

## PART- II

(To be filled by the concerned Deputy Conservator of Forests)

Proposal No. Proposal No. No. FP/OR/MIN/155033/2021.

**1. Location of the project/scheme: Odisha.**

Sl. No.	Location of the Project/Scheme	Seeking prior approval of Central Government under section 2 of the forest conservation Act, 1980 for diversion of 125.24 Ha. Forest Land of Subhadra Opencast Coal mining project, of Subhadra Area of M/s Mahanadi Coalfields Limited.
i	State/Union territory	Odisha
ii	District	Angul
iii	Forest Division	Angul Forest Division
iv	Area of forest land proposed for diversion (in ha.)	125.24
v.	Category of the proposal	Mining

**2. Legal status of forest land proposed for diversion:**

Sl. No.	Division	Forest Land (ha.)	Legal status	
1	Angul	125.24	RF	0.75
			PRF	0
			Rev. Forest	47.59
			DLC Forest	76.90
			<b>Total</b>	<b>125.24</b>
<b>Total</b>		<b>125.24</b>	<b>125.24</b>	

**3. District wise area to be diverted in the division:**

Sl. No.	District	Area (in ha.)
1	Angul	125.24
<b>Total</b>		<b>125.24</b>

4. Details of vegetation available in the forest land proposed for diversion:

(i) Density of Vegetation

Sl. No.	Area in Ha.	Density	Eco-Class
1	125.24	35%	III

(ii) Species wise/ local/scientific name and girth-wise enumeration of trees at FRL.

Sl. No.	Scientific Name	Local Name	(0-30) cm	(31-60) cm	(61-90) cm	(91-120) cm	(121-150) cm	(>-150) cm	Total Number of trees Enumerated	Total No of estimated tree
1	<i>Terminalia arjuna</i>	Arjuna		84	34	14	6	2	140	395
2	<i>Acacia nilotica</i>	Babul		24	20	7	2	2	55	134
3	<i>Terminalia bellirica</i>	Bahada	2	118	106	15	5	3	249	670
4	<i>Ficus benghalensis</i>	Bara		218	96	38	14	9	375	985
5	<i>Mimusops elengi</i>	Baula		78	81	18	2		179	469
6	<i>Buchanania lanzan</i>	Chara	19	719	320	94	22	4	1178	3224
7	<i>Anogeissus latifolia</i>	Dhuara		45	27	1			73	198
8	<i>Gamelina arborea</i>	Gambhari		123	65	14	2		204	562
9	<i>Terminalia chebula</i>	Harida	3	194	157	58	6		418	1151

10	<i>Pisidium guajava</i>	Jamu	19	635	450	176	27	28	1335	3569
11	<i>Anacardium occidentale</i>	Kaju	14	381	168	83	22	4	672	1781
12	<i>Casearia elliptica</i>	Kakhada	2	146	29	4	2	2	185	507
13	<i>Pongamia pinnata</i>	Karanja	6	122	46	14	2	2	192	542
14	<i>Diospyros melanoxylon</i>	Kendu	9	125	123	74	22	9	362	1002
15	<i>Strychnos nuxvomica</i>	Kochila	2	54	51	10	4		121	338
16	<i>Madhuca indica</i>	Mahula	38	484	304	98	72	120	1116	2993
17	<i>Mangifera indica</i>	Mango	5	340	289	82	44	170	930	2464
18	<i>Shorearobusta</i>	SAL	27	1739	2656	643	79	30	5174	13582
19	<i>Anacardium occidentale</i>	Valia		21	8	4		1	34	88
20	<i>Aegle marmelos</i>	BELA	2	13	5				20	54
21	<i>Cassia tora</i>	CHAKUNDA		23	7	10	2		42	112
22	<i>Carthamus tinctorius</i>	KUSUMA		2	3			2	7	19
23	<i>Lanea coromandelica</i>	MAHI		2	18	30	4		54	153
24	<i>Azadirachta indica</i>	NEEM	1	132	50	10	2		195	534

25	Butea monosperma	PALASA	1	55	48	11	2	3	120	303
26	Polyalthiacerasoides	PATAMASU		55	58	11			124	301
27	Bombax cebia	SIMILI		1	16	2			19	52
28	Tectona grandis	TEAK	39	1231	612	82	17	3	1984	5262
29	Pterocarpus marsupium	PIASAL		100	34	8	4		146	412
30	Boswellia serrata	SALIA		30	12	23	4		69	194
31	Spondias pinnata	Aambeda	2	132	106	36	2	6	284	802
32	<i>Acacia auriculaeformis</i>	Acacia	1	32	24	12			69	163
33	<i>Terminalia alata</i>	Asan	3	40	20	5	2		70	180
34	Michelia champaka	Champa		16	8	4	4		32	90
35	<i>Ficus recemosa</i>	Dimiri		2					2	6
36	<i>Anthocephalus chinensis / Neolamarckia cadamba</i>	Kadamba	4	124	130	60	8	4	326	929
37	<i>Bauhinia variegata</i>	Kanchana		2		2			4	11
38	<i>Delonix regia</i>	Krushnachuda		2	2		2		6	17
39	<i>Acacia auriculaeformis</i>	ACASIA				4			4	11

40	Ziziphus jujuba	BARA KOLI			2				2	6
41	Sperculai Urnes	CHAULI		36	25	2			63	176
42	Anogeissus latifolia	DHAURA		28	28		2		58	164
43	Psidium guajava	GUAVA		2					2	6
44	Limonia acidissiam	KAITHA	1	8	3				12	29
45		KOREHI		2					2	6
46	Careya arborea	KUMBHUE			2				2	6
47	Ficus religiosa	OSTA					2	3	5	13
48	Artocarpus heterophyllus	PANASA						6	6	17
49	Trachyspermum roxburghianum	RAHUNI		6	4	2			12	34
50	Moringa oleifera	SAJANA		6		2			8	23
51	Lagerstroemi parviflora	SIDHA		4	4				8	20
52	Borassus flabellifer	TALA		11	31	385	20	41	488	1324
53	Cleistanthus collainus	KARADA		3					3	8
54	Senegalia Catechu	KHAIRA		18	4	6			28	79

55	<i>Borassus flabellifer</i>	PALM		24	6	6			36	102
56	<i>Terminalia alata</i>	SAHAJA	4	36	33	18	2		93	262
57	<i>Morinda tinctoria</i>	Dhuala				2			2	6
58	<i>Arundo donax Linn</i>	Nala	4	2	148	162	38	6	360	1017
59	<i>Trachyspermum roxburghianum</i>	Rohini		33	20	7	2	1	63	147
60	<i>Dalbergia sisoo</i>	Sisu		18	8				26	74
61	<i>Tamarindus indicus</i>	Tentuli		14	12				26	73
62		Veru	1	6	1				8	18
63	<i>Cleistanthus collainus</i>	Sirisa			1				1	2
64	<i>Albizia lebbeck</i>	Sunari		17	5				22	50
65	<i>Boswellia serrata</i>	PATASA			1	2	1		4	9
66	<i>Lannea coromandelica</i>	Mahi/MAYE/MOHI	1	46	51	13			111	249
67	<i>Lagerstroemi parviflora</i>	Kuvie		2					2	5
68	<i>Carthamus tinctorius</i>	Kumbhe		3	2				5	11
69	<i>Syzgium Cumini</i>	KUMURI		3					3	7

70	<i>Careya arborea</i>	Khajuri			6				6	14
71	<i>Casearia elliptica</i>	KASI	1	6	2	1			10	23
72	<i>Anacardium occidentale</i>	Gangasiluli		2					2	5
73	<i>Tectona grandis</i>	Gohira		6					6	14
74	<i>Lansea coromandelica</i>	HALADA		50	17	2			69	155
75	<i>Cassia fistula</i>	Eukalyptus		6	5	2			13	29
76	<i>Polyalthiacerasoides</i>	CHIKINI		17	5				22	49
77	<i>Trachyspermum roxburghianum</i>	Dhamana	1						1	2
78	<i>Anacardium occidentale</i>	Barabakala	1	5	7	3			16	36
79	STIPULARIS	Barakoli		2	4				6	14
80	<i>Terminalia bellirica</i>	AHASI		4					4	9
81	<i>Ficus benghalensis</i>	AKASIYA		3					3	7
82	<i>Mimusops elengi</i>	Anara		2					2	5
83	<i>Aegle marmelos</i>	Ankula		1					1	2
84	<i>Buchanania lanzan</i>	ARCHI		3					3	7

85	<i>Acacia auriculaeformis</i>	AADDA		1					1	2
86	<i>Pisidium guajava</i>	BAMBOO BUSH							17	38
<b>GRAND TOTAL</b>										<b>48613</b>

Enumeration for revenue land of 986.61 Ha. to be enumerated. As applied by the User Agency, 986.61 ha. of non-forest area is involved in the project. Felling of trees in trees outside forest will adversely impact air and hydrology in the area. To mitigate the impact of felling of trees outside forest, ten times numbers of tree is recommended to be planted at the time of felling of trees as Angul-Talcher area is one of the 43 critically polluted areas identified by CPCB.

5. **Working Plan prescription for the forest land proposed for diversion:** 0.75 Ha. In Jaipure Reserve Forest under Chhendipada Range under Rehabilitation Working Circle Chhendipada Rehabilitation Treatment Cope No. CDP-VI.
6. **Brief note on vulnerability of the forest area to erosion:** Area to be diverted is mainly prone to sheet erosion and at some place gully erosion. (Enclosure - 1) Mine lease is bound by Singada stream in the North and Ghoradia nala passes through the mine lease boundary. Singada Jhor stream particularly has very large catchment area as shown in **Enclosure-3**. Hydrology including subsurface drainage should be studies and measure should be incorporated during the operation of mine. in the North aNnd Ghoradia nala passes through the mine lease boundary.
7. **Approximate distance of the proposed site for diversion from boundary of forest:** Proposed site is Reserve Forest so, not applicable.

8. Significance of the forest land proposed for diversion from Wildlife point of view:

(i)	Details of wildlife present in and around the forest land proposed for diversion:	<b>Fauna</b>	<b>Birds</b>
		Elephant ( <i>Elephas maximus</i> )	Indian penfowl ( <i>Pavo cristatus</i> )
		Wild Boar ( <i>Sus scrofa</i> )	Blue jay ( <i>Cyanocitta cristata</i> )
		Barking Deer ( <i>Muntiacus</i> )	Egretta ( <i>novaehollandiae</i> )
		Indian Hare ( <i>Leporidae</i> )	Kingfisher ( <i>Alcedinidae</i> )
		Langur ( <i>Semnopithecus</i> )	Drongo ( <i>Dicruridae</i> )
		Jackal ( <i>Canis aureus</i> )	
(ii)	Whether forms part of National Park, Wildlife Sanctuary, biosphere reserve, Tiger Reserve, Elephant Corridor, Wildlife migration corridor etc :	No	
(iii)	Whether the forest land proposed for diversion is located within Eco-Sensitive Zone (ESZ) of the protected area notified under Wildlife (Protection) Act-1972 (Note : In case, ESZ of a protected area is not notified , then, 10 Kms. distance from boundary of the protected area should be treated as ESZ ) :	No	
(iv)	Whether any National Park, Wildlife Sanctuary, biosphere reserve, Tiger Reserve, Elephant Corridor, Wildlife migration corridor etc. , is located within 1.0 Km from boundary of the forest land proposed for diversion :	The ML area of Subhadra OCP of M/s Mahanadi Coalfields Limited in Angul District of Odisha is at a distance of 20 Kms from Kanheijena –Anantapur Elephant Corridor and 29 Kms from Satakosia WLS/ Tiger Reserve.	
(v)	Whether any rare/ endangered / unique species of flora and fauna found in the area :	No	

9. Details of any protected archaeological / heritage site/ defence establishment or any other important monument located in the area , if any :

(i)	Whether any protected archaeological / heritage site/ defence establishment or any other important monument located in the area :	No
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10. Comment as to the reasonability of the extent of the forest land proposed for diversion :

(i)	Whether the requirement of the forest land as proposed by the User Agency is unavoidable and bare minimum for the project.	Yes Undertaking enclosed in the diversion proposal.
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11. Details of violations (s) , if any , committed :

(i)	Whether any work in violation of the Act or guidelines issued under the Act has been carried out :	No
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12. Whether work in violation is still in progress (Yes/No) :NA

13. Details of Compensatory Afforestation Scheme :

(i) Patch wise details for degraded area (to be earmarked by DFO) :

Sl. No.	Patch No.	Area in Ha.	Name of RF/PF/Village	Name Range	Com pt. No./ Khata No.	Plot No.	Uploaded KML file of the patch
1	1	13.228	Kanja (Puratan Patita)	Bantala	2/2 & 1	157, 1656 (P) & 1648/1 (P)	Enclosed
2	2	34.693	Jamugadia (Puratan Patita)	Bantala	1 & 2/2	1107(P), 1117 (P) & 1089 (P)	
3	3	19.126	Nukhuripada (Puratan Patita)	Bantala	1	8(P)	
4	4	40.255	Baghuapat (Chota Jungle)	Bantala	1	251 (P), 283 (P), 284 (P) & 298 (P)	
5	5	43.593	Rodasingha (Pahad)	Jarapada	1 (AJA)	965	
<b>Total</b>		<b>150.895</b>					

## (ii) Total financial outlay for Compensatory Afforestation (in Lakhs):

Range	Seedlings Nos.	Location	Land Type	Plantation Type	Area	Fencing in meter	Cost
Bantala	13228	Kanja	Non-Forest	1000	13.228	1680	11841173
Bantala	30602	Nukhrpada	Non-Forest	1600	19.126	1930	17887833
Bantala	34693	Jamugadia	Non-Forest	1000	34.693	5670	33743594
Bantala	40255	Baghuapat	Rev. Forest	1000	40.255	4600	34944699
Jarapada	8719	Rodasingha	Non-Forest	200	43.593	0	7282668
	<b>127497</b>				<b>150.895</b>	<b>13880</b>	<b>105699967</b>

(iii)	Copy of Compensatory Afforestation Scheme details:	Copy enclosed in the diversion proposal.
(iv)	Scanned copy of the Geo-referenced map of the forest land proposed for Compensatory Afforestation prepared by using DGPS or total station :	Copy enclosed in the diversion proposal.
(v)	Copy of survey of India TOPO sheet indicating forest land proposed for Compensatory Afforestation :	Copy enclosed in the diversion proposal.
(vi)	Copy of NOC from Competent Authority :	As per <b>condition A (1). Compensatory afforestation</b> laid by Government of India, Ministry of Environment, Forests and Climate Change, File No. 8-07/2020-FC Dated 12 <sup>th</sup> March, 2021 while according 'in-principle' approval to NALCO (Utkal-E) Coal Block under Section – 2 of the FCA, 1980 which reads: (i) The proposal for CA on notified forest under the control of the Forest Department was accepted. Nodal Officer shall give a certificate that no afforestation/plantation has been taken up under any plan/programme/ scheme on the proposed CA land in the last ten years. However, given the fact that Talcher coal mining area involves very large forest area and the same would

		<p>need to be properly compensated, future forest diversion proposal in the area will be accepted with CA on degraded notified forest area on the following conditions:</p> <p>A. State Government issues a certificate that degraded forest land outside notified forests is not available for CA purpose, and</p> <p>B. Nodal officer certifies that no afforestation/ plantation has been taken up under any plan/programme in the degraded notified forest areas proposed for CA in the last 10 Years.</p> <p>In the instant case, User agency has proposed Compensatory Afforestation 110.64 ha. in Non-Forest Land and 40.255 ha in Degraded Revenue Forest Land in non-notified forest in Notified Forest Area in Angul Division.</p> <p>Site suitability for plantation on identified CA land has been attached in plantation scheme by the DFO, Angul.</p>
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**14. District profile**

Sl. No.	Name of District	Geographical area of the district (in Ha.)	Forest area of the district (in Ha.)	Total forest area diverted since 1980 (in Ha.)	No. of Approved Cases	Forest land indication penal C.A. (in Ha.)	Progress of Compensatory Afforestation as on (date)	A) Forest land (in Ha)	B) Non-Forest land (in Ha)
1	ANGUL	637500	271682	5243.232327	65	2437.81	30.06.2022	1339.43	953.9

**15. Site Inspection report of the DFO/ CCF/ Nodal Officer highlighting important facts pertaining to the forest land.**

Division	Circle	Site inspected by	Whether site inspected	No. of times site visited	Site inspection report	Date of visit
Angul	Angul	DFO, Angul	Yes	One	Yes i.e. enclosed.	01.11.2022

16. Specify recommendation of the DFO/ CCF/ Nodal Officer for acceptance

Division	Circle	Recommendation by	Recommendation	Reason	Letter	Whether CF agreed
Angul	Angul	DFO, Angul	<p>Proposal may be accepted with following measurers (among other conditions) (a) plantation of 10 times of trees felled in non-forest area of the project.</p> <p>(b) SMC, Site-specific and Regional WLMP to be implemented at the project cost.</p> <p>(c) Singada stream has very large catchment area therefore its natural cover may be maintain during the course of mining activities <b>(Map enclosure).</b></p>			

Signature

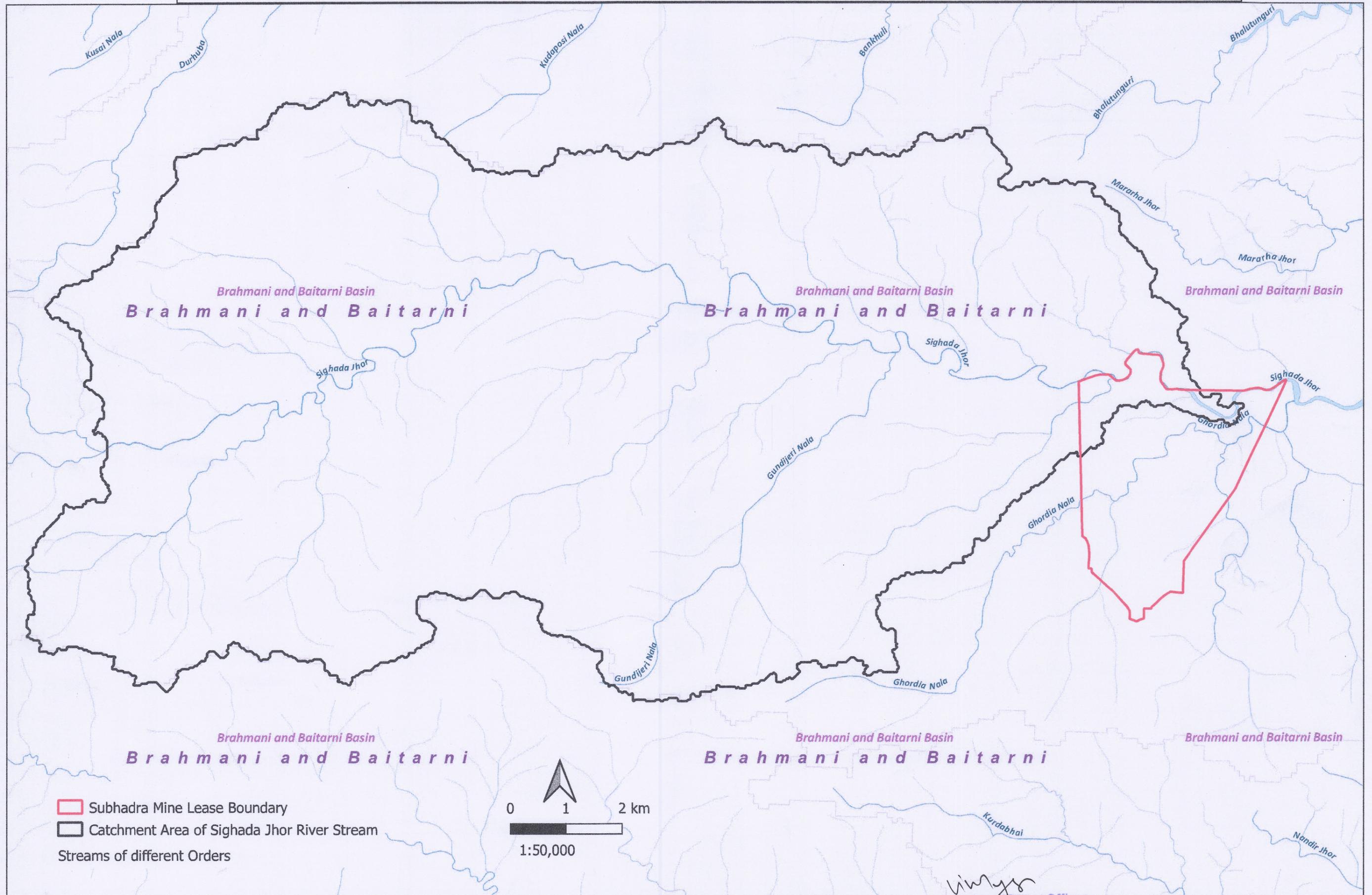
Name:

*Vivek Kumar, IFS*

Official Seal:

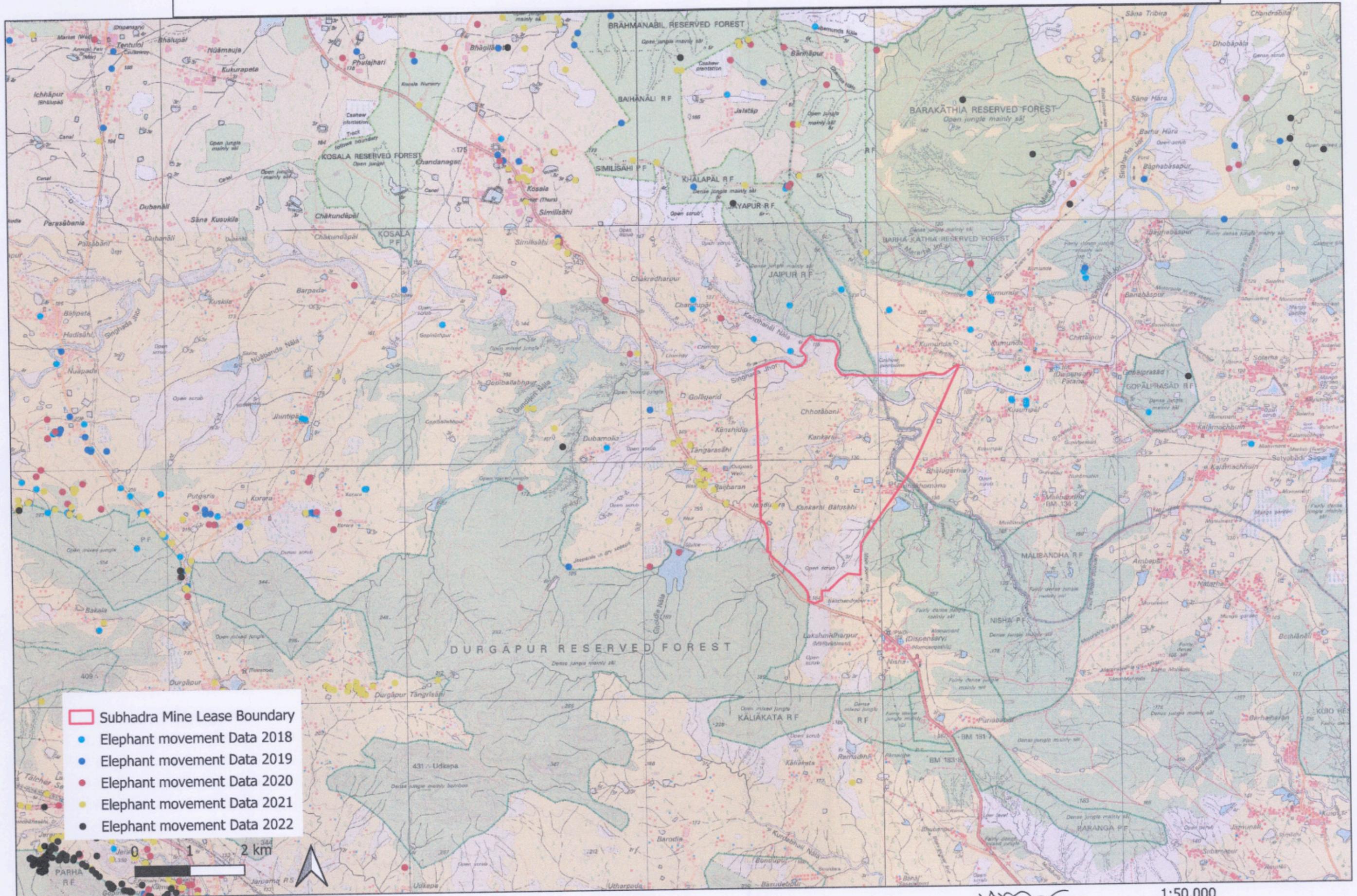
Divisional Forest Officer  
Angul, Division

Catchment Map of the Sighada Jhor stream where it passes through Project Site.  
Catchment Area = 17286 Ha.



*Wingy*  
Divisional Forest Officer  
Angul Division

# Elephant Movement near and around project site



- ▭ Subhadra Mine Lease Boundary
- Elephant movement Data 2018
- Elephant movement Data 2019
- Elephant movement Data 2020
- Elephant movement Data 2021
- Elephant movement Data 2022

0 1 2 km



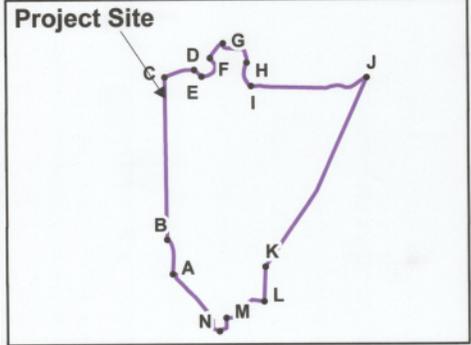
Divisional Forest Officer  
Angul Division

1:50,000



**MAP SHOWING DISTANCE FROM NEAREST PROTECTED AREAS**

**Toposheet / OSM No.**  
**F45M16, F45N4, F45S13 & F45T1**



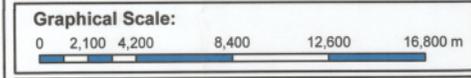
**Legend**

- Project Site
- Satkosia Tiger Reserve
- Eco-Sensitive Zone

**Project:**  
**Subhadra Open Cast Mine**  
 At Village Gopal Prasad, Kumuda, Nisha, Kankarei, Rajharana, Nisha P.S Angul, Tehsil Tachler Sadar and Chhenipada, District- Angul, State- Odisha

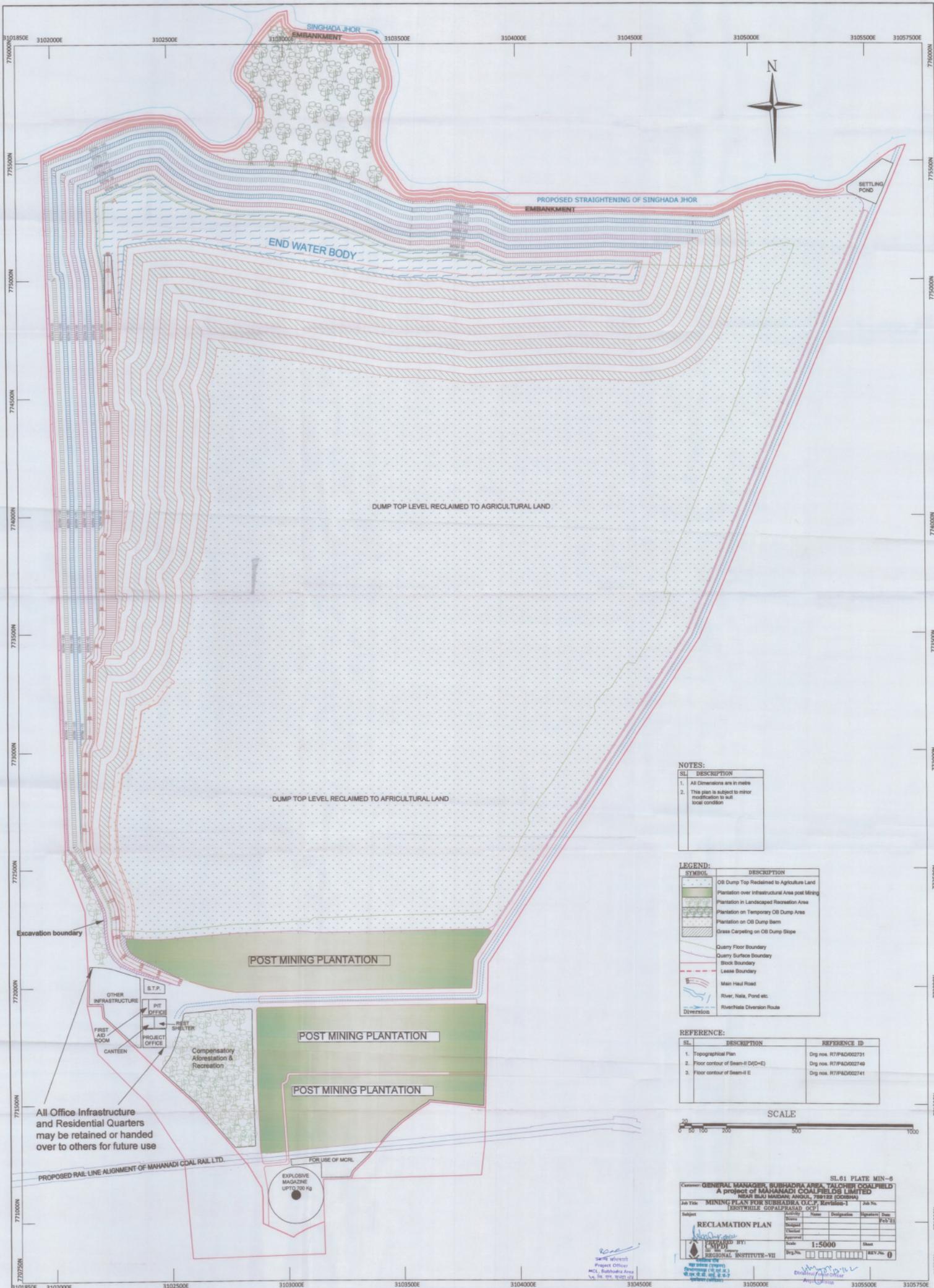
**Project Proponent:**  
**M/s Mahanadi Coalfields Limited**

**Environment Consultant:**  
**Vardan Environet**  
 QCI-NABET Accredited Environment Consultant  
 Certificate No. NABET/EIA/2023/SA0158



**Prepared By:** **Mr. Ankit Singh**  
 Project Officer

**Approved By:** **Mr. Ankur Agarwal**  
 Divisional Forest Officer  
 Angul Division



**NOTES:**

Sl.	DESCRIPTION
1.	All Dimensions are in metre
2.	This plan is subject to minor modification to suit local condition

**LEGEND:**

SYMBOL	DESCRIPTION
[Stippled pattern]	OB Dump Top Reclaimed to Agriculture Land
[Green pattern]	Plantation over Infrastructural Area post Mining
[Light green pattern]	Plantation in Landscaped Recreation Area
[Dotted pattern]	Plantation on Temporary OB Dump Area
[Diagonal lines]	Plantation on OB Dump Bank
[Cross-hatch pattern]	Grass Carpeting on OB Dump Slope
[Red dashed line]	Quarry Floor Boundary
[Red solid line]	Quarry Surface Boundary
[Blue dashed line]	Stock Boundary
[Red dashed line]	Lease Boundary
[Red solid line]	Main Haul Road
[Blue line]	River, Nala, Pond etc.
[Blue dashed line]	River/Nala Diversion Route

**REFERENCE:**

Sl.	DESCRIPTION	REFERENCE ID
1.	Topographical Plan	Drp nos. R7/P&D/002731
2.	Floor contour of Seam-II (D+E)	Drp nos. R7/P&D/002749
3.	Floor contour of Seam-II E	Drp nos. R7/P&D/002741



All Office Infrastructure and Residential Quarters may be retained or handed over to others for future use

PROPOSED RAIL-LINE ALIGNMENT OF MAHANADI COAL RAIL LTD.

FOR USE OF MCR

EXPLOSIVE MAGAZINE UPTO 200 kg

Customer: GENERAL MANAGER, SUBHADRA AREA, TALCHER COALFIELD  
 A project of MAHANADI COALFIELDS LIMITED  
 NEAR BLAJ MARGAR, ANAGAL, 759122 (ORISSA)

Job Title: MINING PLAN FOR SUBHADRA D.C.P. (Revision-1)  
 PROJECT: INSTRIKULZ, GOPALPASA, O.C.P.

Activity	Name	Designation	Signature	Date
Designed				
Checked				
Approved				

**RECLAMATION PLAN**

Scale: 1:5000

Sheet: [ ] of [ ]

REV. No: 0

Project Officer: MCL, Subhadra Area  
 V.S. No. 101, 102, 103

Regional Institute-VII