—: कार्यालय :—

वन प्रमण्डल पदाधिकारी, लातेहार वन प्रमण्डल।

Email – dfolatehar@gmail.com / dfolatehar@jharkhandmail.gov.in

Mobile No. – 9470305806/8987790240

Pin Code - 829206

पत्रांक...../ दिनांक...../

सेवा में,

श्री ए0के0 कश्यप,
मुख्य अभियंता (खनन),
दामोदर घाटी निगम तीसरा तल्ला,
डी0वी0सी0 टावर्स, भी0आई0पी0 रोड,
उलवादंगा, कोलकाता–700054

विषय :— लातेहार जिला अन्तर्गत वन संरक्षण अधिनियम 1980 के तहत दामोदर घाटी निगम लिमिटेड को तुबेल कोयला खनन हेतु 162.394 हे0 वन भूमि अपयोजन का प्रस्ताव के संबंध में।

प्रसंग :— आपका पत्रांक HQ/Mining/12F (Tubed-FC)/1469 दिनांक 18.12.2017

महाशय,

आपके द्वारा तुबेद कोल ब्लॉक के लिए 162.394 हे0 वन भूमि अपयोजन के लिए समर्पित प्रस्ताव के जॉचोपरांत इसमें निम्नलिखित त्रुटियॉ पायी गयी हैं :—

01. अपयोजित होने वाले वन भूमि एवं जंगल झाडी भूमि का प्लॉटवार विवरणी संलग्न किया जाना आवश्यक है।

02. 16"=1 मील के कैडेस्ट्रल मैप पर प्रस्तावित वन भूमि, गैरमजरूआ वन भूमि एवं गैर वन भूमि को प्रदर्शित करता हुआ मानचित्र समर्पित किये जाने की आवश्यकता है।

03. प्रस्ताव के साथ रिक्लेमेशन प्लान वर्षवार वित्तीय लक्ष्य के साथ समर्पित किया जाना है। समर्पित रिक्लेमेशन प्लान में वर्षवार वित्तीय लक्ष्य नहीं दिया गया है। पूरे लीज अवधि के लिए वित्तीय लक्ष्य वर्षवार समर्पित किया जाना आवश्यक है।

04. प्रस्ताव के साथ इस परियोजना के संबंध में ग्राम सभा द्वारा अनुशंसा प्राप्त कर संलग्न नहीं की गई है।

05. इस परियोजना में अन्तर्ग्रस्त गैर मजरूआ भूमि के लिए उपायुक्त का अनापत्ति प्रमाण–पत्र संलग्न नहीं है।

06. इस परियोजना के फलस्वरूप प्रभावित होने वाले वृक्षों की गणना सूची प्रस्ताव के साथ संलग्न नहीं है। इसके लिए सर्वप्रथम सरजमीन पर प्रस्तावित वन भूमि एवं गैर मजरूआ वन भूमि का सीमांकन किया जाना आवश्यक है। स्पष्ट सीमांकन के पश्चात् वन विभाग के साथ वृक्षों की संयुक्त गणना के पश्चात् प्रभावित वृक्षों की सूची तैयार की जाती है।

07. Geo reference Map, KML File Soft कॉपी में समर्पित नहीं है।

08. एन0पी0भी0 एवं क्षतिपूरक वनरोपण हेतु राशि जमा करने हेतु वचनबद्धता प्रमाण पत्र संलग्न नहीं है।

जैसा कि उपर्युक्त बिन्दुओं से स्पष्ट है, समर्पित प्रस्ताव पूर्ण रूप से त्रुटिपूर्ण एवं अधूरा है।

मुख्य अभियंता (Mining)
दामोदर घाटी निगम
डी.वी.सी. टावर्स, VIP Road, Kolkata-54
DVC Towers, VIP Road, Kolkata-54

—: कार्यालय :—

वन प्रमण्डल पदाधिकारी, लातेहार वन प्रमण्डल।

Email – dfolatehar@gmail.com / dfolatehar@jharkhandmail.gov.in

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Pin Code - 829206

अतः आपके द्वारा समर्पित प्रस्ताव की सभी आठ प्रतियॉ मूल रूप में इस पत्र के साथ संलग्न कर वापस करते हुए अनुरोध है कि उपर्युक्त सभी त्रुटियों का निराकरण करते हुए संशोधित प्रस्ताव सभी आवश्यक प्रविष्टियॉ एवं वांछित अभिलेखों के साथ शीघ्र समर्पित करने की कृपा की जाय ताकि इस पर अग्रेतर कार्रवाई की जा सके। यदि प्रस्ताव तैयार करने के क्रम में किसी प्रकार की कठिनाई हो तो कभी भी आवश्यकतानुसार अधोहस्ताक्षरी से सम्पर्क किया जा सकता है।

विश्वासभाजन,

ह0/–

वन प्रमण्डल पदाधिकारी,

लातेहार वन प्रमण्डल।

ज्ञापांक ...../ दिनांक ...../

प्रतिलिपि :– वन संरक्षक, प्रादेशिक अंचल, मेदिनीनगर, पलामू को सूचनार्थ समर्पित।

ह0/–

वन प्रमण्डल पदाधिकारी,

लातेहार वन प्रमण्डल।

ज्ञापांक ...../ दिनांक ...../

प्रतिलिपि :– क्षेत्रीय मुख्य वन संरक्षक, पलामू, मेदिनीनगर सूचनार्थ समर्पित।

ह0/–

वन प्रमण्डल पदाधिकारी,

लातेहार वन प्रमण्डल।

ज्ञापांक 2923 / दिनांक 23/12/2017 /

प्रतिलिपि :– प्रधान मुख्य वन संरक्षक–सह–कार्यकारी निदेशक, बंजर भूमि विकास बोर्ड, राँची को सूचनार्थ समर्पित।

23/12/17

वन प्रमण्डल पदाधिकारी,

लातेहार वन प्रमण्डल।

F. No. 11-584/2014-FC (pt.)
Government of India
Ministry of Environment, Forests and Climate Change
(Forest Conservation Division)

Indira Paryavaran Bhawan
Aliganj, Jorbagh Road
New Delhi - 110 003
Dated: 9th June, 2015

To

The Principal Secretary (Forests),
All States / Union territories

Sub: Diversion of forest land for non-forest purpose under the Forest (Conservation) Act, 1980- processing of proposals in respect of Coal Blocks whose allocation has been cancelled by the Supreme Court.

Sir,

I am directed to say that the Supreme Court in their Judgment dated 25th August 2014 in the Writ Petition (Civil) No. 120 of 2012 in the matter of Mohan Lal Sharma *versus* Union of India and others and such other similar petitions held that the allocations of 218 coal blocks made, both under the Screening Committee route and the Government dispensation route, are arbitrary and illegal. The Supreme Court in their order dated 24th September 2014 cancelled allocation of 204 Coal Blocks.

2. To facilitate re-allocation of these Blocks Parliaments has enacted the Coal Mines (Special Provisions) Act, 2015. Appropriate actions, in accordance with the provisions of the aforementioned Act and the Rules framed thereunder are being taken by the Central Government for allocation of these Blocks. In case of the coal blocks where in-principle or final approval under the Forest (Conservation) Act, 1980 for diversion of forest land falling in such blocks has already been accorded, this Ministry vide letter of even number dated 31st March 2015 issued guidelines to facilitate transfer of such approvals in favour of the allocattee selected or to be selected by the Central Government in accordance with the provisions of the Coal Mines (Special Provisions) Act, 2015 and the Rules framed thereunder.

3. It has however, been observed that proposals seeking in-principle approval under the Forest (Conservation) Act, 1980 for diversion of forest land located in some of these 204 coal blocks were under examination in the Central Government and the State Government on the day the allocations of these blocks were cancelled by the Supreme Court. Submission of de-novo proposals to seek prior approval of Central Government under the Forest (Conservation) Act, 1980 for diversion of forest land located in such coal blocks by the new allocattee selected or to be selected by the Central Government in accordance with the provisions of the Coal Mines (Special Provisions) Act, 2015 and Rules framed thereunder, and processing of such new proposals once again by various authorities in the States/ UTs and the Central Government will not serve any useful purpose.

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
DVC

4. Accordingly, after careful examination of the matter, I am directed to say that the proposals seeking in-principle approval under the Forest (Conservation) Act, 1980 for diversion of forest land located in any of the 204 coal blocks whose allocation has been cancelled by the Supreme Court submitted by the original allocattee, which were at processing/examination stage in the State Government or the Central Government on the day allocations of these blocks were cancelled by the Supreme Court, **shall be processed as if they have been submitted by the respective new allocattees** selected or to be elected by the Central Government in accordance with the provisions of the Coal Mines (Special Provisions) Act, 2015 and Rules framed thereunder, once the following procedural formalities are completed:

(i) Duly filled in part-I of the application in the format prescribed in Form-A appended to the Forest (Conservation) Rules, 2003 along with all necessary undertakings/certificates, including documentary proof in support of allocation of such block in favour of the new allocattee and details of non-forest/revenue forest land identified for creation of compensatory afforestation, wherever required, is submitted by the new allocattee to the Nodal Officer concerned;

(ii) Non-forest/revenue forest land identified by the new allocattee for creation of compensatory afforestation, wherever required, is inspected and found to be suitable for creation of compensatory afforestation and from management point of view by the Divisional Forest Officer(s) having jurisdiction over such land; and

(iii) A copy of part-I of Form-A along with all necessary undertakings/certificates submitted by the new allocattee along with a certificate from the Divisional Forest Officer(s) having jurisdiction over the non-forest/revenue land identified for creation of compensatory afforestation, wherever required, stating therein that such land is suitable for creation of compensatory afforestation and from management point of view, is provided by the Nodal Officer or the State Government concerned to the authority with whom the proposal submitted by the original allocattee is presently pending. Such documents will substitute and replace the corresponding documents available in the proposal submitted by the original allocattee.

This issues with approval of the Hon'ble Minister of State (Independent Charge) for Environment, Forest and Climate Change.

Yours faithfully,

(H.C. Chaudhary)
Director

Copy to:-

1. Prime Minister's Office (***Kind attn.***: Shri Santosh D. Vaidya, Director).
2. Secretary, Ministry of Coal, Government of India.
3. Secretary, Ministry of Steel, Government of India.

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खान) / Chief Engineer (Mines)
दामोदर घाटी निगम / Damodar Valley Corporation
डी.वी.सी. टावर्स,विप रोड, कोलकाता
DVC Towers,VIP Road, Kolkata

VILLAGE-AMBAJHARAN,CIRCLE-LATEHAR,THANA-LATEHAR,THANA NO-335,
DIST-LATEHAR,JHARKHAND.

KHATA NO.	PLOT NO.	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARS
1	1P	Gair Mazrua Malik	51.65	Jungle	
1	2P	do	11.30 11.60	Jungle	
1	130	do	8.68	Jungle	
1	134	do	4.33	Jungle	
1	304	do	0.13	Nala	
2	93	Bakast Laganpanewala	5.04	Tar II	
2	198P	do	0.94	Tar II	
2	278	do	2.11	Tar II	
3	133	Atewa Oraon,Bigna Oraon,Meghai Oraon,Jokhna ,Rama raon,S\o-Ghupan Oraon	2.27	Tar II	
3	288		2.82	Parti Kadim	
3	292		1.19	Parti Kadim	
3	293		0.94	Parti Kadim	
3	297P		2.46	Parti Kadim	
3	299		0.03	Parti Kadim	
4	175	Sudhu Oraon & Others	0.29	Anhar	
4	284	Basant Thakur	1.16	Parti Nala	
5	172	Kinjalal Mahto,S\o-Kapil Mahta	0.90	Dhan III	
5	189P	do	0.07	Dhan III	
5	192P	do	0.49	Dhan II	
7	161	Kailey Rahto,Ramdas Mahto,S\o-Bhero Mahto	0.64	Dhan III	
7	162	do	1.64	Dhan III	
7	178P	do	0.78	Tar II	
9	271P	Chhedi Miya,Fidrat Miya,S\o-Bakshu Miya	0.28	Tar II	
10	98	Jitu Mahto,S\o-Bodha Mahto	0.98	Tar II	
10	199P	do	0.39	Dhan III	
11	103	Hira Oraon,S\o-Kolah Oraon	1.75	Tar II	
11	113	do	2.65	Tar II	
11	158	do	1.91	Tar III	
11	167	do	0.57	Tar III	
11	181P	do	0.43	Tar II	
11	217P	do	0.33	Dhan III	
11	219P	do	0.10	Tar III	
12	122	Hira Oraon,S\o-Kolah Oraon	1.58	Tar III	
12	127	do	1.90	Tar III	
12	132	do	0.12	Parti Nala	
12	174	do	0.23	Pond	
13	109	Bhirat Singh,Pirat Singh,S\o-Dukhan Singh	2.26	Tar II	

AMBAJHARAN

ए०के० काश्यप /A. K. Kashyap
मुख्य अभियंता (खान) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर्स, वी.आई.पी. रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

KHATA NO.	PLOT NO.	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARS
13	287	do	3.28	Tar II	
15	94	Biga Oraon,S\o-Mugla Oraon	3.54	Dhan III	
15	96	do	3.27	Tar II	
15	129	do	2.89	Tar III	
15	139	do	0.08	Parti Kadim	
15	155	do	2.66	Tar III	
15	193	do	0.88	Dhan II	
15	195	do	0.86	Tar III	
15	196	do	1.18	Dhan III	
16	138	Biga Oraon,S\o-Mugla Oraon	2.40	Dhan III	
17	117	Bulak,Vishwanath Pahan,S\o-Bandhu Pahan 1(P),Mudak,Latpat,S\o-Jeet Pahan 2(P),Mahapal,Bahadur,Vreet,S\o-Rati Pahan 3(P)	5.46	Tar III	
19	87P	Bhero Oraon,S\o-Mugla Oraon	0.69	Tar II	
19	92	do	1.67	Tar II	
19	152	do	2.67	Tar III	
19	157	do	1.39	Tar III	
19	166	do	2.02	Tar III	
19	170	do	1.28	Dhan III	
19	197	do	0.90	Tar III	
23	107	Rati Oraon,S\o-Mangara Oraon	3.22	Tar II	
25	279	Remli Miya,Bibhu Miya,S\o-Ritu Miya	0.78	Tar II	
26	97	Kamra Oraon,Mangra Oraon,Tempa,Budhan Oraon,Marwa,Birsa Oraon,Lalua,S\o-Bandhu Oraon	1.10	Tar II	
26	112	do	2.98	Tar II	
26	176P	do	0.77	Tar III	
26	194	do	0.52	Dhan II	
26	295	do	2.23	Tar II	
26	296	do	2.52	Dhan III	
27	137	Laya Oraon,Mangra Oraon,Tumba,Budhan Oraon,Birsa Oraon,Ladua Oraon,S\o-Bandhu Oraon	1.36	Dhan III	
28	300	Ladia Oraon,Suku Oraon,Chakra Oraon,Soma Oraon,S\o-Dhanpat Oraon	1.33	Tar II	
28	301	do	0.20	Tar I	
30	149	Loda Oraon,Budhu Oraon,S\o-Dethabi Oraon,Ramju Oraon,S\o-Madua Oraon	1.61	Tar II	
30	295P	do	1.38	Tar II	
31	89	do	0.[illegible]	Tar II	
31	90	do	0.[illegible]	Tar III	
31	99	do	0.4[illegible]	Tar III	
31	136	do	1.47	Dhan III	

AMBA[illegible]

[illegible] A. K. Kash[illegible] ap
मुख्य अभियंता (Chief Engineer, Min[illegible]
दामोदर घाटी [illegible] Valley Corp[illegible]
डी.वी.सी. [illegible] 54
DVC Tower, Vi[illegible] 4

KHATA NO.	PLOT NO.	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARS
31	156	do	0.74	Tar III	
31	179	do	0.96	Tar II	
31	220P	do	0.03	Dhan III	
31	289	do	1.36	Dhan III	
31	294	do	1.56	Tar II	
32	142	Sukra Oraon,Budhua Oraon/Lulah Oraon ,S\o-Badia Oraon	0.80	Dhan III	
33	95	Hasan Pahan,S\o-Bhadar Pahan	1.13	Tar II	
35	272P	Charan Hajam,S\o-Lulha Hajam	0.58	Tar II	
37	290	Jhua Miya,S\o-Piru Miya	2.08	Tar II	
38	168	Hirnga Oraon,S\o-Musha Oraon	0.41	Dhan III	
38	173	do	0.86	Dhan III	
38	190P	do	0.28	Tar III	
39	140	Hirnga Oraon,S\o-Musha Oraon	1.00	Dhan III	
44	115	Bandhu Oraon,S\o-Rama Oraon	2.48	Tar II	
45	88P	Butlu Kharwar,S\o-Bunga Kharwar	0.37	Tar III	
45	101	do	1.44	Tar III	
45	145	do	2.40	Tar II	
45	147	do	0.65	Tar II	
45	180	do	0.87	Tar II	
46	143	Butlu Kharwar,S\o-Bunga Kharwar	0.90	Dhan III	
47	153	Bhadi Oraon,S\o-Rama Oraon	3.70	Tar II	
48	274P	Bhola Dhobi,S\o-Leda Dhobi	1.02	Tar II	
49	116	Ramlal Oraon,S\o-Chhon Oraon	3.54	Tar II	
50	277	Lachhua Hajam,S\o-Lalha Hajam	1.64	Tar II	
51	275P	Lalman Dusad,S\o-Anhachh Dusad	3.01	Tar II	
53	118	Bhirwa Oraon,S\o-Bihari Oraon	3.56	Tar III	
55	121	Hasan Bega,S\o-Chatar Bega	2.69	Tar III	
55	131	do	2.65	Tar III	
55	303	do	1.47	Tar III	
56	91	Gair Mazrua Malik	0.10	Parti Kadim	
56	100	do	5.54	Parti Kadim	
56	102	do	2.46	Parti Kadim	
56	104	do	2.16	Parti Kadim	
56	105	do	0.01	Parti Kadim	
56	106	do	0.03	Parti Kadim	
56	108	do	0.13	Parti Kadim	
56	110	do	0.02	Parti Kadim	
56	111	do	1.23	Parti Kadim	
56	114	do	0.18	Parti Kadim	
56	119	do	1.54	Parti Kadim	
56	120	do	0.01	Parti Kadim	
56	123	do	0.09	Parti Kadim	
56	124	do	0.36	Parti Kadim	

AMBAJHARI

ए०के० कश्यप/A. K. Kashyap
मुख्य अभियंता (खान) / Chief Engineer (Mining)
दामोदर घाटी निगम/Damodar Valley Corporation
डी०वी०सी० टावर्स, ? Road, Kolkata-54
DVC Towers, ? Road, Kolkata-54

KHATA NO.	PLOT NO.	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARS
56	125	do	0.16	Parti Kadim	
56	128	do	0.08	Parti Kadim	
56	135	do	2.26	Parti Kadim	
56	141	do	2.20	Parti Kadim	
56	144	do	1.94	Parti Kadim	
56	146	do	0.11	Parti Kadim	
56	148	do	0.39	Parti Kadim	
56	150	do	1.12	Parti Kadim	
56	154	do	2.18	Parti Kadim	
56	159	do	1.07	Parti Kadim	
56	160	do	0.04	Parti Kadim	
56	163	do	2.60	Parti Kadim	
56	164	do	0.16	Parti Kadim	
56	165	do	0.68	Parti Gadha	
56	169	do	0.14	Parti Kadim	
56	171	do	0.01	Parti Kadim	
56	177P	do	0.03	Parti Kadim	
56	191P	do	0.09	Parti Kadim	
56	203P	do	2.27	Parti Kadim	
56	216P	do	3.76	Parti Gadha	
56	276	do	2.54	Parti Kadim	
56	280	do	1.85	Parti Kadim	
56	281	do	3.74	Parti Kadim	
56	282	do	6.30	Parti Kadim	
56	285		0.06	Parti Nala	
56	286	do	1.75	Parti Kadim	
57	126	Gair Mazrua Aam	1.73	Rasta	
57	151	do	3.98	Rasta	
57	283P	do	1.59	Rasta	
57	291	do	0.72	Rasta	
57	302	do	0.15	Rasta	
		Total Area in Acres	~~300.18~~ 280-42		

AMBAJHARAN

VILLAGE-DHOBIAJHARAN,CIRCLE-LATEHAR,THANA-LATEHAR,THANA NO-336,
DIST-LATEHAR,JHARKHAND.

KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
1	117	Arwag Sah,S\o-Badal Sah	0.49	Dhan III	
1	118	do	0.06	Dhan III	
1	222	do	0.57	Dhan III	
2	142	Ashwa Turi,S\o-Puran Turi	0.85	Dhan III	
3	193	Emman Miya,Klinan Miya,S\o-Neenu Miya	0.45	Tar II	
3	225	do	3.30	Dhan III	
3	226	do	1.17	Tar III	
4	90	Emmamdi Miya,So-Sudhu Miya	0.15	Parti Kadim	
4	95	do	0.12	Parti Kadim	
4	96	do	1.39	Dhan III	
4	97	do	0.07	Tar III	
4	98	do	0.12	Tar III	
4	99	do	0.18	Tar III	
4	221	do	0.62	Dhan III	
5	11	Ateba Oraon,Bigna Oraon,Madhi Oraon,Jokhana Oraon,Rama Oraon,S\o-Ghupan Oraon	0.12	Makan\ Sahan	
5	12	do	2.47	Tar III	
5	13	do	1.49	Tar II	
5	21	do	10.9	Tar III	
5	22	do	0.03	Makan\ Sahan	
5	23	do	0.50	Tar III	
5	27	do	1.18	Dhan III	
5	28	do	1.63	Tar III	
5	30	do	0.06	Kharjhan	
5	52	do	2.09	Tar III	
5	121	do	5.73	Dhan III	
6	206	Kujan Khan,Rauf Khan,S\o-Turab Khan	0.73	Tar I	
7	155	Gunadhar Singh,S\o-Gudar Singh	1.66	Dhan III	
7	283	do	1.75	Dhan III	
8	128	Gandori Bhuian,S\o-Udan Bhuian	0.43	Tar III	
8	141	do	1.14	Dhan III	
8	325	do	0.16	Tar II	
8	328	do	0.02	Makan\ Sahan	
9	31	Chandranath Singh,Indarnath Singh,S\o-Jatdhari Singh	1.45	Tar III	
9	86	do	0.62	Tar III	
9	101	do	2.06	Tar II	
9	107	do	1.11	Tar III	
9	109	do	0.86	Tar III	

DHOBIAJHARAN

(Mining)
Ranchi

KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
9	110	do	0.84	Tar III	
9	127	do	0.46	Dhan III	
9	130	do	1.36	Tar I	
9	165		1.51	Dhan III	
9	243	do	1.60	Dhan III	
9	244	do	1.36	Dhan III	
9	245	do	1.11	Dhan III	
9	246	do	0.04	Parti Kadim	
9	250	do	0.30	Tar III	
9	251	do	0.29	Dhan III	
9	252	do	0.38	Dhan III	
9	253	do	0.12	Dhan III	
9	267	do	0.21	Tar III	
9	269	do	0.09	Tar III	
9	271	do	0.19	Tar III	
9	280	do	0.30	Dhan III	
9	281	do	0.05	Parti Kadim	
9	292	do	0.32	Tar III	
9	299	do	0.20	Tar III	
9	301	do	0.25	Dhan III	
9	314	do	0.67	Tar II	
9	319	do	0.18	Tar III	
9	320	do	0.54	Tar II	
9	326	do	0.54	Tar III	
9	327	do	0.60	Tar II	
9	338	do	0.18	Tar III	
9	344	do	0.28	Tar I	
9	345	do	0.04	Makan \ Sahan	
9	350	do	0.15	Tar III	
9	353	do	1.07	Tar III	
9	361	do	0.05	Makan \ Sahan	
9	363	do	0.21	Tar II	
9	362	do	0.45	Tar I	
9	364	do	0.16	Tar III	
9	347	do	0.51	Tar I	
10	49	Chamar Singh,S/o-Kaltu Singh	1.31	Tar III	
10	86	do	1.69	Dhan III	
10	111	do	1.04	Tar II	
10	184	do	1.04	Dhan III	
10	284	do	1.05	Dhan III	
11	47	Widow Chhari Kumari, W/o-Dasarath Singh,Haricharan Singh,S/o-Bati Singh	0.44	Tar I	

DHOBIAJHARAN

A.K. Kashyap
(Mining)
Comm.

KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
11	123	do	1.04	Dhan III	
11	195	do	0.64	Tar III	
11	210	do	0.26	Tar III	
11	215	do	0.45	Dhan III	
12	164	Jagu Miya,Magu Miya,S/o-Sekhu Miya	1.39	Dhan III	
12	168	do	0.10	Tar III	
12	169	do	0.60	Dhan III	
12	172	do	0.23	Tar III	
12	176	do	0.86	Tar III	
12	180	do	0.63	Dhan III	
12	241	do	1.17	Dhan III	
13	34	Deepnath Singh,S/o-Sivrath Singh	0.81	Tar III	
13	102	do	0.86	Tar III	
13	140	do	1.21	Dhan III	
13	254	do	0.25	Dhan III	
13	255	do	0.03	Parti Kadim	
13	262	do	0.31	Dhan III	
13	266	do	0.39	Tar II	
13	270	do	0.06	Tar III	
13	274	do	0.79	Tar III	
13	295	do	1.06	Dhan III	
13	317	do	0.34	Dhan III	
13	322	do	0.01	Parti Kadim	
13	323	do	0.11	Dhan III	
13	349	do	0.33	Dhan III	
13	351	do	0.14	Tar II	
13	356	do	0.40	Tar III	
13	357	do	0.37	Tar I	
13	358	do	0.05	Makan \ Sahan	
13	360	do	0.29	Parti Kadim	
13	365	do	0.14	Tar III	
13	366	do	0.31	Tar II	
13	367	do	0.22	Tar I	
14	145	Dukhan Singh,Bahadur Singh ,S/o-Feku Singh	1.03	Dhan III	
14	233	do	0.99	Tar II	
14	236	do	0.41	Dhan III	
15	218	Devcharan Singh Lallias Pudhu Singh,S/o-Nema Singh	1.57	Dhan III	
16	88	Charo Oraon,Lit Oraon,Ughanu Oraon,Hamlia Oraon,S/o-Debanath Oraon	0.72	Dhan III	
16	112	do	0.41	Dhan III	

DHOBIAJHARAN

KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
17	63	Nandu Singh,S\o-Turia Oraon	1.64	Tan III	
17	149	do	1.50	Dhan III	
18	84	Nandlal Singh,S\o-Sivrat Singh	0.09	Dhan III	
18	85	do	0.67	Dhan I	
18	129	do	1.95	Dhan III	
18	303	do	0.17	Tar III	
18	309	do	0.22	Tar III	
18	311	do	0.71	Dhan III	
18	315	do	0.02	Tar III	
18	316	do	0.01	Parti Kadim	
18	324	do	0.10	Tar II	
18	329	do	0.31	Tar III	
18	330	do	0.02	Makan	
18	331	do	0.02	P. Kadim	
18	332	do	0.01	Parti garha	
18	336	do	0.43	Tar I	
18	337	do	0.20	Tar II	
19	64	Prayag Singh,S\o-Khedan Singh,Dharanath Singh	0.47	Tar III	
19	66	do	0.06	Tar III	
19	72	do	0.11	Tar III	
19	73	do	0.08	Tar III	
19	77	do	0.35	Tar III	
19	100	do	0.66	Tar III	
19	157	do	1.45	Dhan III	
19	158	do	0.01	Parti Kadim	
19	160	do	1.03	Tar III	
19	163	do	0.99	Dhan III	
19	166	do	0.73	Tar III	
19	181	do	0.30	Dhan III	
19	185	do	0.40	Dhan III	
19	186	do	0.26	Parti Kadim	
19	200	do	1.05	Tar III	
19	223	do	1.93	Dhan III	
19	230	do	0.25	Dhan III	
19	237	do	0.16	Dhan III	
19	240	do	0.33	Dhan III	
19	242	do	1.05	Dhan III	
20	115	Prasad Singh,Haran Singh,S\o-Hiru Singh	0.33	Dhan III	
20	116	do	0.14	Tar III	
20	153	do	1.02	Dhan III	
20	294	do	0.29	Tar III	
20	296	do	1.16	Dhan III	

DHOBIAJHARAN

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
20	298	do	0.47	Tar III	
21	187	Badho Miya,S\o-Sudhu Miya	0.52	Tar III	
21	201	do	0.62	Tar III	
21	202	do	0.11	Parti Kadim	
21	211	do	0.01	Parti Kadim	
21	212	do	0.76	Dhan III	
21	220	do	2.03	Dhan III	
21	83	do	1.14	Parti Kadim	
22	144	Bigan Singh,S\o-Feku Singh	1.42	Dhan III	
22	288	do	0.55	Tar III	
22	290	do	0.38	Tar III	
23	217	Biraj Singh,S\o-Arjun Singh	2.02	Dhan III	
24	333	Mukund Singh,S\o-Dhanraj Singh	0.03	Parti Gadha	
24	334	do	0.02	Makan \ Sahan	
24	335	do	0.32	Tar II	
25	45	Manbodh Singh,Dilbodh Singh,S\o-Sidhanath Singh	1.14	Tar III	
25	51	do	0.68	Tar III	
25	71	do	0.51	Tar III	
25	81	do	0.57	Tar III	
25	135	do	0.40	Dhan III	
25	136	do	0.40	Dhan III	
25	137	do	0.45	Dhan III	
25	138	do	0.31	Dhan III	
25	159	do	0.93	Tar III	
25	197	do	0.65	Tar II	
25	259	do	1.09	Dhan III	
25	260	do	1.24	Dhan III	
26	183	Manbodh Singh,Dilbodh Singh,S\o-Sidhanath Singh	0.64	Tar II	
26	189	do	0.39	Tar III	
26	190	do	1.42	Tar III	
27	106	Mahipal Singh,Jagatpal Singh,S\o-Maninath Singh	1.60	Tar III	
27	131	do	0.54	Dhan III	
27	133	do	0.79	Dhan III	
27	264	do	0.90	Dhan III	
27	273	do	0.20	Parti Kadim	
27	286	do	0.86	Tar III	
27	341	do	0.44	Tar II	

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
27	343	do	0.01	Makan \ Sahan	
28	239	Magar Sah,S\o-Sahay Sah	1.44	Dhan III	
29	57	Kauda Oraon,Budhua Oraon,Yemrat Ubthati Oraon 2(P),Samdhu Oraon,S\o-Kadua Oraon 3(P)	0.6	Tar III	
29	58	do	0.78	Tar III	
29	59	do	0.79	Tar III	
29	61	do	1.50	Tar III	
29	78	do	0.18	Tar III	
29	80	do	0.26	Tan III	
29	151	do	1.79	Dhan III	
29	139	do	1.18	Dhan III	
29	156	do	0.90	Tar III	
29	173	do	0.14	Tar III	
29	175	do	0.39	Tar III	
30	178	Lauda Oraon,Busu Oraon,S\o-Delthati Oraon 2(P),Widow Ramju Oraon,Malad Oraon 1(P),Sukua Oraon,Sokad Oraon,S\o-Dhanpati Oraon 3(P)	0.30	Tar II	
30	209	do	0.91	Tar III	
30	235	do	0.22	Tar III	
31	39	Lakshman Oraon,Lucya Oraon,Basu Oraon,S\o-Mahant Oraon	0.53	Dhan III	
32	91	Iachhu Oraon,Bandhu Oraon,S\o-Karma Oraon	2.55	Dhan III	
32	92	do	0.04	Parti Kadim	
32	93	do	0.04	Parti Aar	
32	119	do	1.85	Tar III	
32	150	do	0.40	Dhan III	
32	284	do	0.74	Dhan III	
32	285	do	0.74	Tar III	
33	4	Lelewa Oraon,Nandu Oraon,Bhadgudi Oraon,Mangtu Oraon	0.47	Tar II	
33	5	do	0.03	Makan \ Sahan	
33	14	do	1.43	Tar III	
33	15	do	0.81	Tar I	
33	16	do	0.79	Tar III	
33	18	do	1.97	Tar II	
33	29	do	1.76	Tar III	
33	54	do	1.87	Tan III	
33	55	do	1.16	Dhan III	
33	113	do	1.65	Tar III	
33	120	do	2.39	Dhan III	

DHOBIAJHARAN

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर, वी.आई.पी.रोड, कोलकाता-५४
DVC Tower, VIP Road, Kolkata-54

KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
33	258	do	1.51	Dhan III	
34	76	Samodh Singh,S/o-Sidhnath Singh	0.67	Tar III	
34	152	do	0.92	Dhan III	
34	161	do	0.61	Tar III	
34	162	do	3.97	Dhan III	
34	170	do	0.43	Tar III	
34	192	do	0.60	Tar II	
34	204	do	1.24	Tar III	
35	42	Sughan Ram,Lalu Ram,Piadi Ram,S/o-Jhari Ram,Surajnath Singh,S/o-Lachhaman Singh	0.94	Tar III	
35	108	do	0.87	Tar III	
35	122	do	1.05	Dhan III	
35	124	do	1.46	Dhan III	
35	125	do	0.01	Parti Kadim	
35	261	do	1.40	Dhan III	
35	265	do	0.44	Dhan III	
35	287	do	1.18	Tar III	
35	302	do	0.38	Tar III	
35	304	do	0.55	Tar III	
35	305	do	0.01	Tar II	
35	306	do	0.03	Makan \ Sahan	
35	307	do	0.12	Tar II	
35	308	do	0.06	Tar III	
35	312	do	0.47	Tar III	
35	339	do	0.11	Parti Kadim	
35	340	do	0.50	Tar I	
35	348	do	0.35	Dhan III	
35	359	do	0.18	Dhan III	
35	368	do	0.02	Tar II	
36	104	Harivakash Oraon,S/o-Ghudi Oraon	0.27	Tar III	
36	147	do	0.90	Dhan III	
37	2	Hirwa Oraon,S/o-Bahira Oraon	1.38	Tar III	
37	6	do	0.64	Tar III	
37	7	do	0.56	Tar I	
37	8	do	0.04	Makan \ Sahan	
37	32	do	0.60	Parti Kadim	
37	87	do	0.64	Dhan III	
37	89	do	0.35	Tar III	
37	146	do	0.86	Dhan III	
38	44	Widow Amrit Kupdi,W/o-Thakurjit Narayan Singh	2.58	Tar III	

DHOBIAJHARAN

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / D...modar Valley Corpn.
डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-54 /
DVC Towers,VIP Road, Kolkata-54

KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
38	132	do	0.32	Dhan III	
39	263	Kel Singh,S\o-Soha Singh	0.45	Dhan III	
40	134	Tilak Dhari Singh,Laldhari Singh,S\o-Sibvakash Singh	0.68	Dhan III	
41	297	Hegu Singh,S\o-Sivbrat Singh	1.08	Dhan III	
42	216	Muul Pahan,S\o-Jeet Wahan Pahan	1.67	Dhan III	
42	207	do	1.02	Tar III	
43	1	Gair Mazrua Malik	2.76	Nadi	
43	3	do	1.43	Jungle	
43	17	do	0.14	Parti Kadim	
43	19	do	0.68	Jungle	
43	20	do	2.56	Parti Gadha	
43	24	do	5.32	Jungle	
43	25	do	0.10	Parti Nala	
43	26	do	0.13	Parti Nala	
43	33	do	0.42	Jungle	Dhani ol
43	35	do	0.14	Jungle	Dhani ol
43	37	do	0.02	Parti Kadim	
43	38	do	0.02	Jungle	
43	40	do	0.06	Jungle	
43	41	do	1.8	Parti garha	
43	43	do	0.17	Jungle	
43	46	do	0.41	Jungle	
43	48	do	0.52	Jungle	
43	50	do	3.65	Jungle	
43	53	do	0.02	Parti Kadim	
43	56	do	6.15	Jungle	
43	60	do	0.47	Parti Kadim	
43	62	do	1.07	Jungle	
43	65	do	0.04	Parti Kadim	
43	67	do	0.30	Nala	
43	68	do	0.07	Parti Kadim	
43	69	do	0.05	Nala	
43	70	do	1.14	Jungle	
43	74	do	8.98	Nadi	
43	75	do	0.04	Parti Kadim	
43	79	do	0.03	Jungle	
43	82	do	7.92	Jungle	

A Kashyap

DHOBIAJHARAN

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर,वी.आई.पी.रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
43	94	do	0.51	Parti Kadim	
43	103	do	1.80	Jungle	
43	105	do	8.66	Jungle	
43	114	do	0.03	Parti Kadim	
43	126	do	0.40	Parti Kadim	
43	143	do	0.16	Parti Kadim	
43	148	do	0.01	Parti Kadim	
43	167	do	1.70	Jungle	
43	171	do	0.01	Parti Kadim	
43	174	do	0.08	Parti Kadim	
43	177	do	0.02	Parti Kadim	
43	179	do	0.04	Parti Kadim	
43	182	do	0.02	Parti garha	
43	184	do	0.12	Jungle	
43	188	do	0.01	Parti Kadim	
43	191	do	0.02	Parti Kadim	
43	194	do	0.11	Parti Kadim	
43	196	do	0.09	Jungle	
43	198	do	0.03	Parti Auri	
43	199	do	0.10	Jungle	
43	205	do	0.23	Jungle	
43	208	do	0.04	Jungle	
43	213	do	0.04	Jungle	
43	214	do	0.12	Parti Kadim	
43	219	do	0.01	Parti Kadim	
43	227	do	0.05	Jungle	
43	229	do	0.09		
43	231	do	0.08	Jungle	
43	232	do	0.02	Jungle	
43	234	do	0.01	Parti Kadim	
43	236	do	0.12	Jungle	Jhari

DHOBIAJHARAN

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर, वी.आई.पी.रोड, कोलकाता-54
DVC Tower, VIP Road, Kolkata-54

KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
43	248	do	0.29	Parti Kadim	
43	256	do	0.15	Parti Pind	
43	257	do	0.29	Ahra	
43	268	do	0.90	Parti Kadim	
43	275	do	0.04	Parti Aar	
43	276	do	0.04	Parti Kadim	
43	277	do	0.35	Parti Kadim	
43	278	do	1.20	Parti Kadim	
43	279	do	0.23	Parti Kadim	
43	282	do	0.78	Parti Kadim	
43	291	do	10.50	Jungle	Jhari
43	293	do	11.70	Jungle	Jhari
43	300	do	0.11	Parti Kadim	
43	310	do	0.33	Parti Kadim	
43	313	do	0.05	Parti Kadim	
43	318	do	0.13	Parti Kadim	
43	321	do	0.48	Parti Kadim	
43	342	do	0.41	Parti Kadim	
43	352	do	9.46	Jungle	
43	354	do	0.07	Jungle	Nala
43	355	do	3.40	Jungle	
43	369	do	0.01	Parti Kadim	
44	9	Gair Mazrua Aam	0.16	Rasta	
44	10	do	0.13	Rasta	
44	203	do	0.16	Rasta	
44	228	do	0.04	Dewsthan	
44	247	do	0.45	Rasta	
44	249	do	0.01	Dewsthan	
44	272	do	0.08	Rasta	
44	289	do	1.04	Rasta	
44	346	do	0.14	Rasta	
		Total Area in Acres	312.29		

DHOBIAJHARAM

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. बराकर माइनिंग एरिया, धनबाद
DVC Barakar Mining Area, Dhanbad

VILLAGE- DIHI,CIRCLE-LATEHAR,THANA-LATEHAR,THANA NO-334, DIST-LATEHAR,JHARKHAND.

KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
1	17	Bakast Laganpanewala	3.12	Tar III	
30	26	Chhedi Miya,Fidrat Miya,S\o-Bakshu Miya	2.18	Tar III	
46	21	Nanku Oraon,S\o-Muan Oraon	2.62	Tar III	
46	23	do	1.31	Tar III	
83	27	Biga Oraon,S\o- Mogal Oraon	2.90	Tar III	
91	14P	Gair Mazrua Malik	2.92	Jungle	Jhari
91	15P	do	37.5	Jungle	Jhari
91	16	do	0.63	Nadi	
91	18	do	0.53	Nala	
91	19	do	0.10	Nala	
91	20	do	0.15	Parti Kadim	
91	22	do	4.03	Jungle	Jhari
91	24	do	14.65	Jungle	Jhari
91	25	do	20.00	Jungle	Jhari
91	28P	do	30.53	Jungle	Jhari
91	29P	do	0.16	Jungle	
91	30P	do	3.22	Jungle	Jhari
91	657	do	0.13	Nala	
91	668	do	0.14	Nala	
		Total Area in Acres	126.82		

A.Kashyap

ए०के० कश्यप /A. K. Kashyap
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डी.वी.सी. टावर,वी.आई.पी. रोड, कोलकाता
DVC Tower,VIP Road, Kolkata

DMB

VILLAGE-NAWARI, CIRCLE- LATEHAR, THANA-LATEHAR,THANA NO-337, DIST-LATEHAR, JHARKHAND.

KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
1	411P	Jirat Malik	3.84	Dhan I	
1	412P	do	0.16	Dhan III	
1	413	do	0.23	Dhan II	
1	415	do	0.03	Dhan III	
1	425	do	0.14	Dhan II	
1	426	do	0.13	Dhan III	
2	60P	Bakast Laganpanewala	0.75	Tar II	
2	307P	do	0.40	Tar II	
2	404P	do	0.65	Dhan III	
2	409P	do	0.61	Dhan III	
2	410	do	0.26	Dhan II	
2	418	do	0.82	Dhan III	
2	484	do	1.09	Dhan III	
2	490	do	1.06	Dhan III	
2	506	do	0.91	Tar II	
2	520P	do	0.30	Tar III	
2	525P	do	1.48	Tar III	
5	401	Imamadi Miya,S\o-Sudhu Miya	0.80	Dhan III	
5	461	do	0.55	Dhan III	
5	463	do	0.09	Dhan III	
7	422	Ahadali Miya,Mathadi Miya,S\o-Sehan Miya	1.32	Dhan III	
7	449	do	0.50	Dhan III	
11	483	Ganedwari Miya,Lirgu Miya,S/o-Mako Miya	0.67	Dhan III	
11	507	do	0.25	Tar III	
14	454	Chhedi Miya,Fidarat Miya,S/o-Bakshu Miya	1.56	Dhan III	
15	57P	Chhedi Miya,Fidarat Miya,S/o-Bakshu Miya	0.55	Tar I	
16	391	Jagmohan Miya,Rosh mati,S/o-Sonu Miya 1(P),Chodari Miya Akbari Miya,S\o-Ramai Miya 1(P),Sulemen Miya,Jhaku Miya,S\o-Arwaj Miya 1(P)	0.48	Dhan III	
16	451	do	0.48	Dhan III	
16	452	do	0.69	Dhan III	
16	453	do	0.48	Dhan III	
16	522P	do	0.19	Dhan III	
16	523P	do	0.35	Tar III	

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ए०के० कश्यप /A. K. Kashyap
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DVC Towers,VIP Road, Kolkata-54

NAWARI

KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
18	394	Jamun Miya,S\o-Matu Miya	0.50	Dhan III	
21	447	Teju Singh,Dhirju Singh,S\o-Choudhury Singh	0.31	Dhan III	
21	465	do	0.92	Dhan III	
22	368	Dilbodh Singh,S\o-Sidhnath Singh	0.18	Khalihan	
22	372P	do	0.74	Tar II	
22	432	do	0.14	Dhan III	
22	434	do	0.05	Dhan III	
22	435	do	0.20	Dhan III	
22	437	do	0.17	Dhan III	
22	439		0.09	Dhan III	
22	441	do	0.13	Dhan III	
22	456	do	0.27	Dhan III	
22	458	do	0.35	Dhan III	
22	460	do	0.50	Dhan III	
26	450	Dhiratnath Singh,Pruthwi Singh, S\o-Dukhan Singh	1.14	Dhan III	
26	472	do	1.52	Tar III	
26	478	do	1.67	Dhan III	
29	369P	Nanchu Oraon,S\o-Tuliya Oraon	0.31	Tar II	
29	403	do	1.08	Dhan III	
29	444	do	1.09	Dhan III	
29	502P	do	0.33	Tar II	
29	526	do	0.50	Tar III	
29	527P	do	0.67	Dhan III	
29	528P	do	0.25	Tar III	
30	365P	Nawab Khan,S\o-Torson Khan	0.34	Dhan III	
30	367	do	0.18	Tar II	
30	398	do	0.63	Dhan III	
33	396	Nandlal Miya,Lagar Miya,S\o-Najir Miya	0.78	Dhan III	
33	464	do	0.72	Dhan III	
33	470	do	0.08	Dhan III	
34	59	Prayag Singh,S\o-Khedan Singh	0.09	Tar I	
36	416	Bado Miya,S\o-Sadlu Miya	0.06	Parti Kadim	
36	428	do	1.12	Dhan III	
36	473	do	0.09	Dhan III	
34	485	do	0.61	Tar III	
34	491	do	0.80	Dhan III	

NAWARI

ए०के० कश्यप /A. K. Kashyap
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DVC Towers,VIP Road, Kolkata-54

KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
36	510P	do	0.16	Tar III	
41	462	Mangnu Miya,S\o-Sudhu Miya	2.16	Dhan III	
44	387	Bhodal Miya,S\o-Puran Miya	0.42	Dhan III	
44	392	do	0.55	Dhan III	
46	399	Bhola Dhobi,S\o-Letha Dhobi	0.48	Dhan III	
47	375	Mangra Oraon,Binay Oraon,S\o-Runa Oraon	0.39	Tar II	
47	424	do	0.94	Dhan III	
47	524P	do	0.05	Tar III	
48	433	Manbodh Singh,S\o-Sidhi nath Singh	0.18	Dhan III	
48	436	do	0.38	Dhan III	
48	438	do	0.07	Dhan III	
48	440	do	0.38	Dhan III	
48	457	do	0.42	Dhan III	
48	459	do	0.39	Dhan III	
55	362P	Rajab Khan,Kajam Khan,Turao Khan	0.09	Tar II	
55	366	do	0.67	Parti	
57	389	Rati Oraon,S\o-Magra Oran	1.22	Dhan III	
57	402	do	0.83	Dhan III	
57	443	do	0.68	Tar III	
57	508	do	0.77	Tar III	
57	511P	do	0.01	Tar III	
59	384	Rahmali Miya,Hasmali Miya,Raku Miya,Sahmali Miya,S\o-Ritu Miya	0.53	Dhan III	
60	55P	Lauda Oraon,Budhu Oraon,S\o-Dugthan Oraon	0.70	Tar II	
60	393	do	1.20	Dhan III	
60	397	do	0.43	Dhan III	
60	429	do	0.08	Dhan III	
60	466	do	0.09	Dhan III	
60	468	do	0.15	Dhan III	
60	475	do	0.05	Dhan III	
60	480	do	0.37	Dhan III	
60	482	do	0.18	Dhan III	
60	489P	do	0.51	Dhan III	
60	492	do	0.97	Dhan III	
60	494P		0.69	Tar III	
60	496P	do	0.76	Dhan II	
60	498	do	0.67	Dhan II	

NAWARI

ए०के० कश्यप /A. K. Kashyap
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KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
60	503	do	0.78	Tar II	
61	361P	Lalman Dusad,S\o-Anhad Dusad,Debnath Dusad,S\o-Sukan Dusad	0.03	Tar II	
61	381	do	0.50	Dhan III	
61	405P	do	0.44	Dhan III	
62	446	do	1.17	Dhan III	
62	400	Lodiya Oraon,Suku Oraon,Chamra Oraon,Wsika Oraon,S\o-Dhanpat Oraon	0.49	Dhan III	
62	427		0.31	Dhan II	
62	428	do	0.18	Dhan III	
62	431	do	0.36	Tar II	
62	467	do	0.15	Dhan III	
62	469	do	0.10	Dhan III	
62	474	do	0.05	Dhan III	
62	476	do	0.28	Dhan III	
62	479	do	0.24	Dhan III	
62	481	do	0.18	Dhan III	
62	486P	do	0.69	Tar III	
62	487	do	0.83	Dhan III	
62	488P	do	0.67	Dhan III	
62	497	do	0.28	Dhan II	
62	504	do	0.68	Tar II	
66	383	Sukar Miya,S\o-Ramjan Miya	0.56	Dhan III	
66	421	do	0.47	Dhan III	
69	382	Sadhar Lohar,S\o-Modhu Lohar	0.87	Dhan III	
69	388	do	0.57	Dhan III	
69	509	do	0.70	Tar III	
71	380	Harchandra Singh,Rati Singh,Widow Chhati Kuwar,W/o-Dasrath Singh	0.63	Dhan III	
71	408	do	0.59	Parti	
71	501	do	0.73	Tar III	
71	533P	do	0.05	Tar III	
73	395	Hari Miya,S\o- Panchu Miya	0.37	Dhan III	
73	419	do	0.23	Dhan III	
73	505	do	0.97	Tar II	
74	385	Hari Miya,S\o- Panchu Miya 1(P),Mosafir Miya,Meda Miya,Panchu Miya 1(P)	1.08	Dhan III	

Akashyap

ए०के० कश्यप /A. K. Kashyap
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दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

NAWARI

KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
75	445	Hasnu Miya,Panchu Miya,S\o-Jitan Miya	1.92	Dhan III	
76	390	Abdul Kalal,S\o-Bakshi Kalal	0.94	Dhan III	
76	448	do	0.44	Dhan III	
76	477	do	0.84	Dhan III	
79	370P	Jeedhan Dusad,Bhabli Dusad,S\o-Kandan Dusad	0.11	Tar II	
79	376	do	0.14	Tar II	
79	379	do	0.81	Dhan III	
79	420	do	0.55	Dhan III	
83	406	Magan Bhuya,S\o-Budhan Miya	0.66	Dhan III	
85	377	Bhugul Baiga,S\o-Jon Baiga	0.48	Tar II	
88	374P	Gair Mazrua Malik	0.04	Parti Kadim	
88	378	do	0.08	Parti Kadim	
88	386	do	0.11	Parti Kadim	
88	417	do	0.75	Parti Kadim	
88	430	do	0.03	Parti Kadim	
88	442	do	0.05	Parti Kadim	
88	455	do	0.08	Parti Kadim	
88	471	do	0.67	Parti Kadim	
88	493	do	0.26	Parti Kadim	
88	495P		0.01	Parti Kadim	
89	58P	Gair Mazrua Aam	0.03	Rasta	
89	321P	do	0.04	Rasta	
89	407P	do	0.68	Rasta	
89	414P	do	0.77	Rasta	
89	499P	do	0.49	Rasta	
89	534P	do	0.09	Rasta	
		Total Area in Acres	88.15		

अंचल अधिकारी
पारेडीह

ए०के० कश्यप /A. K. Kashyap
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DVC Towers,VIP Road, Kolkata-54

NAWARI

VILLAGE- MANGRA, CIRCLE-LATEHAR,THANA-LATEHAR,THANA NO-330, DIST-LATEHAR,JHARKHAND.

KHATA NO.	PLOT NO	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
1	26P	Bakest Lagan Panewala	2.49	Tar II	
2	11	Ganpat Singh,S/o-Mull Singh	0.58	Tar III	
2	12	do	0.86	Tar III	
4	1	Avtar Singh,S/o-Srinam Singh	0.34	Tar II	
4	2	do	0.84	Tar III	
4	5	do	2.18	Tar III	
5	96P	Jhotar Bhuian	0.02	Tar II	
8	83P	Nanhu Oraon	0.22	Tar I	
9	8	Padru Oraon,S/o-Karam Oraon	1.00	Tar II	
9	15	do	0.30	Tar III	
9	27P	do	0.02	Tar III	
9	78P	do	0.02	Tar III	
9	81P	do	0.58	Tar II	
9	82P	do	0.03	Tar I	
16	7	Mangru Oraon,S/o-Goinda Oraon	2.71	Tar II	
16	9	do	1.06	Tar III	
16	18P	do	0.04	Tar III	
16	16P	do	0.08	Tar III	
16	95P	do	0.17	Tar II	
16	474P	do	1.70	Tar II	
21	4	Sukru Oraon,S/o- Mangru Oraon	0.44	Tar III	
21	14	do	0.35	Tar III	
21	77P	do	1.47	Tar III	
21	475P	do	0.07	Tar II	
25	3	Gair Mazrua Malik	11.30	Jungle	Jhari Ol
25	6P	do	7.99	Jungle	Jhari Ol
25	10P	do	4.31	Jungle	Jhari Ol
25	13P	do	6.37	Jungle	Jhari Ol
25	17P	do	0.87	Jungle	Jhari Ol
25	19P	do	0.30	Jungle	Jhari Ol
25	20P	do	3.08	Nadi	
25	21	do	0.07	Nala	
25	22P	do	0.66	Jungle	Jhari Ol
25	28P	do	1.93	Jungle	
25	29P	do	22.21	Jungle	
25	30P	do	0.11	Nadi	
25	76P	do	1.66	Jungle	
25	80P	do	1.20	Jungle	Jhari Ol
26	94P	Gair Mazrua Aam	0.09	Road	
		Total Area in Acre	79.68		

MANGRA

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दामोदर घाटी निगम / Damodar Valley Corpn.

VILLAGE- TUBED, CIRCLE-LATEHAR,THANA-LATEHAR, THANA NO-333, DIST- LATEHAR, JHARKHAND.

KHATA NO.	PLOT NO.	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
1	298	Gulam Ali,Rati Miya	0.10	Makan	
1	347	do	0.71	Dhan III	
1	348	do	0.58	Tar III	
1	349	do	0.43	Tar II	
1	381	do	0.02	Makan	
1	382	do	0.46	Tar I	
1	532	do	0.61	Tar III	
2	301	Mangai Oraon	1.33	Tar III	
2	333P	do	0.64	Tar II	
2	341P	do	0.42	Dhan III	
2	397	do	0.06	Makan	
2	398	do	1.67	Tar II	
3	427	Bhagwani Oraon	0.03	Tar I	
5	15	Soma Oraon, vishwanath & Ganda Oraon	2.34	Tar III	
5	426	do	0.05	Makan	
5	313P	do	0.91	Tar III	
5	424P	do	0.64	Tar I	
5	428P	do	0.25	Tar I	
6	304	Panchu Oraon,Rama Oraon	1.19	Tar III	
6	310	do	0.69	Tar III	
6	318	do	0.93	Tar III	
6	355	do	0.63	Tar III	
6	384	do	0.07	Makan	
6	385	do	0.92	Tar I	
6	453	do	0.88	Tar III	
6	454	do	0.84	Tar II	
6	507P	do	0.92	Tar III	
6	510	do	0.72	Tar III	
6	539	do	0.52	Tar III	
6	542	do	0.88	Tar III	
7	395	Bandhan Lohar,ChoudhecyLohar	0.07	Makan	
7	396	do	0.39	Tar I	
8	300	Chhotka bashu Oraon,Hagan Oraon	1.02	Tar III	
8	307	do	1.21	Tar III	
8	330	do	0.06	Tar I	
8	358	do	0.51	Tar III	
8	367	do	0.53	Tar II	
8	369	do	0.16	Tar III	
8	370	do	2.46	Tar II	
8	371	do	0.05	Parti Kadim	

ए०के० कश्यप /A. K. Kashyap
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DVC Towers,VIP Road, Kolkata-54

TUBED

KHATA NO.	PLOT NO.	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
8	372	do	0.08	Makan	
8	374	do	1.65	Dhan III	
8	376	do	0.41	Dhan III	
8	386	do	0.37	Tar II	
8	387	do	0.47	Tar II	
8	511	do	1.68	Tar III	
8	540	do	0.43	Tar I	
9	309	Baneya Oraon,Eta Oraon	0.63	Tar III	
9	459	do	0.05	Makan	
9	460	do	0.92	Tar II	
9	465	do	0.63	Tar III	
9	498	do	1.42	Tar III	
9	521	do	0.30	Tar II	
9	544	do	1.07	Tar III	
10	363	Bidhai Oraon,Budhu Oraon	0.08	Makan	
10	447	do	0.84	Tar II	
10	502	do	2.45	Tar III	
11	501	Bidhai Oraon,Budhu Oraon	0.30	Parti Pind	
12	437	Bishu Oraon,Dukhia Oraon,Bhukha Oraon,Bandhan OraonSo-Lachu Oraon	0.03	Makan	
12	452	do	0.30	Tar III	
12	455	do	0.01	Makan	
12	456	do	1.01	Tar II	
12	457	do	0.19	Tar III	
13	13	Budhram Oraon,Nega Oraon	2.51	Tar III	
13	336P	do	0.01	Tar II	
13	345	do	0.52	Tar II	
13	346	do	0.02	Makan	
13	408P	do	0.30	Tar II	
13	410	do	0.02	Makan	
14	9	Budhanath Oraon, Kuldeb Oraon	0.92	Tar III	
14	393	do	0.06	Makan	
14	394	do	0.40	Tar I	
14	413P	do	0.50	Tar II	
15	446	Budhua Oraon,Chaia Oraon,Chocho Oraon,Soma Oraon,So-Kuldev Oraon	0.76	Tar II	
15	469	do	1.97	Tar III	
15	490		0.11	Mota Anhar	
15	495	do	2.91	Tar III	
15	499	do	0.07	Mota Anhar	
15	500	do	0.82	Tar III	
16	14P	Baija Oraon & others	0.97	Tar III	
16	16	do	4.21	Tar III	

TUBED

KHATA NO.	PLOT NO.	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
17	375	Baigal Oraon,Hagan Oraon	0.67	Dhan III	
17	377	do	0.42	Dhan III	
17	383	do	0.29	Tar I	
17	389	do	0.60	Tar I	
17	391	do	0.03	Makan	
17	406P	do	0.32	Tar II	
17	409	do	0.04	Makan	
17	461	do	0.06	Makan	
17	462	do	1.02	Tar II	
17	463	do	0.35	Tar III	
17	517	do	2.45	Tar III	
18	315P	Bhagu Oraon,Vauna Oraon,Mangal Oraon,S\o- Karma Oraon	0.79	Tar III	
18	320	do	1.15	Tar II	
18	321	do	0.08	Makan	
19	344	Magra Oraon,Kalka Oraon	0.38	Tar II	
19	431	do	0.52	Tar I	
19	432	do	0.03	Makan	
19	537	do	1.24	Tar III	
21	354	Rangalal Oraon,Nandu Oraon	1.40	Tar III	
21	438	do	0.03	Makan	
21	439	do	0.82	Tar I	
21	440	do	0.05	Makan	
21	441	do	0.06	Makan	
21	442	do	0.63	Tar I	
21	449	do	1.37	Tar II	
21	450	do	0.80	Tar II	
21	461	do	0.04	Parti Anhar	
21	470	do	3.21	Tar III	
21	472	do	0.82	Parti Kodim	
21	474	do	0.87	Tar II	
21	475	do	0.98	Tar II	
21	476P	do	1.03	Dhan III	
21	481P		0.30	Dhan III	
21	482P	do	0.26	Dhan III	
21	484P	do	0.11	Dhan III	
21	485P	do	0.11	Dhan III	
21	489P	do	0.38	Tar III	
21	490	do	0.06	Parti Pasin	
21	491	do	0.37	Tar III	
21	492	do	1.08	Tar III	
22	350	Wada Lochhu Oraon,Lakshaman Oraon S/o Rama Oraon	1.02	Tar II	

ए०के० कश्यप /A. K. Kashyap TUBED
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

KHATA NO.	PLOT NO.	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
22	351	do	0.06	Parti Kadim	
22	433	do	0.50	Tar I	
22	434	do	0.38	Tar I	
22	435	do	0.06	Makan	
22	436	do	0.05	Makan	
22	468	do	0.78	Tar III	
22	487P	do	0.48	Tar III	
22	488P	do	0.01	Tar III	
22	506P	do	0.08	Tar III	
22	508P	do	2.42	Tar III	
22	514	do	0.68	Tar III	
22	530	do	2.22	Tar III	
22	533	do	0.03	Parti Kadim	
22	535	do	0.52	Tar III	
22	551	do	0.71	Tar III	
22	553	do	0.82	Tar II	
23	316	Lakshman Oraon,Lurpa Oraon,Basu Oraon S/o Mahanth Oraon	0.68	Tar III	
23	331	do	0.04	Makan	
23	332	do	0.60	Tar II	
23	335P	do	0.03	Tar II	
23	411P	do	0.34	Tar II	
23	425	do	0.04	Parti Kadim	
23	515	do	0.38	Tar III	
23	526	do	0.60	Tar III	
23	528	do	0.35	Tar III	
23	531	do	1.05	Tar III	
24	328	Sneha Oraon,S/o-Dhiren Oraon	0.05	Makan	
24	329	do	0.52	Tar I	
24	352	do	2.75	Tar III	
24	353	do	0.03	Parti Kadim	
24	362	do	0.78	Tar II	
24	430	do	0.15	Tar I	
24	443	do	0.12	Makan	
24	444P	do	1.35	Tar II	
24	445P	do	0.32	Tar II	
24	448	do	0.85	Tar II	
24	520	do	1.36	Tar III	
24	524	do	1.13	Tar II	
24	549	do	3.08	Tar II	
24	550	do	0.04	Parti Kadim	
25	366	Harbansh Oraon,S/o-Ghasi Oraon	0.61	Tar III	
25	378	do	0.69	Tar I	

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दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

KHATA NO.	PLOT NO.	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
25	379	do	0.02	Makan	
25	512	do	0.82	Tar III	
26	359	Ghulmaliya Turi,S\o-Muul Turi	0.23	Tar III	
26	388	do	0.36	Tar II	
27	365	Lode Turi,S\o-Ratan Turi	0.43	Tar II	
27	366	do	0.03	Makan	
28	399	Jhakhudi Oraon,S\o-Ridhi Oraon	0.03	Makan	
29	305	Deonath Oraon	0.16	Tar III	
29	306	do	0.01	Parti Kadim	
29	322	do	0.04	Parti Kadim	
29	323	do	0.89	Tar III	
29	325	do	0.04	Parti Kadim	
29	326	do	2.12	Dhan III	
29	327	do	0.64	Tar II	
29	342P	do	0.01	Tar III	
29	343P	do	0.31	Dhan III	
29	401P	do	0.80	Tar III	
29	402P	do	0.01	Tar III	
30	6P	Gair Mazrua Malik	8.43	Jungle	
30	7	do	0.54	Nala	
30	8	do	2.84	Nala	
30	10	do	1.87	Parti Kadim	
30	11	do	0.86	Nala	
30	12	do	0.24	Jungle	Jhasi
30	17P	do	18.23	Jungle	
30	56P	do	5.93	Nadi (Sukuri)	
30	292P	do	2.57	Parti Kadim	
30	293P	do	7.35	Jungle	Jhasi
30	299	do	0.27	Parti Kadim	
30	302	do	0.19	Parti Kadim	
30	303	do	0.04	Parti Kadim	
30	308	do	0.02	Parti Kadim	
30	314	do	0.04	Parti Kadim	
30	317	do	0.02	Parti Kadim	
30	319	do	0.05	Parti Kadim	
30	324	do	0.01	Parti Kadim	
30	357	do	0.03	Parti Kadim	
30	360	do	0.02	Makan	
30	361	do	0.01	Makan	
30	368	do	7.62	Parti Kadim	
30	390	do	0.01	Makan	
30	400	do	0.01	Makan	

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दार्जिलिंग हिमालयन रेलवे सोसाइटी लि.
D.H.R. Society Ltd.
डी.सी. टावर्स, वी.आई.पी. रोड, कोलकाता-
D.C Towers, V.I.P. Road, Kolkata-

TUBED

KHATA NO.	PLOT NO.	NAME OF LAND OWNER	AREA IN ACRE	TYPE OF LAND	REMARKS
30	464	do	0.03	Parti Garha	
30	466	do	0.34	Parti Kadim	
30	467	do	15.00	Jungle	Jhari
30	471	do	0.06	Parti Kadim	
30	494	do	0.03	Parti Kadim	
30	496	do	0.05	Parti Garha	
30	497	do	0.15	Parti Kadim	
30	509	do	0.15	Parti Kadim	
30	513P	do	12.24	Jungle	
30	516	do	0.41	Parti Kadim	
30	518	do	0.23	Parti Kadim	
30	519	do	0.02	Parti Kadim	
30	522	do	0.39	Parti Kadim	
30	523	do	0.90	Parti Kadim	
30	525	do	24.00	Nadi	
30	527	do	0.08	Nala	
30	529	do	1.03	Parti Kadim	
30	536	do	10.80	Jungle Jhari	Jhari
30	538	do	1.35	Jungle	Jhasi
30	541	do	0.06	Parti Kadim	
30	543	do	0.03	Parti Kadim	
30	545	do	1.74	Jungle	
30	546	do	2.46	Parti Kadim	
30	547	do	0.33	Parti Kadim	
30	548	do	0.09	Jungle	
30	552	do	0.56	Jungle	
30	554P	do	1.44	Nala	
30	558	do	0.12	Parti Kadim	
30	561	do	0.22	Nala	
30	561	do	0.11	Parti nala	
31	394P	Jharkhand Govt.	0.20	Rasta	
31	364	do	0.07	Rasta	
31	378	do	0.14	Rasta	
31	380	do	0.02	Rasta	
31	392	do	0.04	Akhara	
31	412	do	0.11	Rasta	
31	429P	do	0.21	Rasta	
31	468	do	0.51	Rasta	
31	478	do	0.01	Deosthan	
31	503P	do	0.06	Rasta	
31	594	do	0.09	Parti Kadim	
		Total Area in Acre			

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ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.

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TABLE- A

Detailed Breakup of Forest Land involved in the project

SL.NO.	Name of P.F Village	Thana	Thana No.	Circle	Name Of Forest Range	Plot No.	Area in Acres	Total Area in Ha.	Remarks
1.	Tubed	Latehar	333	Latehar	Latehar	6P	8.40	54.96	
						17P	13.70		
						513P	7.70		
2.	Dihi	Latehar	334	Latehar		14P	2.91		
						15P	36.95		
						24	2.50		
						25	8.60		
						28P	28.30		
						29P	0.16		
						30P	3.22		
3.	Mangra	Latehar	330	Latehar		28P	0.70		
						29P	21.20		
					TOTAL		134.34		

Tubed Coal Mines Limited
Latehar
Authorised Signatory

Divisional Forest Officer
Latehar Forest Division

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corporation.
डी.वी.सी. टावर, वी.आई.पी. रोड, कोलकाता - 54
DVC Tower, VIP Road, Kolkata - 54

TABLE-B

J.M Jungle jhari land as per Revenue Record / Khatyian

SL.NO.	Name of P.F Village	Thana	Thana No.	Circle	Name Of Forest Range	Plot No.	Area in Acres	Total Area in Ha.	Remarks
1	Tubed	Latehar	333	Latehar		6P	0.03	18.71	
						12	0.24		
						17P	4.53		
						293P	7.35		
						467	15.00		
						513P	4.54		
						536	10.80		
						538	1.35		
						545	1.74		
						548	0.09		
						552	0.56		
2	Dhobiajharan	Latehar	336	Latehar		3	1.43	31.274	
						19	0.68		
						24	5.32		
						33	0.42		
						35	0.14		
						38	0.02		
						40	0.06		
						43	0.17		
						46	0.41		
						48	0.52		
						50	3.65		
						56	6.15		
						62	1.07		
						70	1.14		
						79	0.03		
						82	7.92		
						103	1.80		
						105	8.66		
						167	1.70		
						184	0.12		
						196	0.09		
						199	0.10		
						205	0.23		
						208	0.04		
						213	0.04		
						227	0.05		
						229	0.09		

ए०के० कश्यप /A. K. Kashyap
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डी.वी.सी. टावर, वी.आई.पी.रोड, कोलकाता-54
DVC Tower, VIP Road, Kolkata-54

						231	0.03		
						232	0.02		
						238	0.12		
						291	10.50		
						293	11.70		
						352	9.46		
						355	3.40		
3	Dihi	Latehar	334	Latehar		14P	0.01	12.29	
						15P	0.55		
						22	4.03		
						24	12.15		
						25	11.40		
						28P	2.23		
4	Mangra	Latehar	330	Latehar		3	11.20	14.892	
						6P	7.99		
						10P	4.31		
						13P	6.37		
						17P	0.87		
						19P	0.30		
						22P	0.66		
						28P	1.23		
						29P	1.01		
						76P	1.66		
						80P	1.20		
5	Ambajharan	Latehar	335	Latehar		1P	51.65	30.86	
						2P	11.60		
						130	8.68		
						134	4.33		
						TOTAL	266.94	108.03	

...Coal Mines Limited

...erators

A K Kashyap

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

कार्यालय उपायुक्त –सह– दण्डाधिकारी, जिला– लातेहार।

प्रमाण–पत्र

संख्या :– 04 /क0 दिनांक 29.01.2014

1. अंचल अधिकारी, लातेहार का पत्रांक 22, दिनांक 24.01.2014 एवं अनुमण्डल स्तरीय वनाधिकार समिति, लातेहार का ज्ञापांक 20/C, दिनांक 28.01.2014 द्वारा प्राप्त अनुशंसा एवं दिनांक 29.01.2014 को आयोजित जिला स्तरीय वन अधिकार समिति, लातेहार द्वारा लिए गए निर्णय के आलोक में प्रमाणित किया जाता है कि तुबेद कोल माईन्स लिमिटेड, लातेहार परियोजना के लिए प्रस्तावित वन भूमि 401.28 एकड़ के संबंध में अनुसूचित जनजाति एवं अन्य परम्परागत वन निवासी (वन अधिकारों की मान्यता) अधिनियम 2006 के अन्तर्गत Settlement of Rights की प्रक्रिया पूर्ण कर ली गई है। प्रस्तावित वन भूमि एवं गैर–मजरूआ जंगल–झाड़ी भूमि की विवरणी निम्नवत है :–

क्र0	अंचल	ग्राम	खाना सं0	खाता सं0	प्लॉट सं0	रकबा (एकड़ में)	
						वन भूमि	गैर–मजरूआ जंगल–झाड़ी भूमि
1	2	3	4	5	6	7	8
1	लातेहार	मंगरा	330	25	3	–	11.20
					6	–	7.99
					10	–	4.31
					13	–	6.37
					17	–	0.87
					19	–	0.30
					22	–	0.66
					28	0.70	1.25
					29	21.20	1.01
					76	–	1.66
					80	–	1.20
					योग :–	21.90	36.80
2	लातेहार	तुबेद	333	30	6	8.40	0.03
					12	–	0.24
					17	13.70	4.65
					269	–	7.36
					467	–	15.00
					513	7.70	4.54
					536	–	10.80
					538	–	1.56
					545	–	1.74
					546	–	0.09
					562	–	0.66
					योग :–	29.80	46.23
3	लातेहार	डोली	334	91	14	2.91	0.01
					15	36.95	0.55
					22	–	4.03
					24	2.80	12.16
					25	8.80	11.40
					26	28.30	2.23
					29	0.18	–
					30	3.22	–
					योग :–	82.84	30.37
4	लातेहार	पोरियाबरन	336	43	3	–	1.43
					18	–	0.68
					24	–	5.29
					33	–	0.42
					35	–	0.14
					38	–	0.02
					40	–	0.06
					43	–	0.17
					46	–	0.41
					48	–	0.62
					80	–	3.65

A. K. Kashyap

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

TUBED COAL MINES LIMITED

4	लातेहार	धोबियाझारन	336	43	56	–	6.15
					62	–	1.07
					70	–	1.14
					79	–	0.03
					82	–	7.92
					103	–	1.80
					106	–	8.66
					167	–	1.70
					184	–	0.12
					196	–	0.09
					199	–	0.10
					205	–	0.23
					206	–	0.04
					213	–	0.04
					227	–	0.05
					229	–	0.09
					231	–	0.03
					232	–	0.02
					238	–	0.12
					291	–	10.50
					293	–	11.70
					352	–	9.48
					355	–	3.46
					योग :–	–	77.28
5	लातेहार	अम्बाझारन	335	1	1	–	51.65
					2	–	11.60
					130	–	8.68
					134	–	4.33
					योग :–	–	76.26
						134.34 एच	266.94 एच
कुल योग :– 134.34+266.94 = 401.28 हेक्टेयर							

2. प्रमाणित किया जाता है कि वन भूमि अपयोजन का प्रस्ताव प्रस्तावित क्षेत्रों में पड़ने वाले वन निवासियों के ग्राम सभा के समक्ष रखा गया। परियोजना की विस्तृत विवरणी तथा अनुवर्ती प्रभाव के संबंध में वस्तुस्थिति स्थानीय भाषा/मातृभाषा में ग्राम सभा को व्याख्यायित कर दी गई है।

3. प्रमाणित किया जाता है कि वन भूमि अपयोजन के प्रस्ताव के संबंध में की गई चर्चा एवं लिए गए निर्णय के समय ग्राम सभा के न्यूनतम पचास प्रतिशत सदस्य की उपस्थिति एवं कोरम पूर्ण था।

4. प्रमाणित किया जाता है कि आदिम जन जाति समूह एवं आदिम आदिवासी समूह एवं अन्य समुदाय के अधिकार अनुसूचित जन जाति एवं अन्य परम्परागत वन निवासी (वन अधिकारों की मान्यता) अधिनियम 2006 की धारा– 3 (1) (e) के अनुसार विशेष रूप से रक्षित किया गया है।

5. प्रमाणित किया जाता है कि सरकार के द्वारा दिये जाने वाली सुविधाओं से संबंधित वन भूमि अपयोजन का प्रस्ताव के संबंध में अनुसूचित जन जाति एवं अन्य परम्परागत वन निवासी (वन अधिकारों की मान्यता) अधिनियम 2006 की धारा– 3 (2) के तहत प्रक्रिया पूर्ण कर ली गई है तथा ग्राम सभा द्वारा इस पर सहमति व्यक्त की गई है।

उपायुक्त
–सह–
अध्यक्ष, जिला स्तरीय वनअधि०,
लातेहार।

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (जला) / Chief Engineer (Hydro)
दामोदर घाटी निगम / Damodar Valley Corporation
डी.वी.सी. कार्यालय, वी.आई.पी. रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

No.34011-03-2011-CPAM
Government of India
Ministry of Coal
<><><><><>

Shastri Bhavan
New Delhi, the 10th August , 2011

To

Shri Lakshmi Narayana, CEO,
M/s Tubed Coal Mines Limited,
Century Bhavan, 3rd Floor Worli,
Mumbai 400025.
(Fax : 91-022-24227586)

Subject : Approval of Mine Closure Plan (March 2011) for Tubed Coal Block of Auranga Coalfields, District Lather, Jharkhand. of M/s Tubed Coal Mines Limited.

Sir,

I am directed to refer to your letter No.TCML/Frdg.letter/PMCP/268 dated 16-03-2011 on the subject mentioned above and to say that the Mine Closure Plan (March 2011) to be read along with the party's letter dated 16-03-2011 and 31-05-2011 has been considered by the Standing Committee and the approval of the Central Government is hereby conveyed under Section 5(2)(b) of the Mines & Minerals (Development & Regulation) Act, 1957 subject to the following conditions:

(i) The mining company shall take all necessary precautions regarding safety of mine workings, persons deployed therein during the implementation of the Mine Closure Plan;

(ii) The approval of the mine closure plan is without prejudice to the requirement of approvals from competent/prescribed authority under the relevant rules/regulations, etc.

Two copies of the approved Mine Closure Plan duly signed by the competent authority are returned herewith with request that a copy of the approved Mine Closure Plan may be submitted to concerned State Government for necessary action and also a photocopy of the approved Mine Closure plan may be sent to the Coal Controller for the purpose of monitoring.

(Sandeep Gupta)
Under Secretary (CPAM)
Tele : 011-23073934
Fax : 011 23387738

Encls : as above

Copy to : (i) The Under Secretary (CA-I), As directed by Chairman, Standing Committee, approval of the Central Govt. in respect of the aforesaid Mine Closure Plan has been conveyed to M/s Tubed Coal Mines Limited. The relevant File No.13016/19/2009/CA-I [C-12035] along with one copy of the approved Mine Closure Plan (March 2011) and company's letters dated 16-03-2011 and 31-05-2011 is forwarded herewith.

(ii) The Director, Coal Controller, 1-Council House Street, Kolkata.

A. Kashyap

ए०के० कश्यप /A. K. Kashyap
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TUBED COAL MINES LIMITED

Tubed Coal Mines Limited

Corporate Office: M-10 (SS), Harmu Housing Colony
Behind BJP Office, Ranchi (Jharkhand) Pin 834002
Phone: 0651-2247342 Fax: 0651-2247342

Mine Closure Plan
(PROGRESSIVE & FINAL)

For

TUBED COAL BLOCK
(LEASE AREA-460ha)

IN

AURANGA COALFIELD
VILLAGE-TUBED etc,
TEHSIL-LATEHAR
DISTRICT-LATEHAR
STATE-JHARKHAND

Name Of The Mine

TUBED OPENCAST PROJECT
(6 MTPA)

संदीप गुप्ता / SANDEEP GUPTA
अवर सचिव / Under Secretary
कोयला मंत्रालय / Ministry of Coal
भारत सरकार / Govt. of India
नई दिल्ली / New Delhi

Prepared as per guideline issued in Aug'2009 by MoC,GoI

Prepared by

V.K.SINGH
RQP No.34011/(17)/2004-CPAM Dated 03.11.2004

V.K. Singh
(Recognised Qualified Person)
Regd. No. 34011(17)2004-CPAM
Dated-03.11.2004

March 2011

Consultant

Geomin Consultants (Pvt.)Ltd.

A.K. Vyas

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अवर सचिव / Under Secretary
कोयला मंत्रालय / Ministry of Coal
भारत सरकार / Govt. of India
नई दिल्ली / New Delhi

V.K. Singh

ABBREVIATIONS USED

Sl.No.	ABBREVIATION	FULL FORM
1.	E-W	East-West
2.	CHP	Coal Handling Plant
3.	G R	Geological Report
4.	GoI	Government of India
5.	HFL	Highest Flood Level
6.	ha	Hectare
7.	LTPA	Lakh Tonne Per Annum
8.	Km	Kilometre
9.	MW	Mega Watt
10.	MoC	Ministry of Coal
11.	MoEF	Ministry of Environment & Forest
12.	MTPA	Million Tonne Per Annum
13.	MCP	Mine Closure Plan
14.	NoC	No Objection Certificate
15.	OB	Overburden
16.	RL	Reduced Level
17.	RQP	Recognised Qualified Person
18.	TCML	Tubed Coal Mines Limited
19.	TPP	Thermal Power Plant
20.	WM	Weathered Mantle

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V.K. Singh
(Recognised Qualified Person)
(Recognition No. 3401)
Dated: 03.11.2024

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मुख्य अभियंता (खान) / Chief Engineer (Mining)

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A-2	Copy of Approval Letter of Mining Plan from MOC, GOI
A-3	Extract from JV Agreement signed on 08.01.10
A-4	Copy of Certificate of Incorporation
A-5	Authorisation by project proponent to RQP to prepare the Mine Closure Plan
A-6	Certification by RQP of Authorization and Preparation of Mine Closure Plan
A-7	Copy of CGWA Clearance
A-8	Copy of Rail Transportation Clearance from Railway Board
A-9	Copy of Recommendation of Chief Engineer Govt. of Jharkhand for diversion of Sukri River / Nallas.
A-10	Copy of CWLW (Govt. of Jharkhand) recommendation for approval of Wild Life Management plan
A-11	Board Resolution for Approval of Mine Closure Plan by TCML Board of Directors

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INTRODUCTION

1.1 Background

Mine Closure Plan for proposed Tubed Open Cast Coal Mine over the allotted Tubed Coal Block(Annexure : A-1), situated in the Latehar district of Jharkhand State has been prepared, as per the guidelines of Government of India, Ministry of Coal issued vide their No. 55011-01-2009-CPAM dated 27.8.2009. As per the above guidelines, all coal mine owners shall adopt a Mine Closure Plan, comprising Progressive Mine Closure Plan and Final Mine Closure Plan duly approved by the competent authority. In case of Tubed coal mine, Mining Plan has been approved by Ministry of Coal, Govt. of India, vide their letter No. 13016/19/2009 CA-I dtd. 12th October,2009 **(Annexure : A-2)**. As per guidelines, Mine Closure Plan for already approved Mining Plan is to be prepared and submitted for approval of Ministry of Coal, Government of India.

Activities of Progressive Mine Closure Plan have been described which have been arranged sequentially for the entire productive life of the mine and the activities relating to Final Mine Closure Plan (which will be needed at the end of productive mine life) have also been incorporated.

1.2 Mine Owner:

Tubed Coal Block has been allocated jointly to M/S HINDALCO INDUSTRIES LTD. and M/s THE TATA POWER COMPANY LTD. Both these companies have formed a Joint Venture (JV) company in the name of TUBED COAL MINES LTD. (TCML) with their equity participation of 60% and 40% respectively, to develop and operate an opencast mine of 6 MTPY capacity in this allocated coal block(Annexure : A-3). The JV Company was incorporated on 25.09.2007(Annexure : A-4). M/s TCML, the proponents have the following address for communication:

Corporate office: Tubed Coal Mines Ltd.,
M-10 (SS) Harmu Housing Colony
Behind BJP office, Ranchi, Jharkhand
Pin- 834002
Telephone:0651-2247342 Fax:0651-2243835

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V.K. SINGH

A.K. Nayak

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दामोदर घाटी निगम / Damodar Valley Corporation
डीवीसी, बी.टी.पी.एस., बोकारो / DVC, BTPS, Bokaro

Registered Office : 3rd Floor, Century Bhawan
Dr. Annie Besant Road, Worli,
Mumbai – 400025
Tel – 022 – 66626610

Name and Address of the RQP

V.K. Singh,
Recognisation No.- 34011/(17)/2004-CPAM dated 03.11.2004
Hill Top, Mahalla – Chandwe, Kanke Road, Ranchi – 834008, Jharkhand
Tel - 0651 – 2230523,
Mob- 09334484822

The letter addressed to Sri V K Singh by the proponent TCML authorizing him to prepare the mine closure plan is enclosed as Annexure-5.

1.3 End Use of Coal:

The entire coal from Tubed Coal block will be used by 750 MW Captive thermal power plant of HINDALCO's 3.5 LTPA Aluminum Smelter Project to be sited at Sonahatu (Jharkhand) and 500MW thermal power project of TATA POWER to be sited at Tiruldih(Jharkhand). The Coal produced from the mine will be distributed in the ratio of 60:40 (the ratio of their equity participation in the JV company, TCML) respectively. These plants are 200 Km. and 265 Km. away respectively from the Latehar Railway head. The coal from mine site to Latehar Rly station will be transported through dedicated railway siding.

1.4 Location:

The Tubed Coal Block is located in Latehar district of Jharkhand state and is within the Auranga Coalfield which is the eastern most basin of North Koel valley having coal deposits of Gondwana period.

This block lies between Latitude 23°48'20" N and 23°50'09" N and Longitude 84°34'09"E and 84°35"45" E. It lies in the Survey of India Toposheet No. 73 A/9.
The coal block is connected to National Coal Grid by transferring co-ordinates from SIKNI opencast coal mine of JSMDC. The project area has the following boundary co-ordinates:

1. Northing – 1088765.062 to 1092078.795
2. Easting – 3058265.41 to 3060957.935

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V.K. Singh

ए०के० उपाध्याय /A. K. Upadhyay
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दामोदर घाटी निगम
डी.वी.सी. टावर / D.V.C. Tower
DVC Tower

This area is connected to NH 75 at Latehar by 12 Km black topped road. The Gomoh – Barkakana-Dehri on sone loop line of Eastern Central Railway runs on the Southern side about 10 Km away. Nearest Railway Station being at Latehar on EC Railway.The location of the block showing rail and road links, is enclosed as Plate – I.

1.5 Lease Area & Boundaries

Lease area of the Tubed coal block is 4.60 Sq Km or 460 Ha., with boundaries as described below:

North: An arbitrary line passing 640 m and 820 m North-West of boreholes MAT-13 and MAT-14 respectively.

East: Trace of Fault F_2 and arbitrary line extended towards North in the same alignment as that of fault F_2-F_2 till it meets north line.

South: An arbitrary line passing 160 m, 80 m and 416 m South-East of boreholes MAT-2, MAT-1 and MAT-18 respectively till it meets fault F_2 trace.

West: Trace of Fault F1 and arbitrary line towards North, passing 280 m and 584 m. West of boreholes MAT-10 and MAT-13 respectively, till it meets north line. The boundary is shown on plate-III.

1.6 LAND USES:

1.6.1 The catagory wise land within the proposed lease area is as follows:

Forest land:	162.395	ha
Govt. land:	67.062	ha [includes river, nallas and public roads]
Tenancy land:	230.543	ha
Total:	460.00	ha

The coal block is located in 6 revenue villages located within the area viz. Tubed, Dhobiajharan, Dihi, Ambajharan, Mangra and Nawari. The present land use of the proposed lease area is shown in plate II.

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V.K. Singh
(Recognised Qualified Person)
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Dated-03.11.[illegible]

ए०डी० कालम /A. K. [illegible]
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डी.वी.सी. कार्यालय [illegible]
[illegible]

1.6.2 The present, proposed and post mining land uses are shown in Table 1.1

TABLE NO. 1.1

PRESENT, PROPOSED &POST MINING LANDUSE IN PROPOSED LEASE AREA

All Fig.in hectares(ha)

Sl. No.	Present Land Use		Proposed Land Use		Post Mining land Use					
	Particulars	Area	Particulars	Area	Plantation	Agricultural	Water Body	Road for Public uses	Green Belt	Total
1	Agriculture	230	Quarry	350	208	138	4			350
2	Waste land	39	External Dump	63	63					63
3	Nalla & River	22	Infrastructure Facility	11.3		5.30		4	2	11.3
4	Road	5.6	Embankment, nala & road	29	17		8	4		29
5	Habitation	1	Safety Barrier against Mine Boundary	6.7					6.7	6.7
6	Forest	162.4								
	Total: 460			460	288	143.30	12	8	8.7	460

1.8 Reasons of Closure

At present, exhaustion of the coal reserves can be envisaged as the only possible reason for mine closure. The mine is likely to continue for 25 years of productive life. However, this conceptual final mine closure plan would be able to guide the closure activities even for eventualities which are not speculated at present but may occur in an unforeseen manner.

1.9 Statutory Obligation

The Mining Plan has been approved and accordingly development of mine, its operation and closure would be carried out. CGWB approval of groundwater requirement, RTC for rail transportation, technical vetting of the river diversion and WMP approved by CWLW are the other approvals received by the project so far. Copies of approval letters have been annexed **(Annexure : A-7 to A-10)**.

Other statutory clearances are under process. The conditions/statutory obligations stated in these approvals with their compliance status are given in Table 1.2 below.

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डी.वी.सी. टावर्स,वी.आई.पी.रोड, [illegible]
DVC Towers,VIP Road, [illegible]

Table – 1.2

COMPLIANCE STATUS OF STATUTORY OBLIGATION ARISING OUT OF APPROVALS/SANCTIONS

Sl. No.	Approvals Received	Conditions laid down under the approval	Status of its compliance
1	Mining Plan from Ministry of Coal, Govt. of India.	The mining company shall take all necessary precautions regarding safety of mine workings and persons deployed therein.	Will be taken care of in this regard by the project proponent.
2		Mining lease to be acquired shall not encroach into any other coal block.	Due Care has been taken in this regard and accordingly land schedule has been attached with the ML application.
3		The approval of mining plan is without prejudice to the requirement of approvals from competent / prescribed authority under relevant rules / regulations etc.	All required approvals/ clearances are being taken by the project proponent.
4		The company shall consider the feasibility of river diversion and shall try for the same from 7th yr. of mine production.	River diversion feasibility report has been prepared and proposal of river diversion technically vetted by CE, WRD, GoJ. Approval of GoJ awaited.
5		The company shall drill additional boreholes particularly in sector IV of the property so as to increase the borehole density of the block and also converting the indicated reserve as proved reserve.	The tentative borehole locations have been finalized and the tender issued for the additional borehole drilling. With the proposed 18 boreholes, the density would be about 9 per Sq. Km.
6		The company shall submit a Mine Closure Plan within one year for approval of the mining plan by Central Government.	Submitted
7	Wildlife Conservation Plan by CWLW, GoJ	Budget for eco-development activities should be Rs. 2.7 Cr. for 10 yrs	Agreed by the project proponent.
8	Approval of water withdrawal granted by CGWB, Delhi.	Water quantity withdrawal shall not exceed 800Cu.m.per day.	It will be complied with.
9		All abstraction should be metered and monitored and reported to RD, CGWB annually.	It will be complied with.

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मुख्य अभियंता (खान) / Chief Engineer (Mining)
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10		Rain water harvesting should be implemented and ground water level should be monitored.	It will be complied with.
11		Proper water conservation measures should be adopted.	ETP & STP has been proposed and the treated water will be reused in the project for water conservation.
12		Monitoring of ambient ground water regime should be done by piezometers.	During additional borehole drilling piezometers have been provisioned to be installed for monitoring ambient ground water regime.

- The environment clearance is under active consideration of MoEF, GoI
- Consent to establish will be issued by SPCB after the EC.
- Permission from Coal Controller will be sought and notice of opening will be given to DGMS after the grant of mining lease.
- FDP proposal is being processed at DFO level. CA land has been identified.

The Project Proponent undertakes to comply all the terms and conditions related to various statutory clearances already obtained or to be obtained in future.

1.10 Closure Plan Preparation

The Board of Directors of TCML vide a resolution has approved this conceptual final mine closure plan for Tubed opencast coal mine along with the concomitant expenses involved. Copy of the resolution is enclosed as **(Annexure : A-II)** .

V.K Singh
(Recognised Qualified Person)
(Recognition No 2401[illegible])
Dated-03.11.2024

संदीप गुप्ता / SANDEEP GUPTA
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2.0 Mine Description

2.1. Topography & Drainage:

2.1.1 Tubed Coal Block is located in the northern part of the Auranga Coalfield.The block exhibits undulating topography. General slope is towards west. Ground elevation varies from 386m in the north-west (near the river) to 412m in the noth east (high land area).

2.1.2 A prominent valley is located in south- western part of the block along which Sukri river flows towards noth-west. Three nalas flowing from east join Sukri river. Besides,there is also a nala located in the northern part of the block which also joins Sukri river near Bh MAT 10.

2.2 Geology:

2.2.1 Major portion of the block is under soil cover. The exploration data has revealed the presence of Barakar formations followed by the basement archaean metamorphic. The geological succession established from the subsurface bore hole data is given in Table – 2.1

TABLE NO. 2.1

Lithological Succession of Tubed Block

Formation (Thick.)	Lithology
Alluvium (2.50 to 12.00m)	Soil
----------Unconformity----------	
Barakar (15.90 to 268.00m)	Sandstones, shale, carbonaceous shale and coal seams
----------Unconformity----------	
Archaeans Metamorphic (0.95 to 12.00m+)	Granite gneiss

2.2.2 Rock Types- Acidity/Toxicity:

The rock types found in the Barakar measure contain sandstone, shale, carbonaceous shale and coal seams. During exploration stage no signs of acidity were found in the coal samples. The mines of Sikni and Jagaldaga in Auranga coalfield have been worked for more than 10-15 years. The rocks in these mines don't exhibit any toxic constituents. It is therefore inferred that the rock of Tubed Coal Block will not show signs of acidity/toxicity.

2.2.3 Structure & Faults:

The general strike of the sedimentary rock strata is almost north-south with minor swings

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towards northeast in the extreme southern portion of the block. In general the dip of the beds varies between 5^0-10^0 towards east. In the southernmost part, the dip gradient is high, up to even 15°. In the central part it is 3°.

Tubed block is structurally simple. It is intercepted by 6 faults. Fault no.1 &2 are major boundary faults on east & west sides. Other 4 faults F_3, F_4, F_5, & F_6 divide the block into four sectors. Sectors II & IV have gone deeper due to down-throw fault.

2.3 Coal Reserve:

2.3.1 Coal Seams of Tubed block:

A total of 13 co-relatable seams has been established on the basis of the available data of Tubed Block. In descending order the coal seams are VII (Top), VII (Bot), VI, V (Top), V (Bot), IV (Top), IV (Bot), III (Top), III (Mid), III (Bot), II, I (Top), and I (Bot). In a small patch VII (Top) and VII (Bot), have combined as a single seam.

Among the 13 horizons, seam VI and seam I (Bot) are found to be unworkable i.e. <1.00m thick over major part of the block. No reserve estimation for these two seams were carried out in the GR.

2.3.2 Seam Thickness & Partings:

The sequence of the coal seams, parting details, thickness range etc are given in the Table no.2.2.

TABLE NO. 2.2

Sequence of coal seams, Tubed Block

Sl.No.	Coal seam Parting	Range of thickness	
		Minimum	Maximum
1	VII-TOP Parting	7.42 (MAT-4) 1.06 (MAT-12)	11.97 (MAT-6) 3.90 (AR-7)
2	VII-BOT Parting with VI	0.65 (MAT-4) 3.15 (MAT-16)	1.80 (AR-7) 13.58 (MAT-18)
3	VII-COMB Parting	9.08 (MAT-8) 7.36(MAT-7)	10.14 (MAT-7) 9.38 (MAT-11)
4	VI Parting	0.10 (MAT-17) 4.47 (MAT-11)	0.64 (MAT-6) 17.23 (MAT-18)
5	V-TOP Parting	4.82 (MAT-11) 3.74 (MAT-11)	8.37 (MAT-18) 16.22 (MAT-18)
6	V-BOT Parting	5.77 (MAT-20) 1.45 (MAT-7)	11.22 (MAT-18) 10.20 (AR-7)
7	IV-TOP Parting	0.54 (MAT-20) 0.76 (MAT-11)	7.64 (MAT-3) 5.94 (MAT-3)
8	IV-BOT Parting	0.50 (MAT-20) 1.36 (MAT-6)	5.32 (MAT-1) 9.69 (MAT-12)

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Sl.No.	Coal seam Parting	Range of thickness	
		Minimum	Maximum
9	III-TOP Parting	0.58 (MAT-6) 1.23 (MAT-1)	7.42 (MAT-18) 6.87 (MAT-6)
10	III-MID Parting	0.20 (MAT-9) 1.57 (MAT-6)	1.94 (MAT-12) 9.70 (AR-11)
11	III-BOT Parting	0.55 (MAT-20) 2.38 (MAT-7)	4.05 (MAT-18) 8.87 (MAT-9)
12	II Parting	4.49 (MAT-20) 1.26 (MAT-1)	15.48 (MAT-18) 8.00 (AR-11)
13	I-TOP Parting	0.22 (MAT-9) 2.01 (MAT-1)	4.73 (MAT-18) 6.72 (MAT-6)
14	I-BOT	0.25 (MAT-14)	3.42 (MAT-16)

2.3.3 Seamwise & Category – wise Gross Coal Reserve:

The seam wise, category wise gross coal reserve as per GR is as follows in Table 2.3 and gradewise and seamwise details are in Table 2.4 :

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TABLE No. 2.3

Category Wise Reserve (In million tonnes)

Category	IT	II	III B	III M	III T	IV B	IV T	V B	V T	VII Comb	VII B	VII T	Total
Proved	5.8242	35.0157	5.6493	4.0987	11.5648	2.2935	11.0281	31.1932	22.0746	3.1482	2.6262	32.4523	166.9688
Indicated	0.8623	4.2601	1.1006	0.3312	1.7976	0.5054	1.9282	4.2929	2.5417	------	1.6458	3.5882	22.854
Total	6.6865	39.2758	6.7499	4.4299	13.3624	2.7989	12.9563	35.4861	24.6163	3.1482	4.2720	36.0405	189.8228

TABLE No. 2.4

Seam wise-Grade wise Reserve of Coal (In Million tonnes)

Seam? Grade ?	IT	II	III B	III M	IIIT	IV B	IV T	V B	V T	VII Comb	VII B	VII T	Total
D	-----	-----	0.0388	-----	-----	-----	-----	-----	-----	-----	-----	-----	0.0388
E	0.0896	0.1132	0.5384	-----	0.2678	0.8489	-----	-----	16.2625	-----	2.7286	-----	20.8490
F	5.5018	34.1988	5.1121	2.8483	8.3919	0.9364	2.7205	33.2181	8.3538	3.1482	1.5434	20.8425	126.8158
G	1.0951	4.9638	1.0606	1.5816	4.7027	1.0136	10.2358	2.2680	-----	-----	-----	15.1980	42.1192
Total	6.6865	39.2758	6.7499	4.4299	13. 3624	2.7989	12.9563	35.4861	24.6163	3.1482	4.2720	36.0405	189.8228

V.K. Singh

2.3.4 Mineable Reserve of Coal:

- The geological reserve of coal in the block has been estimated as 190 million tonnes. Of this, 167 million tonnes is proved reserve and 23 million tonnes is indicated reserve. The mining plan was prepared for 190 million tonnes.
- Seam II is the most potential seam with reserve of about 39.28 mtes constituting about 20% of the total reserve.
- Grade-wise F grade with a reserve of about 127 Mtes constitute the bulk of the reserve sharing 66.80% of the total reserve
- About 35% of the reserve is available from the seams having thickness range varying from 6 m to 8 m.

As per the Mining Plan the mineable reserves, extractable coal, coal locked in barrier & batters and mining loss are indicated below (in rounded figures) :

Total Geological Reserve	-	190	Million tonnes
Mineable Reserve(90% of GR)	-	171	Million tonnes
Extractable by OC Mining	-	134	Million tonnes
Mining loss	-	4	Million tonnes
Output of Mine	-	130	Million tonnes
Highwall Mining	-	9	Million tonnes
Total likely recovery	-	139	Million tonnes
Balance Coal not likely to be extracted	-	51	Million tonnes.

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2.3.5 Seam- wise Gross Reserve, Mineable Reserve and Reserve in Barrier & Batters and Mining Losses:

The details of seam wise Gross G.R, Mincable Reserve, blockage in Barrier & batters & mining losses are as follows :

Table – 2.5

Coal Reserves / Seams	Geological Reserves	Mine able Reserves	Sterilized Coal in barrier	Sterilized Coal in Batter	Mining Loss	Extractable coal Reserves
1	2	3	4	5	6	7=(3-4-5-6)
Seams I T	6.6865	6.017	0.523	1.046	0.086	4.362
Seams II T	39.2758	35.348	2.85	4.539	0.531	27.428
Seams III B	2.7499	6.075	0.524	0.932	0.189	4.43
Seams III M	4.4299	3.986	0.347	0.619	0.135	2.885
Seams III T	13.3624	12.026	1.012	1.798	0.418	8.798
Seams IV B	2.7989	2.515	0.294	0.523	0.058	1.644
Seams IV T	12.2563	11.66	0.917	1.633	0.261	8.849
Seams V B	35.4861	31.94	2.39	4.352	0.467	24.731
Seams V T	24.6163	22.154	1.798	3.193	0.395	16.768
Seams VII C	3.1482	2.833	-	0.177	0.131	2.525
Seams VII B	4.272	3.844	0.371	0.6609	0.104	2.7081
Seams VII T	36.0405	32.436	2.43	4.45	0.43	25.126
Total	**189.8228**	**170.838**	**13.456**	**23.923**	**3.205**	**130.254**

- **At the end of the mine life efforts will be made to extract coal blocked in the batter by high wall mining to the extent possible, estimated as 9.4 Mte.**

The mine is yet to be started, hence no depletion of reserves has taken place.

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2.4 MINING:

The mine is planned to reach peak capacity of 6 MTPA from 5th year of productive life. Total productive life of the mine is 25 years.

2.4.1 Mining Technology

Shallow depth of occurrence, with most of the seams incropping in the property with gentle floor gradient provides excellent scope for opencast mining in preference to underground mining. It will also result in higher coal recovery and considerable cost advantage.The mine would be an opencast fully mechanised mine of 6 MTPY capacity. The system of shovel-dumper combination shall be deployed. The proposed excavated pit dimensions are placed in Table – 2.6. Calendar Plan of coal, overburden and SR is indicated in Table 2.8. Total Overburden and Waste to be excavated is estimated as 280.51 Million Cubic Meters for recovery of 130.25 Million Tonnes of coal. Within gradient up to 7^0, for coal winning surface miner has been proposed. In southern part of the block,where gradient exceeds 7^0, shovel-dumper shall be used for coal.

2.4.2 Mining Method:

The quarry would be initially worked on north & eastern side of Sukri River by opening of a trench/boxcut starting with exposing bottom most seam. The faces would be advancing from the northen part of block progressing towards south along the dip. Initially top soil will be removed by loader/shovel and dumper combination to be stockpiled separately in the non-coal dump area earmarked on the north-western side of the quarry. Overburden benches of about 15m height and 35m width for working bench and 20m width for non-working bench will be developed by drilling and blasting and then removing materials by Hydraulic Shovel ($10m^3$) and Dumper (85/100 T) combination. Bench cut of 15m will be achieved in 1 blast. During first 2 years total overburden would be dumped in the external dump in the non-coal area in the northen side. From 3rd year to 5th year part of the overburden excavated would be used for backfilling and rest would be stored in the external dump. From 6th year total OB/waste would be used for backfilling of decoaled voids.

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Coal depending upon the thickness of seam and partings would be selectively mined by drilling and blasting and removed by shovel and dumper combination. In thinner seams Surface Miner with Dumpers will be deployed for winning of coal. The bench height may vary from 5m to 10m. Haulage roads, drains and sumps are to be developed considering the advancement of mining faces.

With diversion of Sukri river the faces will be advanced laterally and full quarry width shall be developed.

Table No. - 2.6

Excavation Plan

Sl. no.	Parameters	Unit	Value (approximate)
1	Maximum strike length		
	Along mine floor	m	1250
	Along mine surface	m	1650
2	Maximum Dip-Rise length		
	Along mine floor	m	1800
	Along mine surface	m	2000
3	Area:		
	On the Mine Floor	Km^2	2.4
	On the Mine Surface	Km^2	3.5
4	Maximum depth	m	230

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2.4.3 Equipment & Machinery:

The list of mining machineries proposed to be deployed is indicated in Table No. 2.7.

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Table No. 2.7
LIST OF HEMM

Sl. No.	Particulars	Size/ Capacity	Provision upto 5th yr	Phasing in Year					Ultimate Provision
				1st yr	2nd yr	3rd yr	4th yr	5th yr	
A	**HEMM FOR COAL**								
	Hyd. Shovel (B.H) (Diesel Operated)	2.8 m^3	2	-	2	2	3	3	3
	Surface Miner	2500 mm	2	-	-	1	1	2	2
	Rear Dumpers	35 T	15	4	9	12	25	33	36
	Dozer with ripper	410 HP	2	1	1	2	2	2	2
	Wheel Dozer	300 HP	3	1	1	2	3	3	3
	F.E Loader	5.74 m^3	3	1	1	2	3	3	3
	Wagon Drill	100 mm F	3	1	1	2	3	3	3
B.	**HEMM for OB/PARTING**								
1.	Hyd. Shovel (Electric Operated)	8.3 m^3 3.2-3.8m^3	5 6	1 3	2 5	3 5	4 6	5 6	5 6
2	Rope Shovel (Electric Operated)	10 m^3	-	-	-	-	-	-	
3	RBH Drill (Electric Operated)	250 mm F	5	1	2	3	4	5	8
		160 mm F	6	3	5	5	6	6	6
4	Dozer	410 HP	6	2	3	6	6	6	8
5	Rear Dumpers	85 T 35 T	36 50	6 23	13 37	19 41	25 49	36 50	44 55
C.	**HEMM FOR COMMON**								
1	Motor Gradar	280 HP	2	1	1	1	2	2	3
2.	Wheel Dozer	410 HP	2	1	1	2	2	2	2
3.	Hyd. Shovel (BH) (Diesel Operated)	2.5 m^3	3	2	3	3	3	3	3
4.	FE loader (Diesel Operated)	3.5 m^3	6	2	3	4	5	6	6
5.	Heavy duty trucks	40 T	50	10	28	40	50	50	50
6.	Water Sprinkler	28 Kl	5	1	3	5	5	5	5
7	Diesel Bowser	30 Kl	1	1	1	1	1	1	2
8.	Diesel Hyd Crane	75 T	1	1	1	1	1	1	1
9.	Diesel (rough terrain Crane)	30 T	1	1	1	1	1	1	2
10.	Diesel (rough terrain Crane)	12 T	1	-	1	1	1	1	2
11.	Diesel (Pick & Crane)	8 T	1	-	1	1	1	1	2
12.	Tyre handler	-	1	1	1	1	1	1	2
13.	Vibratory compactor for haul road	9.5 Km/hr.	1	1	1	1	1	1	1
D.	**HEMM FOR Reclamation**								
	Water sprinkler	28 kL	1	-	-	1	1	1	2
	Dozer	410 HP	1	-	-	-	1	1	2

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2.4.4 Calendar plan of production of coal & OB is given below in Table 2.8:

Table No. 2.8

Calendar Plan of Excavation

YEAR	COAL (Mtes)		OB+T.S. (Mm³)		S.R (m³/te)	
	YRL	PROG	YRL	PROG	YRL	PROG
1st	1.0	1.0	4.87	4.87	4.87	4.87
2nd	2.15	3.15	8.6	13.47	4.0	4.27
3rd	4.0	7.15	12.04	25.51	3.01	3.56
4th	5.0	12.15	15.0	40.51	3.0	3.33
5th	6.0	18.15	15	55.51	2.5	3.06
6th	6.0	24.15	15	70.51	2.5	2.92
7th	6	30.15	15	85.51	2.5	2.84
8th	6	36.15	15	100.51	2.5	2.78
9th	6	42.15	13	113.51	2.17	2.69
10th	6	48.15	13	126.51	2.17	2.62
11th	6	54.15	13	139.51	2.17	2.57
12th	6	60.15	13	152.51	2.17	2.53
13th	6	66.15	12	164.51	2.0	2.48
14th	6	72.15	12	176.51	2.0	2.45
15th	6	78.15	12	188.51	2.0	2.41
16th	6	84.15	12	200.51	2.0	2.38
17th	6	90.15	12	212.51	2.0	2.36
18th	6	96.15	12	224.51	2.0	2.33
19th	6	102.15	12	136.51	2.0	2.31
20th	6	108.15	12	248.51	2.0	2.29
21st	6	114.15	12	260.51	2.0	2.28
22nd	6	120.15	9	269.51	1.5	2.24
23rd	5	125.15	6	275.51	1.2	2.20
24th	3	128.15	3	278.51	1.0	2.17
25th	2.1	130.25	2	280.51	1.0	2.15
TOTAL	130.25		280.51		2.15	

Note: (1) OB – Overburden ; (2) TS – Top Soil ; (3) S.R.- Stripping Ratio

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2.4.5 Stagewise Coal & OBR:

Stages	Total Coal (MTe)	Total OBR (MCu.m.)				SR(Cu.m./Te) Cumulative
		External Dump	Internal Dump	Embankment of diverted nalla	Total	
5th year	18.15	45.00	0.51	10.00	55.51	3.06
10th year	48.15	55.00	61.51	10.00	126.51	2.62
15th year	78.15	55.00	123.51	10.00	188.51	2.41
20th year	108.15	55.00	183.51	10.00	248.51	2.29
End of mine	130.25	55.00	215.51	10.00	280.51	2.15

2.5 Coal Beneficiation

Excluding coal mined by Surface Miner, balance coal will be taken to CHP area on surface for crushing to -100mm size. The sized coal will be transported by conveyor for onward dispatch by rail to the respective proposed Power plants of both the Partners. No washing and beneficiation is envisaged.

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3.0 Closure Plan

In this chapter activities related with safeguarding the environmental entities in and around the abandoned mine has been detailed. Safety and social welfare of communities both within the project and in the surrounding area arising out of mining operation and particularly after cessation of mining operation has been described. The post mining scenario, covering after- effect of abandonment of mine and planning the mitigation of adverse impacts on surrounding & society is also described. The closure plan covers both Progressive Closure & conceptual Final Closure, the former covering the reclamation during the mining phase and the latter all activities after cessation of mining.

3.1 Progressive Closure Activities

3.1.1 Initial Years

During the construction phase and initial years of mine life the following activities shall be covered:

- Greenbelt development along the mine barriers and infrastructure-8.7 ha
- Avenue Plantation along roads

3.1.2 Progressive Stage-wise Reclamation

The details of stage-wise reclamation as plantation and agricultural land are given below in Table 3.1:

Table No. 3.1

Details of Phase-wise progressive Reclamation

Years	As plantation land	Area (in ha)	As agriculture land	Area(in ha)
1-5	In greenbelt	8.7	-	-
5-10	In external dump	30	-	-
11-15	In external dump	33	Back-filled area	15
16-20	-	-	Back-filled area	123
20-25	In back-filled area	60	-	-
	Total:	**131.7**	**Total:**	**138**

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To be reclaimed as Post-mining activity

1. Backfilled area as plantation	-	148
2. Embankment as plantation	-	17
3. Infrastructure as agriculture area	-	5.3
4. Water bodies	-	12
5. Public Uses	-	8
6. Total	-	190.3 ha

3.2 FINAL MINE CLOSURE ACTIVITIES:

Mined out Area Reclamation

The total area of quarry is about 350 ha. This mine out area is proposed to be reclaimed in an ideal manner. The whole of the excavated area would be back filled & then physically and biologically reclaimed. Of this 350 ha, about 208 ha gets reclaimed as plantation area, including the haul road. The backfilled area in the North (rise side) will be restored to agricultural uses. About 138ha is intended to be reclaimed for agriculture. Only 4ha of water body will remain in the pit.

The back filling will start from 3rd year itself and from 6th year total OB will get backfilled. From 8th year, bio reclamation will start. It will be done on regular basis. After cessation of mining, the dip side i.e. Southside will be back filled and reclaimed. The present, proposed and post mining proposed Land Uses have been given in Table 1.1 on page 10.

3.1.1 Reclamation of mined out land:

(a) Physical reclamation:

(i) Excavation in the Mining Area.

For the initial 2 years of commencement of mining, all excavated OB (other than Top-soil) will be transported to the External Dump on the northern side in the lease area, which is not coal - bearing . In 3rd year, part of the OB removed will go to external dump and rest will be back-filled in de-coaled area. From 6th year onwards, excavated OB will be entirely used for backfilling de-coaled area. This is the point when the progressive closure of the mined out area commences. While back-filling the void, it

will be ensured that Haul Roads and other utilities viz. pumping ranges, sump, power line etc and the working benches of the Mining Area are safe from the loose overburden. Top-soil re-handled from the top-soil dump will be spread over the back-filled areas when it is stabilised. The alignment of Haul Road, sump, pit sub-station will not be filled-up till the dip most limit of the pit is reached and all coal production activities cease. After reaching the pit-limit, the wedge-shaped void of the Haul road will be filled by re-handling part of the internal dump.

Roads are to be planned for maintenance of slope of dump, water body and plantation areas.

(ii) Reclamation of External Dump:

Physical reclamation of the external dump would be accomplished in the following steps:

(a) After 6th year of mine operation, no OB will be dumped in the external dump. The top part of the dump, where normally platform is made for maneuvering of dumpers should be further leveled by Dozers with gentle slope to north.

(b) Top-soil will be transported from the Top-soil dump and spread all over for about 2m thickness.

(c) The gullies formed on the slopes need plugging with benching and check dams. Check dams using sand bags, woven –wire, rubble/loose rock.

(d) On the slopes of the dump, continuous contour trenches ½ m x ½ m section at interval of 5 m should be excavated wherever possible and by spreading top soil grass turf and plantation can be taken up at lower levels.

(e) It may be necessary to construct toe wall of 1.5 m by 1 m at certain stretches to protect road etc. In toe-walls, weep-holes of 300 mm dia. should be provided. Seepage water from dump mass will seep out through these weep holes to obviate built-up of hydro-static pressure at the base of the dumps.

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(f) A 2m x 2m trench is needed to be dug all around the dump to arrest run-off silt. The seepage water from the dump mass and surface run-off from dump would be collected in the drain. Foot drain will convey the water to a decantation pond to collect sediments.

(b) Biological reclamation:

(i) Mining excavations

Biological reclamation of the mining area starts with following steps.

(a) Back-filled area needs to be overlain by a layer of top-soil, brought from external dump and levelled by Dozers and Graders.

(b) The filled-up area, though gets compacted by movement of HEMM (Dumpers, Dozers, Graders), needs some time to be firm and compacted.

Ideally, biological reclamation should be simultaneous with physical reclamation. But there will be delay in two patches i.e. Haul road and sump where physical reclamation can start at the end of mining operation.

The broad outline of biological reclamation is:

Preference shall be given to local forest species and also fruit bearing trees. To have mixed plantation one plant species will cover 1 ha. Next hectare will be occupied by another species. The pits shall have the spacing of 2.5 m x 2.5 m. One hectare will accommodate 1600 saplings. The suggested species are Jamun , Sisu, Mahogany, Acacia auriculata, Sirish, Neem, Kendu, Acacia Arabica, Bamboo, Babul etc. Ultimately the area will result in a mixed plantation area. Shade tolerant fodder grasses and shrubs may be planted under shade.

For individual plants, in every pit, ½ m x ½ m x ½ m, the excavated soil needs to be mixed with farm yard manure, compost and plantation sapling inoculated by bio-fertilisers. Use of calcitic lime stone, 30 -50 tonnes per Ha is crucial for this type of soil.

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3.2.2 Reclamation of External Dump

Physical reclamation of external dump has already been described before. For bio-reclamation, intense planting of agave or treated seeds of acacia nilotica shall be planted on the mound formed by excavated soil on the outer side of 2 m trench. On the mounds of the continuous contour trenches, sowing of seeds of acacia will be done. Bamboo plantation can be attempted. The gullies where check-dams have been constructed should be further strengthened by planting agave below the check-dams. In the catchment of the check-dam itself seeds of cassea siamea would be sown and bamboo planted. A variety of tall grass survives well on the slope of OB dumps, can be tried. This would prevent erosion.

The progressive plantation shall be taken up during the operational years of the mine as the workings advance. Suitable mixed plantation will also be taken up as discussed before. Soil amendments both organic and chemical will be used to enrich the ground and hasten growth of plants. The plantation species including shrubs which are native to the area are considered to be suitable. Guidance and supervision of experienced horticulturist and advice of local forest authorities shall be taken for this purpose.

3.3 Water Quality Management

3.3.1. Surface Water bodies and Quality

The surface drainage map of the proposed project area is shown as under. It shows existing & proposed drainage channels after re-routing.

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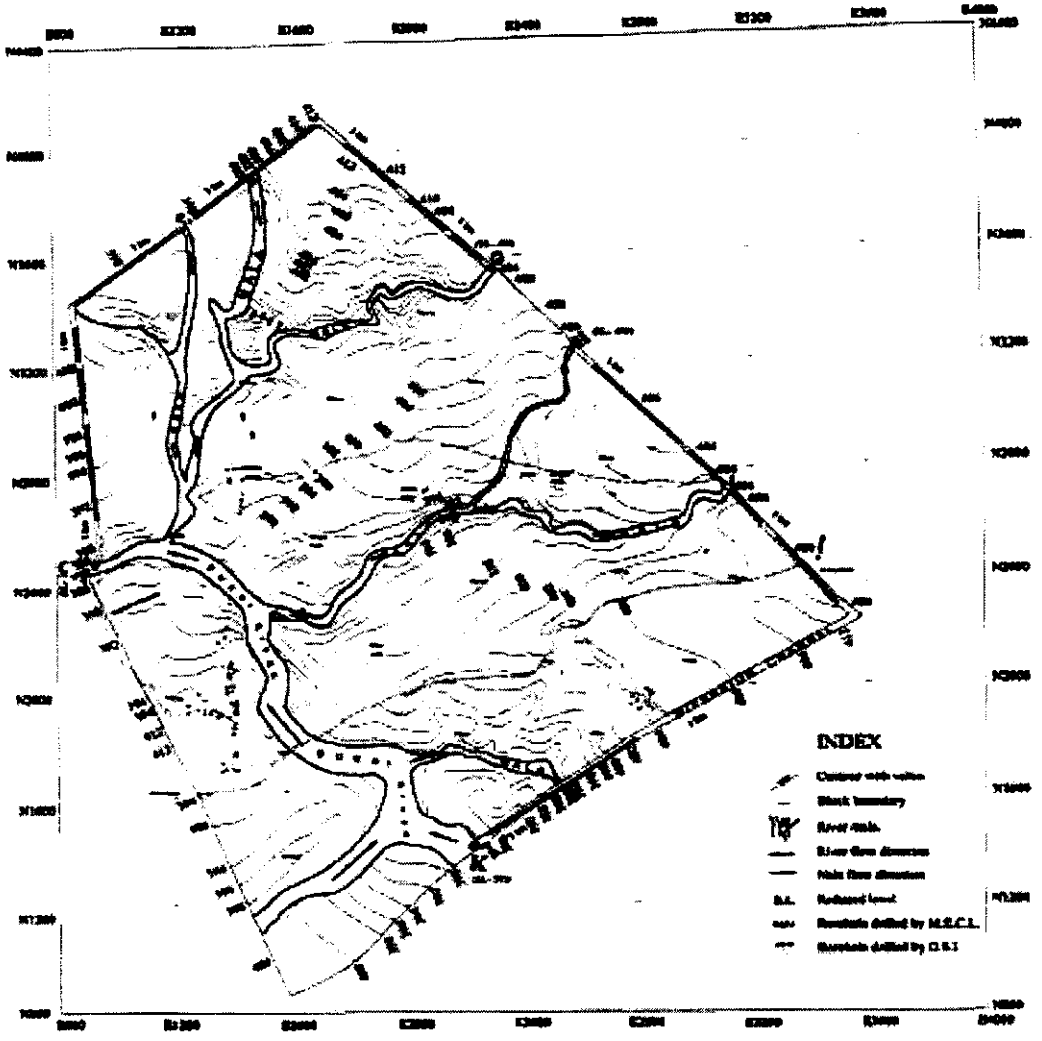

Figure No.-3 (Nallahs with proposed diversion channels in initial years)

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DVC Resolution No. [illegible] Dated [illegible]

Figure No.-4 (River with proposed diversion channels)

The Sukri river entering the block from South, runs in North-West in the SW part of the lease area, and then takes a westerly turn and leaves the project area. It is the main drainage channel. One nalla named Deroniya meets Sukri from west side near SW corner of the block. Other five nallas come from east & north side and after merging, meet Sukri as two tributaries. These nallas are small & seasonal.

The area is virgin and the quality of river water is good. The detailed analysis of water of Sukri river is given in Table no. 3.2. To safeguard the water quality of surface water channels, all the channels will be diverted outside the quarry area. Between quarry and the rerouted nallas and the river, there will be kept at least 60 – 100m distance to safeguard against pollution of stream from sediments, silts and mine dirt. There will be embankment between the quarry edge /O.B

dumps and the river courses. There will be garland drain to arrest silt, sediments coming down from dumps and high lands. Therefore surface water will not be affected by mining activities.

TABLE NO. 3.2.

Surface water analysis report

Season: Pre-monsoon

Sl. No.	Parameter	Unit	SW_4	SW_5
1	Colour (apparent)	Hazen	1.7	0.2
2	Odour	--	Odourless	Odourless
3	Taste		Agreeable	Agreeable
4	Turbidity	NTU	14.0	0.5
5	pH	--	9.28	8.02
6	Electrical Conductivity (EC)	µS/cm	205.8	283.2
7	Total Suspended Solids (TSS)	mg/l	11.7	1.8
8	Total Dissolved Solids (TDS)	mg/l	248.0	284.5
9	Total Solids (TS)	mg/l	259.7	286.3
10	Calcium Hardness as $CaCO_3$	mg/l	9.4	15.5
11	Magnesium Hardness as MgCO3	mg/l	6.6	34.5
12	Total Alkalinity	mg/l	38.0	128.0
13	Total hardness	mg/l	16.1	50.5
14	Silicate as SiO_4	mg/l	5.55	5.7
15	Chloride as Cl-	mg/l	11.0	10.0
16	Residual Chlorine	mg/l	BDL	BDL
17	Phenolic compound as C_6H_5OH	mg/l	BDL	BDL

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Sl. No.	Parameter	Unit	SW_4	SW_5
18	Sulphate as SO_4	mg/l	20.1	7.6
19	Nitrite-Nitrogen (NO_2-N)	mg/l	0.105	0.007
20	Nitrate-Nitrogen (NO_3-N)	mg/l	0.210	0.063
21	Phosphate-P (PO_4-P)	mg/l	0.057	0.041
22	Ammonical Nitrogen (NH_4-N)	mg/l	0.775	0.546
23	Free Ammonia (NH_3)	mg/l	BDL	BDL
24	Chemical Oxygen Demand (COD)	mg/l	1.78	0.57
25	Dissolved Oxygen (DO)	mg/l	6.25	6.44
26	Biochemical Oxygen Demand (BOD) at 20°C for 5days	mg/l	1.1	0.36
27	Oil and grease	mg/l	BDL	BDL
28	Fluoride F-	mg/l	0.5	0.5
29	Sodium (Na)	mg/l	18.89	15.85
30	Potassium (K)	mg/l	8.88	3.17
31	Calcium as Ca^{2+}	mg/l	3.79	6.25
32	Magnesium as Mg^{2+}	mg/l	1.6	8.4
33	Iron (Fe)	mg/l	0.21	0.12
34	Copper (Cu)	mg/l	BDL	BDL
35	Manganese (Mn)	mg/l	BDL	BDL
36	Arsenic (As)	mg/l	BDL	BDL
37	Lead (Pb)	mg/l	BDL	BDL
38	Zinc (Zn)	mg/l	BDL	BDL

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Sl. No.	Parameter	Unit	SW_4	SW_5
39	Hexavalent Chromium (Cr^{+6})	mg/l	BDL	BDL
40	Chromium (Cr)	mg/l	BDL	BDL
41	Mercury (Hg)	mg/l	BDL	BDL
42	Cadmium (Cd)	mg/l	BDL	BDL
43	Selenium (Se)	mg/l	BDL	BDL
44	Aluminum (Al)	mg/l	BDL	BDL
45	Boron (B)	mg/l	BDL	BDL
46	Total Coliform at 37^0C	MPN index / 100ml	BDL	BDL

Surface water sampling station :

SW_4 : Sukri river (Down stream near Tubed village)

SW_5 : Sukri river (Up stream near Mangra village)

3.3.2 Ground Water

The ground water occurs at 12 -15 meters bgl in open wells. The present stage of ground water development in the Latehar district as per report of CGWB for Jharkhand State is 19%. Thus the area is in "White" category i.e it is having sufficient ground water to be developed. Quality of ground water in the area is good. No toxic elements are present. The details of water quality is given in Table no. 3.3.

To safe guard the ground water quality, it will be ensured that the following waste water generated during mining operations are systematicaly treated and are conveyed / transferred only in pucca drains or piped system. The mine water after required sedimentation & treatment will be allowed to flow through drains or pits, to natural water courses. Before discharge, it will be ensured that it needs the C.P.C.B. Standards for discharge into natural system. The workshop and domestic effluent shall be treated in E.T.P and S.T.P respectively. The workshop treated water shall be re-circulated for vehicle washing. The S.T.P treated water shall be used for green belt maintenance.

TABLE NO. 3.3

Ground water analysis report

Season: Pre-monsoon

Sl. No.	Parameter	Unit	GW_1	GW_2
1	Colour (apparent)	Hazen	Colourless	Colourless
2	Odour	--	Odourless	Odourless
3	Taste		Agreeable	Agreeable
4	Turbidity	NTU	5.9	17.1
5	pH	--	6.62	7.21
6	Electrical Conductivity	µS/cm	629.8	830.8
7	Total Suspended Solids	mg/l	3.4	12.5
8	Total Dissolved Solids	mg/l	442.5	557.1
9	Total Solids	mg/l	446.9	569.6
10	Calcium Hardness as $CaCO_3$	mg/l	34.9	94.8
11	Magnesium Hardness as $MgCO_3$	mg/l	25.1	27.2
12	Total Alkalinity	mg/l	104.0	80
13	Total hardness	mg/l	60.3	122.5
14	Silicate as SiO_4	mg/l	4.06	3.84
15	Chloride as Cl-	mg/l	23.97	18.98
16	Residual Chlorine	mg/l	BDL	BDL
17	Phenolic compound as C_6H_5OH	mg/l	BDL	BDL
18	Sulphate as SO_4	mg/l	1.7	15.1
19	Nitrite-Nitrogen (NO_2-N)	mg/l	0.005	0.151
20	Nitrate-Nitrogen (NO_3-N)	mg/l	0.090	0.206

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Sl. No.	Parameter	Unit	GW_1	GW_2
21	Phosphate-P (PO_4-P)	mg/l	0.100	0.066
22	Ammonical Nitrogen (NH_4-N)	mg/l	1.200	1.040
23	Free Ammonia (NH_3)	mg/l	BDL	BDL
24	Chemical Oxygen Demand	mg/l	2.152	4.384
25	Dissolved Oxygen	mg/l	4.28	3.22
26	Biochemical Oxygen Demand (BOD) at 20°C for 5days	mg/l	0.975	1.9
27	Oil and grease	mg/l	BDL	BDL
28	Fluoride F-	mg/l	BDL	BDL
29	Sodium (Na^+)	mg/l	24.73	33.7
30	Potassium (K^+)	mg/l	34.65	4.67
31	Calcium as Ca^{2+}	mg/l	14.09	38.21
32	Magnesium as Mg^{2+}	mg/l	3.1	6.6
33	Iron (Fe)	mg/l	0.148	0.23
34	Copper (Cu)	mg/l	BDL	BDL
35	Manganese (Mn)	mg/l	BDL	BDL
36	Arsenic (As)	mg/l	BDL	BDL
37	Lead (Pb)	mg/l	BDL	BDL
38	Zinc (Zn)	mg/l	BDL	BDL
39	Hexavelent Chromium (Cr^{+6})	mg/l	BDL	BDL
40	Chromium (Cr)	mg/l	BDL	BDL
41	Mercury (Hg)	mg/l	BDL	BDL
42	Cadmium (Cd)	mg/l	BDL	BDL
43	Selenium (Se)	mg/l	BDL	BDL

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Sl. No.	Parameter	Unit	GW_1	GW_2
44	Aluminium (Al)	mg/l	BDL	BDL
45	Boron (B)	mg/l	BDL	BDL
46	Total Coliform at 37°C	MPN index / 100ml	BDL	BDL

Ground water sampling stations:-

GW_1 : Tubed

GW_2 : Dhobiajharan

3.3.3 Hydro Geology

Hydro geological investigations were carried out in the study area which includes detailed field studies and reference to available literature. A brief note on hydro-geological conditions of the area is given below:

The study area is covered by sandstone and has very good porosity and permeability. Below it, the shale of comparatively poor porosity and permeability is present. Unaltered shale has very limited possibilities of ground water percolation and storage. Occurrence and movement of ground water is limited to weathered and fractured portions of all these rocks.

Since the area is occupied by rocks, the rainfall infiltration is very low. The standard infiltration factor 10% of total annual rainfall as mentioned by CGWA is assumed.

Annual ground water recharge in the lease area before mining

= Area x Average annual rainfall x infiltration factor
= 460Ha x 1.127m x 0.1
= 51.84 Ha m.

The ground water occurs under semi-pheratic water table conditions along the joints, fissures, fractures and bedding planes. Highly weathered, jointed and fractured shale only can form good ground water repositories. The dug wells constructed in this formation are poor yielding on account of negligible movement of ground water. Ground water occurred below the water table in the inter-granular spaces of sandstone in semi consolidated

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sediments of Gondwana and their porous structures. The aquifer units present in barakar sandstone were sandwiched with shale and coal beds. Thus due to sedimentation / stratifications multiple aquifer system prevailed. The weathered formation with fractures behaved as unconfined aquifer and was the most potential aquifer.

Dug wells and a few bore wells were noticed in the area which are the primary source of drinking water in the villages for domestic consumption in the core zone. The depth of dug wells ranged from 12-15 m where as the bore wells were drilled down to 30-50 m. Discharge of the wells varied from 4 to 8 lps in general. The general depth of water level varied between 12 to 15m bgl. Pumping tests on few selected wells in different formations of the area were conducted to evaluate various aquifer parameters.

The pH value of ground water was found to be normal, being between 6 and 8. With regard to rain water, the area falls in a region having average rainfall of 1127 mm as per geological report of Tubed Coal Block which is considered to be moderate. Sukri River is the main drainage system of the buffer zone.

Groundwater Recharge: Groundwater recharge is mainly by rainfall. Buffer zone having an area of almost 314 km^2 receives normally annual rainfall of 1175 mm. Additional groundwater recharge is by return flow from Irrigation. The additional recharge may be from proposed mine water pumping and waste water disposal. The area is under non command area. The replenishable ground water recharge has been computed by both rainfall infiltration method and water table fluctuation method as per GEC-1997. The area having slope of surface more than 20% within buffer zone is 32 km^2 and was not considered for recharge calculation. Hence, total area in buffer zone as 282 Km^2 only was considered for recharge calculation including 4.60 Km^2 under core zone. The rainfall infiltration factor for alluvium / Soil, DM (Detrital mantle) on Barakar sandstone, and Metamorphics have been assigned 6%, and 8% respectively for recharge calculation of respective litho units as per GEC-97 and CGWB state report 2007. Following table shows the recharge in Tubed Coal block buffer zone by rainfall infiltration in Million m^3.

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TABLE NO. 3.4

Recharge by rainfall infiltration

Sr. No.	Litho Units	Area Km^2	Recharge in Mm^3
1	Alluvium /DM /Barakar	118	8.32
2	D M on metamorphic	164	15.42
3	Recharge from return flow	20% of irrigation draft	0.62
4	Gross Ground Water Recharge		24.36

The Gross groundwater recharge by rainfall infiltration method is 24.36 Mm^3

Ground Water Draft: Groundwater draft in Tubed Block buffer zone is mainly for domestic (including animals) and irrigation purposes. There is no mine water pumping. The annual groundwater draft is quantified as per GEC 1997 and placed in following Table.

TABLE NO. 3.5.

Annual ground water draft

Sr. No.	Purpose	Days	Units	Ground water draft in Mm^3
1	Domestic Human Population (70 lpd)	365	47,360	1.21
2	Domestic Animal (35 lpd)	365	23,680	0.30
3	Irrigation ($40m^3$ /d/h)	120	644 Ha.	3.09
4	Mine Water Pumping from mine in buffer zone.	365	No Mine	Nil
	Total ground Water draft			**4.60**

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The total ground water draft is 4.60 Mm^3. Additional allocation for domestic, industrial water requirement for next 25 years is 0.78 MCM. Thus, total Ground Water draft after 25 years will be 5.38 MCM on yearly basis.

Ground Water Balance: Ground water balance in respect of buffer zone of Tubed Block has been estimated and placed as follows:

TABLE NO: 3.6

Ground Water Balance

Sl. No.	Particulars	Million m^3 (Mm^3)
I	Gross ground water recharge	24.36
ii	Natural Discharge to drain and other losses – 6 %.of (i)*	1.46
iii	Net ground water availability (I–ii)	22.90
Iv	Allocation/Projection after next 25 years for domestic and industrial use	0.78
v	Annual Ground Water draft for all uses	4.60
vi	Ground water balance { iii-(iv + v)}	17.52
vii	Present stage of Ground Water Development in buffer zone in percentage	20%
viii	Present Stage of Ground water development of Latehar Dist as per CGWB report 2007.	19%

* As per CGWB Jharkhand State report 2007.

Level /Stage of Ground Water Development: In the buffer zone it is noticed that major ground water draft is through irrigation followed by domestic use. The level/stage of ground water development has been computed in ground water balance study which shows 20%. This can be categorized under 'Safe'/ 'White' as it is less than 70%. The State Govt.. and C.G.W.B jointly computed net groundwater availability of 207.41 Mm^3 and net draft of 38.83 Mm^3 which is 19% as the stage of ground water development in respect of Latehar district, Jharkhand state, where the proposed mine is located. Thus, the stage of Ground water development of Latehar Dist. is under 'Safe'/ 'White' category so far as the buffer zone of proposed mine is concerned.

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The coal seams and overlying shale beds behave as barriers and restrict the connection between the unconfined aquifer and the lower semi confined and confined aquifers. The aquifer lying in the immediate vicinity of mine working is only largely drained. The aquifer system is having double porosity i.e., primary porosity as well as secondary porosity which is formed due to joints and fractures. These double porosity system forms the conduit, making these formations moderate to good aquifer for movement and storage of groundwater.

3.3.4. Impact of mining on ground water system:

Mining activities will affect the ground water system in following ways:

i) Withdrawal of water for industrial site.

ii) Mine water drainage.

3.3.5. Water Demand & Water Balance:

The demand of water for the Tubed coal project has been estimated as per industrial norms. The requirement of water for various purposes has been furnished below in a tabular form:

Water Demand at Tubed Project

•	**Industrial water**			
1.	Water requirement for sprinkling at mine haul roads	-	300	Kl/d
2.	Service water requirement for CHP & dust suppression system	-	100	Kl/d
3.	Water requirement for Repair & Maintenance shop & other miscellaneous purposes	-	100	Kl/d
4.	Water requirement for green belt development	-	200	Kl/d
5.	*Drinking and sanitation water requirement (Mine)	-	50	Kl/d
	Net water demand		**750**	**Kl/d**

*** Drinking water to be met from borewells.**

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MITIGATIVE MEASURES FOR WATER QUALITY

3.3.6. Waste water generation and control of pollution:

Use of water at various mining operation, run-off water after precipitation on OB dumps, coal stockyard and over mined out areas and pumping discharge of percolated ground water in mine excavation, generate wastes of various quality and quantity, which need to be addressed to prevent pollution of surface water and contamination of groundwater system. The various source of waste water and the pollution control measures are elaborated in the following paragraphs:

(i) Waste water from service facilities

Water used at various service facilities viz. office, canteen, rest house etc is likely to generate waste water with high suspended solids, BOD, etc. Estimated quantity of waste water from this source will be 10 Kl/d. The waste generated from these units will be collected and treated in a Package Sewage Treatment Plant and the effluent will be chlorinated and used for plant greeneries and dust suppression.

(ii) Waste from HEMM washing and Workshops

Waste water / industrial effluent coming out of the HEMM washing in Base Workshop and other repair and maintenance shops will be estimated 45 Kl/d. This effluent contains suspended solids, TSP, oil and grease and the same will be sent to a grease trap. After removal of grease, the effluent from the grease trap will be fed to a settling tank with oil skimming arrangement in the Effluent Treatment Plant (ETP). The effluent of the settling tank will be utilised in haul road dust suppression / forestation / green belt.

(iii) Waste from dust suppression at CHP and coal stock pile

Waste water from CHP (Coal Handling Plant) system which will contain fine coal dust as suspended solid has been estimated as 150 Kl/d. This will be routed through a settling tank to the Sedimentation Pond for treatment.

Pyritic impurities in coal are the sources of acid drainage. From the Ultimate Analyses of all the coal seams of Tubed Block, stated in the GR, Sulphur is in the range 0.5 – 0.7 % only However, it is proposed that throughout the operation of the mine, effluent quality of CHP is

to be sampled frequently to determine the pH and corrective action taken. It would be used along with the waste water from workshop area. As such no effluent would be discharged.

(iv) Pumped out water from the Mining Area

Water accumulates in course of mining and has to be constantly pumped out for safety of men and machines Mine water is generated from two sources (a) ground water: as the Mining Area goes deeper, more and more aquifers are intercepted and volume of water increases, (b) rain water: direct precipitation over the excavated area and surface run-off flowing into the mine during rains. For reducing the run-off, garland drains will be constructed around the excavated area and the top of back-filled area will be given a grade, so that rain water flows outwards. However, a portion of the rain water will always find way in the Mining Area.

The pumped out of the Mining Area generally contains high TSP and in some cases dissolved minerals making the water acidic. Though a substantial portion of this water is used within the mine for industrial use viz. HEMM washing / workshop use / CHP and for dust suppression and forestation, it is not advisable to discharge the surplus water to the general drainage system without treatment, lest the surrounding will be contaminated. To mitigate this, it has been proposed to conduct the water to a settling tank of 2,000 cu.m. from where the water will collect in clear water sump. Raw water treatment plant will consist of cascade aerator, alum and lime dosing mechanism, parshall flume, flash mixer, clari-flocculator. Lime dosing and settling will be done in the raw water tanks to avoid high turbid water supply. After treatment, the water is distributed by pumping to consuming points. And the surplus water is allowed to flow out.

But the water will not go the river directly. It will be fed to the diversion channels which were excavated during pre-mining stage, where water will come into contact with the sandstone strata. It was found by a scientific study during 90's that the sandstone of Barakar measure has a property to neutralise acidic nature of mine water on actual study conducted in one of the Open Cast mine of NCL . (Ref: *Proceedings of first World Mining Congress, N Delhi 11-14 December 1995: pp 155*) Regular sampling of surplus water shall also be conducted.

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(v) Surface run-off from External dump :

This topic has already been dealt in detail in Section 3.1.1 for External dumps. Broadly, the external dump will have garland drain all around. To arrest the sediments and prevent silting of the water courses by the run-off during rains, toe-walls / retaining walls with weep-holes at strategic stretches will be constructed. The gullies will have check-dams to prevent erosion. Garland drain will convey the water to decantation ponds and after settling allowed to flow in diversion channels. If turbidity is still high, the water is conducted to Sedimentation Pond, as shown in the Water Balance Chart.

Prevention of erosion of the external dumps by top-soil cover and forestation. While constructing the embankments with OB, compaction by dozers will be done and pitching on the side slopes will be done by boulders, covering top of embankments with soil. These embankments will serve a dual purpose by preventing eroded materials of the dumps and consequent contamination of the water by waste material as well as prevent silting of the water courses.

(vi) Monitoring of waste water quality :

Project will have properly equipped laboratory with qualified personnel for monitoring of various waste water, especially for the quantity of water discharged to surface system. Sampling should be done as per the standard procedures laid down by IS: 2488 and other water standards (CPCB).

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V.K. Singh
(Name of Qualified Person)
Regd. No. as Qualified Person
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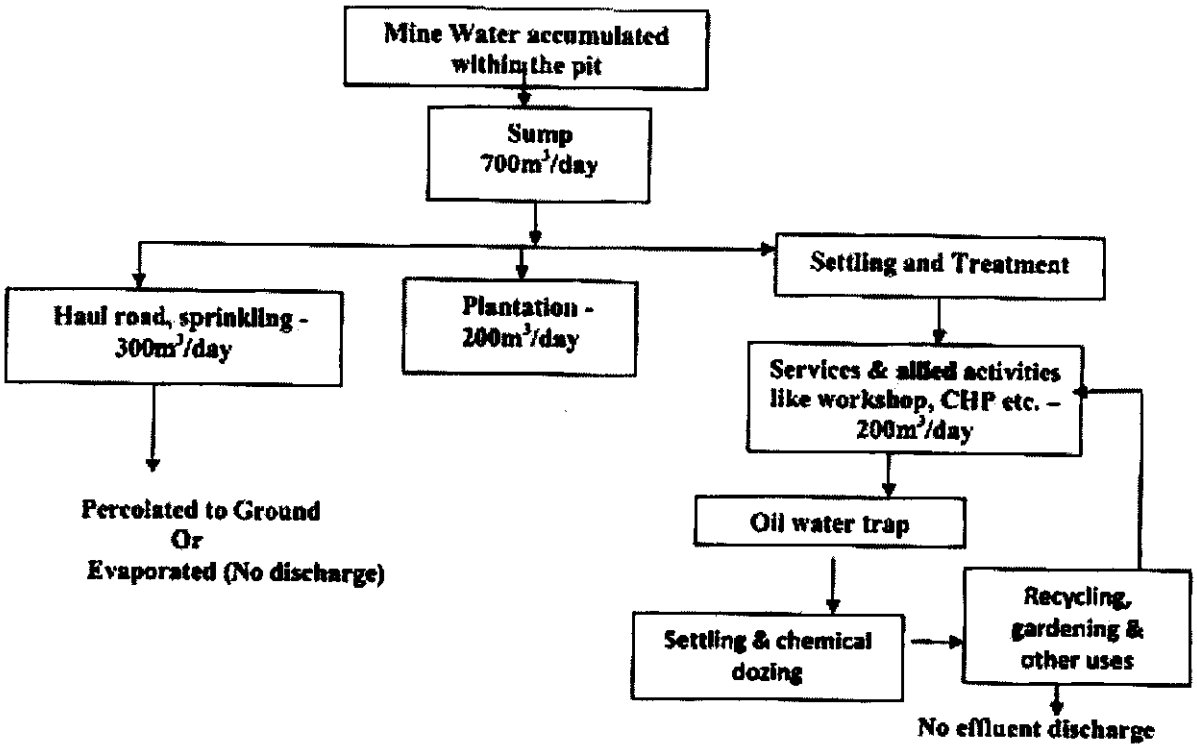
WATER BALANCE OF MINE DISCHARGE WATER



3.4 Air Quality Management

3.4.1 Existing Air quality:

For determining the air quality of the region *ten* stations were chosen, *two* in the core zone and *eight* in buffer zone. Important parameters like SPM, RPM, SO2, NOx, CO etc. were measured (24 hours sampling). The samples were taken as per CPCB rule. Sampling of ambient air at each station was carried out by high volume sampler or RDS twice in a week at each station. These samplers were installed at 3m above the ground level for sampling thus representing approximately the highest ground level of the area and practically have no obstruction. The ambient air monitoring stations are indicated in the following table:

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[illegible] / Eastern Coalfields Limited
[illegible]

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(Recognised Qualified Person)
Recognition No. 3401(E)/[illegible]
[illegible]

TABLE NO. 3.7

Station Code	Village Name	Zone	Direction	Distance (km)
A1	Tubed	Core Zone	Within the mining lease area	
A2	Ambajharan		Within the mining lease area	
A3	Sohdag (Karmahi)	Buffer Zone (10 km radius from the Centre of lease area)	NW	2.0
A4	Purunapani		NE	0.7
A5	Dihi village		E	1.0
A6	Hesalbar		WNW	6.5
A7	Kaima		W	5.0
A8	Arwatan		N	1.0
A9	Obar		SW	5.5
A10	Simaria		SE	3.0

The summarized ambient air quality results for all the stations are as follows :.

TABLE NO. 3.8

AMBIENT AIR QUALITY MONITORING RESULT

Season: Pre-monsoon

Location: A_1 (Tubed)

Date of Monitoring 1.3.09-25.5.09	Duration of Monitoring 24 hours.	Ground level concentration in Microgram/cu.m				
		SPM	RPM	SO_2	NOx	CO
Minimum		83.4	19.3	10.0	11.0	< 1000
Maximum		112.4	28.1	13.5	15.5	< 1000
Average		100.6	23.4	10.9	12.7	< 1000

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Location: A_2 (Ambajharan)

Date of Monitoring 3.3.09-27.5.09	Duration of Monitoring 24 hours.	Ground level concentration in Microgram/cu.m				
		SPM	RPM	SO_2	NO_x	CO
Minimum		99.8	19.3	10.3	10.5	< 1000
Maximum		123.5	29.7	14.6	15.5	< 1000
Average		107.8	23.8	12.4	12.3	< 1000

Location: A3 Sohdag (Karmahi)

Date of Monitoring 1.3.09-25.5.09	Duration of Monitoring 24 hours	Ground level concentration in Microgram/cu.m				
		SPM	RPM	SO_2	NO_x	CO
Minimum		117.5	23	9.5	10.9	< 1000
Maximum		134.9	31.9	13.5	16.5	< 1000
Average		125.5	28.3	11.0	13.2	< 1000

Location: A4 (Purunapani)

Date of Monitoring 3.3.09-27.5.09	Duration of Monitoring 24 hours	Ground level concentration in Microgram/cu.m				
		SPM	RPM	SO_2	NO_x	CO
Minimum		94.5	18.3	10.0	12.7	< 1000
Maximum		112.6	22.8	15.5	18.0	< 1000
Average		102.7	20.7	12.9	14.5	< 1000

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Location: A5 (Dihi)

Date of Monitoring 1.3.09-25.5.09	Duration of Monitoring 24n hours.	Ground level concentration in Microgram/cu.m				
		SPM	RPM	SO_2	NO_x	CO
Minimum		90.5	15.9	9.5	11.0	< 1000
Maximum		113.5	26.5	14.4	15.8	< 1000
Average		104.1	21.6	11.2	12.7	< 1000

Location: A6 (Hesalbar)

Date of Monitoring 3.3.09-27.5.09	Duration of Monitoring 24 hours	Ground level concentration in Microgram/cu.m				
		SPM	RPM	SO_2	NO_x	CO
Minimum		79.4	20.3	9.1	10.7	< 1000
Maximum		100.5	30.8	13.8	14.4	< 1000
Average		90.9	24.7	11.2	12.3	< 1000

Location: A7 (Kaima)

Date of Monitoring 1.3.09-25.5.09	Duration of Monitoring 24 hours	Ground level concentration in Microgram/cu.m				
		SPM	RPM	SO_2	NO_x	CO
Minimum		101.7	16.6	8.2	9.0	< 1000
Maximum		126.9	28.8	14.2	15.9	< 1000
Average		113.7	23.5	11.7	12.2	< 1000

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Location: A8 (Arwatan)

Date of Monitoring 3.3.09-27.5.09	Duration of Monitoring 24 hours	Ground level concentration in Microgram/cu.m				
		SPM	RPM	SO_2	NO_x	CO
Minimum		83.6	17.4	9.5	9.8	< 1000
Maximum		100.6	25.1	16.0	16.4	< 1000
Average		91.9	19.4	11.8	12.9	< 1000

Location: A9 (Obar)

Date of Monitoring 1.3.09-25.5.09	Duration of Monitoring 24 hours	Ground level concentration in Microgram/cu.m				
		SPM	RPM	SO_2	NO_x	CO
Minimum		101.7	16.3	8.2	10.0	< 1000
Maximum		126.9	33.1	14.2	14.9	< 1000
Average		113.7	23.2	11.6	12.9	< 1000

Location: A10 (Simaria)

Date of Monitoring 3.3.09-27.5.09	Duration of Monitoring 24 hours	Ground level concentration in Microgram/cu.m				
		SPM	RPM	SO_2	NO_x	CO
Minimum		90.5	19.5	8.5	9.5	< 1000
Maximum		118.8	30.2	12	13.5	< 1000
Average		102.4	24.1	10.2	11.8	< 1000

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Metal concentrations in SPM of Tubed area

Major elements (in %)	
Al_2O_3	10.4
SiO_2	69.3
Fe_2O_3	6.9
TiO_2	0.2

Minor elements (in µg/g)	
Mn	1187.6
Co	56.8
Cr	183.9
Cu	90.7
Ni	154.8
Zn	350.3
Pb	168.4
Cd	41.2
Hg	BDL

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3.4.2 Inventory of Air Polluting Activities:

Project related activities that are likely to contribute to air pollutants are listed below.

(i) Drilling operation in OB and coal: 6 nos. of 250 mm and 4 nos. of 160 mm Blast hole drills will be used simultaneously in OB and coal respectively. This is a low level source for dust generation.

(ii) Blasting in coal and OB: Explosives, mainly SMS (Site Mixed Slurry) and some quantity of NG based cartridge, will be used for blasting which would generate dust. This may be considered a point source.

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(iii) Loading of blasted OB and coal to Dumpers: Blasted OB will be loaded to Rear Dumpers by shovel for its removal. The volume of OB to be handled per tonne of coal produced will increase as the mine progresses and Stripping Ratio (S.R.) increases.

(iv) Transport of OB and coal: Rear Dumpers will carry the blasted OB to pre-determined dump site either External Dump or Internal Dump. The offloaded material will be dozed by Dozer & leveled for formation of dump. Coal will be transported to the receiving hopper of CHP. Both these operation will generate dust. Since dumpers would be diesel operated, they would produce SO_2 & NO_X. This is a major source of airborne dust in OC mining.

(v) Coal Handling Plant (CHP): Crushing, screening, conveying and transfer and loading points in CHP is another source of generation of airborne dust.

(vi) Transport of sized coal to Stockpile / Railway Siding: Mine will maintain a coal stock of 1.5 Lakh tonnes. 2 sets of Stacker-Reclaimer is proposed. Loading of wagons at railway siding is a source of dust generation.

(vii) External/ Internal Dumps: External dumps & internal dumps, till they are reclaimed biologically, are source of dust generation.

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3.4.3. Air Pollution Mitigation Measures:

Most of the sources of air pollutants are fugitive in nature. They need to be controlled at source.

(i) Drilling operation in OB and coal:

Drills will have dust extractors. Presently Blast hole drill manufacturers have provided for wet drilling arrangement.

(ii) Blasting in coal and OB:

It is proposed to do blasting only once in a day. Sometimes, blasting of OB can be done once for several days production. Use of Raydet and similar delay detonators and proper design of blast and using muffle, throwing up of blasted rock and consequent production of dust can be dramatically reduced. PPV (Peak Particle Velocity) can also be controlled to reduce blast vibration.

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(iii) Loading of blasted OB and coal to Dumpers :

Since this operation takes place in a bench protected by highwall and since excavator bucket delivers material close to the bucket of the dumper, there is comparatively less generation of dust.

(iv) Transport of OB and coal :

Water sprinklers (28 Kl) will be deployed to sprinkle water on haul roads, both for coal and OB to suppress dust at the source. In dry seasons, it is proposed to sprinkle the haul roads at least once in a shift except wet days. To make water sprinkling effective, Graders will follow water sprinklers in each run, so that the settled dust due to sprinkling, does not lie on the haul road but gathered to on the flanks of the roads , lest the same dust will be raised by the passage of successive dumpers. It has already been stated in section 3.2 that elaborate arrangement has been kept for water required for this purpose. For dust production on haul roads, one saving clause is that with advance of Mining Area, the activities will take place below the ground level. In that case the high walls of Mining Area will reduce the dispersal of dust generated beyond the Mining Area area.

Haul Roads on the surface of the mine will be black-topped. In addition to the above measures, large scale plantation along both sides of haul roads on the surface of the mine, around CHP and the green belts formed will largely trap the airborne dust which escapes sprinkling operation.

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(v) Control of Dust in CHP

a) The coal crusher is proposed to be enclosed in covered structure. A dust extraction & collection system would be installed for the crusher House. This will collect the dust generated during the coal crushing operation. The dust will be collected in bags for disposal.

b) At all transfer points in CHP, precision anti-clog nozzles shall be installed at suitable locations for suppressing dust by spraying water. Chutes provided to reduce the height of coal fall, thus reduce dust generation will be covered.

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c) Part of belt conveyor claiming the coal from crusher house to ground bunker would run covered. In this portion of belt conveyor, there would be no generation of dust.

d) Belt conveyor exposed to atmosphere will be provided with cladding from side and top. This will protect the moving coal mass from blowing wind, and hence, reduce dust generation.

(vi) Transport of sized coal to Stockpile and Railway Siding:

A cross country conveyor has been provided to transport sized coal to railway siding which will obviate deployment of trucks, a major source of atmospheric pollution. Both of these facilities will be located adjacent and outside the Western block boundary. Water sprinkling will be main mode of dust suppression here. At railway siding, an RLS (Rapid Loading System has been proposed for wagon loading arrangements which is totally enclosed and dust free.

3.5 Waste Management

3.5.1 Constituents of Waste & Volume

The waste likely to be generated are

1. Soil – About 10 Mm^3
2. Weathered Mantle– About 14 Mm^3
3. Over & Interburden (Shale, sandstone) – About 256 Mm^3

Total : 280 Mm^3

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3.5.2. Disposal of waste:

Selection of dumping site:

Top-soil will be dumped on the North side of the property on non-coal bearing area. The maximum height of the dump will be 10 m. Ultimately this will be re-handled and spread over back-filled area .

The External Dump will also be located on non-coal bearing area on the North East side covering an area of 63 Ha. A total of 55 Mm^3 of O.B. will be placed in external dump for the initial 5 years.

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दामोदर घाटी निगम / [illegible]
डी.वी.सी. [illegible]
DVC [illegible]

The dumping strategy has been envisaged in such way that about 215 Mm^3 overburden material will, ultimately be dumped, internally in the pit. Internal dumping/ backfilling will be started in the 3rd year of mining operations.

Volume of various disposal sites:

I. Strengthening of embankments of minor nullahs in the initial stages of mining, excavated OB will be used and compacted and covered by soil: **10 Mcum**

II. Dumping of OB in non-coal bearing area for the initial 5 years, in External Dump located in NE part of the block , when space for internal dumping in de-coaled area is not available: **55.00 Mcum**

III. Backfilling of de-coaled area by excavated OB from 3rd year of mining to 25th-26th year (terminal year), leaving space for the haul road and in-pit conveyor system in the floor seam I Bottom: **215 Mcum** (approx.).

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3.5.3. Protective Measures for Waste:

(i) Slope Stability of Dumps

Stability of Internal and External Dumps and the excavations of the mine has been made based on identical mines with similar geo-mining condition.

Geo-mining parameters considered for the study are:

- Maximum depth of the Mining Area of the mine in the Tubed Block may reach up to 230 m.
- Height of the internal dump: 4m (approx above the existing surface level)
- The inclination of floor of the internal dump(rise side to dip side) is considered as 6 and 10 degree with horizontal plane.
- Height of the external dump: 90 m
- The floor of the external dump is considered as horizontal.

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Tubed block consists of sandstone, shale, carbonaceous shale & coal seams of Barakar formation (15.90 m -268.00 m). The assumed parameters are:

TABLE NO. 3.9

Geo-technical Parameters used for slope stability analysis of dumps and Mining Area pit of Tubed Coal Mines Limited

	Rock mass	Dump material	Interface material between dump and foundation	Foundation material
Cohesion	327 kN/m^2	47 kN/m^2	33 kN/m^2	234 kN/m^2
Angle of internal friction	40 degree	49 degree	25 degree	35 degree
Bulk density	22 kN/m^3	18 kN/m^3		

(ii) Protection against erosion of dumps and contamination of water bodies:

In the Section **3.1.1 Progressive reclamation of mined out land (a) Physical reclamation and (b) Biological reclamation,** detailed action to be taken for protection against erosion of dumps, both external and internal, to prevent contamination of water bodies have already been described. The salient points are:

(a) Compaction of the dumps at every stage by deployment of dozers and dumping in proper benches

(b) Final profile of the dump covered by top-soil

(c) Check dams on gullies , toe-walls , garland drains / trenches to prevent erosion

(d) Biological reclamation / forestation with proper species

(e) Regular sampling and analysis of water.

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Dated-03.11.2004)

3.6. Top-Soil Management:

The entire coal block has a soil cover varying in thickness from 2.50m to 12.50m as seen in the drilled bore holes. The Top 2 m of this cover is being considered as top soil. As proposed in the mining plan this top soil will be separately excavated and transported to be kept in the northern part of the block. From this dump top soil will be re handle during reclamation of external & internal dumps.

The soil is either of sandy or loamy type. The colour of the soil varies from grey to brown. Normally species like Sal, Tendu etc can grow easily. *Five (05)* samples (one from core zone and four from buffer zone) of soil were taken for analysis. The result of analysis as stated in EMP and locations are indicated the following table.

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TABLE NO. 3.10

ANALYSIS RESULT OF SOIL SAMPLES

Sl. No.	Parameter	Unit	S1	S2	S3	S4	S5
1	pH		7.10	7.4	7.3	7.4	7.15
2	E.C	mhos/cm	111	103	102	110	103
3	Sodium as Na	Ppm	39	34	45	46	45
4	Bulk density	gm/c.c	2.7	2.6	2.5	2.9	2.8
5	Organic matter	%	0.68	0.60	0.67	0.65	0.60
6	Chloride	%	0.015	0.05	0.015	0.02	0.01
7	Sand	%	16	15	15	19	25
8	Silt	%	36	43	40	42	45
9	Clay	%	48	43	45	39	32
10	Texture		Clayee	Clayee	Clayee	Clay loam	Clay loam
11	Porosity	%	46	45	43	42	44
12	Water holding	%	40	42	44	41	35

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13	Organic carbon	%	0.4	0.35	0.39	0.38	0.35
14	N	ppm	15	20	12	11	16
15	P	ppm	14	10	12	10	8
16	K	ppm	10	12	16	13	15
17	S	ppm	8	9	10	8	9

Soil Sampling Stations:-

S1 : Patratu village Agricultural land (6 Km,SW)

S2 : Bishrampur Village agricultural land (2Km,SW)

S3 : Tubed Agricultural land (Core Zone)

S4 : Dhobiajharan Village land(1 km,S)

S5 : Luti Agricultural Land (5 Km,E)

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Constraints of storing top-soil

It is pertinent to mention that entire top-soil will not be removed in one go, because of two reasons: (i) Space required for dumping will be large, (ii) top-soil stored for a long time gets deteriorated in quality. It will get washed away during rains unless protected .Further, leaching of elements from the soil will occur due to continued exposure over the long period needs to be studied. Firstly top-soil will be removed from the mining area for 5 years. Backfilling will start on the 3rd year. After 2 years of back-filling, around 5th year when biological reclamation of external dump and some portion of internal dump will commence , top-soil required will be re-handled from the dump, thereby creating space for further dumping of another 5 years. This process will go on cyclically till the entire top-soil is removed and re-handled for biological reclamation.

Treatment of Top-soil dumps

In order to preserve the top-soil, timber trees cannot be planted over these dumps because, if planted, their root system would pose problem when soil will be needed to be removed for top dressing of back-filled area. To prevent deterioration of the soil, the species to be raised on the top-soil dump should, therefore be such that they will not only bind the soil but also contribute towards the enrichment of the top-soil. Fodder grasses or leguminous crops

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should be good choice and should be raised annually or perennially. Agricultural institutions will be consulted towards this objective. These crops being close to the soil and dense will act as a barrier between rain water flow and the soil and prevent erosion. They will also enrich the soil .At the toe of the top-soil dump contour trenches of at least ½ m x ½ m should be dug 8 m apart and soil heaped on the downward side into a mound and sown with seeds of Eucalyptus, acacia etc. Planting of mixed species should be done in the trench. Toe of the trench should be stabilized with agave in 3 rows, the suckers spaced ½ m apart and alternating in each row. The trench when it gets filled up, has to be cleaned up and contents thrown inside the dump.

3.7 Management of Washing Rejects

No coal washing is proposed by the proponent. Therefore, no washing rejects are to be managed.

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3.8 Infrastructure

3.8.1 Infrastructure to be Retained:

1. Diversion channels along the periphery with the embankments with metal road.
2. Diverted road to Latehar which was strengthened and widened. Roads connecting to Latehar and nearby villages including resettlement villages.
3. Bridges over Sukri River and culverts over periphery diverted nalas.
4. All permanent buildings for community uses.
5. Low tension power line to feed electricity to resettlement villages and Bore-wells for supplying potable water to them.
6. Railway siding and RLS for future uses of mining companies.

3.8.2. Infrastructure to be Decommissioned

1. CHP and cross-country conveyors, Stacker-Reclaimers
2. Base workshop shed and store shed.
3. Weigh bridge and connected structure.
4. HT power line, trestles, cables and conductors

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5. Sedimentation Ponds and other related water treatment structures, except the bore-well circuit for drinking water.

After decommissioning, the area occupied by the infrastructures being removed will be cleared and planted with native trees.

3.9 Disposal of Mining Machineries

The machines which will be needed for reclamation e.g shovel, dumpers and one dozer shall be retained after cessation of coal winning for 2/3 years.

All other transportable HEMM, which have working life, will be removed from the leasehold and transferred to other mines of the company. Surveyed-off equipment will be auctioned out along with scrap which had accumulated over the years. All fixed equipment viz. Workshop P&M. HT transformers, Pumps etc. shall be transferred to other sister mines or auctioned off. Only a skeleton fleet of water sprinklers, utility vehicles to tend the plantation and monitoring of the environment for the closing operation completion shall remain.

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3.10 Safety & Security

The reclaimed site will pose no safety problem whatsoever because:

(a) the one and only external dump of OB has been made after proper slope stability analysis and physically and biologically reclaimed,

(b) top-soil dump has been re-handled and spread over the external dump and back-filled area,

(c) no residual water body is proposed and

(d) Stabilisation and bio- reclamation of internal dump shall be ensured.

(e) Inspection & Survey of mined out area & OB Dumps for assessing closure jobs & updating coal mines plan shall be done

(f) Action if required shall be taken to make drainage area/fire area safe Closing with walling & gates in the haul road to prevent even inadvertent entry into mines

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(g) Wall of 3m in height with 150 mm square holes will be made along the 1m depth line of the water body for connectivity of main water body.

(h) Further, sufficient no. of poles with chain will be erected at water level beyond 1.5 so that people may not go beyond the danger mark and get drowned inadvertently.

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4.0 Economic Repercussions of Closure

The local inhabitants particularly the affected people losing agricultural and homestead land would be duly compensated as per the Rehabilitation and Resettlement (R & R) plan and CSR activities during the development of the project and subsequent period of operation of mines. The closure of mines would have the following repercussion.

i. Number of local residents employed in the mine, status of the continuation of family occupation and scope of joining the occupation back.

ii. Compensation given or to be given to the employees concerning their sustenance and their family members.

iii. Satellite occupations connected to the mining industry – number of persons engaged therein – continuance of such business after mine closure.

iv. Continued engagement of employees in the rehabilitated status of mining lease area and any other remnant activities.

v. Envisaged expectation of the society on closure of mine

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4.1 Measures to Mitigate Economic Repercussions

It is certain that the Tubed coal mine, which would be producing about 6.0 million tonnes of coal for about 25 years , will have tangible repercussions on the surrounding populace.

(i) There are 240 persons from project affected families who are likely to be given employment. Of above, about 100 persons may remain at the end of mine life. Of this 100, about 50 persons could be redeployed in different activities of the proponent. Rest 50 may opt for golden handshake provided by the proponent.

(vii) Of total about 400 employees at the beginning of the mine life, about 180 could remain at the end of mine life. 80 may be redeployed and 100 would be given golden handshake. Rupees Three lakhs per employee has been provided for golden hand shake.

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(iii) The satellite occupation e.g services for the mining activities could include electrical repairs, auto repairs, welding & structurals, drivers and vehicle rentals etc. These occupations would partly continue for serving the township and rehabilitation colony markets. Those, who can venture out, would move to other areas with their expertise. The skill developed with them will help their sustenance.

(iv) Of the employees retained by the company some 20 persons may be deployed in the closing operation for 3 to 5 years, after cessation of mining.

(v) The local community and society at large, do get benefits of C.S.R activities carried out by the coal company. However, basic approach of the CSR activities is to ensure capacity building in the society so that after 25 years of sustained build up, self sustenance comes.

However a corpus fund of Rs.200 lakhs is to be made available, the interest of which will be able to provide sustenance of essential CSR activities for benefit of society, specially the local community.

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5.0 Time Schedule for Abandonment

5.1 Abandonment activities

As discussed in chapter III & IV, there will be post mining activities on the front of reclamation of mined out areas, waste disposal, air and water quality management, management of infrastructures and machines and finally covering the aspects of safety and securing of the habitants in the area from abandoned mine. The social front activities shall also be covered. All these activities, however, relate to post mining period when final closure operations will be on going.

5.2 A list of abandonment activities with time frame of their completion and resources required in the post mining scenario is given below in Table No. 5.1. It is shown in the form of Bar-chart also.

TABLE No. 5.1

Time Scheduling for Abandonment												
Details of Final Closure Activities & Estimated Resources												
Sl. No.	Activities	1st Year		2nd Year		3rd Year		4th Year		Mode	Budget in Lakh
		1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half		
1	Mined out area and waste management										
	• Physical reclamation of 148 Hectares of Internal dump.	[redacted]				J.	O.	S.		J.O.S	317 lakh
	• Bio-reclamation of the above dumps.			[redacted]						J.O.S	264 lakh
2	Air & Water Quality Mgmt.										581 lakh

	• External and Internal Dump reclaimed in Progressive Closure will be Inspected for the status of Plantation.		Env. Engr.-1 Surv.-1	
	• Action to vegetate any uncovered patches.		J.O.S	20 lakh
	• Inspection of garland drains, bunds & embankments to see their conditions.		Env. Engr.-1 Surv.-1	
	• Strengthening GD, bunds & embankment etc.		J.O.S	30 lakh
3	Mgmt of Infrastructure & Machinery			50 lakh
	* Decommissioning of structurals etc.		J.O.S	20 lakh
	* Clearing the site of the infrastructures		J.O.S	06 lakh
	* Converting the cleared area as agricultural land		J.O.S	12 lakh
	* Transport of machinery for their gain full utilisation			Nil
4	Action for Safety			38 lakh
	* Completing the stabilisation and bio- reclamation of 148 ha of internal dump		Env. Engr.-1 Surv.-1	
	* Inspection & Survey of mined out area & OB Dumps for assessing closure jobs & updating coal mines plan			
	* Action if required to make drainage area/fire area safe		J.O.S	20 lakh
	* Wall of 3m in height will be made around the water body of 4 ha.		J.O.S	80 lakh
Total:				100 lakh

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Time Scheduling for Abandonment (contd.)

Details of Final Closure Activities & Estimated Resources

Sl. No.	Activities	1st Year		2nd Year		3rd Year		4th Year		Mode	Budget in Lakh
		1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half		
5	Socio-Economic										
	* Golden Hand shake for about 100 persons at the time of mine Closure	■								HR Exe.-2, Staff-2	300 lakh
	* Creation of corpus fund for CSR	■									200 lakh
6	Execution & Supervision	■	■	■	■	■	■	■	■		500 lakh
	* Purchasing/Hiring of equipment/services for the time bound Completion of closure activities	■	■	■	■	■	■	■	■	Env. Engr.-1 Mgr., Sr. Overman-2 Engr.-1	1693 lakh
	* Execution & Supervision of activities by mine personnel										100 lakh
Total for 1+2+3+4+5+6 =											3062lakh

Env. Engr.- Environment Engineer, Civil Engr.- Civil Engineer, Supr – Supervisor , Surv – Surveyor

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6.0 ABANDONMENT COST

6.1 Based on the closure activities envisaged in chapter 5 under table 5.1, the cost of abandonment has broadly been estimated. The estimated cost in given below in table no. - 6.1.

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Table No. - 6.1

Estimated cost of the envisaged closure activities in ` lakh

(Dec, 2010 base)

Sl. No.	Activities to be undertaken	1ST Year		2nd Year		3rd Year		4th Year		Total in Rs Lakh
		1st half	2nd half	1st half	2nd half	1st half	2nd half	1st half	2nd half	
		Estimated cost in lakh								
1.	**Mined Out Area & Waste Management** • Physical reclamation of 148 ha of internal dump. • **Bio-reclamation of the above dumps.**	317		264						581
2.	**Air & Water Quality Management** • **External and Internal Dump reclaimed in Progressive Closure will be Inspected for the status of Plantation.** • **Action to vegetate any uncovered patches.**			20						

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	• **Inspection of garland drains, bunds & embankments to see their conditions.** •**Strengthening GD, bunds & embankment etc.**										50
								30			
3.	**Management Of Infrastructure & Mining Machineries** • Decommissioning of structurals etc. • Clearing the site of the infrastructures • Converting the cleared area in agricultural land • Transport of machinery for their gain full utilisation	20									38
			6								
								12			
4.	**Actions for safety & security of local community due to abandonment of the mine** • Completing the stabilisation and bio-reclamation of 148 ha of internal dump • Inspection & Survey of mined out area & OB Dumps for assessing closure jobs & updating coal mines plan • Action if required to make drainage area/fire area safe • Wall of 3m in height will be made around the water body of 4 ha.										100
			20								
				80							

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5.	**Social & Economic Aspects** • Golden Hand shake for about 100 persons at the time of mine Closure • Creation of corpus fund for CSR	300 200	500
6.	**Execution & Supervisor** • Purchasing/Hiring of equipment/services for the time bound Completion of closure activities • Execution & Supervision of activities by mine personnel	1693 100	1793
		Grand Total	**3062**

Total estimated cost for completing the envisaged closure activities is 3062 Lakhs.

6.3 As per circulated guidelines of MoC at Clause 6.2, with the WPI being at 144.10 points in Dec 2010 against 129.90 points in August 2009 (with a base of 100 points in year 2004-2005), the estimated cost per ha for OC mines is 6.656 lakhs. Provision for the project, with 928 ha of lease area is 460 x 6.656 = Rs 3062 Lakhs.

6.4 With 25 years period of distribution as per item 6.3 of the guidelines, annual base amount is arrived at 122.48 lakhs. With 5% incremental addition, the annual deposition figures for mine closure is given in Table No. - 6.2

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Table – 6.2
Mine closure fund

Year	Amount to be deposited in escrow account (Rs. in lakhs)
1	122.48
2	128.60
3	135.03
4	141.79
5	148.88
6	156.32
7	164.13
8	172.34
9	180.96
10	190.01
11	199.51
12	209.48
13	219.96
14	230.95
15	242.50
16	254.63
17	267.36
18	280.73
19	294.76
20	309.50
21	324.98
22	341.22
23	358.29
24	376.20
25	395.01
Total:	**5845.62**

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7.0 Financial Assurance

For financial assurance the mining company shall open a Escrow Account with any Scheduled Bank, with the Coal Controller Organization (on behalf of the Central Government) as exclusive beneficiary. The mining company shall cause payments to be deposited in such Escrow Account at the rate computed as indicated at table - 6.1. The Escrow account will be operated by a tripartite agreement between the coal controller, the project proponent and the scheduled bank. The amount being deposited will be reviewed with such periodicity as deemed fit by the Coal Controller. When implementation of the final mine closure scheme is undertaken by the mine owner starting five years before the scheduled closure of mining operations, the Coal Controller may permit withdrawals (four years before final mine closure date) from the Escrow Account proportionate to the quantum of work carried out, as reimbursement. The withdrawn amount each year shall not exceed 20% of the total amount deposited in the account.

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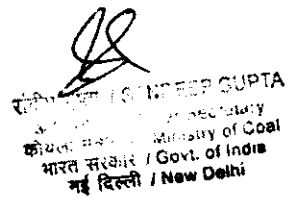
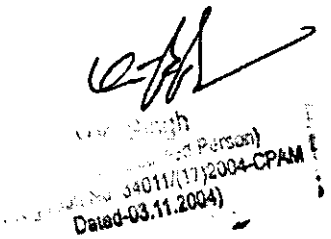
DVC Tubed Coal Mines Limited

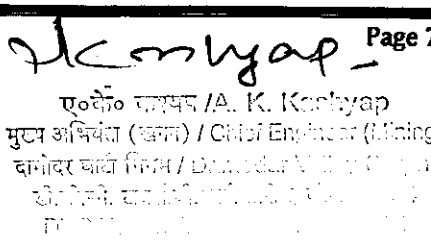
8.0 Responsibility of Mines Owner

Tubed Coal Mines Limited (TCML) ensures that the protective measures contained in the mine closure plan including reclamation and rehabilitation works will be carried out in accordance with the approved mine closure plan and final mine closure plan.

TCML shall submit to the Coal Controller a yearly report before 1st July of every year setting forth the extent of protective and rehabilitation works carried out as envisaged in the approved mine closure plans (Progressive and Final Closure Plans).







9.0 Provision for Mine Closure

Tubed Coal Mines Limited (TCML) shall obtain a mine closure certificate from Coal Controller to the effect that the protective, reclamation and rehabilitation works in accordance with the approved mine closure plan/final mine closure plan are carried out by the TCML for surrendering the reclaimed land to the State Government concerned.

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कोयला मंत्रालय / Ministry of Coal
भारत सरकार / Govt. of India
नई दिल्ली / New Delhi

Dated-03.11.2004)

A.K. Kashyap

ए०के० कश्यप / A. K. Kashyap
मुख्य अभियंता (खान) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corporation
डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता /
DVC Towers,VIP Road, Kolkata /

[illegible] को ग्राम सभा में ग्राम सभा की बैठक आहूत विशु उरांव की अध्यक्षता में बुलाई गई जिसमें निम्नलिखित ग्रामीण उपस्थित थे।

बैठक में निम्नप्रस्ताव पारित किये गये —

(i) खोलिखनि खुलने से स्थानीय लोगों को रोजगार मिलेगा
(ii) इससे क्षेत्र की गरीबी एवं अशिक्षा दूर होगी
(iii) कंपनी द्वारा चिकित्सा शिक्षा इत्यादी की सुविधा मुहैया कराई जायेगी
(iv) लोगों का प्रत्यक्ष एवं परोक्ष रुप से रोजगार प्राप्त होने से क्षेत्र का सर्वांगीण विकास होगा।

अतः सर्वसम्मती से खोलिखनि खोलने के निर्णय को स्वीकार किया गया। अन्त में धन्यवाद ज्ञापन के साथ सभा की कार्यवाही समाप्त की गई

उपस्थित ग्रामीणों का हस्ताक्षर

(1) सुरेन्द्र सिंह

(4) उदय सिंह

(5) विनय सिंह

ग्राम प्रधान

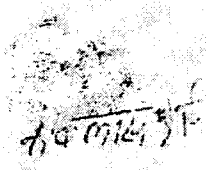
विशु उरांव

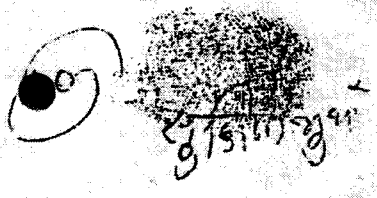
आज दिनांक 16/6/11 को ग्राम अरवाडीहरा में ग्राम सभा की बैठक अधिशासी पदाधिकारी की अध्यक्षता में बुलाई गई। जिसमें निम्नलिखित गणमान्य उपस्थित थे

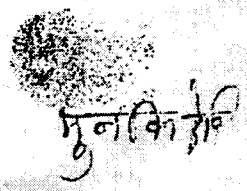
बैठक में निम्नप्रस्ताव पारित किये गये :- 260

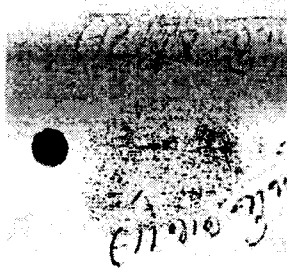
(i) लोलियरी खुलने से स्थानिय लोगो को रोजगार मिलेगा।
(ii) इससे क्षेत्र की गरीबी एवं अशिक्षा दूर होगी
(iii) कम्पनी द्वारा चिकित्सा, शिक्षा आदि की सुविधा मिलेगी
(iv) लोगो को प्रत्यक्ष एवं परोक्ष रूप से रोजगार प्राप्त होने से क्षेत्र का सर्वांगीण विकास होगा

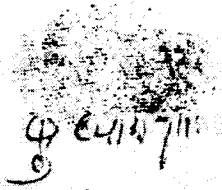
अंत: सर्व सम्मति से लोलियरी खोलने हेतु निर्णय को स्विकार किया गया। अन्त में धन्यवाद ज्ञापन को साथ सभा की कार्यवाही समाप्त की गई











आज दिनांक 16/6/2011 को ग्राम धोलिआखारन में ग्राम सभा की बैठक
अहमद लालमगढ़ की अध्यक्षता में बुलाई गई जिसमें निम्नलिखित
ग्रामीण उपस्थित थे

बैठक में निम्नप्रस्ताव पारित किये गये :—
1) कोलिआरि खुलने से स्थानिय लोगो को रोजगार मिलेगा
2) इससे क्षेत्र की गरीबी एवं अशिक्षा दूर होगी
3) कंपनी द्वारा चिकित्सा, शिक्षा आदि की सुविधा मिलेगी
4) लोगो को प्रत्यक्ष एवं परोक्ष रूप से रोजगार प्राप्त होने से क्षेत्र का सर्वांगीण विकास होगा

अतः सर्वसम्मती से कोलिआरि खोलने के निर्णय को स्विकार किया गया। अन्त में धन्यवाद ज्ञापन के साथ सभा की कार्यवाही समाप्त की गई

उपस्थित ग्रामीणों का हस्ताक्षर

1) हरिहर सिंह
2) लखन सिंह
3) [illegible]
4) राजदेव सिंह
5) भज सिंह
6) [illegible]
7) [illegible]
8) [illegible]
9) [illegible]
10) [illegible]
11) रामदुलार सिंह
12) [illegible]

ग्रामप्रधान
लाला भगत

ग्राम धोलिआखारन मेघाई

Hemyap

(14) देवेन्द्र सिंह

(15) अभिषेक सिंह

(16) जहीर सिंह

(17) पवन सिंह

आज दिनांक 12/5/11 को ग्राम तुबेद में ग्राम सभा की बैठक अध्यक्ष नरेश उरांव की अध्यक्षता में बुलाई गई जिसमें निम्नलिखित ग्रामीण उपस्थित थे

बैठक में निम्न प्रस्ताव पारित किये गये :—

(i) कोलियरी खुलने से स्थानीय लोगों को रोजगार मिलेगा
(ii) इससे क्षेत्र की गरीबी एवं अशिक्षा दूर होगी
(iii) कम्पनी द्वारा चिकित्सा, शिक्षा आदि की सुविधा मिलेगी
(iv) लोगों को प्रत्यक्ष एवं परोक्ष रूप से रोजगार प्राप्त होने से क्षेत्र का सर्वांगीण विकास होगा

अतः सर्व सम्मती से कोलियरी खोलने के निर्णय को स्विकार किया गया। अन्त में धन्यवाद ज्ञापन के बाद सभा की कार्यवाही समाप्त की गई

स्थित ग्रामीणों का हस्ताक्षर

[illegible]

रामेश्वर उरांव

नन्दलाल उराव

जगु उरांव

जसेदार उरांव

रविन्द्र उरांव

दीपक उरांव

सुरेन्द्र उरांव

(10) [illegible]

(11) [illegible]

(12) [illegible]

(13) [illegible]

(14) [illegible]

(15) [illegible]

(16) [illegible]

(17) [illegible]

(18) [illegible]

(19) [illegible]

(20) [illegible]

(21) [illegible]

(22) [illegible]

(23) [illegible]

A. K. Kashyap

(A. K. Kashyap)
Chief Engineer (Mining)
Chandrapura (Koderma) Thermal Power Station
Damodar Valley Corporation
DVC Towers, VIP Road, Kolkata-54

[illegible] उरोब की अध्यक्षता में बुलाई गई जिसमें निम्नलिखित ग्रामीण उपस्थित थे।

बैठक में निम्न प्रस्ताव पारित किये गये :—

1) कोलियरी खुलने से स्थानीय लोगों को रोजगार मिलेगा।
2) इससे क्षेत्र की गरीबी एवं अशिक्षा दूर होगी।
3) कंपनी द्वारा चिकित्सा शिक्षा आदि की सुविधा मुहैया कराई जायगी
4) लोगों को प्रत्यक्ष एवं परोक्ष रूप से रोजगार प्राप्त होने से क्षेत्र का सर्वांगीण विकास होगा

अतः सर्वसम्मति से कोलियरी खोलने का निर्णय को विचार किया गया अन्त में धन्यवाद ज्ञापन के बाद सभा की कार्यवाही समाप्त की गई

उपस्थित ग्रामीणों का हस्ताक्षर

[illegible]

शिव कुमार सिंह

विनोद कुमार सिंह

अर्जुन कुमार सिंह

निकेश कुमार सिंह

अभिषेक कुमार सिंह

पंकज कुमार सिंह

अभय नारायण सिंह

मेघ अमर कुमार

अजेश कुमार उर्फ

नन्दा राव

देवधानी राव

महेन्द्र राव

[illegible] राव

अनिल राव

चन्द्रशेखर द्विवेदी

Santosh Singh

राम [illegible]

[illegible]

सुरेश कुमार

६ । २ ३२ । ८

Mr Sarwar Ali

कपनी देवी

सुरभी देवी

सुनीता देवी

सुनिता देवी

[illegible]

रामन कुमार सि

२ । ७ २ । ३२ । ६

दीपक ३२ । ७

Hemraj

अद्य दिनांक 4/6/2011 को ग्राम डीही में ग्राम सभा की बैठक अध्यक्ष की अध्यक्षता में बुलाई गई जिसमे निम्नलिखित ग्रामीण उपस्थित थे

बैठक में निम्न प्रस्ताव पारित किये गये :—

खनन खुलने से स्थानीय लोगों को रोजगार मिलेगा

क्षेत्र की गरीबी एवं अशिक्षा दूर होगी

कंपनी द्वारा चिकित्सा, शिक्षा इत्यादी की सुविधा प्रदान कि जायेगी

जो प्रत्यक्ष एवं परोक्ष रूप से रोजगार प्राप्त होने से क्षेत्र का सर्वांगीण विकास होगा

अतः सर्वसम्मती से कोलिथरि खोलने के निर्णय का स्वीकार किया गया अंत में धन्यवाद ज्ञापन के साथ सभा की कार्यवाही समाप्त की गई

उपस्थित ग्रामीणों का हस्ताक्षर

मो० सादुर रहमान

Md. Rijaj Asad

मो० सहादुर्रिन अंसार
ग्राम डीही

रामाशिष राय

सुरेश राम

रामेश्वर तिवारी

विकाश कुमार जायसवाल

सीता देवी

मीरा देवी

तेजवती देवी

मा अर्थ

[redacted]

[redacted]

[redacted]

To [redacted]

[redacted]

[redacted]

Ajit Kumar Ram

M/s Shambhu Ram

Mukesh Jaiswal

[redacted]

[redacted]

Honeycomb

कार्यालय– उपायुक्त–सह– जिला दण्डाधिकारी, लातेहार।

(कल्याण शाखा)

पत्रांक 53

प्रेषक,

उपायुक्त,
लातेहार।

सेवा में,

मुख्य कार्यकारी अधिकारी,
तुबेद कोल माईन्स लिमिटेड,
लातेहार।

लातेहार, दिनांक 29 / 01 / 2014

विषय :– तुबेद कोल माईन्स लिमिटेड, लातेहार के अन्तर्गत पड़ने वाली वन भूमि अपयोजन हेतु वनाधिकार अधिनियम 2006 के अन्तर्गत अनापति प्रमाण–पत्र के संबंध में।

महाशय,

उपर्युक्त विषय के संबंध में कहना है कि तुबेद कोल माईन्स लिमिटेड, लातेहार के अन्तर्गत पड़ने वाली वन भूमि के अपयोजन हेतु वनाधिकार अधिनियम 2006 के अन्तर्गत जिला स्तरीय वनाधिकार समिति, लातेहार के द्वारा लिए गए निर्णय के आलोक में विहित–प्रपत्र में अनापति प्रमाण–पत्र संलग्न कर भेजा जा रहा है।

अनुलग्नक :– यथोक्त।

विश्वासभाजन

उपायुक्त,
लातेहार।

TUBED COAL MINES LIMITED

A. K. Kashyap

ए.के. कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर्स, वी.आई.पी. रोड, कोलकाता-54
DVC Towers, VIP Road, Kolkata-54

कार्यालय उपायुक्त –सह– दण्डाधिकारी, जिला– लातेहार।

प्रमाण–पत्र

संख्या :– 04 /क0 दिनांक 29.01.2017

1. अंचल अधिकारी, लातेहार का पत्रांक 22, दिनांक 24.01.2014 एवं अनुण्मण्डल स्तरीय वनाधिकार समिति, लातेहार का ज्ञापांक 20/C, दिनांक 28.01.2014 द्वारा प्राप्त अनुशंसा एवं दिनांक 29.01.2014 को आयोजित जिला स्तरीय वन अधिकार समिति, लातेहार द्वारा लिए गए निर्णय के आलोक में प्रमाणित किया जाता है कि तुबेद कोल माईन्स लिमिटेड, लातेहार परियोजना के लिए प्रस्तावित वन भूमि 401.28 एकड़ के संबंध में अनुसूचित जनजाति एवं अन्य परम्परागत वन निवासी (वन अधिकारों की मान्यता) अधिनियम 2006 के अन्तर्गत Settlement of Rights की प्रक्रिया पूर्ण कर ली गई है। प्रस्तावित वन भूमि एवं गैर–मजरूआ जंगल–झाड़ी भूमि की विवरणी निम्नवत है :–

क्र0	अंचल	ग्राम	थाना सं0	खाता सं0	प्लॉट सं0	रकबा (एकड़ में)	
						वन भूमि	गैर–मजरूआ जंगल–झाड़ी भूमि
1	2	3	4	5	6	7	8
1	लातेहार	मेरुवा	330	25	3	–	11.20
					6	–	7.99
					10	–	4.31
					13	–	8.37
					17	–	0.87
					19	–	0.30
					22	–	0.86
					28	0.70	1.23
					29	21.20	1.01
					78	–	1.56
					80	–	1.20
					योग :–	21.90	38.60
2	लातेहार	सुबेद	333	30	6	8.40	0.83
					12	–	9.24
					17	13.70	4.65
					269	–	7.35
					467	–	15.00
					513	7.70	4.64
					536	–	10.80
					538	–	1.35
					545	–	1.74
					548	–	0.09
					552	–	0.66
					योग :–	29.80	46.23
3	लातेहार	बोदो	334	91	14	2.91	0.01
					15	36.95	0.55
					22	–	4.03
					24	2.80	12.15
					25	8.80	11.40
					26	28.30	2.23
					29	0.18	–
					30	3.22	–
					योग :–	82.64	30.37
4	लातेहार	चौरियाबरन	336	43	3	–	1.43
					19	–	0.89
					24	–	5.82
					33	–	0.42
					35	–	0.14
					38	–	0.02
					40	–	0.08
					42	–	0.17
					46	–	0.41
					48	–	0.62
					60	–	3.83

TUBED COAL MINES LIMITED

4	लातेहार	घोंघियाझारन	336	43	56	–	6.15
					62	–	1.07
					70	–	1.14
					79	–	0.03
					82	–	7.92
					103	–	1.80
					105	–	8.66
					167	–	1.70
					184	–	0.12
					196	–	0.66
					199	–	0.10
					205	–	0.23
					206	–	0.04
					213	–	0.04
					227	–	0.05
					229	–	0.09
					231	–	0.03
					232	–	0.02
					239	–	0.12
					291	–	10.50
					293	–	11.70
					352	–	9.48
					355	–	3.46
					योग :–	–	77.26
5	लातेहार	अम्बाझारन	336	1	1	–	51.65
					2	–	11.60
					130	–	6.66
					134	–	4.53
					योग :–	–	76.26
						134.34 ए0	266.94 ए0
कुल योग :– 134.34+266.94 = 401.28 एकड़							

2. प्रमाणित किया जाता है कि वन भूमि अपयोजन का प्रस्ताव प्रस्तावित क्षेत्रों में पड़ने वाले वन निवासियों के ग्राम सभा के समक्ष रखा गया। परियोजना की विस्तृत विवरणी तथा अनुवर्ती प्रभाव के संबंध में वस्तुस्थिति स्थानीय भाषा/मातृभाषा में ग्राम सभा को व्याख्यापित कर दी गई है।

3. प्रमाणित किया जाता है कि वन भूमि अपयोजन के प्रस्ताव के संबंध में की गई चर्चा एवं लिए गए निर्णय के समय ग्राम सभा के न्यूनतम पचास प्रतिशत सदस्य की उपस्थिति का कोरम पूर्ण था।

4. प्रमाणित किया जाता है कि आदिम जन जाति समूह एवं आदिम कृषक समुदाय के अधिकार अनुसूचित जन जाति एवं अन्य परम्परागत वन निवासी (वन अधिकारों की मान्यता) अधिनियम 2006 की धारा– 3 (1) (e) के अनुसार विशेष रूप से रक्षित किया गया है।

5. प्रमाणित किया जाता है कि सरकार के द्वारा दिये जाने वाली सुविधाओं से संबंधित वन भूमि अपयोजन का प्रस्ताव के संबंध में अनुसूचित जन जाति एवं अन्य परम्परागत वन निवासी (वन अधिकारों की मान्यता) अधिनियम 2006 की धारा– 3 (2) के तहत प्रक्रिया पूर्ण कर ली गई है तथा ग्राम सभा द्वारा इस पर सहमति व्यक्त की गई है।

उपायुक्त
–सह–
अध्यक्ष, जिला स्तरीय व0अ0स0,
लातेहार।

A. K. Kashyap

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
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डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

ENUMIRATION REPORT

TUBED COAL MINES Ltd.

1. Name of P.F:-	**Tubed PF**
Division;-	**Latehar**
Range	***latehar***
Village Name	**Tubed**
Thana	**Latehar**
Anchal	**Latehar**
Thana No	**333**
Project	**Tubed coal mines Ltd.**
Total forest Area	**159.064Ha**

(Enumeration work jointly by Latehar Forest Range B.O. &team Company Representative)

Sample plot- 1 Tubed (Near Daronia Nala)

100m x 100m (1Ha)

Total no of tree: 160

Details in Annexure: (I)

Sample plot- 2 in Tubed (Mata Tongari)

100m x 100m (1Ha)

Total no of tree: 383

Details in Annexure: (II)

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DVC Towers,VIP Road, Kolkata-54

2. Name of P.F: Mangra

Division: Latehar

Range: Latehar

Village Name: Mangra

Thana No: 330

Anchal: Latehar

Project: Tubed coal mines Ltd.

(Enumeration work jointly by Latehar Forest Range ,B.O. team & Company Representative

Sample Plot- 1 in Mangra (Piprakhad)

100m x100m (1Ha)

Total no of tree: 123

Details in annexure (III)

Sample Plot- 2 in Mangra (Kharpa chattan)

100m x100m (1Ha)

Total no of tree: 356

Details in annexure (IV)

3. Name of P.F : Dihi

Division: Latehar

Range: Latehar

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DVC Towers,VIP Road, Kolkata-54

Village Name: Dihi

Thana No: 334

Anchal: Latehar

Project: Tubed coal mines Ltd.

(Enumeration work jointly by Latehar Forest Range B.O. team Company Representative

Sample Plot-1 in Dihi (Karitongri)

100m x100m (1Ha)

Total no of tree: 228

Details in annexure (V)

Sample Plot- 2 in Dihi

100m x100m (1Ha)

Total no of tree: 507

Details in annexure (VI)

Total area: 159.064Ha

Total no of tree in the area= 46579

Sign of Company Representative
Tubed Coal Mines Limited
Latehar
Authorised Signatory

Sign of Forest Guard

B.O/Forester

Sign of Range officer

A.K. Kashyap

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
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Tubed Sample Plot No. 1 Near of Deroniya Nala — Annexure - 1

Serial No.	Types of Tree	Measurement(In Cm)
1	Aasan	122
2	Sal	150
3	Sal	71
4	Palas	72
5	Sal	32
6	Sal	39
7	Sal	37
8	Sal	26
9	Sal	49
10	Sal	189
11	Aasan	76
12	Sal	50
13	Sal	111
14	Sal	36
15	Sal	32
16	Sal	110
17	Sal	24
18	Sal	220
19	Aasan	80
20	Sal	131
21	Sal	63
22	Sal	128
23	Sal	48
24	Mahua	147
25	Mahua	127
26	Mahua	109
27	Mahua	223
28	Palas	52
29	Palas	81
30	Palas	134
31	Palas	112
32	Palas	52
33	Palas	44
34	Sal	152
35	Sal	85
36	Sal	216
37	Sal	106
38	Sal	62
39	Sal	88
40	Sal	81
41	Sal	58
42	Sal	96

Forest Guard | B. O. / Forester | Range Officer

Authorised Signatory

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
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Tubed Sample Plot No. 1 Near of Deroniya Nala

Annexure - I

Serial No.	Types of Tree	Measurement(In Cm)
43	Sal	153
44	Sal	44
45	Palas	72
46	Sal	87
47	Sal	34
48	Sal	79
49	Sal	58
50	Sal	79
51	Sal	221
52	Sal	122
53	Sal	97
54	Sal	94
55	Sal	108
56	Sal	63
57	Sal	103
58	Sal	45
59	Sal	39
60	Sal	150
61	Sal	246
62	Sal	62
63	Sal	52
64	Sal	33
65	Sal	112
66	Palas	52
67	Sal	71
68	Sal	51
69	Sal	103
70	Sal	88
71	Mahua	61
72	Mahua	101
73	Sal	62
74	Sal	83
75	Sal	101
76	Sal	84
77	Sal	38
78	Sal	55
79	Sal	89
80	Sal	63
81	Sal	48
82	Piyar	26
83	Sal	180
84	Sal	34
85	Palas	34

Sign Of Company Representative
Tubed Coal Mines Limited
Latehar

Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer

एo केo कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
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2

Tubed Sample Plot No. 1 Near of Deroniya Nala — Annexure - I

Serial No.	Types of Tree	Measurement(In Cm)
86	Palas	46
87	Piyar	34
88	Palas	97
89	Sal	206
90	Sal	74
91	Sal	89
92	Palas	85
93	Sal	23
94	Kendu	62
95	Sal	287
96	Sal	112
97	Sal	276
98	Sal	78
99	Sal	55
100	Aasan	59
101	Sal	107
102	Sal	78
103	Sal	83
104	Sal	70
105	Aasan	50
106	Sal	247
107	Sal	119
108	Sal	155
109	Sal	156
110	Sal	189
111	Sal	19
112	Sal	40
113	Sal	105
114	Sal	65
115	Aasan	89
116	Sal	101
117	Sal	42
118	Sal	40
119	Sal	31
120	Sal	74
121	Sal	63
122	Sal	33
123	Sal	77
124	Sal	43
125	Sal	75
126	Sal	77
127	Sal	139
128	Sal	

Sign Of Company Representative — Forest Guard — B. O. / Forester — Range Officer

Authorised Signatory

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
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Tubed Sample Plot No. 1 Near of Deroniya Nala — Annexure - I

Serial No.	Types of Tree	Measurement(In Cm)
129	Sal	65
130	Sal	76
131	Sal	80
132	Sal	87
133	Sal	56
134	Sal	97
135	Sal	50
136	Sal	111
137	Sal	76
138	Sal	80
139	Sal	94
140	Palas	40
141	Sal	32
142	Sal	127
143	Sal	37
144	Sal	25
145	Sal	42
146	Sal	36
147	Sal	63
148	Sal	36
149	Sal	99
150	Aasan	24
151	Sal	76
152	Sal	20
153	Sal	62
154	Sal	47
155	Sal	61
156	Sal	49
157	Sal	83
158	Khair	46
159	Piyar	41
160	Aasan	33

Kashyap

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
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डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

Sign. Representative
Limited
Dhanbad

Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer

4

Mata tongari Tabed Sample Plot No. 2 — Annexure - II

Serial No.	Types of Tree	Measurement (In Cm)
1	Kend	26
2	Sal	76
3	Sal	72
4	Sal	66
5	Sal	86
6	Sal	140
7	Sal	63
8	Sal	43
9	Sal	70
10	Sal	175
11	Sal	39
12	Sal	34
13	Sal	69
14	Sal	56
15	Sal	64
16	Sal	50
17	Sal	66
18	Gijan	26
19	Sal	48
20	Sal	51
21	Sal	50
22	Sal	42
23	Sal	29
24	Sal	114
25	Sal	54
26	Sal	73
27	Sal	118
28	Gijan	43
29	Sal	68
30	Jamun	62
31	Sal	36
32	Sal	46
33	Sal	76
34	Sal	59
35	Sal	56
36	Sal	124
37	Sal	81
38	Sal	55
39	Sal	70

A.K. Kashyap

ए०के० कश्यप /A. K. Kashyap
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डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

Latehar

Authorised Signatory

Forest Guard | B. O. / Forester | Range Officer

1

Mata tongari Tabed Sample Plot No. 2 — Annexure - II

Serial No.	Types of Tree	Measurement (In Cm)
40	Sal	97
41	Sal	106
42	Sal	49
43	Sal	66
44	Sal	90
45	Sal	99
46	Sal	114
47	Sal	90
48	Sal	53
49	Sal	59
50	Sal	50
51	Sal	42
52	Sal	240
53	Sal	37
54	Sal	34
55	Sal	56
56	Sal	58
57	Sal	45
58	Sal	81
59	Sal	70
60	Sal	27
61	Sal	45
62	Sal	130
63	Sal	140
64	Sal	48
65	Sal	61
66	Sal	61
67	Sal	67
68	Sal	86
69	Sal	60
70	Sal	70
71	Sal	83
72	Sal	17
73	Sal	24
74	Sal	84
75	Sal	86
76	Sal	101
77	Sal	59
78	Sal	72
79	Sal	78

ए॰के॰ कश्यप /A. K. Kashyap
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DVC Towers,VIP Road, Kolkata-54

Latehar

Forest Guard | B. O. / Forester | Range Officer

Signatory

लातेहार वन क्षेत्र

Mata tongari Tubed Sample Plot No. 2 — Annexure - II

Serial No.	Types of Tree	Measurement (In Cm)
80	Sal	176
81	Sal	81
82	Sal	90
83	Sal	84
84	Sal	100
85	Sal	70
86	Kend	40
87	Sal	39
88	Sal	42
89	Sal	49
90	Sal	83
91	Sal	87
92	Kend	33
93	Kend	25
94	Sal	41
95	Sal	50
96	Sal	78
97	Sal	72
98	Sal	44
99	Khair	18
100	Sal	69
101	Khair	23
102	Karam	69
103	Sal	40
104	Kend	23
105	Kend	24
106	Sal	15
107	Sal	41
108	Sal	106
109	Sal	91
110	Sal	55
111	Sal	52
112	Sal	120
113	Sal	39
114	Sal	101
115	Sal	28
116	Sal	95
117	Sal	75
118	Sal	103
119	Sal	69

A.K. Kashyap

ए०के० कश्यप /A. K. Kashyap
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DVC Towers,VIP Road, Kolkata-54

Tubed Coal Mines Limited
Sign. Of [illegible] Representative

Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer

वन क्षेत्र पदाधिकारी
लातेहार वन क्षेत्र

Mata tongari Tabed Sample Plot No. 2 — Annexure - II

Serial No.	Types of Tree	Measurement (In Cm)
120	Sal	39
121	Sal	38
122	Sal	38
123	Sal	12
124	Sal	88
125	Sal	64
126	Sal	45
127	Khair	20
128	Khair	19
129	Sal	82
130	Sal	69
131	Sal	92
132	Sal	84
133	Sal	120
134	Sal	68
135	Sal	90
136	Sal	67
137	Sal	63
138	Sal	110
139	Sal	133
140	Sal	100
141	Sal	80
142	Sal	97
143	Sal	60
144	Sal	72
145	Sal	94
146	Sal	75
147	Sal	84
148	Sal	100
149	Sal	144
150	Sal	60
151	Sal	96
152	Sal	67
153	Sal	58
154	Sal	76
155	Sal	72
156	Sal	43
157	Sal	117
158	Sal	17
159	Sal	45

ए०के० कश्यप /A. K. Kashyap
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Tabed Coal Mines Limited
Sign. Of Competent Executive

Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer

वन क्षेत्र
लातेहार

Mata tongari Tubed Sample Plot No. 2 — Annexure - II

Serial No.	Types of Tree	Measurement (In Cm)
160	Sal	46
161	Sal	88
162	Kair	59
163	Sal	46
164	Sal	77
165	Sal	77
166	Sal	57
167	Sal	70
168	Sal	60
169	Sal	86
170	Sal	130
171	Sal	70
172	Sal	107
173	Sal	66
174	Sal	60
175	Biri	38
176	Sal	39
177	Sal	103
178	Sal	99
179	Sal	120
180	Sal	26
181	Sal	50
182	Sal	48
183	Sal	48
184	Kend	33
185	Sal	39
186	Sal	33
187	Sal	26
188	Sal	32
189	Sal	110
190	Sal	51
191	Sal	85
192	Sal	82
193	Sal	45
194	Sal	44
195	Sal	40
196	Sal	40
197	Sal	74
198	Sal	130
199	Piyar	35

ए० के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
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DVC Towers,VIP Road, Kolkata-54

Sign. Of Company Representative
Tubed Coal Mines Limited
Latehar

Authorised Signatory

Forest Guard

B.O. / Forester

Range Officer

वन क्षेत्र पदाधिकारी
लातेहार

5

Mata tongari Tubed Sample Plot No. 2 — Annexure - II

Serial No.	Types of Tree	Measurement (In Cm)
200	Sal	68
201	Sal	107
202	Sal	100
203	Sal	80
204	Sal	47
205	Jamun	58
206	Sal	50
207	Sal	130
208	Sal	150
209	Sal	44
210	Sal	104
211	Sal	46
212	Sal	40
213	Sal	113
214	Sal	52
215	Sal	112
216	Sal	119
217	Sal	49
218	Sal	42
219	Sal	59
220	Sal	92
221	Sal	111
222	Sal	44
223	Sal	46
224	Sal	54
225	Sal	60
226	Sal	60
227	Sal	100
228	Sal	74
229	Sal	48
230	Sal	155
231	Sal	47
232	Sal	100
233	Sal	113
234	Sal	80
235	Sal	97
236	Sal	133
237	Sal	37
238	Sal	85
239	Sal	76

A. K. Kashyap

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
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DVC Towers,VIP Road, Kolkata-54

Tubed Coal Mines Limited
Sign. of Executive
Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer

खनन क्षेत्र पदाधिकारी
झरिया कोयला क्षेत्र

Mata tongari Tubed Sample Plot No. 2

Annexure - II

Serial No.	Types of Tree	Measurement (In Cm)
240	Sal	98
241	Sal	85
242	Sal	68
243	Sal	120
244	Sal	103
245	Sal	90
246	Sal	84
247	Sal	54
248	Sal	72
249	Sal	68
250	Sal	88
251	Sal	87
252	Sal	100
253	Sal	69
254	Sal	122
255	Sindhha	55
256	Sal	90
257	Sal	66
258	Sal	66
259	Sal	86
260	Sal	59
261	Sal	44
262	Sal	118
263	Sal	110
264	Sal	62
265	Sal	44
266	Sal	57
267	Sal	81
268	Sal	37
269	Sal	51
270	Piyar	30
271	Khair	29
272	Sal	130
273	Sal	60
274	Sal	66
275	Sal	63
276	Sal	62
277	Sal	103
278	Sal	99
279	Sal	90

ए०के० कश्यप /A. K. Kashyap
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दामोदर घाटी निगम / Damodar Valley Corpn.
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DVC Towers,VIP Road, Kolkata-54

Sign Of Owner's Representative
Latehar

Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer
वन क्षेत्र पदाधिकारी
लातेहार वन क्षेत्र

Mata tongari Tubed Sample Plot No. 2 — Annexure - II

Serial No.	Types of Tree	Measurement (In Cm)
280	Sal	70
281	Sal	74
282	Sal	70
283	Sal	54
284	Sal	101
285	Sal	58
286	Sal	89
287	Sal	25
288	Sal	106
289	Sal	30
290	Sal	140
291	Sal	39
292	Sal	49
293	Sal	28
294	Sal	90
295	Sal	115
296	Sal	86
297	Sal	47
298	Sal	100
299	Sal	70
300	Sal	66
301	Sal	130
302	Sal	89
303	Sal	164
304	Sal	63
305	Sal	95
306	Sal	60
307	Sal	76
308	Sal	87
309	Sal	71
310	Sal	38
311	Sal	64
312	Sal	56
313	Bahair	55
314	Sal	40
315	Sal	59
316	Sal	49
317	Sal	64
318	Sal	71
319	Sal	95

ए०के० कश्यप /A. K. Kashyap
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Sign Of Company Representative
Latehar

Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer
वन क्षेत्र पदाधिकारी
लातेहार वन क्षेत्र

Mata tongari Tubed Sample Plot No. 2 — Annexure - II

Serial No.	Types of Tree	Measurement (In Cm)
320	Sal	50
321	Sal	76
322	Sal	94
323	Sal	70
324	Sal	70
325	Sal	94
326	Sal	76
327	Sal	95
328	Sal	20
329	Sal	75
330	Sal	80
331	Sal	54
332	Piyar	74
333	Sal	67
334	Sal	35
335	Sal	75
336	Sal	40
337	Sal	73
338	Sal	78
339	Sal	32
340	Sal	73
341	Sal	40
342	Jamun	90
343	Sal	80
344	Sal	110
345	Sal	90
346	Sal	100
347	Sal	92
348	Sal	92
349	Sal	87
350	Rakend	45
351	Sal	82
352	Sal	104
353	Sal	67
354	Sal	60
355	Sal	60
356	a	50
357	Sal	44
358	Sal	34
359	Gigan	29

A.K.Kashyap

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Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer

Mata tongari Tubed Sample Plot No. 2

Annexure - II

Serial No.	Types of Tree	Measurement (In Cm)
360	Sal	42
361	Sal	40
362	Sal	30
363	Sal	24
364	Sal	25
365	Sal	42
366	Sal	45
367	Sal	85
368	Sal	77
369	Sal	69
370	Gigan	24
371	Sal	45
372	Sal	36
373	Sal	54
374	Gigan	29
375	Sal	38
376	Sal	85
377	Sal	46
378	Piyar	16
379	Sal	40
380	Sal	13
381	Gigan	16
382	Gigan	12
383	Sal	34

akashyap

एo केo कश्यप /A. K. Kashyap
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Sign Of Company Representative
Lateha
Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer
वन क्षेत्र
लातेहार

Mangra Sample Plot No. 1 Piprakhad

Annexure – III

S.No	Type of Tree	Mesurment in cm
1	Aashan	127
2	Aashan	117
3	Sal	145
4	Sal	74
5	Sal	72
6	Sal	71
7	Sal	57
8	Sal	105
9	Sal	62
10	Sal	102
11	Sal	57
12	Sal	131
13	Sal	46
14	Sal	69
15	Sal	134
16	Sal	44
17	Sal	104
18	Sal	55
19	Sal	66
20	Sal	61
21	Sal	57
22	Sal	83
23	Sal	66
24	Jamun	179
25	Sal	82
26	Dautha	119
27	Sal	162
28	Sal	157
29	Sal	70
30	Sal	77
31	Dautha	70
32	Sal	42
33	Sal	70
34	Sal	45
35	Sal	75
36	Aashan	93
37	Sal	15
38	Sal	112

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Tubed Coal Mines Limited
Sign. Of Company Representative
Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer

1

क्षेत्र पदाधिकारी
सारंडा वन क्षेत्र

Mangra Sample Plot No. 1 Piprakhad

Annexure – III

S.No	Type of Tree	Mesurement in cm
39	Sal	128
40	Sal	76
41	Sal	130
42	Palas	18
43	Sagwan	13
44	Sagwan	12
45	Sisham	15
46	Sal	178
47	Karanj	13
48	Karanj	18
49	Bamboo	
50	Sisham	14
51	Sal	124
52	Gamhar	14
53	Bamboo	
54	Bamboo	
55	Sisham	12
56	Chakodi	18
57	Gijan	15
58	Chakodi	12
59	Sal	66
60	Sagwan	12
61	Sagwan	14
62	Sagwan	12
63	Sal	105
64	Sal	115
65	Sal	169
66	Sal	170
67	Sal	83
68	Sal	202
69	Sal	153
70	Sal	103
71	Sal	169
72	Bargad	93
73	Sal	104
74	Bargad	232
75	Sal	40
76	Sal	106
77	Sal	128
78	Sal	76

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Tubed Coal Mines Limited
Sign. Of Company Representative
Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer

Mangra Sample Plot No. 1 Piprakhad

Annexure – III

S.No	Type of Tree	Mesarment in cm
79	Sal	61
80	Sal	125
81	Sal	137
82	Sal	150
83	Sal	107
84	Sal	97
85	Sal	61
86	Sal	106
87	Sal	91
88	Sal	103
89	Sal	95
90	Sal	152
91	Sisham	24
92	Sisham	21
93	Sal	84
94	Sal	113
95	Sal	72
96	Sal	89
97	Sal	89
98	Sal	141
99	Sal	97
100	Sal	170
101	Sal	67
102	Sal	85
103	Sal	143
104	Sal	71
105	Sal	113
106	Sal	66
107	Sal	21
108	Sal	109
109	Sal	196
110	Sal	138
111	Sal	132
112	Sal	96
113	Rohan	113
114	Sal	163
115	Sal	128
116	Aashan	123
117	Chakoda	75
118	Aashan	178

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Latehar

Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer

3

Mangra Sample Plot No. 1 Piprakhad **Annexure – III**

S.No	Type of Tree	Mesurment in cm
119	Chakoda	75
120	Bargad	178
121	Sisham	34
122	Palas	15
123	Palas	20

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Tubed Coal Mines Limited
Lalsha
Sign. Representative

Forest Guard

B. O. / Forester

Range Officer

4

Mangra Sample Plot No. 2 Kharpa Chattan — Annexure -IV

S.No	Type of Tree	Mesurement in cm
1	Sal	46
2	Sal	64
3	Chakodi	90
4	Sal	61
5	Sal	69
6	Sal	59
7	Sal	79
8	Sal	53
9	Sal	67
10	Sal	80
11	Sal	46
12	Sal	55
13	Sal	43
14	Sal	70
15	Sal	52
16	Sal	123
17	Sal	44
18	Sal	62
19	Sal	96
20	Sal	45
21	Sal	54
22	Sal	68
23	Sal	60
24	Sal	46
25	Sal	131
26	Sal	60
27	Sal	43
28	Sal	45
29	Sal	47
30	Sal	176
31	Sal	98
32	Sal	54
33	Sal	56
34	Sal	52
35	Sal	35
36	Chakodi	19
37	Sal	97
38	Sal	49
39	Chakodi	17
40	Sal	42
41	Sal	48

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Tenant Coal Mines Limited
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Authorised Signatory

Forest Guard

B.O. / Forester

Mangra Sample Plot No. 2 Kharpa Chattan — Annexure -IV

S.No	Type of Tree	Mesurement in cm
42	Sal	44
43	Sal	56
44	Chakodi	112
45	Chakodi	44
46	Sal	55
47	Sal	53
48	Sal	48
49	Sal	63
50	Sal	152
51	Sal	117
52	Aashan	115
53	Sal	80
54	Sal	61
55	Sal	347
56	Sal	128
57	Aashan	81
58	Sal	180
59	Sal	59
60	Sal	65
61	Sal	152
62	Sal	234
63	Sal	149
64	Sal	50
65	Sal	70
66	Sal	52
67	Sal	52
68	Sal	76
69	Sal	72
70	Sal	115
71	Sal	97
72	Sal	57
73	Sal	106
74	Sal	114
75	Sal	70
76	Sal	61
77	Sal	59
78	Awala	40
79	Gijan	58
80	Bharhul	67
81	Sal	46
82	Sal	55
83	Sal	46
84	Sal	58

A.K. Kashyap

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Lohar
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Authorised Signatory

Forest Guard

B.O. / Forester

Range Officer दोहरदा 2
लातेहार वन मंडल

Mangra Sample Plot No. 2 Kharpa Chatton — Annexure -IV

S.No	Type of Tree	Measurement in cm
85	Sal	128
86	Sal	48
87	Sal	34
88	Sal	143
89	Ashan	153
90	Bargad	302
91	Sal	56
92	Sal	78
93	Sal	90
94	Gijan	54
95	Sal	87
96	Sal	54
97	Sal	24
98	Sal	34
99	Sal	71
100	Sal	20
101	Sal	158
102	Ashan	117
103	Sal	114
104	Sal	130
105	Sal	58
106	Sal	61
107	Sal	48
108	Sal	119
109	Sal	52
110	Sal	58
111	Sal	43
112	Sal	82
113	Sal	68
114	Sal	95
115	Sal	53
116	Sal	73
117	Sal	61
118	Sal	131
119	Sal	67
120	Sal	83
121	Sal	149
122	Sal	98
123	Sal	71
124	Gijan	35
125	Sal	135
126	Sal	70
127	Sal	72

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Tubed Coal Mines Limited
Latehar
Sign. Of Company Representative
Authorised Signatory

Forest Guard

B.O. / Forester

Range Officer
लातेहार वन

Mangra Sample Plot No. 2 Kharpa Chattan — Annexure -IV

S.No	Type of Tree	Mesurement in cm
128	Sal	94
129	Sal	40
130	Sal	61
131	Sal	35
132	Sal	29
133	Sal	122
134	Sal	71
135	Sal	107
136	Sal	53
137	Sal	40
138	Sal	57
139	Sal	31
140	Sal	45
141	Sal	109
142	Sal	31
143	Sal	84
144	Sal	69
145	Sal	54
146	Sal	85
147	Sal	73
148	Sal	40
149	Sal	91
150	Sal	30
151	Sal	98
152	Sal	124
153	Sal	78
154	Sal	87
155	Sal	62
156	Sal	248
157	Sal	31
158	Sal	94
159	Sal	72
160	Sal	104
161	Sal	53
162	Sal	127
163	Sal	189
164	Sal	91
165	Sal	108
166	Sal	47
167	Sal	126
168	Jamun	86
169	Sal	62
170	Sal	54

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Tubed Coal Mines Limited
Latehar
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Authorised Signatory

Forest Guard

B.O. / Forester

Range Officer

Mangra Sample Plot No. 2 Kharpa Chattan — Annexure -IV

S.No	Type of Tree	Measurement in cm
171	Sal	22
172	Sal	23
173	Sal	44
174	Sal	64
175	Mahuwa	118
176	Ashan	97
177	Sal	68
178	Sal	106
179	Sal	99
180	Sal	87
181	Piyar	12
182	Sal	122
183	Sal	151
184	Sal	10
185	Sal	95
186	Gijan	36
187	Korkot	73
188	Sal	51
189	Sal	161
190	Sal	196
191	Sal	33
192	Sal	45
193	Sal	88
194	Jamun	75
195	Sal	60
196	Kend	45
197	Sal	109
198	Sal	87
199	Sal	127
200	Sal	94
201	Sal	95
202	Sal	55
203	Sal	133
204	Dautha	95
205	Sal	96
206	Sal	152
207	Sal	181
208	Sal	103
209	Sal	25
210	Sal	50
211	Sal	44
212	Piyar	18
213	Kend	35

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Tata Steel Limited
Lessee
Sign. Of Company Representative
Authorised Signatory

Forest Guard

B.O. / Forester

Range Officer

Mangra Sample Plot No. 2 Kharpa Chattan — Annexure -IV

S.No	Type of Tree	Mesurment in cm
214	Sal	61
215	Sal	53
216	Sal	55
217	Sal	48
218	Sal	12
219	Ginjan	11
220	Sal	59
221	Kend	34
222	Sal	60
223	Sal	58
224	Sal	78
225	Sal	43
226	Sal	61
227	Sal	86
228	Chakodi	13
229	Sal	190
230	Chakodi	57
231	Sal	110
232	Sal	68
233	Sal	122
234	Sal	70
235	Sal	65
236	Sal	50
237	Sal	56
238	Baniyan	315
239	Sal	75
240	Sal	103
241	Sal	95
242	Sal	77
243	Sal	12
244	Sal	50
245	Sal	25
246	Sal	27
247	Sal	35
248	Sal	67
249	Sal	97
250	Sal	130
251	Sal	15
252	Sal	90
253	Sal	34
254	Sal	38
255	Sal	55
256	Sal	137

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Tubed Coal Mines Limited
Latehar
Sign. Of Company Representative
Authorised Signatory

Forest Guard

B.O. / Forester

Range Officer

Mangra Sample Plot No. 2 Kharpa Chattan — Annexure -IV

S.No	Type of Tree	Mesurment in cm
257	Ashan	55
258	Sal	160
259	Sal	120
260	Sal	86
261	Sal	124
262	Sal	80
263	Ashan	63
264	Baniyan	320
265	Sal	95
266	Sal	49
267	Chakodi	80
268	Sal	90
269	Sal	66
270	Sal	61
271	Sal	70
272	Sal	91
273	Sal	70
274	Chakodi	14
275	Sal	58
276	Sal	46
277	Chakodi	66
278	Sal	48
279	Sal	15
280	Sal	72
281	Chakodi	14
282	Sal	77
283	Sal	51
284	Sal	59
285	Chakodi	14
286	Sal	53
287	Chakodi	18
288	Sal	69
289	Sal	69
290	Sal	105
291	Sal	14
292	Chakodi	26
293	Sal	71
294	Sal	31
295	Sal	15
296	Sal	28
297	Sal	65
298	Jamun	72
299	Sal	64

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Tvasi Coal Mines Limited
Lalpur
Sign. Of Company Representative
Authorised Signatory

Forest Guard

B.O. / Forester

Range Officer

Mangra Sample Plot No. 2 Kharpa Chattan — Annexure -IV

S.No	Type of Tree	Measurement in cm
300	Sal	167
301	Sal	17
302	Marhul	43
303	Chakodi	66
304	Chakodi	13
305	Chakodi	91
306	Khayra	74
307	Khayra	60
308	Chakodi	14
309	Chakodi	127
310	Chakodi	77
311	Chakodi	63
312	Chakodi	16
313	Chakodi	68
314	Chakodi	12
315	Chakodi	15
316	Piyar	20
317	Sal	70
318	Sal	50
319	Sal	87
320	Sal	54
321	Chakodi	72
322	Gijan	19
323	Sal	91
324	Chakodi	86
325	Chakodi	70
326	Chakodi	17
327	Chakodi	19
328	Chakodi	20
329	Kathul	13
330	Chakodi	37
331	Chakodi	93
332	Chakodi	92
333	Chakodi	85
334	Chakodi	86
335	Chakodi	74
336	Chakodi	79
337	Chakodi	135
338	Chakodi	84
339	Chakodi	17
340	Chakodi	85
341	Chakodi	12
342	Chakodi	82

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Tubed Coal Mines Limited
Authorised Signatory
Sign. Of Company Representative

Forest Guard

B.O. / Forester

Range Officer
लातेहार

Mangra Sample Plot No. 2 Kharpa Chattan — Annexure -IV

S.No	Type of Tree	Measurement in cm
343	Chakodi	62
344	Chakodi	20
345	Chakodi	105
346	Palas	19
347	Chakodi	84
348	Chakodi	69
349	Khayra	55
350	Chakodi	50
351	Chakodi	88
352	Chakodi	25
353	Chakodi	75
354	Chakodi	80
355	Chakodi	66
356	Chakodi	80

A. K. Kashyap

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Jealgora
Sign. Of Company Representative

Forest Guard

B.O. / Forester

Range Officer

Dihi Sample Plot No. 1 in Plot No.15 Karitongri

Annexure - V

SL.No	Type of Tree	Mesurement in cm
1	Aasan	190
2	Bel	128
3	Aasan	30
4	Aasan	120
5	Aasan	100
6	Kendu	200
7	Kendu	26
8	Gijan	28
9	Kendu	20
10	Palas	74
11	Sal	130
12	Gijan	20
13	Sal	66
14	Sal	86
15	Sal	49
16	Sal	40
17	Sal	40
18	Sal	60
19	Gijan	39
20	Aasan	196
21	Deutha	18
22	Sal	28
23	Sal	39
24	Sal	41
25	Sal	26
26	Sal	136
27	Gijan	46
28	Sal	57
29	Sal	26
30	Sal	15
31	Sal	50
32	Sal	40
33	Sal	75
34	Sal	40
35	Sal	37
36	Sal	45
37	Sal	40

ए०के० कश्यप /A. K. Kashyap
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डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

Sign. Of Company Representative
Tubed Coal Mines Limited
Lohaber
Authorised Signatory

Forest Guard

B. O. / Forest

Range Officer

1

Dihi Sample Plot No. 1 in Plot No.15 Karitongri

Annexure - V

SL.No	Type of Tree	Measurement in cm
38	Sal	43
39	Sal	29
40	Palas	42
41	Sal	50
42	Sal	150
43	Aasan	70
44	Sal	39
45	Aasan	46
46	Sal	64
47	Palas	50
48	Sal	35
49	Gijan	22
50	Sal	35
51	Aasan	15
52	Sal	46
53	Sal	374
54	Sal	35
55	Sal	46
56	Sal	57
57	Khair	15
58	Sal	75
59	Sal	93
60	Sal	65
61	Sal	85
62	Palas	15
63	Gijan	46
64	Gijan	18
65	Kenduu	20
66	Sal	35
67	Kendu	20
68	Pipal	20
69	Kendu	20
70	Sal	35
71	Gijan	21
72	Sal	42
73	Sal	63
74	Kendu	25
75	Sal	42
76	Sal	30
77	Sal	14

ए०के० कश्यप /A. K. Kashyap
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DVC Towers,VIP Road, Kolkata-54

Sign. Of Company Representative
Tubed Coal Mines Limited
Latehar

Authorised Signatory

Forest Guard

B. O. Forest

Range Officer

2

Dihi Sample Plot No. 1 in Plot No.15 Karitongri

Annexure - V

SL.No	Type of Tree	Mesurement in cm
78	Sal	12
79	Sal	40
80	Sal	20
81	Sal	40
82	Sal	70
83	Sal	106
84	Kendu	24
85	Sal	130
86	Kendu	25
87	Sal	220
88	Gijan	85
89	Sal	85
90	Sal	14
91	Sal	52
92	Sal	110
93	Sal	36
94	Sal	75
95	Sagwan	76
96	Sal	55
97	Sal	18
98	Sal	25
99	Sal	60
100	Sal	85
101	Piyar	29
102	Sal	104
103	Sal	25
104	Sal	86
105	Sal	63
106	Sal	95
107	Palas	23
108	Gijan	63
109	Aasan	73
110	Sal	80
111	Sal	102
112	Sal	35
113	Sal	80
114	Sal	40
115	Sal	73
116	Sal	33
117	Sal	60

a.k.kashyap

ए०के० कश्यप /A. K. Kashyap
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Sign. Of Company Representative
Tubed Coal Mines Limited
Latehar

Authorised Signatory

Forest Guard

B. O. Forest

Range Officer
वन क्षेत्र पदाधिकारी
चन्दवा वन क्षेत्र

Dihi Sample Plot No. 1 in Plot No.15 Karitongri

Annexure - V

SL.No	Type of Tree	Measurement in cm
118	Sal	140
119	Sal	34
120	Sal	65
121	Sal	23
122	Sal	34
123	Sal	58
124	Sal	60
125	Sal	80
126	Sal	30
127	Sal	102
128	Sal	50
129	Aasan	90
130	Sal	37
131	Sal	125
132	Sal	45
133	Sal	52
134	Sal	97
135	Piyar	42
136	Sal	130
137	Sal	170
138	Aasan	110
139	Sal	20
140	Sal	36
141	Gijan	36
142	Khair	42
143	Sal	65
144	Kendu	30
145	Aasan	25
146	Gijan	39
147	Gijan	60
148	Sal	50
149	Sal	87
150	Piyar	40
151	Aasan	35
152	Sal	130
153	Sal	90
154	Aasan	10
155	Sal	80
156	Sal	90
157	Piyar	80

ए०के० कश्यप /A. K. Kashyap
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DVC Towers,VIP Road, Kolkata-54

Sign. Of Competent Representative
Tribeni Coal Mines Limited
Latehar
Authorised Signatory

Forest Guard

B. O. / Forest

Range Officer
रेंज अधिकारी

Dihi Sample Plot No. 1 in Plot No.15 Karitongri

Annexure - V

SL.No	Type of Tree	Mesurement in cm
158	Aasan	30
159	Aasan	110
160	Sal	70
161	Aasan	54
162	Sal	25
163	Sal	40
164	Sal	35
165	Aasan	30
166	Sal	55
167	Sal	105
168	Kakair	45
169	Sal	86
170	Sal	66
171	Sal	100
172	Sal	95
173	Khair	17
174	Sal	43
175	Sal	25
176	Sal	71
177	Khair	25
178	Sal	30
179	Mahua	75
180	Sal	80
181	Aasan	70
182	Sal	80
183	Sal	110
184	Sal	75
185	Sal	172
186	Aasan	114
187	Sal	26
188	Sal	28
189	Sal	80
190	Sal	125
191	Sal	20
192	Sal	50
193	Sal	50
194	Sal	80
195	Sal	55
196	Dautha	90
197	Sal	40

ए॰के॰ कश्यप /A. K. Kashyap
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Sign. Of Company Representative
Tubed Coal Mines Limited
Latehar

Forest Guard

B.O. Forest

Range Officer

Authorised Signatory

Dihi Sample Plot No. 1 in Plot No.15 Karitongri

Annexure - V

SL.No	Type of Tree	Mesurement in cm
198	Sal	25
199	Sal	80
200	Sal	80
201	Sal	80
202	Sal	43
203	Aasan	43
204	Sal	74
205	Sal	38
206	Palas	57
207	Sal	23
208	Sal	18
209	Aasan	29
210	Palas	20
211	Sal	80
212	Sal	76
213	Dautha	43
214	Sal	55
215	Sal	40
216	Sal	62
217	Aasan	38
218	Sal	20
219	Sal	40
220	Sal	100
221	Palas	28
222	Sal	40
223	Sal	80
224	Sal	56
225	Sal	107
226	Sal	20
227	Sal	60
228	Aasan	136

ए०के० कश्यप /A. K. Kashyap
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Sign. Of Company's Representative
Tubed Coal Mines Limited
Latehar

Authorised Signatory

Forest Guard

B. O. / Forest

Range Officer

Dihi Sample Plot No. 2 in Plot – 14

Annexure – VI

SL. No.	Types of Tree	Measurement (In cm)
1	Bamboo	
2	Bamboo	
3	Bamboo	
4	Bamboo	
5	Bamboo	
6	Bamboo	
7	Bamboo	
8	Bamboo	
9	Babul	70
10	Palas	19
11	Babul	18
12	Liptas	66
13	Bamboo	
14	Bamboo	
15	Palas	10
16	Liptas	85
17	Palas	
18	Bamboo	
19	Bamboo	
20	Bamboo	
21	Bamboo	
22	Palas	10
23	Kendu	44
24	Bamboo	
25	Palas	48
26	Bamboo	18
27	Bamboo	
28	Palas	12
29	Palas	29
30	Bamboo	
31	Bamboo	
32	Bamboo	
33	Bamboo	
34	Bamboo	
35	Bamboo	
36	Bamboo	
37	Bamboo	
38	Bamboo	
39	Bamboo	
40	Bamboo	

A K Kashyap

एo केo कश्यप /A. K. Kashyap
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DVC Towers,VIP Road, Kolkata-54

Forest Guard

B. O. Forester

Range Officer

Authorised Signatory

1

Dihi Sample Plot No. 2 in Plot – 14

Annexure – VI

SL. No.	Types of Tree	Measurement (In cm)
41	Kendu	14
42	Bamboo	
43	Bamboo	
44	Bamboo	
45	Bamboo	
46	Bamboo	
47	Bamboo	
48	Bamboo	
49	Babul	24
50	Bamboo	
51	Liptas	66
52	Bamboo	
53	Bamboo	
54	Palas	87
55	Bamboo	
56	Bamboo	
57	Bamboo	
58	Chilwil	81
59	Bamboo	
60	Bamboo	
61	Bamboo	
62	Bamboo	
63	Bamboo	
64	Bamboo	
65	Bamboo	
66	Bamboo	
67	Bamboo	
68	Bamboo	
69	Bamboo	
70	Palas	36
71	Bamboo	
72	Bamboo	
73	Bamboo	
74	Bamboo	
75	Kendu	12
76	Bamboo	
77	Bamboo	
78	Bamboo	
79	Bamboo	
80	Bamboo	

A.K. Kashyap

ए०के० कश्यप /A. K. Kashyap
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DVC Towers,VIP Road, Kolkata-54

Tubed Chief Mining Manager
Lalsher

Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer
वन क्षेत्र पदाधिकारी

2

Dihi Sample Plot No. 2 in Plot – 14

Annexure – VI

SL. No.	Types of Tree	Measurement (In cm)
81	Liptas	118
82	Bamboo	
83	Bamboo	
84	Bamboo	
85	Bamboo	
86	Kendu	12
87	Bamboo	
88	Bamboo	
89	Bamboo	
90	Bamboo	
91	Bamboo	
92	Bamboo	
93	Bamboo	
94	Bamboo	
95	Bamboo	
96	Bamboo	
97	Bamboo	
98	Bamboo	
99	Bamboo	
100	Bamboo	
101	Bamboo	
102	Bamboo	
103	Bamboo	
104	Bamboo	
105	Palas	10
106	Bamboo	
107	Bamboo	
108	Bamboo	
109	Bamboo	
110	Palas	22
111	Bamboo	
112	Bamboo	
113	Bamboo	
114	Bamboo	
115	Bamboo	
116	Palas	140
117	Bamboo	
118	Bamboo	
119	Bamboo	
120	Bamboo	

A.K. Kashyap

ए०के० कश्यप /A. K. Kashyap
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DVC Tower, D.I.P. Road, Kolkata-54

Jubaraj Coal Mines Limited
Liberia

Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer

Dihi Sample Plot No. 2 in Plot – 14

Annexure – VI

SL. No.	Types of Tree	Measurement (In cm)
121	Bamboo	
122	Bamboo	
123	Bamboo	
124	Bamboo	
125	Bamboo	
126	Kendu	12
127	Kendu	12
128	Bamboo	
129	Bamboo	
130	Palas	32
131	Bamboo	
132	Palas	64
133	Kendu	10
134	Palas	70
135	Bamboo	
136	Bamboo	
137	Bamboo	
138	Bamboo	
139	Bamboo	
140	Khair	15
141	Palas	12
142	Bamboo	
143	Bamboo	
144	Bamboo	
145		
146	Bamboo	
147	Bamboo	
148	Bamboo	
149	Bamboo	
150	Palas	15
151	Bamboo	
152	Bamboo	
153	Palas	12
154	Palas	20
155	Bamboo	
156	Bamboo	
157	Bamboo	
158	Bamboo	
159	Bamboo	
160	Bamboo	

ए०के० कश्यप /A. K. Kashyap
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DVC Towers,VIP Road, Kolkata-54

Tubgd. Coal Mines Limited
Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer
वन क्षेत्र पदाधिकारी
बाघेडुार वन क्षेत्र

Dihi Sample Plot No. 2 in Plot – 14

Annexure – VI

SL. No.	Types of Tree	Measurement (In cm)
161	Bamboo	
162	Kendu	14
163	Kendu	10
164	Bamboo	
165	Bamboo	
166	Bamboo	
167	Bamboo	
168	Bamboo	
169	Bamboo	
170	Bamboo	
171	Babul	12
172	Bamboo	
173	Bamboo	
174	Bamboo	
175	Bamboo	
176	Palas	14
177	Kendu	26
178	Bamboo	
179	Bamboo	
180	Bamboo	
181	Bamboo	
182	Bamboo	
183	Bamboo	
184	Bamboo	
185	Palas	15
186	Bamboo	
187	Bamboo	
188	Kendu	28
189	Bamboo	
190	Bamboo	
191	Bamboo	
192	Bamboo	
193	Palas	78
194	Palas	18
195	Bamboo	
196	Bamboo	
197	Bamboo	
198	Bamboo	
199	Bamboo	
200	Kendu	14

A.K.Kashyap

ए०के० कश्यप /A. K. Kashyap
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Tubed Coal Mines Limited
Authorised Representative
Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer
वन क्षेत्र पदाधिकारी
झारखंड वन क्षेत्र

Dihi Sample Plot No. 2 in Plot – 14

Annexure – VI

SL. No.	Types of Tree	Measurement (In cm)
201	Kendu	15
202	Palas	44
203	Palas	30
204	Palas	70
205	Bamboo	
206	Kendu	10
207	Bamboo	
208	Bamboo	
209	Bamboo	
210	Bamboo	
211	Bamboo	
212	Bamboo	
213	Bamboo	
214	Bamboo	
215	Bamboo	
216	Bamboo	
217	Bamboo	
218	Bamboo	
219	Bamboo	
220	Bamboo	
221	Kendu	30
222	Bamboo	
223	Bamboo	
224	Bamboo	
225	Bamboo	
226	Bamboo	
227	Bamboo	
228	Bamboo	
229	Bamboo	
230	Bamboo	
231	Bamboo	
232	Bamboo	
233	Korong	24
234	Bamboo	
235	Bamboo	
236	Bamboo	
237	Kendu	16
238	Bamboo	
239	Bamboo	
240	Palas	160

A. Kashyap

ए०के० कश्यप /A. K. Kashyap
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Tubed Coal Mines Limited
Sign. of Director

Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer

Dihi Sample Plot No. 2 in Plot – 14

Annexure – VI

SL. No.	Types of Tree	Measurement (In cm)
241	Bamboo	
242	Bamboo	
243	Bamboo	
244	Bamboo	
245	Bamboo	
246	Bamboo	
247	Bamboo	
248	Bamboo	
249	Bamboo	
250	Kendu	33
251	Shidha	80
252	Bamboo	
253	Korkoreya /	30
254	Bamboo	
255	Bamboo	
256	Kendu	24
257	Kendu	20
258	Kendu	30
259	Kendu	19
260	Bamboo	
261	Kendu	25
262	Kendu	30
263	Kendu	25
264	Kendu	25
265	Kendu	20
266	Bamboo	
267	Palas	100
268	Kendu	34
269	Kendu	23
270	Kendu	15
271	Bamboo	
272	Bamboo	
273	Palas	50
274	Palas	50
275	Bamboo	
276	Bamboo	
277	Bamboo	
278	Kendu	20
279	Kendu	15
280	Bamboo	

A. Kashyap

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DVC Towers,VIP Road, Kolkata-54

Latehar

Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer
वन क्षेत्र पदाधिकारी
चाहेडुार वन क्षेत्र

Dihi Sample Plot No. 2 in Plot – 14

Annexure – VI

SL. No.	Types of Tree	Measurement (In cm)
281	Bamboo	
282	Kendu	20
283	Kendu	30
284	Kendu	22
285	Kendu	30
286	Kendu	29
287	Kendu	22
288	Bamboo	
289	Kendu	27
290	Bamboo	
291	Kendu	22
292	Kendu	19
293	Kendu	20
294	Kendu	29
295	Kendu	36
296	Palas	57
297	Bamboo	
298	Bamboo	
299	Bamboo	
300	Bamboo	
301	Palas	60
302	Palas	60
303	Bamboo	
304	Bamboo	
305	Bamboo	
306	Bamboo	
307	Bamboo	
308	Bamboo	
309	Bamboo	
310	Bamboo	
311	Bamboo	
312	Bamboo	
313	Bamboo	
314	Bamboo	
315	Palas	53
316	Bamboo	
317	Palas	70
318	Palas	67
319	Palas	72
320	Bamboo	

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DVC Towers,VIP Road, Kolkata-54

Forest Guard

B. O. / Forester

Range Officer

Authorised Signatory

Dihi Sample Plot No. 2 in Plot – 14

Annexure – VI

SL. No.	Types of Tree	Measurement (In cm)
321	Bamboo	
322	Bamboo	
323	Bamboo	
324	Bamboo	
325	Bamboo	
326	Bamboo	
327	Bamboo	
328	Bamboo	
329	Bamboo	
330	Bamboo	
331	Bamboo	
332	Bamboo	
333	Bamboo	
334	Bamboo	
335	Bamboo	
336	Bamboo	
337	Bamboo	
338	Bamboo	
339	Bamboo	
340	Bamboo	
341	Bamboo	
342	Palas	77
343	Bamboo	
344	Sal	85
345	Kendu	20
346	Bamboo	
347	Pipal	145
348	Bamboo	
349	Palas	80
350	Bamboo	
351	Palas	27
352	Palas	77
353	Bamboo	
354	Bamboo	
355	Palas	102
356	Palas	29
357	Sal	70
358	Sal	45
359	Kendu	30
360	Karma	120

A.K. Kashyap

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Sign. Bylaxmi Coal Private Limited
Lessee

Authorised Signatory

Forest Guard

R. Off Forester

Range Officer

Dihi Sample Plot No. 2 in Plot – 14

Annexure – VI

SL. No.	Types of Tree	Measurement (In cm)
361	Palas	19
362	Bamboo	
363	Palas	90
364	Bamboo	
365	Bamboo	
366	Korong	43
367	Kendu	19
368	Palas	19
369	Kendu	18
370	Bamboo	
371	Sal	46
372	Sal	50
373	Sal	50
374	Sal	60
375	Palas	25
376	Bamboo	
377	Palas	20
378	Palas	40
379	Palas	25
380	Khair	
381	Kendu	28
382	Sal	73
383	Kendu	33
384	Sal	98
385	Sal	120
386	Kendu	25
387	Bamboo	
388	Bamboo	
389	Kendu	36
390	Kendu	20
391	Palas	88
392	Palas	56
393	Bamboo	
394	Palas	106
395	Palas	77
396	Palas	70
397	Palas	110
398	Palas	90
399	Palas	68
400	Palas	200

A.Kashyap

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DVC Towers,VIP Road, Kolkata-54

Tubed Coal Mines Limited
Sign. Of Competent Authority

Authorised Signatory

Forest Guard

B. O. Forester

Range Officer
वन क्षेत्र पदाधिकारी
बासेहार वन क्षेत्र

Dihi Sample Plot No. 2 in Plot – 14

Annexure – VI

SL. No.	Types of Tree	Measurement (In cm)
401	Chilbil	118
402	Palas	112
403	Kendu	18
404	Palas	38
405	Palas	20
406	Palas	18
407	Kendu	60
408	Kendu	25
409	Kendu	15
410	Kendu	18
411	Sal	80
412	Kendu	40
413	Kendu	34
414	Kendu	28
415	Kendu	25
416	Sal	175
417	Sal	75
418	Sal	130
419	Sal	90
420	Sal	108
421	Kendu	145
422	Kendu	34
423	Kendu	18
424	Chilbil	50
425	Kendu	12
426	Kendu	26
427	Kendu	20
428	Kendu	20
429	Kendu	20
430	Kendu	18
431	Kendu	30
432	Kendu	20
433	Kendu	34
434	Kendu	30
435	Bamboo	
436	Bamboo	
437	Bamboo	
438	Kendu	20
439	Kendu	15
440	Kendu	20

ए०के० काश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-५४
DVC Towers,VIP Road, Kolkata-54

Tubed Coal Mines Limited
Sign. Of Competent Authority
Authorised Signatory

Forest Guard

B. O. / Forester

Range Officer
वन क्षेत्र पदाधिकारी
झाड़ेश्वर वन क्षेत्र

Dihi Sample Plot No. 2 in Plot – 14

Annexure – VI

SL. No.	Types of Tree	Measurement (In cm)
441	Kendu	48
442	Kendu	20
443	Kendu	20
444	Kendu	22
445	Bamboo	
446	Kendu	30
447	Kendu	25
448	Palas	71
449	Kendu	45
450	Kendu	45
451	Palas	30
452	Sal	86
453	Sal	36
454	Sal	60
455	Khair	30
456	Kendu	30
457	Kendu	18
458	Kendu	25
459	Kendu	20
460	Kendu	20
461	Kendu	30
462	Kendu	30
463	Khair	60
464	Bamboo	
465	Chilbil	125
466	Palas	90
467	Sal	50
468	Sal	80
469	Sal	90
470	Sal	110
471	Kendu	30
472	Aasan	140
473	Palas	60
474	Palas	122
475	Kendu	28
476	Kendu	30
477	Kendu	30
478	Kendu	30
479	Kendu	18
480	Kendu	18

A.Kashyap

ए॰के॰ कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-54
DVC Towers, VIP Road, Kolkata-54

Latehar

Authorised Signatory

Forest Guard

B. O / Forester

Range Officer

Dihi Sample Plot No. 2 in Plot – 14

Annexure – VI

SL. No.	Types of Tree	Measurement (In cm)
481	Sal	80
482	Aasan	160
483	Palas	65
484	Bamboo	
485	Bamboo	
486	Aasan	80
487	Kendu	35
488	Pipal	260
489	Kendu	30
490	Kendu	90
491	Sal	70
492	Sal	60
493	Khair	30
494	Shaproth	80
495	Kendu	60
496	Kendu	45
497	Kendu	40
498	Palas	80
499	Kendu	60
500	Kendu	50
501	Aasan	120
502	Sal	80
503	Palas	103
504	Chilbil	70
505	Palas	100
506	Aasan	90
507	Palas	130

A. Kashyap

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

Forest Guard

B. O. Forester

Authorised Signatory

List of Sample Plot No 1 & 2 Tubed Village

Name of Tree	Botanical Name	Grith of Tree	0 cm--15 cm		16 cm--30 cm		31cm--45cm		46 cm--60 cm		61cm--150 cm		151cm--200 cm		201cm-300 cm		Total
			Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	
Assan	Terminalia - tomentosa	Numbers of Tree			1		1		2		4						8
Sal	Shorea - robusta			3	6	15	22	57	16	65	68	207	6	4	9	1	479
Palas	Butea - monosperma						4		4		6						14
Mahua	Madhuca - latifolia										5				1		6
Piyar	Buchanania - lanzan				1	2	2	1				1					7
Kendu	Diospyros - melanoxylon					4		4			1						9
Khair	Acacia - catechu					5			1								6
Gigun	Lagea - grandis			1		5		1									7
Jamun	Syzigium - cumini									1		2					3
Karam	Adina - Cordifolia											1					1
Sidha	Lagerstroemia - parviflora									1							1
Bahera	Terminalia Belerica									1							1
Beri	Casearia - tomentosa Roxb							1									1
Grand Total																	543

Sign of Company Representative

Tubed Coal Mines Limited
Latehar

Authorised Signatory

Forest Guard

BO/Forester

वनक्षेत्र पदाधिकारी
लातेहार वन क्षेत्र

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खान) / Chief Engineer (Mining)
कमेश्वर खोरी प्रिंसस / Dameshwar Khori Princess
टुबेड कोल माईन्स लिमिटेड / Tubed Coal Mines Limited

Tree Enumiration Report

Name of Tree	Botanical Name	Grith of Tree	0 cm--15 cm		16 cm--30 cm		31cm--45cm		46 cm--60cm		61cm--150cm		151cm--200 cm		201cm-350 cm		Total	Total Tree in 159.864 Ha
			Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2		
Asnas	Terminalia - tomentosa	Numbers of Tree	2		6		4		4		19	12	2	2			51	1352
Sal	Shorea - robusta		5	9	33	25	65	85	42	144	202	354	27	17	14	4	1026	27200
Palas	Butea - monosperma		1	9	3	17	6	5	6	9	8	32		3			99	2625
Mahua	Madhuca - latifolia										6	5			1		12	318
Piyar	Buchanania - lanzan			1	2	4	4	1			1	1					14	371
Kendu	Diospyros - melanoxylon			16	10	74		22		5	2	2	1				132	3499
Khair	Acacia - catechu		1	1	2	7	1		1	3		2					18	477
Gijan	Lanea - grandis			2	5	6	3	3	3	2	2						26	689
Jamun	Syzigium - cumini								1	1		5					7	186
Karam	Adina - Cordifolia											2					2	53
Sidha	Lagerstroemia - parviflora									1		1					2	53
Bahera	Terminalia - belerica									1							1	27
Beri	Cassaria - tomentosa Roxb							1									1	27
Rohan	Soymida - febrifuga										1						1	27
Sisham	Dalbergia - sisoo				2												2	53
Chakodi	Cassia - siamea			11		11		2		2	2	33					61	1617
Dawtha	Anogeissus - latifolia				1		1		1		2	1					6	159
Amla	Emblica - officinalis							1									1	27
Bharbai	Chloroxylon - swietenia DC							1				1					2	53
Kathal	Artocarpus - heterophyllugis			1													1	27
Karkot	Dillenia - indica											1					1	27
Bel	Aegle - marmelos										1						1	27
Kakor	Zizyphus - xylopyra						1										1	27
Pipal	Ficus - religiosa			1	1											1	3	80
Segwan	Tectona - grandis										1						1	27

मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

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Babul	Acacia - arabica	Numbers of Tree		1		2						1					4	106
Bamboo	Bambusa - balcoa		269														269	7131
Chilwil	Holoptelia - integrefolia									1		4					5	133
Karya	Hollarhena - antidysenterica					1											1	27
Karanj	Pongamia - pinnata					1		1									2	53
Eucalyptus	Eucalyptus - Hybrid											4					4	106
							Grand Total										1757	46579

Company Representative
Tubed Coal Mines Limited
Latehar

Authorised Signatory

Forest Guard

BO/Forester

Range Officer
वन क्षेत्र पदाधिकारी
लातेहार वन क्षेत्र

Divisional Forest Officer,
Latehar Forest Division.

AKashyap

एo केo कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर्स.वी.आई.पी.रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

List of Sample Plot No 1 & 2 Mangra Village

Name of Tree	Botanical Name	Grith of Tree	0 cm--15 cm		16 cm--30 cm		31cm--45cm		46cm--60cm		61cm--150cm		151cm--200cm		201cm-350cm		Total
			Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	
Asaan	Terminalia - tomentosa	Numbers of Tree									5	7		1			13
Sal	Shorea - robusta		1	6	4	10	5	26	2	72	69	129	19	12	3	3	361
Palas	Butea - monosperma					1	1				1						3
Banyan	Ficus - bengalensis								1		2					1	4
Piyar	Buchanania - lanzan			1		2											3
Kumbi	Diospyros - melanoxylon				1			3			1						5
Khair	Acacia - catechu									2		1					3
Ojhar	Lannea - grandis			1		1		2		2							6
Jaman	Syzigium - cumini								1			3					4
Rohan	Soymida - febrifuja										1						1
Sisham	Dalbergia - sissoo				2												2
Chakodi	Cassia - Siamea			11		11		2		2	2	33					61
Dawtha	Anogeissus - latifolia								1		1	1					3
Amla	Emblica - Officinalis							1									1
Bhertul	Chloroxylon - swietenia DC							1				1					2
Kathal	Artocarpus - heterophyllusis			1													1
Kerkot	Dillenia - indica											1					1
Mahua	Madhuca - latifolia											5					5
Grand Total																	479

Sign of Company Representative

Forest Guard

BO/Forester

Range Officer
वन क्षेत्र पदाधिकारी
जमोदार वन क्षेत्र

मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
डी.वी.सी. टावर्स,वी.आई.पी. रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

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List of Sample Plot No 1 & 2 Dihi Village

Name of Tree	Botanical Name	Grith of Tree	0 cm--15 cm		16 cm--30 cm		31cm--45cm		46cm--60cm		61cm--150cm		151cm--200cm		201cm-350cm		Total
			Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	Sample Plot No.1	Sample Plot No.2	
Asan	Terminalia - tomentosa	Numbers of Tree	2		5		3		2		10	4	2	1			29
Sal	Shorea - robusta		4		23		38	2	24	7	64	17	2	1	2		184
Palas	Butea - monosperma		1	9	3	16	1	5	2	9	1	32		3			82
Banyan	Ficus - benjalensis																
Piyar	Buchanania - lanzan				1		2				1						4
Kendu	Diospyros - melanoxylon			16	9	69		15		5		2	1				117
Khair	Acacia - catechu		1	1	2	2	1			1		1					9
Gijan	Lagea - grandis				5		3		3		2						13
Jamun	Syzigium - cumini																
Rohan	Soymida - febrifuja																
Sisham	Dalbergia - sissoo																
Chakodi	Cassia - Siamea																
Dawtha	Anogeissus - latifolia				1		1				1						3
Aonla	Emblica - Officinalis																
Bharbul	Chloroxylon - swietenia DC																
Kathal	Artocarpus - heterophyllusis																
Kerkat	Dillenia - indica																
Mahua	Madhuca - latifolia										1						1
Bel	Aegle - marmelos										1						1
Kaker	Zizyphus - xylopyra						1										1
Pipal	Ficus - religiosa			1	1											1	3
Segwan	Tectona - grandis										1						1
Babul	Acacia - arabica			1		2						1					4
Bamboo	Bambusa - balcoa	269															269
Chilwil	Holoptelia - integrefolia	Numbers of Tree								1		4					5
Karam	Brassica - oleracea											1					1

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
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डी.वी.सी. टावर्स,वी.आई.पी.रोड, कोलकाता-54
DVC Towers,VIP Road, Kolkata-54

Kerya	Holarrhena - antidysenterica	Numbers of Tree				1											1
Karnaj	Pongamia - Pinnata					1		1									2
Eucalyptus	Eucalyptus - Hybrid											4					4
Sidha	Lagerstroemia - Parviflora											1					1
Grand Total																	735

Company Representative
Tata Coal Mines Limited
Lalkhar

Authorised Signatory

Forest Guard

BO/Forester

Range Officer
वन क्षेत्र पदाधिकारी
लातेहार वन क्षेत्र

ए०के० कश्यप /A. K. Kashyap
मुख्य अभियंता (खनन) / Chief Engineer (Mining)
दामोदर घाटी निगम / Damodar Valley Corpn.
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DAMODAR VALLEY CORPORATION
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KOLKATA -700 054
Phone: (033) 6607-2303 Email: anil.kashyap@dvc.gov.in

No. HQ/Mining/Tubed/FC/ 35

Dated: 12.01.2018

TO WHOM IT MAY CONCERN

We undertake to pay NPV and cost of compensatory afforestation as per prevailing rate. We also undertake to pay the additional amount against NPV in case it is revised upward.

Kashyap 12.01.18

(Anil Kumar Kashyap)
Chief Engineer (Mining)
Damodar Valley Corporation
Kolkata- 700054