	10.66	0.00	10.66
11	Township Area	0.00	0.00	0.00
12	Others to specify	0.00	0.00	0.00
	Total	59.31	2.47	61.78

2026-2027

Consolidated View of Financial Assurance

Sl.No	Particular	Area put to use at Start of Year (ha) (A)	Additional Requirement (ha) (B)	Total (ha) (C = A + B)
1	Area under Mining	43.37	1.42	44.79
2	Topsoil stacking	0.00	0.00	0.00
3	Overburden/Waste Dumping	0.00	0.00	0.00
4	Mineral Storage	0.03	0.00	0.03
5	Infrastructure (Workshop, Administrative Building etc.)	2.22	0.00	2.22
6	Roads	5.50	0.00	5.50
7	Railway	0.00	0.00	0.00
8	Tailing Pond	0.00	0.00	0.00
9	Effluent Treatment Plant	0.00	0.00	0.00
10	Mineral Separation Plant	10.66	0.00	10.66
11	Township Area	0.00	0.00	0.00
12	Others to specify	0.00	0.00	0.00
	Total	61.78	1.42	63.20

2027-2028

Consolidated View of Financial Assurance

Sl.No	Particular	Area put to use at Start of Year (ha) (A)	Additional Requirement (ha) (B)	Total (ha) (C = A + B)
1	Area under Mining	44.79	4.34	49.13
2	Topsoil stacking	0.00	0.00	0.00
3	Overburden/Waste Dumping	0.00	0.00	0.00
4	Mineral Storage	0.03	0.00	0.03
5	Infrastructure (Workshop, Administrative Building etc.)	2.22	0.00	2.22

6	Roads	5.50	-0.05	5.45
7	Railway	0.00	0.00	0.00
8	Tailing Pond	0.00	0.00	0.00
9	Effluent Treatment Plant	0.00	0.00	0.00
10	Mineral Separation Plant	10.66	0.00	10.66
11	Township Area	0.00	0.00	0.00
12	Others to specify	0.00	Nil	Nil
	Total	63.20	4.29	67.49

2028-2029

Consolidated View of Financial Assurance

Sl.No	Particular	Area put to use at Start of Year (ha) (A)	Additional Requirement (ha) (B)	Total (ha) (C = A + B)
1	Area under Mining	49.43	3.99	53.32
2	Topsoil stacking	0.00	0.00	0.00
3	Overburden/Waste Dumping	0.00	37.90	37.90
4	Mineral Storage	0.03	0.00	0.03
5	Infrastructure (Workshop, Administrative Building etc.)	2.22	0.00	2.22
6	Roads	5.45	4.42	9.87
7	Railway	0.00	0.00	0.00
8	Tailing Pond	0.00	0.00	0.00
9	Effluent Treatment Plant	0.00	0.00	0.00
10	Mineral Separation Plant	10.66	0.00	10.66
11	Township Area	0.00	0.00	0.00
12	Others to specify	Nil	0.00	0.00
	Total	67.49	46.31	113.80

2029-2030

Consolidated View of Financial Assurance

Sl.No	Particular	Area put to use at Start of Year (ha) (A)	Additional Requirement (ha) (B)	Total (ha) (C = A + B)
1	Area under Mining	53.12	1.84	54.96
2	Topsoil stacking	0.00	0.00	0.00
3	Overburden/Waste Dumping	37.90	0.00	37.90
4	Mineral Storage	0.03	0.00	0.03
5	Infrastructure (Workshop, Administrative Building etc.)	2.22	0.00	2.22
6	Roads	9.87	0.00	9.87
7	Railway	0.00	0.00	0.00
8	Tailing Pond	0.00	0.00	0.00
9	Effluent Treatment Plant	0.00	0.00	0.00
10	Mineral Separation Plant	10.66	0.00	10.66
11	Township Area	0.00	0.00	0.00
12	Others to specify	0.00	0.00	0.00
	Total	113.80	1.84	115.64
	Grand Total			115.64

Financial Assurance

Financial Assurance

Category A Mining Lease

Total Area Proposed to be put to use in	Amount of Bank Guarantee (Lac INR)	Valid till (dd/mm/yyyy)	Upload copy of Bank Guarantee as attachment

heet(Year 1 to 5)			
115.64	578.20	31/03/2030	Bank Guarantee_Daitari.pdf

Category B Mining Lease

SLNo	Total Area Proposed to be put to use in heet(Year 1 to 5)	Amount of Bank Guarantee (Lac INR)	Valid till (dd/mm/yyyy)	Upload copy of Bank Guarantee as attachment
1	Nil	Nil	Nil	Nil

Chapter 8: Review of Previous Proposals (Not applicable for fresh grant)

8.1: General

8.1.1: Lease Area Utilization

Sl. No.	Type of land use (in ha)	Area at the beginning of the proposal period	Area proposed under activity	Actual Area utilized in the proposal period	Deviation	Reasons for deviation
1	Mining	40.90	10.69	0.00	-10.69	The production achieved during last plan period was less due to partial-availability of EC for 6 Million tonnes. The EC for rest period was for 3 million tonnes. So due to less production there was less development of quarry. The quarry development was confined within the existing pit of the last plan period i.e. 40.9 Ha.
2	Mineral storage	0.33	0.00	0.00	0	No proposal given as the area covered under existing mineral stock area.
3	Mineral Beneficiation plant	10.66	0.00	0.00	0	Nil
4	Township	0.00	0.00	0.00	0	Nil
5	Tailing Pond	0.00	0.00	0.00	0	Nil
6	Railways	0.00	0.00	0.00	0	Nil

7	Roads	5.50	0.00	0.00	0	Nil
8	Infrastructure (Workshop, administrative building etc.)	2.22	0.00	0.00	0	Nil
9	OB/waste dump	0.00	0.00	0.00	0	Nil
10	Top soil preservation	0.00	0.00	0.00	0	Nil
11	Others	0.00	0.00	0.00	0	Nil
12	Total area put to use	59.33	0.00	0.00	0	Nil
13	Excavated area reclaimed	0.00	0.00	0.00	0	Nil
14	Waste dump area reclaimed	0.00	0.00	0.00	0	0
15	Undisturbed Area	959.00	10.69	0.00	Nil	Nil
	Total	1018.33	10.69	0.00	-10.69	

8.1.2: SDF and CSR Expenditures

Activity	Proposals		Achievement	Deviation	Reasons for deviation
Total expenditure incurred for implementation of SDF at mine level including - Environment Protection - CSR & other welfare activities in peripheral area (Explanation: Expenditure is not over and above the statutory levies imposed by the Government; However, THIS EXCLUDES CONTRIBUTION TO DMF & NMET and is over and above the statutory levies imposed by the Government.)	10% of Royalty (a)	Total Expenditure for SDF implementation (b)			
CSR (Corporate Social	450795323.00	53740090.50	313803827.00	0.00	Nil

Responsibility) spending at the mine level in Proposal Period (as per Companies Act, 2013 or otherwise)					

8.2: Technical Details

8.2.1: Exploration

Particulars	Proposals			Achievement			Deviation			Reasons for deviation
	Boreholes	Pits	Trenchs	Boreholes	Pits	Trenchs	Boreholes	Pits	Trenchs	
Number of Borcholes/ Pits/ Trenches	313	0	0	Nil	Nil	Nil	-313	Nil	Nil	The remaining boreholes could not be completed due to want of forest clearance beyond the present diverted forest area
Borcholes Meterage (If Borcholes selected in first row) (m)	31300			0			-31300			The deviation meterage could not be completed due to want of forest clearance beyond the present diverted forest area 95.60ha & the depth of boreholes proposed 300m or till the end of mineralisation. So the above 52nos boreholes

				drill
Grid	100200	0	[illegible]	Due to non availability of diverted forest area.
G Axis upgradation during Proposal Period as per guidelines of MEMC Rule 2015)	854.91	0	-854.91	Due to non availability of diverted forest area.
Area converted under G1 from G2/G3	0	0	0	Due to non availability of diverted forest area the exploration by core drilling was done only 95.6Ha of broken up area..

8.2.2: Mine Development (Opencast/ Underground/ Both/ Dump Mining)

Particulars	Proposals	Actual	Deviation	Reasons for deviation
8.2.2.1: Generation of Ore/Waste While Development				
Ore	1800000	995000	-805000	The review is given for FY 2022-23 to 2024-25(upto 30.06.2024). The ROM production during FY 2022-23 was less due to EC granted delayed.
Waste	575000	0	-575000	The review is given for FY 2022-23 to 2024-25(upto 30.06.2024),Less production and less waste generation
Generated Waste while ROM recovery	0	0	0	0

Dumping Site (For Surface)	Road making	Road making	0	0
Removal of waste/ over burden in cubic meters	575000	0	-575000	The review is given for FY 2022-23 to 2024-25(upto 30.06.2024).Less production and less waste generation
8.2.2.2: Excavation				
Lateral extent	2334621852333421483765067037572741	2334621852333421483765067037572741	0	Nil
Vertical extent	810740	810740	0	Nil

8.2.3: Mining operation: Dump Mining

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
Handling of Material	0	0	0	0
Waste Generated post recovery	0	0	0	0
Dumping site for waste	0	0	0	0

8.2.4: Zero Waste Mining

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
Alternative use / Disposal of Waste Generated (excluding top soil)	30000.00	0.00	-30000.00	Less production and less waste generation

8.2.5: Backfilling

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
Site (Co-ordinates)	0	0	0	No proposal
Area	0	0	0	No proposal
Depth	0	0	0	No proposal
Volume Backfilled (CuM)	0	0	0	No proposal
Backfilled Area available for	0	0	0	No proposal

Reclamation and Rehabilitation				
Backfilled Area Reclaimed and Rehabilitated	0	0	0	No proposal
Balance Backfilled Area	0	0	0	No proposal

8.2.6: Production of Mineral(s)

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
8.2.6.1: ROM				
Opencast	18000000.0000	9950000.0000	-8050000.0000	Review has been given for the plan period from 2022-23 to 24-25. The achivement has been given from 01.04.2022 to 30.06.2024. up to 30.06.2024.EC for 6 million tonne was delayed leading to less production
8.2.6.2: Cleaned Ore				
Opencast	18000000.0000	9950000.0000	-8050000.0000	Review has been given for the plan period from 2022-23 to 24-25. The achivement has been given from 01.04.2022 to 30.06.2024. up to 30.06.2024.EC for 6 million tonne was delayed leading to less production
Dump Mining	0.0000	0.0000	0.0000	No proposal
Recovery from Mineral Rejects or Tailings	0.0000	0.0000	0.0000	No proposal
Total	18000000.0000	9950000.0000	-8050000.0000	Review has been given for the plan period from 2022-23 to 24-25. The achivement has been given from 01.04.2022 to 30.06.2024. up to 30.06.2024.EC for 6 million tonne was delayed leading to less production

8.2.7: Handling of Mineral Rejects/ Sub-Grade

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
Generation of mineral rejects				
Opencast	620000	174500	-445500	Less production due to want of EC and hence less Mineral reject generation
Dump Mining	0	0	0	No proposal
Other recovery	0	0	0	No proposal
Stacking of mineral rejects/ sub-grade mineral (Dump Id)	0	0	0	No proposal
Blending of mineral reject / sub-grade	620000	174500	-445500	Less production due to want of EC and hence less Mineral reject generation

8.2.8: Environment Compliances

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
8.2.8.1: Top soil				
Generation	0	0	0	Nil proposal
Utilization	0	0	0	No proposal
Stacking (Dump Id)	0	0	0	No proposal
Reclamation	0	0	0	No proposal
Rehabilitation	0	0	0	No proposal
8.2.8.2: Afforestation (Dumps/Benches/Backfilled Area etc.)				
2022 - 2023	Nil	Nil	0	NA
2023 - 2024	Nil	Nil	Nil	NA

2024 - 2025	225	Nil	Nil	Nil
Nil	Nil	Nil	Nil	Nil
Nil	Nil	Nil	Nil	Nil
8.2.8.3: Afforestation (Green Belt)				
2022 - 2023	100	100	0	Nil
2023 - 2024	225	717	492	Nil
2024 - 2025	225	156	-69	Less plantation due to non-availability of saplings.
Nil	Nil	Nil	Nil	Nil
Nil	Nil	Nil	Nil	Nil
Construction of check dams	0	0	Nil	Nil
Construction of Garland Drain (in meter)	553	580	Nil	Nil
Construction of Retaining Walls (in meter)	545	550	Nil	Nil
8.2.8.4: Tailings				
Generation	Nil	Nil	Nil	Nil
Utilization	Nil	Nil	Nil	Nil
Disposal	Nil	Nil	Nil	Nil

8.3: Socio-Economic Review

8.3.1: Rehabilitation & Resettlement for Project Affected People

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
No. of Project Affected People (PAP)	0.0000	0.0000	0.0000	No proposal

%age of PAP for whom alternate arrangements made for sustained livelihood	0.0000	0.0000	0.0000	No proposal
% of project affected families given employment	0.0000	0.0000	0.0000	No proposal
% of project affected families who have been skilled by the lessee and absorbed (% of total employment given to affected families)	0.0000	0.0000	0.0000	No proposal

8.3.2 : Grievance Redressal

Grievances Received	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025
	0	0	0	7	20
Grievances Redressed	0	0	0	0	0

8.3.3: Welfare and socio-economic development programs for local communities

Particulars	2020 - 2021	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025
8.3.3.1 Support for Drinking Water & Agriculture					
No. of Water Storage Tanks constructed	0	1	1	1	0
Drinking Water Facilities provided (Bore wells/ Pumps etc.)	2	0	0	3	0
Irrigation Support provided (Canals/ Pumps etc.)	0	0	0	1	0
No. of Water tanks De-silted	3	2	5	1	0
Water Treatment facilities provided (A/NA)	0	0	0	0	0
Amount of Water treated (in kL) (if selected A in above)	0	0	0	150	302
8.3.3.2 Support to Health & Medical Services					

No. of persons identified from Occupational health diseases	0	0	0	0	0
No. of Health Camps/ Medicine Camps Organized	12	12	12	64	48
8.3.3.3 Support to Skill development & Education					
Vocational Training Provided/ Support Provided					
No. of employees undergone Vocational training	61	44	176	135	33
No. of other persons undergone Vocational training	3	29	70	105	76
Number of Literacy & Education Camps held/ Supported	2	2	2	3	3
8.3.3.4 Support to Transportation Services & Infrastructure					
Expenditure on Transportation Services & Infrastructure	70	125	252.63	115	90
Road development (m) in the peripheral area (not lease area)	1200	1800	3700	2200	1750
No. of Public transport support provided (Ambulance/Buses/ School Vans etc)	5	5	5	5	5
8.3.3.5 Swatchata Programs: Creating/providing sanitation and healthy condition in and around the mine area					
Adoption of ODF within mining lease area					
No. of Toilets built in the Lease Area	0	0	0	2	0
Adoption of ODF in nearby villages					
No. Of Toilets built in the villages	0	42	60	67	0
Provision for greenage recreational facility (Within Lease Area/ Outside)					
Recreational Area Type (Picnic Spot/ tracks/Park Etc)	0	2.1525	0.4238	0.2560	0

Area covered (For within Lease Area only)	0.045	0	0.045	0.2	0
Awareness program among Mine workers for Swatchata					
No. of Swatchchta Programmes held	1	1	1	1	0

Chapter 9 : Impact Assessment (NA)

Chapter 10: Annexures

1. Upload Document

1.1 Upload Document

Sl.No.	Title	Is Upload	Document (only pdf allowed)
1	Letter of Intent /Letter of lease grant	Nil	Grant_Order_of_Daitari_.pdf
2	Copy of lease deed executed	Nil	Lease_Deed_&_SLD.pdf
3	Copy of Declaration of Owner/Nominated Owner in case of Company/partnership firm	Nil	Copy_of_Declaration_of_Owner_Nominated_Owner_in_case_of_Companypartnership_firm.pdf
4	ID & Address Proof of Owner/ Nominated Owner	Nil	ID_&_Address_Proof_of_Owner_Nominated_Owner.pdf
5	Copy of Environment and Forest Clearence, Consent to Establish, Consent to Operate	Nil	EC_FC_CTE_CTO.pdf
6	Copy of Registration of Company (RoC)/Partnership firm (Registration) & Deed	Nil	Copy_of_Registration_of_Company(RoC)Partnership_firm_(Registration)_&_Deed.pdf
7	Consent letter for Qualified Person	Nil	Consent_Daitari.pdf
8	Experience & Qualification Details of Qualified Person	Nil	Experience_&_Qualification_Details_of_Qualified_Person.pdf
9	Certificate from QP	Nil	QP_certificate_of_Daitari.pdf
10	Copy of Bank Guarantee	Nil	Bank_Guarantee_Daitari.pdf
11	Copy of Performance Surety	Nil	Material_balance_chart.pdf
12	Copy of MDPA (as applicable)	Nil	Stacking_Permission.pdf
13	Exploration details	Nil	Sinking_of_Boreholes(Form-D).pdf
14	Copy of feasibility Report	Nil	Pre-feasibility_report_Daitari.pdf

15	Copy of Study reports conducted as per Para 4.3.1	Nil	Bulk_density_Test_report_Daitari.pdf
16	Chemical and Mineralogical analysis report	Nil	Chemical_analysis_report.pdf
17	Any other Report or Certification as required in the submitted Document.	Nil	COMPLETE_ANALYSIS_Report.pdf
18	Copy of Scale relaxation approval granted(if applicable)	Yes	Permission scale.pdf
19	Mineral processing flowsheet with stage wise recovery	Nil	Mineral_processing_flowsheet.pdf
20	Any Other (1)	Yes	Final_section_wise_Wt_avg_grade_&_future_exploration_Proposal.pdf
21	Any Other (2)	Yes	Production sheet Forest_Approval_letter_Prospecting_Guidelines__Daitari.pdf

Chapter 11: Plates (OC)

1. Upload Document

1.1 Upload Document

S.N.	Title	Is Upload	Document
1	Lease sketch plan;	Nil	KEY_PLAN.pdf
2	Surface Plan (.KMZ format)(Georeferenced); A statutory plan as per MCDR, 2017. The Plan should be submitted showing different color codes for:(1) Active Pits & Excavation area(2) Excavated area reclaimed & rehabilitated (3)Active dumps (4) Stabilized & rehabilitated dump area , (5) Green belt (6) Mineral Stacks (7) Utilities such as plant, buildings etc (8) Lease boundary along with other details.)	Nil	1_Daitari_Surface_Plan_.kmz
3	Surface Geological Plan of the lease (.KMZ format)(Georeferenced); The Plan should be submitted showing different color codes for : (1) Lithological/Geological Occurance (2) Area under G1,G2,G3 & G4 (3) Active pits & Excavation area (4) Dump Area (5) Mineral Stacks (6) Lease boundary along with other details.)	Nil	1_Daitari_Geological_Plan_.kmz
4	Surface Geological sections (in Pdf format); Geological sections with different color coding depicting all the features shown in Surface Geological Plan.)	Nil	GEOLOGICAL_SECTION.pdf
5	Five year Production and Development plan (.KMZ format)(Georeferenced); The Plan should be submitted showing different color coding for: (1) Active Pit and Excavation area ,	Nil	1_Daitari_Development_Plan_.kmz

	(2) Year wise excavation proposal for year I to V ((3) Active dump and yearwise dump proposal for year I to V (4) Year wise Dump working proposal for year I to V (6) Lease boundary (with reference to chapter 4) along with other details.)		
6	Five year Production and Development sections (in pdf format); Year wise excavation and dumping proposals with different color coding depicting all the features as shown in the Five year Production and development plan.)	Nil	DEVELOPMENT_SECTION_.pdf
7	Progressive Mine Closure Plan (.KMZ format)(Georeferenced); The Plan should be submitted showing different color coding for : (1) Yearwise excavated area Reclaimed & rehabilitated for year I to V (2) Year wise dump area to be stabilized and dump area to be rehabilitated for year I to V (3) Year wise Green area proposed from year I to V.(4) Any other reclamation and rehabilitation measures proposed.(5) Lease boundary (with reference to chapter 6) along with other details.)	Nil	2_Daitari_PMCP.kmz
8	Progressive mine Closure sections (in pdf format); Year wise Progressive mine clouser sections showing all the yearwise reclamation, rehabilitation proposals as depicted in the Progessive mine clouser plan.)	Nil	PMCP_SECTION.pdf
9	Conceptual Plan (.KMZ format)(Georeferenced); The Plan should depict the status of lease area as envisaged at the end of life of Mine showing all the details. Status of land use shall be depicted by different color coding.)	Nil	1_Daitari_Conceptual_Plan.kmz
10	Conceptual Sections (pdf) format;	Nil	CONCEPTUAL_SECTION.pdf
11	Geo referenced Cadastral Plan. Duly certified by the State Government)	Nil	Daitari_Precise_Area_.pdf
12	Financial Assurance Plan (KMZ);	Nil	3_Daitari_FA_.kmz

13	Environmental Plan (KMZ format)(Georeferenced); As per MCDR, 2017 indicating all the details.)	Nil	1_Daitari_Environmental_Plan_.kmz
14	Any other plan/section as deemed necessary by approving authority;	Yes	KEY_PLAN.pdf
15	Five Year Production and Development sections (in pdf format);	Yes	DEVELOPMENT_SECTION.pdf
16	LEVEL WISE SLICE PLAN; LEVEL WISE SLICE PLAN (PDF FORMAT IN VISIBLE SCALE))	Yes	SLICE_PLAN.pdf
17	Zipped shp file of the lease boundary; Upload a single zipped file of the lease boundary)	Nil	1_ML_Boubdary.zip
18	Zipped shp file of the boundary pillars; Enter a single zipped file of the boundary pillars.)	Nil	1_ML_Pillar.zip
19	Zipped shp file of the Production and Development plan for respective proposal year - 2025-2026; Upload a zipped shape file indicating a separate production and development plan for each respective proposal year)	Nil	1_2025-26_Quarry.zip
20	Zipped shp file of the Production and Development plan for respective proposal year - 2026-2027; Upload a zipped shape file indicating a separate production and development plan for each respective proposal year)	Nil	1_2026-27_Quarry.zip
21	Zipped shp file of the Production and Development plan for respective proposal year - 2027-2028; Upload a zipped shape file indicating a separate production and development plan for each respective proposal year)	Nil	1_2027-28_Quarry.zip
22	Zipped shp file of the Production and Development plan for respective proposal year - 2028-2029; Upload a zipped shape file indicating a separate production and	Nil	1_2028-29_Quarry.zip

	development plan for each respective proposal year)		
23	Zipped shp file of the Production and Development plan for respective proposal year - 2029-2030; Upload a zipped shape file indicating a separate production and development plan for each respective proposal year)	Nil	1_2029-30_Quarry.zip
24	Zipped shp file of the Dump plan for respective proposal year - 2025-2026; Upload zipped file of the dump plan separately for each respective proposal year)	Nil	1_2025-26_Dump.zip
25	Zipped shp file of the Dump plan for respective proposal year - 2026-2027; Upload zipped file of the dump plan separately for each respective proposal year)	Nil	2026-27_Dump.zip
26	Zipped shp file of the Dump plan for respective proposal year - 2027-2028; Upload zipped file of the dump plan separately for each respective proposal year)	Nil	1_2027-28_Dump.zip
27	Zipped shp file of the Dump plan for respective proposal year - 2028-2029; Upload zipped file of the dump plan separately for each respective proposal year)	Nil	1_2028-29_Dump.zip
28	Zipped shp file of the Dump plan for respective proposal year - 2029-2030; Upload zipped file of the dump plan separately for each respective proposal year)	Nil	1_2029-30_Dump.zip

Chapter 11 : Plates(UG) : NA

ANNEXURE – IX

पर्यावरण प्रबंधन प्रभाग
Environment Management Division
विस्तार निदेशालय
Directorate of Extension
भारतीय वानिकी अनुसंधान एवं शिक्षा परिषद्
Indian Council of Forestry Research & Education
(पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार की एक स्वायत्त परिषद्)
(An Autonomous Body of Ministry of Environment, Forest & Climate Change, Govt. of India)
पो० ओ० न्यू फॉरेस्ट, देहरादून – 248 006
P.O. New Forest, Dehradun-248006 (Uttarakhand)

F. No. 1-99/2019-ADG (EM)/IOM-DML(WL)-OMC/ICFRE/1101 Dated: 15.07.2024

To

The Chief Vigilance Office and Land Officer
Forest & Environment Section
Odisha Mining Corporation Limited (OMCL)
Govt. of Odisha, Bhubaneswar

Subject: Proposal for diversion of balance forest land of 746.3325 ha in favour of M/s. OMC Ltd. within total forest land of 846.3995 ha located within approved Mining Lease area of 1018.3085 ha for Iron Ore Mining in Daitari Mining Lease in Cuttack Forest Division of Jajpur District and Keonjhar (WL) Division of Keonjhar District, Odisha – reg.

Reference: Your office letter No. 10453/OMC/F&E/2024 dated 26.06.2024

Sir

With subject and reference as cited above, please find reply from the ICFRE pertaining to conditions no. iii and vii as under:

Condition No.	Condition	Reply from the ICFRE
iii.	A considered opinion on impact of mining operations on 28 rare, endangered and threatened species found in the area and mitigation measures proposed for their conservation and protection.	▪ Mining operation will lead to loss of habitat of 10 RET species reported from core zone. However, common occurrence of 09 species among these in buffer zone will provide habitat for their survival and sustenance. ▪ RET species- *Entada rheedei* only recorded from core zone is under threat due to loss of its habitat resultant from mining operation. Therefore, it is required to be protected through *ex-situ conservation*. A Species Specific Conservation Plan for this species is required to be prepared and implemented. ▪ Threat to 27 RET species has been suggested to be mitigated though *in-situ* conservation in Chapter-7, section 7.3.1.1 at page 417 of the final report-vol-I (*Annexure-I*).
vii.	The revised cost benefit analysis after	▪ A comparative account of ES&G losses

Contd.

Condition No.	Condition	Reply from the ICFRE
	accounting the EG&S lost and net economic gains from project to be submitted by the State.	under column I-IV for different scenarios of forest diversion (i.e. 248.647 ha, 317.541 ha, 746.33 ha and 1018.30 ha) area and benefits from enhanced iron ore production @ 6MTPA beside net economic gain/expected profit is given in Table- 5.8, Chapter-5, page 353 of the final report-vol-I (*Annexure-II*). Further ES&G losses in monetary terms for ICFRE suggested forest diversion (248.647 ha) in given at Column-I of the Table 5.8

Further, please feel free to contact this office for any further clarification in the matter. It is also requested to release the balance funds due in favour of the ICFRE at an early date please.

This is for information and needful.

Thanks

Yours faithfully,

Encl.- As above

(Dr. A. N. Singh) 15/07/24

Asstt. Director General (EM)

Copy to: DDG (Extn.), ICFRE for information.

As a result of various alternatives discussed in the report an area of 309.66 ha *i.e.*, 41.49% will be utilised against the OMCL applied diversion area (746.33 ha) and therefore 58.51% of forest area from the applied area will be available for maintaining the forest cover intact, if expansion is considered by MoEF&CC.

The area (309.66 ha) suggested by ICFRE for mining and allied activities for DIOM of M/s. OMCL have considerably contributed to reduction forest area applied for diversion and approved in the mining plan (2020-25). The area suggested to preserve intact within the core area of the mine lease area is documented with significant stand density (1753.19 ind./ha), 3.50 Shannon wiener index and significant number of RET species as compared to the proposed mine site will facilitate in maintain the forest cover in the core of the mine lease also part of proposed corridor Similipal and Saktosia. The proposed forest area to be preserved intact 613.05 ha (include 28.21 ha non-forest area) shall be made in association with the State Forest Department that fall both in Keonjhar Wild life Division and Cuttack Forest Division, also part of the proposed corridor has connectivity with the adjacent forest cover. The proposed forest area (613.05 ha) to be preserved will continue to provide the environmental service specific to the forest for the wellbeing of the dependants

7.3.1.1 Terrestrial flora

The Mining Lease Area (MLA) and its buffer zone is very important in view of its phytogeography and occurrence of Rare, Endangered and Threatened (RET) plant species. A total of 28 **RET plant species** were reported from the entire area *i.e.*, both in core and buffer areas. The RET plants are having conservation importance needs to be rehabilitated appropriately (*In-situ* conservation) within their natural habitat prior to initiation of mining and its allied activities in the proposed area.

7.3.1.2 Habitat protection

The abundance and diversity of animal species is largely dependent on the availability of suitable habitats and characteristic vegetation cover on which they depend for their various biological needs. The approved **Site-Specific Wildlife Conservation Plan** for Daitari iron ore mine with a total financial outlay of Rs. 2,410.015 Lakhs as on 16.08.2018 holistically dealt with the measures required for conservation of wildlife in Keonjhar Wildlife Division and Cuttack Forest Division. In addition, following are the specific recommendations for appropriate implementation to achieve additional safeguards to enhance the habitats for wildlife forms.

7.3.1.3 Terrestrial fauna (wildlife)

- The 11 km long conveyer belt that starts from Hill Top pit to Baliparbat Stockyad and passes through both the Talapada and Baliparbat beats of Keonjhar WL Division hampers the free movement of wildlife in the forest corridor connecting the Similipal and Satkosia Tiger Reserves. It is therefore recommended to raise the height of the conveyer belt to six to eight meters at the place of five to six meters as in draft report (changes made 6-8

Environmental Service Loss and Economic Benefit

Benefit analysis for proposed production enhancement from 3 MTPA to 6 MTPA to extract 168.668MT for 28 years using direct and indirect benefit expected to incurred were estimated using statistical data projecting cost escalation and Social Discount Rate (SDR). Environmental loss estimated for the forest area as comparative for the life of mine (28 years), the rotation period of the forest (64 years) and total (28+64=92 years) estimated for 1%,4% and 10% Social Discount Rate (SDR) are presented in Table 5.8. The value for the forest increases with the decrease in SDR.

Table 5.8: Comparative analysis of ecological service loss for the forest area and economic benefit perceived to be incurred for the enhanced production of iron ore 6 MTPA for DIOM, OMCL, Odisha

Ecological service loss monetary valuation for the forest area perceived to be lost due to mining					
No. of Years	SDC	Net Present Value (Rs. in crore) 248.647 ha	Net Present (Rs. in crore) 317.541 ha	Net Present Value (Rs. in crore) 746.33 ha	Net Present Value (Rs. in crore) 1018.3* ha
28 years (Life of mine)	4%	1,923.54	2,208.72	3,983.68	5,109.49
64 years (Rotation period of moist deciduous forest)		2,651.43	3,044.53	5,491.15	7,042.98
92 years (Total)		2,807.73	3,224.08	5,814.86	7,458.17
28 years (Life of mine)	1%	2,807.02	3,223.19	5,813.39	7,456.29
64 years (Rotation period of moist deciduous forest)		5,437.42	6,243.58	11,261.01	14,443.43
92 years (Total)		6,922.26	7,948.56	14,336.12	18,387.60
28 years (Life of mine)	10%	1,074.32	1,233.60	2,224.94	2,853.73
64 years (Rotation period of moist deciduous forest)		1,151.78	1,322.55	2,385.36	3,059.48
92 years (Total time)		1,154.19	1,325.31	2,390.35	3,065.88

248.647 ha is the ICFRE suggested forest area; 317.541 ha is as per DIOM mine plan 2020; 746.33 ha is the area applied for diversion to MoEF&CC by M/s. OMCL; 1018.3 ha is the total mine lease area comprising of 846.39950 ha forest area for which the ecological service was quantified; SDC= Social Discount Rate. 4% as per the directions of Hon'ble Supreme Court

Economic benefit monetary valuation for the enhance production of Iron ore reserve 6 MTPA for 28 Years of life (life of mine) summary of the benefit

	SDC	Approach-I (Rs. in crore)	Approach -II (Rs. in crore)
Number of years 28 years / 6 MTPA	2%*		
		Total revenue = Rs 52618 Cr	Total revenue = Rs. 105584.56 Cr
		Expected profit =15825Cr	Expected profit =31531.82Cr
		Taxes & royalty = Rs 21153 Cr	Taxes & royalty = Rs 42123.52 Cr

SDC- Social Discount Rate
Approach -I the price for the enhance production of 6 MTPA were assumed constant
Approach -II production and sale value used to estimate the annual growth rate @ 6.8% for projection for 28 years.
*Hon'ble Supreme Court 2005-page 10 para 4- Social discount rate non-renewable can be as low as 1-2%

Compliance to Point No. viii raised by MoEFCC, Govt. of India vide letter No. B-28/2015 FC dt.17.05.2024 regarding Comment on the economic feasibility of mining operations over reduced area for Iron Ore Mining in Daitari Mining lease.

BACKGROUND:

In response to the observations of the Advisory Committee (AC) in its meeting dated 30.04.2024, regarding the economic feasibility of mining operations over a reduced area in this ecologically sensitive zone, the following submissions are respectfully furnished:

The proposal has been carefully re-evaluated in light of ICFRE's recommendations and the AC Sub-Committee's suggestions for further area reduction. While fully appreciating the conservation imperatives of this pristine landscape, our technical analysis demonstrates that sustainable mining remains viable within the revised parameters. Below we present: (1) a detailed feasibility assessment of the reduced operational area, (2) chronological sequence of reduction of the Mining area and (3) economic safeguards to maintain project viability.

ICFRE's carrying capacity study has comprehensively assessed the impacts of area reduction through a comparative analysis of three alternative scenarios alongside a Business-as-Usual case, applying sustainable development principles to minimize environmental, forest, and socioeconomic effects. This evaluation was based on the mining plan approved with an area of 992.2904 Ha. out of 1018.3085 Ha. earmarked for mining and allied activities during the plan period of 2016-17 to 2019-20, which was revisited for reduction initially to confine mining and allied activities within 488.64 Ha. during the subsequent plan period 2020-21 to 2024-25 and further reduced to 405.26 Ha. in the current plan period i.e. 2025-26 to 2029-30 based on the resource/reserve data as of 30-06-2024. The economic viability assessment for the reduced area is based on multiple critical factors e.g. mining technology (including HEMM fleet configuration and mechanization scale), safety parameters, statutory mining regulations, plan modifications, and updated reserves as reflected in the currently approved mining plan.

PART-I (BASED ON MINERALIZATION STATUS)

As of 30-06-2024, Daitari Iron Ore Mines (DIOM) has established mineralization across 163.40 Ha (16.04% of ML area), with G1 (60.11 Ha.) and G2 (103.29 Ha.) reserves, while the remaining 854.91 Ha. (i.e 83.96% of ML) remains in G4 reconnaissance stage. Total resources stand at 176.58 million tonnes (including 176.03 Mt probable reserves and 541,795 tonnes blocked below ultimate pit depth). Restricting mining to 240 Ha. would render 541,795 tonnes inaccessible due to depth constraints, causing projected losses of:

- **Revenue:** ₹270.57 crore (at ₹4,994/tonne sale value)
- **Royalty:** ₹37.88 crore
- **DMF:** ₹10.61 crore
- **NMET:** ₹0.76 crore

The current plan allocates 240 Ha. for mining, 138.16 Ha. for dumping, and 27.10 Ha for utilities, whereas only 163.40 Ha. has proven resources. Without full exploration, the economic impact of further area reduction remains unquantifiable—especially since deeper extraction requires lateral expansion for bench development and also the Sindurmundi deposit divided into two sections - the western **Sindurmundi I** (approximately 800m long) and eastern **Sindurmundi II** (about 1000m long) – features a structural disturbance zone with four distinct faults, with a depth persistence reaching about 250m for both Sindurmundi deposits and approximately 300m for the Hill Top deposit.

The current mine configuration (proposing 240 Ha operational area) demonstrates strong economic viability, as evidenced by the 10-year cash flow analysis in the PFR showing a positive NPV and robust IRR of approximately 68%. These financial metrics confirm the project's commercial feasibility at the proposed scale, while also indicating that any further area reduction would jeopardize this viability. (**Pre-feasibility report Attached**).

PART-II (CHRONOLOGY OF AREA REDUCTION)

The mining lease was originally granted for 1,813 ha (7 sq. miles) to OMC in 1965. Following GSI's assessment, 794.68 ha of non-ore bearing land was surrendered, retaining 1,018.31 ha.The current proposal seeks diversion of 746.33 ha forest land (95.6 ha already diverted in 2005). As per MoEFCC directives, 112 ha has been conserved as a wildlife buffer (OMC undertaking dated 16.02.2018).

ICFRE's recommendations have optimized operations:

- Mining area reduced from 569.56 ha to 240 ha
- Dump area decreased from 280.47 ha to 138.16 ha.
- Total operational footprint cut from 992.29 ha to 405.26 ha

PART-III (COMMENT W.R.T ALTERNATIVES ASSESSED BY ICFRE)

1. **Business As usual Scenario: Mining confined to Hill Top deposit -Within broken up area of 79.18 ha. out of 95.6 ha. with maximum working depth of 690 MRL**
   - Net Reserve:115 M (Accessible Reserve: 25.01 MT& Blocked Resource ~90 MT)
   - Mine Life @ 6 MTPA: 4 years,
   - No generation of OB thus no additional land required.

2. **ALTERNATIVE-1: Mining confined to Hill Top deposit (both North pit as well as south pit) - Within broken up area of 79.18 ha. with max. working depth of 620 MRL and sequential mining, one pit at a time**
   - Net Reserve:115 M (Accessible Reserve: 53.65 MT& Blocked Resource ~62.15 MT)
   - Mine Life @ 6 MTPA: 9 years,
   - OB Generation: 35.9 MT (to be backfilled thus needs rehandling)
   - Risks of higher operating costs (due dump rehandling) and potential ore-waste mixing during rehandling.

3. **ALTERNATIVE-2: Mining confined to Hill Top deposit (both North pit as well as south pit) - Hill Top Deposit – Development up to ore body bottom up to 510 MRL with simultaneous mining of both North pit deposit as well as south pit deposit.**
   - Net Reserve:115.781 MT (Accessible Reserve: 115.781 MT& Blocked Resource ~Nil)
   - Mine Life @ 6 MTPA: 19 years
   - Expansion of the pit from 79.18 ha. to 113.55 ha.
   - OB Handling:62.12 Mm^3 (Backfilling: 31 Mm^3; Dump: 31.12 Mm^3 over 78.09 ha.)

4. **ALTERNATIVE-3: Mining of three deposits simultaneously over 240 ha. (Hill Top deposit: 113.45 ha; Sindurmundi deposit 1: 56.92 ha; Sindurmundi deposit II: 69.63 ha.) and mining of both Hill top deposit and Sindurmundi deposit with provisions of blending lean float ores of sindurmundi deposit with the rich ore of hill top deposit.**

- Net Reserve:168.581 MT (Accessible Reserve: 168.581; Hill Top deposit (115.781 MT with 62.62% Fe); Sindurmundi deposit (52.8 MT with 56% Fe) (**Ref. Exploration status as of 2020**)
- Mine Life @ 6 MTPA: 28 years
- Net Reserve:168.581 MT (Accessible Reserve: 168.581; Hill Top deposit (115.781 MT with 62.62% Fe); Sindurmundi deposit (52.8 MT with 56% Fe) (based on **Exploration status as of 30-06-2024**)
- Net Reserve: 176.034MT (123.18 MT from Hill Top deposit + 52.85 MT from Sindurmundi deposit) with 541795 Tonnes (0.03 % of the total resources) will remain blocked below the ultimate depth of the mine.
- Area Requirement: 34.27 ha. for development of pit, 142 ha. for handling waste in two OB dumps.

The ICFRE study conclusively demonstrates that Alternative-III represents the most sustainable and economically viable option, enabling maximum mineral recovery of 176.034 MT while extending the mine life to 29 years at 6 MTPA production capacity. This extended operational timeframe allows for gradual environmental assimilation and significantly reduces the annual ecological footprint compared to shorter-life alternatives.

PART-IV (JUSTIFICATION FOR COMPONENT WISE LAND USE AS PER ALTERNATIVE-3)

The ICFRE-configured mining plan (approved by IBM) requires 248.65 ha of forest land out of the applied area for diversion over 746.33 ha, optimizing utilization while minimizing diversion. Component-wise breakdown is detailed in the Land Use Abstract at **Table.1 below**

Area Particulars	Forest		Non-Forest	Total
	Diverted	Proposed		
Area for excavation @ Hilltop	79.18	34.27	0.00	113.45
Area for excavation (Sindurmundi	0.00	69.63	0.00	69.63
Area for excavation (Sindurmundi	0.00	56.92	0.00	56.92
Sub Total	79.18	160.82	0.00	240.00
Waste Dump (Near Talapada) (PD-1)	0.00	3.78	60.16	63.94
Waste Dump (Near Old Magazine) (PD-2)	0.00	78.09	0	78.09
Existing Mineral Storage (already	9.96	0.00	0	9.96
Proposed Infrastructure (Conveyor +	0.00	2.80	0	2.80
Road (Proposed)	0.00	3.16	0.85	4.01
Existing Road (already diverted)	5.44	0.00	0	5.44
Existing Mineral Processing (already	1.02	0.00	0	1.02
Total	**95.60**	**248.65**	**61.01**	**405.26**
Statutory Barrier	0.00	12.00	1.28	13.28
Others	0.00	489.25	110.53	599.77
Grand Total	**95.60**	**749.89**	**172.82**	**1018.31**

Note: Total area required for mining & allied activities: 405.26 ha. (248.65 ha. (Forest) + 61.01 ha. (non-forest)+ 95.60 (diverted forest)

Component-1: Area Earmarked for mining (240.0 Ha):

- The land requirement for mining operations has been meticulously calculated based on comprehensive technical assessments of the ore body characteristics and operational necessities. The pit design is based on the presumptive continuity of the ore body within an influence zone 50-meter along confirmed exploratory borehole grid lines without any extrapolation, with mineralization depth and lateral extensions strictly limited to geologically proven evidence (capped at 50m from probe points). Detailed analysis of 50 deposit-specific cross-sections (including the latest exploratory borehole data established as of 30-06-2024), conforming to IBM's 45% Fe threshold, bench design parameters (as per IBM guidelines) at 10 mtr bench width and 80^{0}-90^{0} slope, the pit development was determined to beover151 ha.

- However, the Sindurmundi deposit (Structurally disturbed deposit) marked by fractured zones and four faults, displays erratic ore geometry across its western (800m) and eastern (1000m) segments, though maintains consistent mineralization to 250m depth. Similarly, the strike of the ore body swings between NNW-SSE and E-W with steep dip due west &

south. Superimposition of complex fold system and faults are evident from the BIF and associated rocks in Hilltop deposit as well.

- Given Only 16.04% of the total Mining Lease (ML) area (1018.3085 Ha) has been explored to date. Geological observations, including structural disturbances near the delineated ore body, indicate that economically viable mineralization may extend beyond the current Ultimate Pit Limit (UPL) boundary of 151 Ha. While this remains unproven, such extensions cannot be ruled out without further exploration. To prudently account for this uncertainty and ensure operational flexibility, a 40-meter peripheral buffer has been incorporated around the currently designed UPL boundary of 151 Ha (increasing the net area to ~190 Ha). This buffer provides the following advantages:
  - ✓ Accommodates potential lateral expansion (2–3 benches, 10–15m width) if future exploration confirms near-surface ore continuity.
  - ✓ Prevents costly mid-project pit redesigns, minimizing operational and environmental disruptions

- Further, in order contain the mining footprint confined to the core zone following additional measures have been conceptualised:
  - Securing the excavation pits as per Rule 26 of MCDR'2017 will cover an area of 10 Ha. (approx.)
  - Since the conceptual land use involves creation of a water reservoir over 94.22 ha.; therefore, requires a proper drainage system to channelise entire runoff till the pit and the same needs to be provided with a peripheral drainage system all along the pit periphery on the outer side to receive excess pit water in an unprecedented event with very heavy rainfall. Peripheral drainage system of 3-4 mtrs width with intermittent sumps all along the pit boundary over 8619 mtrs(**Ref. Fig.1**)will require around 5.1 ha. each for check dams/gabion wall and garland drains (@6 mtr width), around 27 ha will be required for logistic movement and other monitoring activities like wise an additional land of 40 ha. has been provisioned under this head making net area to be utilised under mining at 240 ha. (151 ha. (as per UPL)+38 ha. to accommodate future lateral expansion+ 8 ha for securing the excavation pits + 28 ha. for peripheral drainage system, check dams etc. +15 Ha Logistics & Monitoring (roads, safety berms, infrastructure).

Component-2: Area under Dumping (ICFRE Recommended Over 142.03 Ha.; Mining plan approved for 138.16 ha. with 3.87 ha. earmarked for Road networks)

- Based on the reserve base of 168.668 MT (established as of 2020), it is estimated that Overburden to the tune of 98.6 million m^3 will be generated @ Stripping Ratio of 1:0.58 (cum/tonne) with around 62.15 million $m^3$from Hill Top&36.45million m^3 from Sindurmundi; out of which around 46.47 million m^3 of waste will be backfilled at two proposed sites (30.0 million m^3 at Hilltop Pit & 16.46 milllion m^3 at Sindurmundi pit).
- In accordance with the mining safety parameters (regulating the development of waste dump), Two waste dumpswith a holding capacity of 52.13 million m^3 has been designed as follows:
- PD-1 has been conceptualised over 63.94 ha; [**60.16 ha. (non-Forest) & 3.78 ha. (Forest)**] near Talapada village and PD-2 over 78.09 ha. entirely over forest land, near Magazine.
- The design of the dumps has been reviewed with multiple iterations and found to be optimised as summarised below:
- As per the originally approved mining plan, dumps were designed to accommodate 52.13 Mm^3 over 164.76 ha., along with two backfill areas for 46.47 Mm^3 over 73.4 ha. Subsequently, the dump configuration was revised to enhance capacity by 8.29 Mm^3, while the two proposed backfill areas (I & II) were adjusted to hold 44.15 Mm^3, resulting in a total waste accommodation capacity of 104.57 Mm^3 (dump + backfilled).
- **Proposed Waste Dump -I**(63.94 ha.with a total capacity of 26.41 MCum) is proposed near Talapada village and adjacent to Sindurmundi deposit-I for the purpose of

accommodating entire mine waste generated from Sindurmundi deposit-I and partially from Sindurmundi deposit-II with haul road of 900 m. (**Ref. Fig.2**). The design parameters considered during optimization of dumping space are as follows:

- Total dump height: 140 m &Bench Height: 10 m
- Bench Width: 13 to 15 m (1.5 times the size of largest HEMM deployed)
- Bench slope: 37^0 to 44^0 and overall slope: $<27^0$

- Apart from this, considering the sensitivity of the site following mitigative measures would become essential to manage the surface runoff as well as to mitigate the risk of slope failure scenarios for which additional land of around 6 ha. area would be required for effective management of runoff, potential risk of failure scenarios, etc. leaving the effective area available for accommodating waste at 57 ha.
  - Toe walls for 3293 mtr will cover an area of 1.65 ha. (Approx.)
  - Gabion walls of 3094 mtr will cover an area of 1.55 ha. (Approx.)
  - Garland drain of 3313 mtr will cover an area of 1.66 ha. (Approx.)
- **Proposed Waste Dump - II** is proposed on the east and north of the Hill Top deposit that fall on the north-eastern part of the MLA over an area of 78.09 ha for the capacity of 34.01 M Cum over burden waste.
  - Total dump height: 120 m &Bench Height: 10 m
  - Bench Width: 13 to 15 m (1.5 times the size of largest HEMM deployed)
  - Bench slope: 37^0 to 44^0 and overall slope: $<27^0$

Like PD-I, following protective measures around the dump will be undertaken, which will cover around 6 ha. area leaving the effective area available for accommodating waste at 73 ha. (approx.)

- Toe walls for 3850 mtr will cover an area of 1.9 ha. (Approx.)
- Gabion walls of 3212 mtr will cover an area of 1.6 ha. (Approx.)
- Garland drain of 3875 mtr will cover an area of 1.9 ha. (Approx.)

It is apparent that out of 138.16 ha. (Earmarked for dumping), an area of around 12 ha. will be utilised for ensuring dump protection measures and therefore effective area available for accommodating 52.13 million M3 of waste remains 126 ha and with the design parameters mentioned above the same is found to be on optimal side and further reduction in this is expected to negotiate with the stability aspects of the dumps.

Component-3 (Area Under Utility Services):

As the conceptual land use, area earmarked for Utility Services is estimated to be at 27.10 ha Consisting of 2.80 ha for Magazine, 13.32 Ha for Roads, infrastructure & others and 10.98 ha mineral separation facilities as well as proposed infrastructure associated with it.

Sub Component wise justification

(1) Mineral Storage Area and Separation Plant (10.98 Ha.)

- The total earmarked area of 10.98 ha has been carefully planned and allocated as follows: (i) 0.33 ha for the existing primary stockpile (5,000 T), and (ii) 10.65 ha for the Mineral Beneficiation Plant, which encompasses intermediate stockpiles (15,000 T), future CLO (0.2 MT) and fines (0.3 MT) stockyards, crushing plants (800 TPH existing + 100 TPH proposed), and all associated infrastructure. This strategic allocation has been designed to ensure uninterrupted ore supply, facilitate safe movement of 35T dumpers and payloaders, enable effective dust suppression through water tankers, and incorporate essential environmental safeguards including garland drains and peripheral buffers. The current layout represents a well-optimized utilization of space where any reduction would adversely impact operational efficiency, material handling capabilities.

(2) Conveyor & Magazine Area proposed over 2.80

- The 0.93 ha. area earmarked for the magazine will accommodate explosives storage, including a monthly requirement of 18,560 kg for waste/development and 40,320 kg

for ore body development, along with safe storage for 160,000 meters of Nonel, 100-150 meters of safety fuse, and ~300 detonators—sufficient for one year's operations. Additionally, a single 10-meter-wide access road (1,063 meters long, totalling 1.063 ha) has been designed through Waste Dump (PD-2) to ensure smooth movement of fire tenders, explosive vans, and light vehicles, with 8,000 sq meters (0.8 ha) reserved for safety barriers, fire protection lines, and intrusion prevention measures.

(3) **Road Networkand Mineral Separation earmarked over 13.32 Ha.:**

Considering the Ultimate Pit Limit and location of dumping the road offering minimum degradation of land has been worked out.

- Configurations of the haulage road modified drastically from 5.26 km to 1.39 km; width 15 m) to minimize lead distance and land degradation.
- Already Existing Road network: 5.44 ha over diverted forest land
- Proposed Waste Dump -I is designed with a Haulage road from Sindurmundi deposit-I for a length of 900 m with a safe width of around 15mtrs (10 mtrs for Haul Road and 5mtrs for LMV road) will occupy around 1.35 ha. (**Ref. Fig.2**)
- Proposed Waste Dump - II near Hill Top deposit that fall on the north-eastern part of the MLA is designed to have aHaulage Road from Hill Top south pit proposed over around 2045 mtrs of similar width (15mtrs) which will occupy around 3.06 ha (**Ref. Fig.3**).
- An area of around 3.47 ha. has been earmarked for alternate passage for the dumps, access road within the mining area, etc.
- The land earmarked against this head is also to cater to meet the infrastructural requirement such as administrative building, Time Office, Pit Office, rest shelters, etc. for around 339 personnel to be deployed in a day.
- Similarly, the mine will rely for accommodating the fleet of 6 nos. of excavators, 17 nos. of Dumpers, 6 nos. of Drills, 7 nos. of loaders, 1 Dozer and 2 water tankers, etc. at a onsite workshop.

In view of the aforementioned facts, it can be inferred that the proposed mining plan has been meticulously designed to optimize land use while ensuring environmental sustainability, utilizing only 309.66 ha. (41.49%) of the applied 746.33 ha. of forest area and preserving 58.51% as intact forest cover. It may also be considered that additional reduction in the ML area would undermine the project's economic viability.

405.26 ha operational footprint has been meticulously designed to ensure sustainable extraction of **176.03 million tonnes of minable geological reserves** (as per 2024 exploration data) while adhering to stringent regulatory and safety norms. The **240 ha mining area** integrates **151 ha for active excavation** to the Ultimate Pit Limit (UPL), conforming to DGMS-mandated parameters (*10m bench width, 80°-90° bench slope, 45° overall slope*), with an additional **40 m peripheral buffer (89 ha)** to accommodate potential lateral expansion for structurally disturbed ore zones near UPL edges—critical given that **541,795 tonnes of ore remain blocked** due to depth constraints. The **138.16 ha dumping area**, configured as the bare minimum to safely hold **52.13 million m³ of overburden** (stripping ratio 1:0.58), strictly follows DGMS-prescribed geometry (*10m bench height, 13–15m width, 37°–44° bench slope, ≤27° overall slope*), with **12 ha** allocated for essential stabilization measures (toe walls, gabions, garland drains). The **27.1 ha utilities** encompass mineral processing (10.98 ha), DGMS-compliant roads (13.32 ha with segregated LMV lanes), and explosives storage (2.8 ha). This configuration—representing a **58% reduction** from the originally applied forest land—has been optimized through ICFRE's recommendations to balance reserve recovery, operational safety, and environmental safeguards.

In addition to 405.26 Ha of forest land proposed for Mining and ancillary activities, as proposed in the original proposal 13.28 ha would be maintained as safety zone all along the innerside of the Mining Lease area.

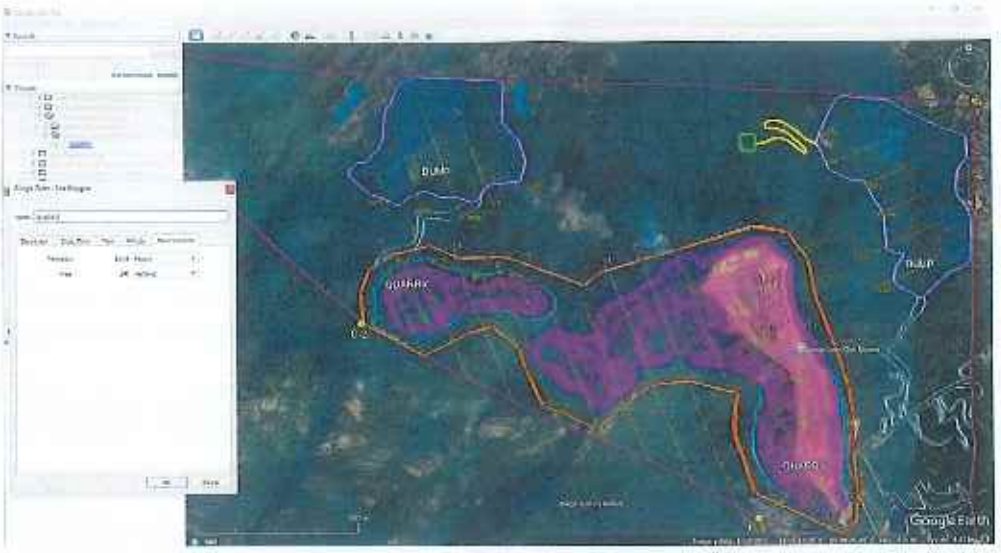

Fig. 1: 240 ha. of area earmarked for Mining

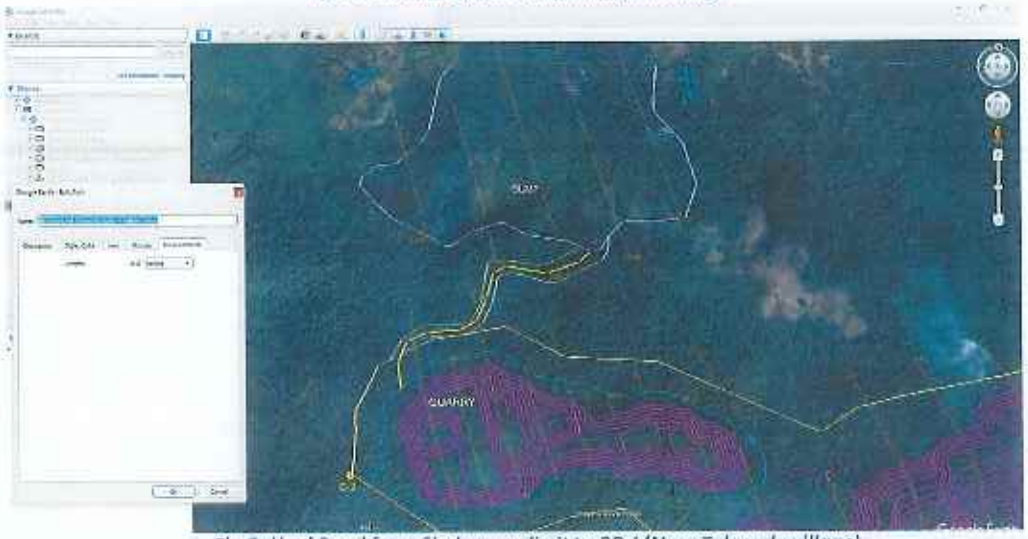

Fig.2: Haul Road from Sindurmundi pit to PD-I (Near Talapado village)

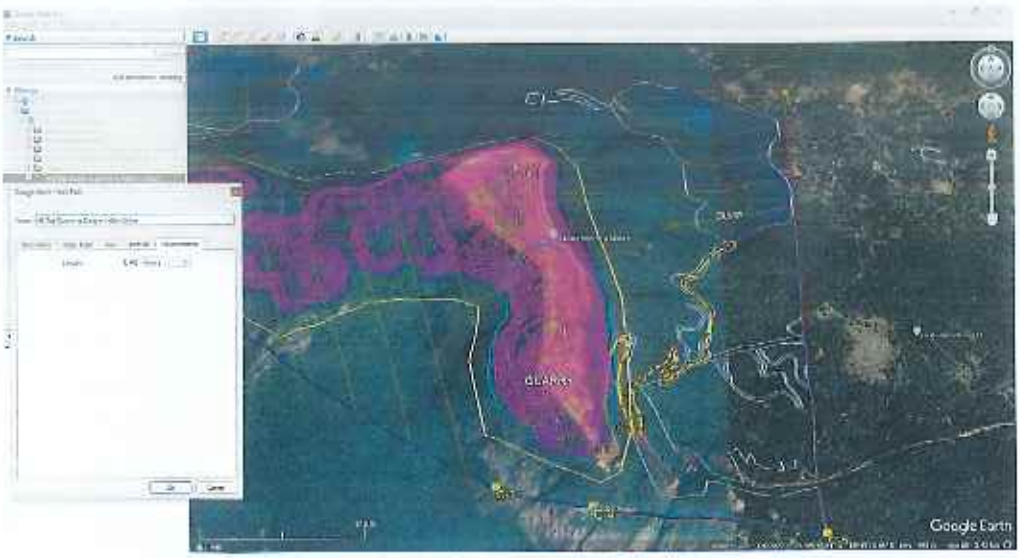

Fig.3: Haul Road from the South pit of Hilltop to PD-II