

**MODIFICATIONS PROPOSED IN THE MINING PLAN
&
PROGRESSIVE MINE CLOSURE PLAN**

(UNDER RULE 22(6) of MCR 1960 & 23(B) OF MCDR 1988)

VOLUME – I (TEXT)

**IN RESPECT OF DAITARI IRON ORE LEASE
ORIGINAL LEASE AREA: 1812.99 HECTARES
RETAINED LEASE AREA: 1018.3085 HECTARES**

FOREST: 846.3995 HECTARES

(PRF: 563.0789 Ha., RF : 229.6126 Ha. & VILLAGE FOREST : 53.708 Ha.)

NON FOREST: 171.9090 Ha

MINERAL: IRON ORE

VILLAGE: TALPADA, REBANA RF & DAITARI PF, TALUKA: HARICHANDANPUR,

DISTRICT: JAIPUR & KEONJHAR

STATE: ODISHA

CATEGORY: "A" FULLY MECHANISED (FM)

EXECUTED LEASE PERIOD: 27.01.1966 TO 26.01.1996

(1st RML PERIOD: 27.01.1996 TO 26.01.2016)

RML APPLICATION	APPLIED/ GRANT DATE	PERIOD	APPLIED AREA
EXECUTED LEASE DEED	27.1.1966	30 Years	1812.99 Ha
1 st RML	21.01.1995	20 Years	1812.99 Ha
REVISED 1 st RML	22.05.1997	20 Years w.e.f 27.01.1996	190.20 Ha
SUBSEQUENT REVISION IN 1 st RML	09.02.2006	20 Years w.e.f 27.01.1996	1812.99 Ha
FURTHER SUBSEQUENT REVISION IN 1 st RML	8.10.2013	20 Years w.e.f 27.01.1996	1018.3085 Ha

SCHEME PROPOSED INSIDE THE PLAN PERIOD: 01.04.2014 TO 26.1.2016

LESSEE

ODISHA MINING CORPORATION LIMITED.

OMC HOUSE, POST BOX NO.- 34, BHUBANESWAR - 751001,

ODISHA, PIN - 751001

PREPARED BY

MECON LIMITED, RANCHI – 834002, JHARKHAND

REG.NO. RQP/RNC/113/2004/B VALID UPTO 16.12.2017



**MODIFICATIONS PROPOSED IN THE APPROVED MINING
PLAN OF DAITARI IRON ORE LEASE (1018.3085 Ha.)**

**LESSEE: THE ODISHA MINING CORPORATION LTD.
RQP : MECON LIMITED**



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(Text)**

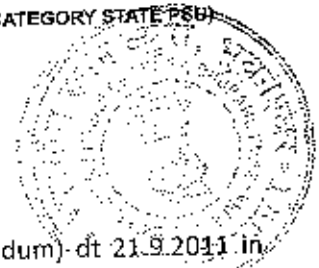
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(P K Bhattacharjee, Key Person)
MECON LIMITED
RQP/RNC/113/2004/B



Odisha Mining Corporation Limited

(A GOLD CATEGORY STATE PSU)



UNDERTAKING from the Lessee for compliance of Circular No.2/2010(addendum)-dt 21.9.2011 in respect of **Daitari Iron Ore Mine** over an area of **1018.3085** hectares in village **Talapada, P.O-Daitari, Dist. Keonjhar & Jajpur, Odisha** of **The Odisha Mining Corporation Ltd., Odisha, Bhubaneswar.**

We do hereby **undertake** to implement CCOM's circular no. 2/2010(addendum) regarding system of construction & maintenance of boundary pillars within a period of six (6) months.

UNDERTAKING from the Lessee for time bound exploration in respect of **Daitari Iron Ore Mine** over an area of **1018.3085** hectares in village **Talapada, P.O-Daitari, Dist. Keonjhar & Jajpur, Odisha** of **The Odisha Mining Corporation Ltd., Odisha, Bhubaneswar**

We do hereby **undertake** to complete exploration of entire M.L area in time bound manner in accordance with Ministry of Mines letter No.10/75/2008-MV dated 23.12.2010.

Place : Bhubaneswar

Date : 9/1/15

[Signature]

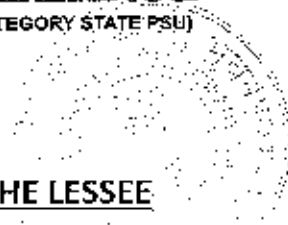
Signature of Lessee

Managing Director
Odisha Mining Corporation Ltd
Bhubaneswar - 751 001



Odisha Mining Corporation Limited

(A GOLD CATEGORY STATE PSU)



CONSENT LETTER / UNDERTAKING / CERTIFICATE FROM THE LESSEE

01. The Modifications proposed in the approved mining plan in respect of Daitari Iron Ore Mine over an area of 1018.3085 hectares in village Talapada, P.O-Daitari, Distt. Keonjhar & Jajpur, Odisha state under Rule 22(6) of MCR 1960 has been prepared by RQP, M/s MECON Limited, Regn. No. RQP/RNC/113/2004/B.

This is to request the Regional Controller of Mines, Indian Bureau of Mines, Bhubaneswar to make any further correspondence regarding any correction of the Modifications proposed in the approved mining plan with the said recognized person at his address below :

MECON Limited,

P.O – Doranda, Ranchi – 834002, Jharkhand

Tel. 0651 - 2481093, 2483645,

FAX. 0651 - 2482189, 2482214

E-mail : mining@meconlimited.co.in/ pkb@meconlimited.co.in

We hereby undertake that all modifications / updating as made in the said Modifications proposed in the approved mining plan by the said recognized person be deemed to have been made with our knowledge and consent and shall be acceptable on us and binding in all respects.

02. It is certified that the CCOM's Circular No.-2/2010 will be implemented and complied with when an authorized agency is approved by the State Government.
03. It is certified that the Progressive Mine Closure Plan of Daitari Iron Ore Mine of The Odisha Mining Corporation Ltd, Odisha, Bhubaneswar over an area of 1018.3085 hectares complies with all statutory Rules, Regulations, Orders made by the Central or State Government, Statutory Organization, Court etc. which have been taken into consideration and wherever any specific permission is required, the Lessee will approach the concerned authorities.
The information furnished in the Progressive Mine Closure Plan is true and correct to the best of our knowledge and records.
04. The provisions of Mines Act, Rules and Regulations made there under have been observed in the Modifications proposed in the approved mining plan over an area of 1018.3085 hectares in Keonjhar & Jajpur districts in Odisha State belonging to Daitari Iron Ore Mine and where specific permissions are required, the Lessee will approach the DGMS. Further, standards prescribed by DGMS in respect of miners' health will be strictly implemented.

Place : Bhubaneswar

Date : 8/11/15

Signature of Lessee

**Managing Director
Odisha Mining Corporation Ltd
Bhubaneswar 751 001**



मेकॉन लिमिटेड
भारत सरकार का संस्थान
MECON LIMITED
A GOVERNMENT OF INDIA ENTERPRISE

इपीकल भवन/IPICOL HOUSE (3RD FLOOR)
जनपथ/JANAPATH, भुवनेश्वर/BHUBANESWAR - 751022, INDIA
दुरभाष/PHONE : (0674) 2542797/ 2543443/ 2543835
फैक्स/FAX : (0674) 2542797
ई-मेल/E-mail : bhubaneswar@meconlimited.co.in

CERTIFICATE FROM RQP

The provisions of the Mineral Conservation & Development Rules 1988 have been observed in the preparation of the **Modified Mining Plan of Daitari Iron ore mining lease over an area of 1018.3085 Ha. of M/s Odisha Mining Corporation Limited in villages: Talapada, Rebana RF & Daitari PF; P.O- Daitari, Distt. - Keonjhar & Jajpur of Odisha state** and whenever specific permissions are required, the applicant will approach the concerned authorities of Indian Bureau of Mines.

The information furnished in the modification proposed to the approved mining plan is true & correct to the best of our knowledge.

Place: Ranchi

Name of the recognized person: PK Bhattacharjee (key person), MECON Limited

Date: 20.10.2004

Reg. No. RQP/RNC/113/2004/B

आईएसओ 9001 संस्थान / ISO 9001 Company

पंजीकृत कार्यालय, डोरान्डा, राँची - 834002, झारखण्ड, भारत

Regd. Office : DORANDA, RANCHI - 834002, JHARKHAND, INDIA

दुरभाष/Tel. : 0651 - 2483000, फैक्स/Fax : 2482189 / 2482214 / 2482194

वेबसाइट/Website : <http://www.meconlimited.com> ई-मेल/E-mail : ranchi@meconlimited.co.in

CIN : U74140JH1973GOI001199



**MODIFICATION PROPOSED IN THE APPROVED MINING PLAN
OF DAITARI IRON ORE LEASE (1018.3085 HA.)**

**LESSEE: THE ODISHA MINING CORPORATION LTD.
RQP : MECON LIMITED**



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(PK Bhattacharjee, key person)
MECON LIMITED
RQP/RNG/113/2004/B



**MODIFICATION PROPOSED IN THE APPROVED MINING PLAN
OF DAITARI IRON ORE LEASE (1018.3085 HA.)**

**LESSEE: THE ODISHA MINING CORPORATION LTD.
RQP : MECON LIMITED**



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✓
(PK Bhattacharjee, key person)
MECON LIMITED
RQP/RNC/113/2004/B



**MODIFICATION PROPOSED IN THE APPROVED MINING PLAN
OF DAITARI IRON ORE LEASE (1018.3085 HA.)**

LESSEE: THE ODISHA MINING CORPORATION LTD.

RQP : MECON LIMITED



LIST OF DRAWINGS

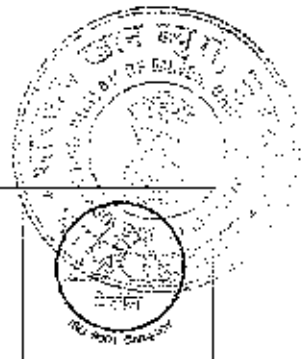
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(PK Bhattacharjee, Key Person)
MECON LIMITED
RQP/RNC/113/2004/B



**MODIFICATIONS PROPOSED IN THE APPROVED MINING
PLAN OF DAITARI IRON ORE LEASE (1018.3085 Ha.)**

**LESSEE: THE ODISHA MINING CORPORATION LTD.
RQP : MECON LIMITED**



SCOPE & EXTENT OF MODIFICATION

Daitari iron ore lease is owned by Odisha Mining Corporation Limited (OMC Ltd.), A Govt. of Odisha Undertaking. Daitari Iron Ore Lease of Odisha Mining Corporation is located in village Talpada, Rebana reserve forest & Daitari protected forest in Harichandrapur tahsil, Keonjhar & Jajpur district of Odisha state between latitude 21°05'33.09684"– 21°07'08.80500"N & longitude 85°46'01.89300" – 85°49'17.01804"E and is covered by survey of India toposheet no. 73 G/16.

The lease deed for total area of 1812.99 Ha was executed on 27.01.1966 for a period of 30 years (copy of lease deed is enclosed as Annexure – 7), which expired on 26.01.1996. Application for further renewal of the lease for a period of 20 years w.e.f. 27.01.1996 was made on 21.01.1995 for a lease area of 1812.99 Ha. (A copy of Form-J & D w.r.t the same is enclosed as Annexure – 8). In the meantime OMC decided to retain only 190.20 Ha area and surrender balance part of the mining lease area, and accordingly a revised renewal application was filed by OMC on 22.05.1997 for an area over 190.20 Ha. (A copy of Form-J & D w.r.t the same is enclosed as Annexure – 8A). Mining plan under Rule 22 (1) of MCR 1960 for a lease area of 190.20 Ha was approved by IBM vide letter No. 314(3)/97/MCCM(C)/MP-10, dated 14.09.1998. Subsequently, the Scheme of mining along with Progressive Mine Closure Plan (PMCP) for the period from 2003-2008 over 190.20 Ha area was submitted by the lessee and approved by Indian Bureau of Mines vide letter No 314(3)/97/MCCM(C)/S-22/2003, dated 11.07.2006. Later on OMC management again decided to retain the original lease area of 1812.99 Ha without surrendering any part of the lease and requested Principal Secretary to Govt. of Odisha, Department of Steel & Mines Bhubaneswar to grant 1st renewal of the mining lease over an area of 1812.99 Ha vide letter no. 3156/OMC/G&S/2006 dated 09.02.2006. (A copy of the same is enclosed as Annexure – 8B). OMC also wrote similar letter to Director of Mines (Odisha) on 15.02.2012 to grant 1st renewal of lease over an area of 1812.99 Ha. (A copy of the same is enclosed as Annexure – 8C). Scheme of mining along-with PMCP for the period 2008-2013 and for an area of 1812.99 Ha. was approved by IBM vide letter No 314(3)/2008/MCCM(CZ)/MS-12, dated 06.10.2008. Approved Mining Plan for an area of 190.20 Ha was modified for the revised lease area of 1812.99 Ha. The same was approved by Indian Bureau of Mines vide their letter No 314(3)/2008/MCCM(CZ)/MP-16 dated 06.10.2008. Last scheme of mining of Daitari iron ore lease for a period of 2013-2016 over an area of 1812.99 Ha. has been approved by IBM vide letter no. 314(3)/2012-MCCM(CZ)/MS-52/223 dated 12.07.2013. Copy of the approval letter of last scheme of mining is enclosed as annexure - 9.

अनुमोदित
APPROVED

The environment clearance of the mine has been accorded by MoEF vide letter no. J-11015/1003/2007-IA.II(M) dated 22.09.2010 for a production capacity of 3.0 million tonnes per annum. (A copy of the same is enclosed as Annexure- 14). The stage-II forestry clearance of the mine has been accorded for an area of 95.60 Ha by MoEF (FC Division) vide letter no. 8-164/97-FC dated 25th /27th January 2008. (A copy of approval letter is enclosed as Annexure – 13). Consent to operate have also been granted by the state pollution control board, Odisha under the Air & Water (Prevent & Control of Pollution) Act vide letter no. 5917/IND-I-CON-246 dated 05.04.2011, which is valid upto 31.3.2016. Consent to establish have also been granted by the state pollution control board, Odisha under the Air & Water (Prevent & Control of Pollution) Act vide letter no. 504/IND/-II-CON-47666 dated 12.01.2009. Copy of the consents granted by the state pollution control board is also enclosed as Annexure- 15. The lessee also has surface right over an area of 520.30 Ha. A copy of the surface right permission letter is given in annexure – 16.

(P K Bhattacharjee, Key Person)
MECON LIMITED
RQP/RNC/113/2004/B



**MODIFICATIONS PROPOSED IN THE APPROVED MINING
PLAN OF DAITARI IRON ORE LEASE (1018.3085 Ha.)**

LESSEE: THE ODISHA MINING CORPORATION LTD.

RQP : MECON LIMITED



Later it was again proposed by OMC to retain 1018.3085 Ha. and surrender the remaining area (794.6815 Ha.) to the state government. Permission from the state government for obtaining renewal of the lease over 1018.3085 Ha. is enclosed as annexure 10B. Accordingly, OMC prepared the Final Mine Closure Plan (FMCP) for the proposed area to be surrendered i.e. 794.6815 Ha. and the same was approved by IBM vide letter no. 314(3)/2012-MCCM(CZ)/FMCP-6/453 dated 15.03.2013 (Copy of approval letter of FMCP for surrender of 794.6815 Ha area is enclosed as annexure 10. Certificate under rule 29A of MCR 1960 has been issued by Regional Controller of Mines, Bhubaneswar vide letter no. FMCP/FM/05-ORI/BHU-2012-13 dated 25.06.2013 (Copy of the same is enclosed as annexure 10A). Precise area plan for the balance retained area of 1018.3085 Ha. was approved by the Directorate of Mines, Odisha vide letter no. No. MIV(B)-59/04-12897/DM dated 23/02/2013 is enclosed as Annexure 11. There has been no MCDR violations during the last scheme of mining period. Application made to the state government for change in RML area is enclosed as Annex.10C.

The ML area granted, FMCP area, change in lease/ RML applied area & forest and non forest area involved at different points of time in chronological order alongwith justification for the changes is given in the table below:-

S.No	Event	Remarks	Justifications, if any
1	Execution of the lease deed for an area of 1812.99 Ha. comprising of a total forest land of 1619.937 Ha. and non forest land of 193.053 Ha.	Valid upto 26.1.1996.	-
2	1 st RML application submitted for an area of 1812.99 Ha.	Dt. Of application: 21.1.1995	-
3	Revision in the applied area for the 1 st RML application to 190.20 Ha. comprising of a total forest land of 190.20 Ha.	Dt. Of revised application: 22.5.1997.	In order to restrict total mining operation within the 190.2ha area in the centre of which already broken area of 95.6 Ha was being used for active mining.
4	Subsequent revision in the applied area for the 1 st RML application to 1812.99 Ha. comprising of a total forest land of 1619.937 Ha. and non-forest land of 193.053 Ha.	Dt. Of subsequent revised application: 09.2.2006.	In order to retain the entire lease area for taking up exploration through technically expert institution/ Organisation for deciding how much area to be surrendered or retained.
5	FMCP of the proposed surrender area of 794.6815 ha. with permission from the state govt. comprising of a total forest land of 794.6815 ha.	FMCP approved vide letter dtd. 15.3.13 with certificate under rule 29A issued vide letter dtd. 25.6.13 from IBM.	After obtaining report from Geological Survey of India to the effect that the patch is barren of mineral occurrence, OMC decided to surrender.
6	Subsequent revision in the applied area for the 1 st RML application to 1018.3085 Ha. comprising of a total forest land of 846.3995 Ha. and non forest land of 171.909 Ha.	Dt. Of permission from the state government: 8.10.2013.	On the basis of the report prepared by GSI on the Daitari ML.

(P K Bhattacharjee, Key Person)
MECON LIMITED
RQP/RNC/113/2004/B

	MODIFICATIONS PROPOSED IN THE APPROVED MINING PLAN OF DAITARI IRON ORE LEASE (1018.3085 Ha.) <u>LESSEE:</u> THE ODISHA MINING CORPORATION LTD. <u>RQP :</u> MECON LIMITED	

Therefore, present submission is a modified mining plan under Rule 22(6) of MCR 1960 for an area of 1018.3085 Ha. and for the period from 1.4.2014 to 26.1.2016 i.e. end of the present lease period only along with progressive mine closure plan prepared under rule 23(B) of MCDR 1988 in the new universal format prescribed by IBM. All the annexure referred above and anywhere in this document have been enclosed as a separate volume, namely volume II (Annexure).

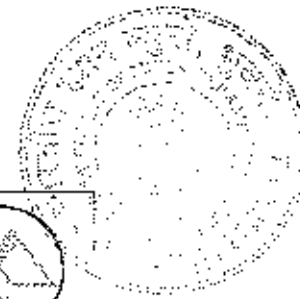
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(P K Bhattacharjee, Key Person)
MECON LIMITED
RQP/RNC/113/2004/B



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**LESSEE: THE ODISHA MINING CORPORATION LTD.
RQP : MECON LIMITED**



1.0 GENERAL

**a. Name of applicant/ lessee/ Rule 45
registration No.**

Registration No. of OMC Ltd. under Rule 45

Address

District

State

Pin Code

Phone

Fax

Gram

Telex

e-mail

Shri Girish S N, Managing Director & Nominated Owner
Odisha Mining Corporation Limited, Bhubaneswar

A list of board of directors is enclosed as Annexure – 1. A copy of the relevant extract from the minutes of the 409th meeting approved by Board regarding appointment of Nominated Owner of the mine is enclosed as Annex. – 2. A copy of photo id & address proof of the nominated owner of the mine is enclosed as Annexure – 3. A copy power of attorney by nominated owner of mine is enclosed as Annexure – 4. A copy of photo id & address proof of the power of attorney of the mine is enclosed as Annexure – 4A & Undertaking of Board of Directors regarding their working in other firms/company/organisation under Section 184 (1) and Rule 9(1) is given in annexure 4B. The number of state wise leases already held by the applicant/ applied for, indicating the type of minerals, areas, location etc is enclosed as Annexure – 6.

IBM/4269/2011

OMC House, Post Box No. 34

Bhubaneswar - 751001

Khurda

Odisha

751001

0674-2393431, 2395689, 2393389

0674-2391629, 2396889, 2394772

info@orissamining.com

b) Status of the applicant

Private individual

No

Cooperative Association

No

Private Company

No

Public Company

No

Public Sector Undertaking

Yes

Joint Sector Undertaking

No

Other (pl.specify)

Not Applicable

Certificate of incorporation is enclosed as Annex. – 5.

**c) Mineral(s) which is / are include in the
prospecting license (For fresh grant)**

Not applicable

**d) Mineral(s) which is / are include in the
lease deed**

Iron ore

**e) Mineral(s) which the applicant /lessee
intends to mine**

Iron ore

(P K Bhattacharjee, Key Person)
MECON LIMITED
RQP/RNC/113/2004/B



**MODIFICATIONS PROPOSED IN THE APPROVED MINING
PLAN OF DAITARI IRON ORE LEASE (1018.3085 Ha.)**

**LESSEE: THE ODISHA MINING CORPORATION LTD.
RQP : MECON LIMITED**



f) Name of Recognised Person under rule 22C of MCR, 1960 or a Person employed under clause (c) of Sub rule (1) of rule 42 of MCDR, 1988 (Applicable for Scheme of Mining only) preparing Mining Plan:

Name of the RQP preparing the mining plan	MECON Limited
Address	Copy of the RQP certificate is enclosed as Annexure – 20. P.O – Doranda, Ranchi – 834002, Jharkhand
Phone	0651 - 2481093, 2483645
Fax	0651 - 2482189, 2482214
e-mail	mining@meconlimited.co.in
Telex	-
Registration No.	RQP/RNC/113/2004/B
Date of grant / renewal	17.12.2004
Valid upto	16.12.2017


(P K Bhattacharjee, Key Person)
MECON LIMITED
RQP/RNC/113/2004/B



**MODIFICATIONS PROPOSED IN THE APPROVED MINING
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LESSEE: THE ODISHA MINING CORPORATION LTD.

RQP : MECON LIMITED



2.0 LOCATION AND ACCESSIBILITY

a) Lease Details (Existing Mine)

Name of Mine

Daitari Iron Ore Lease (Lease Area : 1018.3085 Ha.)

Daitari Iron Ore Lease of Odisha Mining Corporation is bounded between latitude 21°05'33.09684" – 21°07'08.80500"N & longitude 85°46'01.89300" – 85°49'17.01804"E and is covered by survey of India toposheet no. 73 G/16. Lat./ Long. Of the boundary pillar co-ordinates is given below:-

RML PILLAR COORDINATES

Lat/long of any boundary point.

S.NO	PILAR NO	GEOGRAPHIC COORDINATES		UTM COORDINATES	
		LATITUDE	LONGITUDE	EASTING	NORTHING
1	B	21°07'00.42600"	85°49'17.01804"	377597.955	2335526.251
2	C	21°07'08.80500"	85°46'02.14716"	371977.670	2335826.513
3	C-1	21°07'04.64700"	85°46'01.89300"	371969.352	2335598.719
4	C-2	21°06'16.05852"	85°47'04.15860"	373754.359	2334190.893
5	C-3	21°05'37.41972"	85°48'27.12600"	376139.391	2332984.714
6	C-4	21°05'33.94320"	85°48'41.25780"	376545.372	2332374.770
7	C-5	21°05'33.09684"	85°49'12.76572"	377455.373	2332341.992

Date of grant of lease

27.01.1966

Period/Expiry Date

The lease was granted on 27.01.1966 for a period of 30 years which expired on 26.01.1996. Application for further renewal of the lease for a period of 20 years w.e.f. 27.01.1996 was made on 21.01.1995 which is deemed to expire on 26.1.2016.

Name of lease holder

Odisha Mining Corporation Limited

Address

OMC House, Post Box No. 34
Bhubaneswar – 751001, Odisha

Tel.

0674-2393431, 2395689, 2393389

Fax

0674-2391629, 2396889, 2394772

e-mail

immcon_mine@yahoo.co.in, info@orissamining.com

Mobile

+919437260607

b) Details of applied / lease area with location map (fresh area/mine)

Forest (Specify)	Area, Ha)	Non Forest (Specify)	Area, Ha)
Rebana Reserve Forest	563.0789	Waste Land	171.9090
Daitari Protected Forest	229.6126	Grazing Land	
Talpada Village Forest	53.7080	Agriculture Land	
Others	-	Others (Specify)	
Total	846.3995	Total	171.9090

(P K Bhattacharjee, Key Person)
MECON LIMITED
RQP/RNG/113/2004/B



**MODIFICATIONS PROPOSED IN THE APPROVED MINING
PLAN OF DAITARI IRON ORE LEASE (1018.3085 Ha.)**

LESSEE: THE ODISHA MINING CORPORATION LTD.
RQP : MECON LIMITED



Total lease area / applied area 1018.3085 Ha
District & State District : Keonjhar & Jajpur, State : Odisha
Taluka At & P.O: Daitari
Village Talpada, Daitari
Whether the area falls under Coastal
Regulation Zone (CRZ)? If yes, details No
thereof

Precise area plan of Daitari iron ore lease is shown in plate no MEC/Q756/11/16/02.

Existence of public road/railway line, if any nearby and approximate distance

The approaches to the mine are as follows:

Rail	:	Nearest East Coast passenger railway station on Howrah-Chennai main broad gauge line is at Jajpur-Keonjhar road which is at a distance of 53 km from Daitari Iron Ore Mines while the nearest passenger station on Bhubaneswar-Kendujhar BG line is at Tomka which is at a distance of around 9 km.
Road	:	The mines is well connected by all weather metal road from different cities of Odisha. The lease area is at a distance of 53 km from Jajpur, 169 km from Keonjhar, 93 km from Cuttack, 155 km from Paradeep and 166 km from Bhubaneswar respectively.
Air strips	:	Bhubaneswar (Odisha) at a distance of 166 km

Toposheet No. with latitude & longitude of all corner boundary point/pillar

Daitari Iron Ore Lease of Odisha Mining Corporation is bounded between latitude 21°05'33.09684" – 21°07'08.80500"N & longitude 85°46'01.89300" – 85° 49'17.01804"E and is covered by survey of India toposheet no. 73 G/16. Latitude & longitude of all boundary pillars of Daitari Iron Ore Lease is given below.

RML PILLAR COORDINATES					
S.NO	PILAR NO	GEOGRAPHIC COORDINATES		UTM COORDINATES	
		LATITUDE	LONGITUDE	EASTING	NORTHING
1	B	21°07'00.42600'	85°49'17.01804"	377597.963	2335526.251
2	C	21°07'08.80500'	85°46'02.14715"	371977.670	2335526.513
3	C-1	21°07'04.64700'	85°46'01.89300"	371969.352	2335598.719
4	C-2	21°06'36.05852'	85°47'04.15860"	373754.369	2334190.893
5	C-3	21°05'37.41972'	85°48'27.12600"	376139.39	2332984.714
6	C-4	21°05'33.94320'	85°48'41.25780"	376545.372	2332874.770
7	C-5	21°05'33.09684'	85°48'22.76572"	377455.373	2332841.932

- c) Attach a general location map showing area and access routes. It is preferred that the area be marked on a Survey of India topographical map or a cadastral map or forest map as the case may be. However, if none of these are available, the area may be shown on an administrative map:

The same has been shown in the key plan as Drg. No. MEC/Q756/11/16/1.

(P K Bhattacharjee, Key Person)
MECON LIMITED
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**MODIFICATIONS PROPOSED IN THE APPROVED MINING
PLAN OF DAITARI IRON ORE LEASE (1018.3085 Ha.)**

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RQP : MECON LIMITED**



3.0 DETAILS OF APPROVED MINING PLAN / SCHEME OF MINING (if any)

3.1 Date and reference of earlier approved MP/ SOM:

Last scheme of mining of Daitari iron ore lease for a period of 2013-2016 over an area of 1812.99 Ha. has been approved by IBM vide letter no. 314(3)/2012-MCCM(CZ)/MS-52/223 dated 12.07.2013. Copy of the approval letter of last scheme of mining is enclosed as annexure - 9.

3.2 Details of last modifications if any (for the previous approved period) of approved MP/SOM, indicating date of approval, reason for modification

Not applicable

3.3 Give review of earlier approved proposal (if any) in respect of exploration, excavation, reclamation etc.

Review of proposals made in the last approved modified mining scheme and actual achievement for the 1st two year of mining scheme period w.e.f 2013-14 to 2014-15 for Daitari Iron Ore Mines is given below.

i. Exploration

Year	Planned Exploration	Actual Exploration	Reasons for Deviation
2013-14	Nil	Nil	No Deviation
2014-15*	149 Nos./ Upto ultimate depth of ore occurrence	Nil	Due to want of forestry clearance
Total	149 Nos./ Upto ultimate depth of ore occurrence	Nil	

* Actual upto July 2014.

ii. Mine Development and Exploitation

The achievement position as against the target in respect of ore, sub grade & waste are given in the table below:

Year	Ore, t		Sub grade, cubic meters		Waste, cubic meters	
	Planned	Actual	Planned	Actual	Planned	Actual
2013-14	3000000	351589.83	-	-	-	-
2014-15*	3000000	199320	-	-	-	-
Total	6000000	550909.83	-	-	-	-

* Actual upto July 2014.

The actual production of ore against their planned figure is 9.18% over the 1st two years (upto July 2014) of the scheme period. The mine is being operated by outsourcing. Decrease in the production is due to expiry of the contract. At the same time no forestry clearance was available over area containing downhill conveying of 800 tph crushing plant and stackyard area of Baliparbat. Due to above reason, 800 tph OHP was not operating. Therefore the product was evacuated through ghat road which is the only evacuation route available. It has limited evacuation capacity.

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iii. Afforestation

The achievement position as against the target in respect of afforestation is given below:

Overall Targets for Afforestation

Year	Afforestation, Nos.	
	Planned	Actual, Nos.
2013-14	1835	1261 (outside lease area)
2014-15	2000	3000 (outside lease area)
Total	3835	4261 (outside lease area)

Actual afforestation is around 11.11% in excess of the planned figure.

iv. Land Reclamation and Rehabilitation:

In the mining scheme period it was not proposed to reclaim & rehabilitate any mined out area of land. Obviously there is no deviation in this part.

v. Waste dump management:

No waste generation was envisaged during the year 2013-14 to 2015-16 in the scheme period. No waste has been generated from the mines as on 31.08.2014. There is no deviation in this part.

vi. Control of dust, Noise and ground vibration:

It was proposed to carry out sampling of air, water and noise periodically and take mitigation measures to limit the pollution level of these parameters. Monitoring of the air quality, noise quality, water quality etc have been regularly carried out as per the norms and details of the same are enclosed as Annexure - 19.

3.4 Give status of compliance of violations pointed out by IBM

No violation has been pointed out during the last scheme period.

3.5 Indicate and give details of any suspension /closure/ prohibitory order issued by any Government agency under any rule or Court of law:

Not applicable

3.6 In case the MP/SOM is submitted under rules 9 and 10 of the MCDR'88 or under rule 22(6) of the MCR'1960 for approval of modification, specify reason and justification for modification under these rules:

Present submission is a modified mining plan under Rule 22(6) of MCR 1960 for the change in RML area to 1018.3085 Ha.

Justification for Modification:

Original lease area of Daitari Iron Ore Mines was 1812.99 Ha. OMC has surrendered 794.6815 Ha. area of the lease to the state government. Final Mine Closure Plan (FMCP) for the surrendered area of 794.6815 Ha. has been approved by IBM vide letter no. 314(3)/2012-MCCM(CZ)/FMCP-6/453 dated 15.03.2013 (Copy of approval letter of FMCP for surrender of 794.6815 Ha area is enclosed as annexure 10. Certificate under rule 29A of MCR 1960 has been issued by Regional Controller of Mines, Bhubaneswar vide letter no. FMCP/FM/Q5-ORI/BHU-2012-13 dated 25.06.2013 (Copy of the same is enclosed as annexure 10A). Permission from the

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RQP : MECON LIMITED**



state government for obtaining renewal of the lease over 1018.3085 Ha. is enclosed as annexure 10B. Precise area plan for the balance retained area of 1018.3085 Ha. was approved by the Directorate of Mines, Odisha vide letter no. No. MIV(B)-59/04-12897/DM dated 23/02/2013 is enclosed as Annexure 11.

Presently the retained lease area of Daitari Iron Ore Mines is 1018.3085 Ha. Therefore, present submission is a modified mining plan under Rule 22(6) of MCR 1960 for retained ML area of 1018.3085 Ha.

(P K Bhattacharjee, Key Person)
MECON LIMITED
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**MODIFICATIONS PROPOSED IN THE APPROVED MINING
PLAN OF DAITARI IRON ORE LEASE (1018.3085 Ha.)**

LESSEE: THE ODISHA MINING CORPORATION LTD.

RQP : MECON LIMITED



PART – A

1.0 GEOLOGY AND EXPLORATION

a) Briefly describe the topography, drainage pattern, vegetation, climate, rainfall data of the area applied/mining lease area.

i. **Physiography & Drainage**

Daitari leasehold area is an undulated hilly terrain consisting of high ridges and valleys forming a part of the Tomka-Daitari hill peak at the current level of 830 mRL form the highest point of the area as well as the leasehold. The lowest point in the leasehold is represented by the south-eastern part at 480 mRL. Township is situated at 400 mRL.

The area displays a dendritic pattern of drainage. Daitari hill range acts as a water divider where the surface run off from the north, north-east of Daitari drains to the Baitarani River. The surface run off are collected by Kukrangi Nala through several streams and discharged at Pancham in to the Kusei Nala, a major tributary of the River Baitarani. The south, south –west slopes drains to the River Bramhani where the surface run off is collected by the Damsal Nala and Ganda Nala, two major tributaries of River Bramhani.

ii. **Vegetation**

The natural vegetation in this area is classified as Northern Tropical Dry Deciduous Forests. Average tree density in the area is about 1515 per Ha. with tree height ranging from 1.2 – 1.5 m. Sal and Kangara are most dominant species with Tendu, Dhaura, Asan and Jam etc.

iii. **Climate & Rainfall of the Lease Area**

Climate of the area is subtropical with abundant rainfall during monsoon. More than 70% of the rainfall occurs during June to September. Average annual rainfall in the area is of the order of 1231 mm. Temperature in the area varies from 7°C - 47°C. Relative humidity varies from 20%-89%. Predominant wind direction is due SW.

b) **Brief descriptions of Regional Geology with reference to location of lease/applied area.**

Regional Geology

Daitari iron ore deposit forms a part of the Tomka-Daitari-Kalisagar-Rebana-Harichandanpur basin (Daitari Basin, BIF-2), which is considered to be older to the Bonai Iron Ore Horse Shoe described by Jones & Dunn. Acharya (1976 & 1984) consider the Iron Ore Formation of Daitari-Tomka as the BIF-2 of the Iron Ore Super Group that encompasses the three BIF horizons of northern Odisha. BIF of Daitari is regarded to be of older Proterozoic age. Iron ore formation of Daitari-Tomka basin overlies the granitic basement with an unconformity.

Regional Stratigraphy

The lithology of the area can broadly be divided as below.

Talangi Gritty Quartzite
Upper Metapellites
BIF with variants
Lower Metapellites
Granites

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The BIF is the key horizon of reference in the basin. The rocks are highly metamorphosed to green schist facies. The Iron Ore Formation is intruded by the Chromite bearing Ultramafics of Sukinda located to the north of Daitari hill range.

Regional Structure

The iron ore formation of Daitari-Tomka represents an overturned anticline where the Talpada valley forms the core of the anticlinal structure. Daitari alongwith Sindurmundi hills makes the southern limb while the Baghiathali ridge makes the northern limb of the anticline. Both the limbs strike almost E-W and dips southerly by 62° - 72° . A N-S trending fold with N-S trending axial plane is noted between Daitari orebody & Sindurmundi. Due to faulting BIF zone in Daitari orebody & Sindurmundi deposit has been shifted. The regional geological map is as Figure 1.

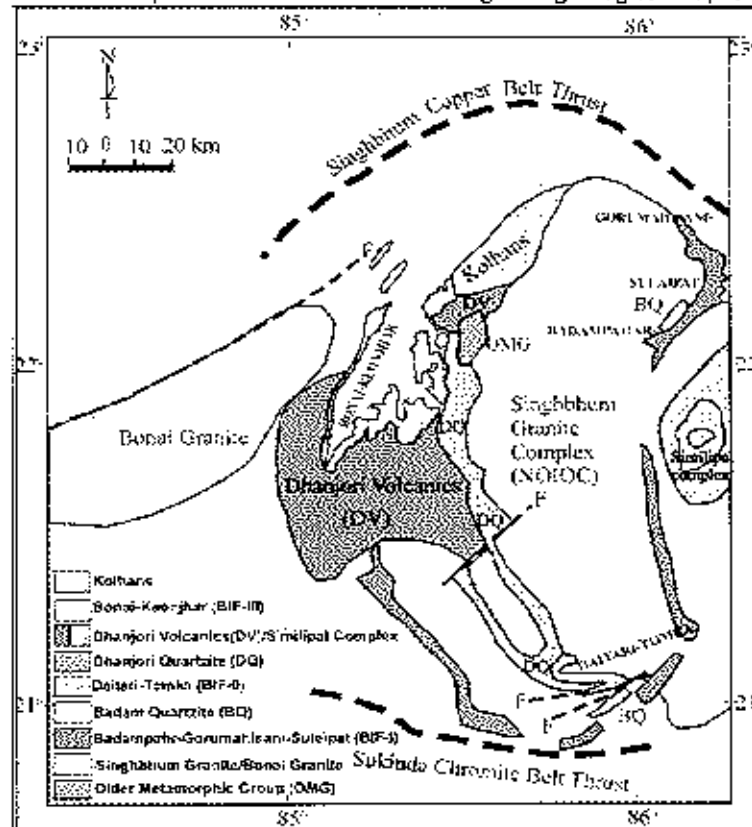


Figure 1 : Regional Geology of the area.

- c) Detailed description of geology of the lease area such as shape and size of the mineral/ore deposit, disposition various litho-units indicating structural features if any etc. (Applicable for Mining Plan for grant & renewal and not for Scheme of Mining/Modifications in the approved mining plan/scheme of Mining).

Daitari Iron Ore Deposit is an isolated deposit forming a conspicuous ridge along the district boundary between Keonjhor and Jajpur towards the North of Sukinda Chromite belt. The lower metapellites form the basal unit of the sequence unconformably overlying the granitic

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basement. Conspicuous hills and tors of granite are abundantly found along Bramhanipal-Harichandanpur road to the north of Daitari

The lower metapellites represented by phyllites, chlorite and chloritoid schist, lenses of quartzite & quartz schist, metavolcanics with tuffs & sediments, banded phyllites, slates, manganese bearing shale, ferruginous pyritiferous shale/phyllites, coarse dark coloured quartzite etc. are observed abundantly along the ghat-road section from Baliparbat up to the mines. Rocks of Banded Iron Formation consisting of Banded Hematite Jasper (BHI), Banded Hematite Quartz (BHQ) overly the lower metapillites and are found outcropping near the primary crusher house. Outcrops of BHQ are also observed behind the Canteen in the mines. Highly weathered BHQ outcrop at about CS 1100/S close to the Dry Screening Plant are observed. The iron ore formation of Daitari is overlain by a comparatively thinner sequence of upper metapellites represented by phyllites, ferruginous shale, slate, tremolite-actinolite schist, dolerite with feldspar porphyry etc. The entire sequence of the upper metapellites is exposed along the western slopes of Daitari Hill. However, the sequence of BHQ/BHC found at the crusher house continues towards Sindurmundi along the slopes apparently overlying the iron ore mineralization of Daitari. No BHQ/BHC sequence has been reported occurring on the footwall side of iron ore mineralization except for the small outcrops at the canteen and the dry screening plant. A horizon of gritty quartzite named as Talangi gritty quartzite represents the uppermost horizon of the sequence. The chromite bearing ultramafics bear an intrusive relationship with the iron ore formation. A large body of quartzite occurring around Pancham can be observed at about 2 kms uphill along the ghat road to Daitari Township. A large dolerite dyke of coarse grained dolerite cuts across the area which is found outcropping along the Ghat Road. Exposures of this dyke can be found at about 100m south of the Tarini Gate. Outcrops of basalt can be observed to the NE of the township along the stream. Pillow structures can be delineated with right side up direction. Daitari is the largest iron ore deposit in the Tomka-Daitari range. Iron Ore has developed by leaching of banded hematite jasper and enrichment of the lower tuffaceous shale. Several smaller iron ore bodies have also been reported at Champajhar, Tungaisuni, Tomka, Baghiathali, Kalisagar and Nipania.

These ore bodies are intra BIF (Acharya 2000) and broadly parallel to bedding and form massive to laminated ore deposits. Another smaller deposit occurs along Sindurmundi Hill to the immediate west of Daitari, separated by a patch of feruginuous shale/phyllites. This area indicates a zone of structural disturbance and four different faults are interpreted to be passing through this zone (Acharya 2002). Sindurmundi appears to be the most promising iron ore deposit in the area besides Daitari.

The succession of rocks in the lease area is as follows.

Upper Metaphillites and Meta Volcanics	:	Laterite,
Banded Iron Formation	:	BIF
		Iron ore
Lower Metaphillites and Metavolcanics	:	Psammitic rocks, Pelitic / Acid tuff, Dark gray cherty quartzite and BMQ/BMJ/BHQ and BHI etc.


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	MODIFICATIONS PROPOSED IN THE APPROVED MINING PLAN OF DAITARI IRON ORE LEASE (1018.3085 Ha.) <u>LESSEE: THE ODISHA MINING CORPORATION LTD.</u> <u>RQP : MECON LIMITED</u>	

The different litho units of Daitari iron ore lease is described below:

a. Soft Laminated Ore (SLO)/ Friable Ore

Soft Laminated Ore (SLO)/Friable Ore (FO) is the predominant ore type. 60% of the total reserve comprises of SLO/Friable Ore. At several places a still softer variety of ore can be seen (exposed around CS 700 S) which is termed as the biscuit type of ore. These ore are extensively used in the Dry Screening Plant for production of calibrated lump ore (CLO).

b. Hard Laminated/ Hard Massive Ore

The northern part of the deposit is dominated by hard laminated and hard massive variety of ore. Around 20% of total daitari deposit is of Hard Laminated type ore. A crude linear contact can be inferred between the hard massive/laminated ore and the soft laminated/biscuit type of ore.

c. Limonite/ Limonitic Ore

The north western part of the mines (00 N/-250 E) hosts a predominantly limonitic ore zone which indicates the proximity of multiple fault zones causing limonitisation to a deeper level. Around 5-6% ore is of limonite/limonitic ore in the deposit. All the ore types of Daitari are predominantly rich in limonite/goethite and hence rich in alumina and phosphorous. Washing and screening of the ore reduces the clayey limonitic materials to some extent. But mostly the limonitic materials become sticky in contact of water and make the removal very difficult.

d. Blue Dust/ Powdery Ore

It is fine grained iron rich ore having grayish in colour. It constitutes around 8 -10% of the Daitari iron ore Mines. The southern part of Daitari Iron Ore Mine between -250N to -450N hosts the Blue Dust/powdery ore.

e. Laterite/ Lateritic Ore

Laterite/Lateritic Ore is predominantly hosted by Sindurmundi area between -2000E to -1200E. It is around 9 -10% of the total deposit.

f. Shale

Variety of shale incl. Ferruginous shale, Tuffaceous Shale, Carbonaceous Shale, Brown Redish Shale etc. are present in the area. It is predominant in the Sindurmundi area.

Local Structure

The deposit represents an overturned anticlinal fold. Strike of the Hilltop deposit is along the hill axis in N-S direction with an strike length of 1400 m. width of the orebody varies from 250m to 450 m. Hilltop deposit is westerly dipping at 60° - 70°. Two major faults cutting the orebody along -1100N and -700N have been interpreted. Strike of the Sindurmundi deposit is in E-W direction with an strike length of 1000 m. Width of the orebody varies from 100m to 350 m. Sindurmundi deposit is southerly dipping at 60° - 65°.

Geological Map of Daitari iron ore deposit is presented in plate no. MEC/Q756/11/16/03.



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**LESSEE: THE ODISHA MINING CORPORATION LTD.
RQP : MECON LIMITED**



d) (i) Name of prospecting / exploration agency :

1. Indian Bureau of Mines.
2. Odisha Mining Corporation

(ii) Address

1. Indian Bureau of Mines
2nd Floor, Indira Bhawan, Civil Lines,
Nagpur- 440 001 (INDIA)
Phone + 91 712 2560041,
Fax + 91 712 2565073,
2. Geology Division, Odisha Mining Corporation
OMC House, Post Box No. 34
Bhubaneswar - 751001

(iii) E mail address and phone no.

1. Indian Bureau of Mines
Phone + 91 712 2560041,
Fax + 91 712 2565073,
2. M/s Odisha Mining Corporation
Phone (0674) 2393431, 2395689, 2393389

e) Details of prospecting/exploration already carried out :

**i) Number of pits and trenches indicating dimensions, spacing etc along and across the strike/
foliation with reference to geological plan.**

1. Geological Mapping

Geological mapping of Daitari Iron Ore Lease covering 1810 Ha area has been carried out at a scale of 1: 2000 for delineating the ore deposit & various litho contacts.

Topographical map of Daitari Iron Ore Lease has been prepared at 10 m contour interval.

2. Pitting & trenching

A total of 103 Nos. of deep & shallow pits at 200 m grid alongwith one adit of more than 100 m length at -300N were sunk to delineate the waste contact zones, identification of overburden and different ore types in Hilltop deposit of Daitari Iron Ore Lease.

Block	Type of Pits	Dimensions & Area	Spacing	Nos.
Hilltop	Shallow pit	4m(L) x 4m(B) x 5m(D)	200 m x 200 m	73 Nos.
	Deep pit	6m(L) x 4m(B) x 5m(D)	200 m x 200 m	30 Nos.
Sindurmundi	-	-	-	-
Total	Shallow & Deep Pits		200 m x 200 m	103 Nos.

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- ii) **Number of boreholes indicating type (Core/RC/DTH), diameter, spacing, inclination, Collar level, depth etc with standard borehole logs duly marking on geological plan/sections.** Hilltop deposit of Daitari Iron Ore Lease has been explored by Geology division of OMC Ltd. & Indian Bureau of Mines at 50 m x 50 m grid to 100 m x 100m grid interval from 50N to -1350N. A total of 93 nos. of exploratory boreholes with a total meterage of 6950.88 m has been drilled at Hilltop deposit of Daitari Iron Ore Lease.

Sindurmundi deposit of Daitari Iron Ore Lease has been explored by Geology division of OMC Ltd. at 100 m x 150 m grid interval from -2250E to -3503. A total of 43 nos. of exploratory boreholes with a total meterage of 4197 m has been drilled at Sindurmundi deposit of Daitari Iron Ore Lease.

The details of the exploration carried out at Hilltop & Sindurmundi block is given below.

Block	No. of Boreholes	Spacing	Total Meterage,	Depth From/ to	Grade From/ to
Hilltop	93 Nos. (Core)	50 m x 50 m to 100m x 100m grid	6950.88m	10.30/ 284m	1.71/ 69.2% Fe
Sindurmundi	43 Nos. (Core)	(100 m x 150 m or more)	4197 m	41.5/118 m	2.57/68.48% Fe
Total	136 Nos. {Core}		11147.88 m		

All the above boreholes have been shown in the geological plan.

- iii) **Details of samples analysis indicating type of sample (surface/sub-surface from pits/trenches/borehole etc) Complete chemical analysis for entire strata for all radicals may be undertaken for selected samples from a NABL accredited Laboratory or Government laboratory or equivalent. Entire mineralized area may be analyzed meter wise with 10% of check samples. (At least for 10% of total samples may be analyzed in accordance to BIS and reports from NABL accredited/other government laboratory).**

Sampling and analysis of core samples generated during the course of drilling had been done to know the Fe, Al₂O₃ & SiO₂ content of ore and waste. Samples were drawn at every one meter inside ore zone and representative samples were also analyzed in non ore bearing litho units. Complete analysis was done for every 20th sample while analysis for 6 major radicals i.e. Fe, Al₂O₃, SiO₂ P, S & LOI was done to assess the quality of the deposit. The analysis was carried out by NMDC laboratory, Govt. Laboratory, Jaipur & private analyst namely, SUPCO. During 2001-2006, a total of 3499 samples were analysed for six major radicals, check analysis of 210 samples were carried out, 225 nos. of samples were analysed at 10 m composites for seven radicals and complete analysis of 10 nos. of samples were carried out. During 2008-2012, a total of 5084 samples were analysed for Fe%. A total of 10023 samples have been analysed so far. Copy of the NABL tests report is given in annexure 17.

- iv) **Expenditure incurred in various prospecting operations.**

The expenses incurred in the analysis of exploration data carried out during the last 5 years is around 2.11 lakh INR.

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- f) The surface plan of the lease area may be prepared on a scale of 1: 1000 or 1: 2000 with contour interval of maximum of 10 m depending upon the topography and size of the area duly marked by grid lines showing all features indicated under Rule 28(1)(a) of MCDR 1988. The surface plan of the leasehold area is enclosed as Drg. No. MEC/Q756/11/16/04.

- g) For preparation of geological plan, surface plan prepared on a scale of 1: 1000 or 1: 2000 scale specified under para 1.0 (f) of Part A of the format may be taken as the base plan. The details of exploration already carried out along with supporting data for existence of mineral, locations proposed exploration, various lithounits along with structural features, mineralized/ore zone with grade variation if any may be marked on the geological plan along with other features indicated under Rule 28 (1)(b) of MCDR 1988. The geological plan of the leasehold area showing all the above features is enclosed as Drg. No. MEC/Q756/11/16/03.

- h) Geological sections may be prepared on natural scale of geological plan at suitable interval across the lease area from boundary to boundary. No change has been proposed in the geological sections as submitted & approved by IBM for the last instance which is valid upto 26.1.2016. The reason for the same is that the present modification to the approved mining plan has been desired under rule 22(6) of MCR 1960 and it has been informed by IBM in their scrutiny letter dtd. 25.11.14 & 16.12.14, that no any change other than change in RML area will be entertained in the present submission.

The geological sections (transverse & longitudinal) of Hilltop area and Sindurmundi area as per the last approved mining scheme have been reproduced with up-dation in surface topographical profile and the same have been given in Drg. No. MEC/Q756/11/16/03A to MEC/Q756/11/16/03C.

- i) Broadly indicate the future programme of exploration with due justification(duly marking on Geological plan year wise location in different colours) taking into consideration the future tentative excavation programme planned in next five years. No any changes have been proposed to the last approved document which has been approved vide letter no. 314(3)/2012-MCCM(CZ)/MS-52/223 dated 12.07.2013 and is valid upto 26.1.2016.

- j) Reserves and Resources as per UNFC with respect to the threshold value notified by IBM may be furnished in a tabular form as given below: (Area explored under different level of exploration may be marked on the geological plan and UNFC code for area considered for different categories of reserve/resources estimation may also be marked on geological cross sections). Submit a feasibility/pre-feasibility study report along with financial analysis for economic viability of the deposit as specified under the UNFC field guidelines may be incorporated.

(P K Bhattacharjee, Key Person)
MECON LIMITED
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**MODIFICATIONS PROPOSED IN THE APPROVED MINING
PLAN OF DAITARI IRON ORE LEASE (1018.3085 Ha.)**

**LESSEE: THE ODISHA MINING CORPORATION LTD.
RQP : MECON LIMITED**



As per last approved Scheme of Mining approved vide letter no. 314(3)/2012-MCCM(CZ)/MS-52/223 dated 12.07.2013

1. Method adopted for estimation of Resources in the last approved Scheme of Mining

So far two mineral bearing blocks have been identified in Daitari Iron Ore Lease. First block is the working zone, known as Daitari Hill Top deposit within local co-ordinate limits (146N / 86 W, 32 S / 139 E, 40 N / 354 W and 1373 S / 105 W) where mining operation is being continued since inception of the mines and the second iron ore bearing block is Sindurmundi bound by local co-ordinates (695 N / 1896 W, 507 N / 2013 W, 307 S / 458 W and 308 S / 1098 W area within Daitari mining leasehold of 1018.3085 Ha.

Estimation of Resources have been made separately for Daitari Hill Top and Sindurmundi deposits based on the geological mapping, topography and ore intercept in drill holes.

Surface map showing ore body is studied with borehole data. Level from top of ore body till borehole intersect in footwall, in each section are joined, which is considered as measured resource. Beyond that, considering the ore thickness and lithological aspects is marked to calculate the indicated resource. Thus 28 numbers of cross sections from 50 N to 1300 S at 50 m interval in Daitari Hill Top block and 17 numbers of cross sections from 500 W to 2000 W at 100 m interval in Sindurmundi block are drawn showing measured and indicated zones.

Measured ore resources has been considered up to a depth up to which ore body has been intersected in boreholes while indicated ore reserve has been considered up to 10 to 25 m (variable depending the thickness of ore in that section and adjacent sections, below the proved ore where borehole has been closed on ore itself.

2. Reserves/ Resources as per last approved Scheme of Mining

In the approved scheme of mining a cut off grade of 45% Fe with +58% Fe as Saleable grade was considered for Reserve/resource estimation. Following bulk density has been considered in the approved scheme of mining.

Grade Range (Fe%)	Tonnage Factor , t/cu.m
45 – 50% Fe	2.5
50 – 55% Fe	3
55 – 58% Fe	3
50 – 55% Fe	3
55 – 60% Fe	3.5
> 60% Fe	3.5

A summary of the reserve/resource as per the last approved scheme of mining is given below.

Category	UNFC CODE	Daitari Hill Top	Sindurmundi	Grade (Fe%)
Proved	111	43.158 (Diverted Forest)	-	+58% Fe
Probable	122	1.452(Diverted Forest))	-	+58% Fe
Feasibility/pre feasibility resources	211 & 222*	-	-	-
*Remaining Measured Mineral resources	331	43.310 (Un-diverted Forest)	-	-
*Remaining Indicated Mineral resources	332	31.821 (Un-diverted Forest)	67.410 (Un-diverted Forest)	+58% Fe

*Feasibility not considered due to un-diverted forest land

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Modification Proposed

The updated balance reserves/ resources w.r.t the last approved SOM and taking into consideration the qty. depleted during the period 2013-14 & 2024-15 (Upto 30.07.2014), is given below:-

Category	UNFC CODE	Reserve as per Approved SOM		Depletion of reserve (Mt)	Balance Reserve , Mt (As on 01.08.2014)		Grade (Fe%)
		Daitari Hill Top	Sindurmundi		Daitari Hill Top	Sindurmundi	
Proved	111	43.158	-	0.5509098	42.6071	-	+58% Fe
Probable	122	1.452	-	-	1.452	-	+58% Fe
Feasibility/pre feasibility resources	211 & 222*	-	-	-	-	-	-
*Remaining Measured Mineral resources	331	43.310 (Un-diverted Forest)	-	-	43.310 (Un-diverted Forest)	-	-
*Remaining Indicated Mineral resources	332	31.821 (Un-diverted Forest)	67.410 (Un-diverted Forest)	-	31.821 (Un-diverted Forest)	67.410 (Un-diverted Forest)	+58% Fe

- k) Furnish detailed calculation of reserves/resources section wise (When the mine is fully mechanized and deposit is of complex nature with variation of size , shape of mineralized zones, grade due to intrusion within ore zone etc, an attempt may be made to estimate reserves/resources by slice plan method). In case of deposits where underground mining is proposed, reserve/resources may be estimated by level plan method, as applicable, as per the proposed mining parameters.

No changes have been proposed in the present document.

- l) Mineral reserves/Resources:

Mineral Resources: (Mineral resources may be estimated purely based on level of exploration, with reference to the threshold value of minerals declared by IBM)

No changes have been proposed in the present document.

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2.0 MINING

A. OPEN CAST MINING:

- a) Briefly describe the existing as well as proposed method for excavation with all design parameters indicating on plans /sections.

The Daitari Iron-ore Mines comes under Category-A (Fully Mechanized category) as per the IBM guidelines. The deposit is being worked by opencast mining method with formation of benches by drilling and blasting. Presently maximum height of bench is 10 m whereas, minimum width of bench is 10 m. Drilling & blasting is being used for hard laminated & massive ore, whereas, soft ore is directly excavated by 1.5 – 3.5 m³ capacity hydraulic excavators. The blasted/excavated material is loaded into 16 – 25 t capacity tippers / 35 t capacity dumpers which in turn is transported to 200 tph & 350 tph dry screening & crushing unit and 800 tph crushing plant for further size reduction & screening. No change has been proposed in the present document.

- b) Indicate year-wise tentative Excavation in Cubic Meters indicating development, ROM, pit wise as in table below.

As per last approved Scheme of Mining approved vide letter no. 314(3)/2012-MCCM(CZ)/MS-52/223 dated 12.07.2013

1. Proposal for the FY 2014-15

As per the approved scheme of mining following development & production was envisaged for the scheme period 2014-15.

Co-ordinate of mine development	327S-234W/173E-44S & 54E-643S/60W-600S
Max. height of the benches (m)	10
Min. width of the benches (m)	10
Slope of the bench face (Angle)	85°
Bench floor Length (m)	650
Bench floor width (m)	300 m
Overall direction of excavation	NE
Direction of advancement of individual bench	NE
Number of benches developed	5
Top RL of the bench (m)	832
RL of bottom (m)	780
Sections considered for development	50S to 600S
Number of ramps formed	2
ROM production in tonnes (Saleable grade ore) proposed	2982355
Quality of ROM production (Saleable grade ore) (Lump/Fines)	Lump & Fines
Average Grade of ore (Fe%)	62.77

No waste/subgrade generation has been proposed in the approved scheme of mining.

(Signature)

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2. Proposal for the FY 2015-16 (Upto 26.01.2016)

As per the approved scheme of mining following development & production was envisaged for the scheme period 2015-16.

Co-ordinate of mine development	91N-327W/53S-95E & 48E-685S/76W-600S
Max. height of the benches (m)	10
Min. width of the benches (m)	10
Slope of the bench face (Angle)	85°
Bench floor Length (m)	750
Bench floor width (m)	300 m
Overall direction of excavation	NE
Direction of advancement of individual bench	NE
Number of benches developed	6
Top RL of the bench (m)	832
RL of bottom (m)	770
Sections considered for development	00 to 650S
Number of ramps formed	2
ROM production in tonnes (Saleable grade ore) proposed	5722599
Quality of ROM production (Saleable grade ore) (Lump/Fines)	Lump & Fines
Average Grade of ore (Fe%)	62.52

No waste/subgrade generation has been proposed in the approved scheme of mining.

Modification Proposed

No changes have been proposed in the present document.

I. In-situ Tentative Excavation

No changes have been proposed in the present document.

II. Dump re-handling (for the purpose of recovery of mineral):

No changes have been proposed in the present document.

c) Enclose individual year wise development plans and sections showing pit layouts, dumps, stacks of mineral reject, if any, etc. in case of 'A' category mines. Composite development plans showing pit layouts, dumps, stacks of mineral reject, if any, etc. and year wise sections in case of 'B' category mines.

No changes have been proposed in the present document.

d) Describe briefly giving salient features of the proposed method of working indicating Category of mine.

The Daitari Iron-ore Mines comes under Category-A (Fully Mechanized category) as per the IBM guidelines. The deposit is being worked by opencast mining method with formation of benches by drilling and blasting. Presently maximum height of bench varies from 10 m whereas, minimum width of bench is 15 m. Drilling & blasting is being used for hard laminated & massive ore, whereas, soft ore is directly excavated by 1.5 – 3.5 m³ capacity hydraulic excavators. The blasted/excavated material is loaded into 16 – 25 t capacity tippers / 35 t capacity dumpers

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REGIONAL CONTROLLER OF MINES
भारतीय खान ब्यूरो
INDIAN BUREAU OF MINES
भारत/ओडिशा/नेसवार



**MODIFICATIONS PROPOSED IN THE APPROVED MINING
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which in turn is transported to 200 tph & 350 tph dry screening & crushing unit and 800 tph crushing plant for further size reduction & screening. No change has been proposed in the present document.

- e) **Describe briefly the layout of mine workings, pit road layout, the layout of faces and sites for disposal of overburden/waste along with ground preparation prior to disposal of waste, reject etc. A reference to the plans and sections may be given. UPL or ultimate size of the pit is to be shown for identification of the suitable dumping site.**
No change has been proposed in the present document.
- f) **Conceptual Mine planning upto the end of lease period taking into consideration the present available reserves and resources describing the excavation, recovery of ROM, Disposal of waste, backfilling of voids, reclamation and rehabilitation showing on a plan with few relevant sections.**

As per last approved Scheme of Mining approved vide letter no. 314(3)/2012-MCCM(CZ)/MS-52/223 dated 12.07.2013

The mining operations have been programmed in one locations i.e. namely Daitari Hill Top Deposit during the proposed plan period of 3 years (2013-14 to 2015-16). In the conceptual period, attempts would be made to combine Sindurmundi Deposit which has been proved to be ore bearing. The updated mineable (demonstrated) reserve of the lease as on 01.04.2013 is 119.741 million tonnes (58.75% Fe in average). The iron ore production during the next 3 years of the plan period 2013 – 14 to 2015 – 16 has been projected around 11.579 million tonnes (62.24% Fe in average). The targeted production may vary to some extent due to market demand. As such, the balance demonstrated mineable reserves at the end of the plan period shall be around 108.162 million tonnes (58.518% Fe in average). Maintaining a production level at around 6 million tonnes per annum from both the deposits the reserves will last for about 18 years, after the proposed plan period, by which time, the entire mineable reserve shall be depleted and the deepest level of the mine in Daitari Hill Top shall be at 510 mRL and in Sindurmundi it shall be at 610 mRL. Crushing & Screening of ROM ores are proposed to be continued. All these activities combined together shall produce marketable grade ore to a maximum of 6.0 TPA.

The ultimate extent and size of the pit

The ultimate size of the different quarries/ blocks with their ultimate co-ordinates, top & bottom RLs with depth of working are tabulated as below:

Mining Blocks/ Quarry	Ultimate size of Pits (m)	Ultimate Co-ordinates	Top RL (m)	Bottom RL (m)	Bench Height	No. of Benches
Daitari Hill Top quarry	1705 x 609	215N-644W/167N-127E to 1411S-24W/1213S-431W	820	510	10m	31
Sindurmundi quarry	1400 x 600	210N-600W/250S-600W to 500N-2200W/400S- 1246W	830	610	10m	22

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Ultimate capacity of dump

(i)	Total Mineable Reserves	=	187.572 million tonnes
(ii)	Production Planned during the proposed plan period	=	11.579 million tonnes
(iii)	Total waste to be excavated during the balance plan period	=	Nil
(iv)	Mineable reserves during conceptual period	=	175.572 million tonnes
(v)	Total volume of ore during conceptual period	=	170.490 Million tonnes
(vi)	Total waste to be generated during conceptual period	=	93.529 million CuM

Out of these generated wastes from the ore zone, around 5% i.e. 4.676 million cu.m has been proposed for road maintenance and balance 88.853 million cu.m has been proposed for reclamation of the worked out pit progressively. Initially the OB/wastes shall be dumped at the earmarked sites given in conceptual plan. The detail calculation for dumping of materials during plan and conceptual period is as below.

In the plan period there will be no waste generation. The waste/OB to be recovered during conceptual period shall be requiring space for dumping, which has been identified within the lease area. It is also proposed to backfill the Daitari Hill Top quarry in the conceptual period when it reaches UPL. Retaining walls of 1900 m long all around the bottom periphery of waste dumps followed by a garland drain shall be constructed during the plan period. Water in the rainy season that will be percolated through the wastes in the waste dump shall be drained to the garland drain and the retaining wall shall help in arresting movement of waste materials along with water. The garland drain shall be chanalized in such a way that the water flows to an area which should be on non-ore bearing and a wasteland. The garland drain shall be 1900 m long x 1 m wide x 0.5 m deep. The retaining wall shall be 1.5 m high x 1 m wide x 1900 m long. Regular cleaning of the drain shall be done for easy flow of water.

Besides the garland drain and the retaining wall, pits of 2 m (wide) x 2 m (thick) x 15 m (high) size will be constructed at the toe of the waste dump, which will arrest rolled down wastes. A settling tank at the end of the garland drain in the lower contour shall be constructed to accumulate water. Alum shall be added here for settlement of suspended solids. After suspended solids are settled, the water shall be discharged outside the lease area. In the rainy season the water from this pit shall be pumped out to the garland drain at the top of the quarry so that entire water flows to outside the working area keeping the bottom of the pit in dry condition.

Sub grade stack yard

The entire Hill Top deposit contains about 0.301% (by quantity) below sub grade (<45% Fe) and 14.311% (by quantity) sub grade ore (45% to 58%). Lock stock barrel the produced ore (ROM) irrespective of grade of ore the average grade is around 61.74% Fe. This is the report of the drillhole core data coupled with last several year's production. However in case of Sindurmundi deposit by quantity contains below sub grade ore to about 7.55% and sub grade ore to about 58.82% ore. Average grade of the proved ore is 54.94% Fe. For mining in conceptual period the lock stock barrel ore of both Hill Top and Sindurmundi deposits the grade of ore has been

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calculated to be 58.75% Fe. It is established that the grade of ore improves at depth. So, no subgrade stack yard has been proposed.

Modification Proposed

No changes have been proposed in the present document.

B. UNDERGROUND MINING

Not applicable

C. Extent of Mechanisation

As per last approved Scheme of Mining approved vide letter no. 314(3)/2012-MCCM(CZ)/MS-52/223 dated 12.07.2013

List of Machinery deployed & additional fleet requirement for Daitari Iron Ore Mines proposed in the approved scheme of mining is given below.

Machine	Make	Model	Existing (Nos.)	HP	Bucket Capacity (cu. m)	Additional requirement
Excavator	Tata hitachi	EX 600V	2	400	3.50	-
Excavator	Volvo BLC	EC 700	1	400	3.20	-
Excavator	Komatsu	PC 300 L&T	1	145	1.85	-
Back-hoe	Tata hitachi	PC 300LC	1	450	1.58	1
Back-Hoe	Tata hitachi	PC 200 LC	1		0.98	not required
Loader – 1	BEML	BL 30	1	205	3.40	1
Loader – 2	Hindudtan motors	HM 2021 (1D)	1	124	1.70	not required
Loader – 3	Hindudtan motors	HM 966 (E)	1	250	3.1	1
Loader – 4	Hindudtan motors	HM 2021 (1D)	1	112	1.7	not required
Loader	BEML	BL 200	1	200	2.58	not required
Loader	Tata	TW 3036	2			not required
Compressor & Drill Machine	Ingersol rand	IR 450 & LM 100	1	450 cfm		3
Jackhammer		32 mm dia	-			not required
Rock breaker						4
Dozer	Cat	D 8 H	1	250		-
Dozer	Hindustan motors	D 155 A1	1	320		-
Dumper	Haulpack	HP 35	8	380	35 t	-
Dumper	BEML		2	400	35 t	-
Dumper/Tipper	Tata-hyva	1613/2003	64	160		-
Dumper/Tipper	MAN	25.220/31.280	14	220/280		-

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Machine	Make	Model	Existing (Nos.)	HP	Bucket Capacity (cu. m)	Additional requirement
Dumper/Tipper	AMW	2523 TC	7	160		-
Water sprinkler	BEML	28KL	2	365		
Tipper	Tata	1210	5	100		-
Motor Grader	Hindusthan motors	GD 605 2	2	180		-
Tractor Compressor		A 13 T	1	35		not required
Fork lift		G 300 D	1	44		-

Modification Proposed

No change has been proposed in the present document.

D. Blasting

- a) Broad blasting parameters like charge per hole, blasting pattern, charge per delay, maximum number of holes blasted in a round, manner and sequence of firing, etc.

As per last approved Scheme of Mining approved vide letter no. 314(3)/2012-MCCM(CZ)/MS-52/223 dated 12.07.2013

Following drilling & blasting parameters have been envisaged in the approved scheme of mining.

Broad blasting parameters	
Spacing	3.5m
Burden	3m
Depth of hole in 10m bench including sub grade	11m
Yield of volume of ore/hole in CuM	105
Yield of ore /hole in T @ 3.5t/CuM conversion factor.	367.5
Yield of ore /hole in T @ 3.0t/ CuM conversion factor.	315
Explosive requirement in no. of 83 mm cartridges/hole	15
Explosive requirement in Kg/hole	41.7
Powder factor in T/kg	8.2
Drilling machine Requirement.	
Drilling rate per hour	10m
Volume of excavation	1646407
Drilling blasting required @25%	$0.25 \times 1646714 = 411678.5 \text{ CuM}$
Yield per hole	105 CuM
No of holes required / yr = $411678.5/105$	3920.7 numbers /yr.
Total meterage required/yr = 3920.7×11	= 43127.7 m
One drill machine can drilled /yr = $10 \times 0.85 \times 0.7 \times 8 \times 2 \times 300$	28560 m
Numbers of drill machine required = $43127/ 28560$	1.51 or 2 numbers
Initiation System	NONE/ Raydet ✓
Explosive used	NG Based Slurry

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Modification Proposed

No change has been proposed in the present document.

Storage of explosives (like capacity and type of explosive magazine)

Presently, OMC has a licensed magazine of 18 t capacity for storage of explosive but considering the sensitivity of the area, it is proposed to continue the supply, charging & blasting operation to external agency as being done through tripartite agreement. The detail of magazine is given below.

Class	Commercial terms	Quantity
Class – II and Division – 0	Nitrate mixture	18 tonnes
Class – VI (Division – 1)	Safety fuse	12,000 m
Class – VI (Division – 2)	Detonating fuse	30,000 m
Class – VI (Division – 3)	Electric & ordinary detonators	44,000 Nos

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3.0 MINE DRAINAGE

- a) **Minimum and maximum depth of water table based on observations from nearby wells and water bodies**

Ground water level monitoring is regularly carried out at following location in Daitari Iron Ore Mines at the foothill/outside the lease area.

Sl. No.	Location code	Coordinates		Water Level (Below ground level, in meters)
		Latitude	Longitude	
1	GWL1	21°07'27.7" N	85°47'02.8" E	5.2
2	GWL2	21°06'11.9" N	85°49'30.9" E	0.95
3	GWL3	21°06'15.5" N	85°49'30.2" E	0.86
4	GWL4	21°06'45.0" N	85°51'19.3" E	7.3

Ground water table at Daitari iron ore lease is below 380 mRL

- b) **Indicate maximum and minimum depth of Workings.**

Maximum and minimum depth of Workings of existing quarry is given below.

Depth	Existing Quarry
Bottommost Bench RL	784.10 mRL
Topmost Bench RL	824.82 mRL

As such the mine workings are not likely to intersect the ground water table. Mine workings is expected to be around 390 m above water table by the year 2015-16.

- c) **Quantity and quality of water likely to be encountered, the pumping arrangements and places where the mine water is finally proposed to be discharged**

As the mine is located at hilltop, rain water will flow through natural drainage system. Besides, 60 nos. of check dams with boulder packing have been constructed along the streams to protect surface runoff. No external or internal waste dumps will be required during this balance scheme period.

- d) **Describe regional and local drainage pattern. Also indicate annual rain fall, catchments area, and likely quantity of rain water to flow through the lease area, arrangement for arresting solid wash off etc.**

The area displays a dendritic pattern of drainage. Daitari hill range acts as a water divider where the surface run off from the north, north-east of Daitari drains to the Baitarani River. The surface run off are collected by Kukrangji Nala through several streams and discharged at Pancham in to the Kusei Nala, a major tributary of the River Baitarani. The south, south-west slopes drains to the River Bramhani where the surface run off is collected by the Damsal Nala and Ganda Nala, two major tributaries of River Bramhani. Drainage pattern of the area is shown in the Figure 3.1. More than 70% of the rainfall occurs during June to September. Average annual rainfall in the area is of the order of 1231 mm.

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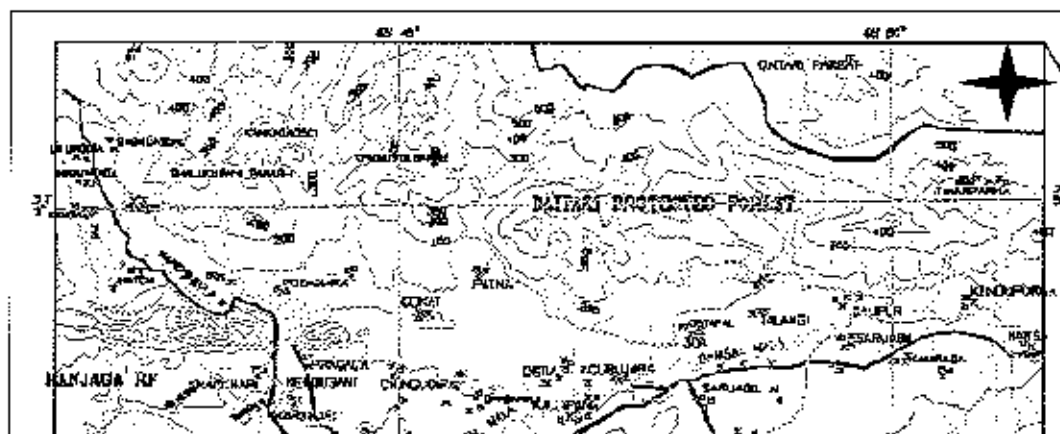
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Figure :3.1 Drainage Network of the area

The SE part of the lease area is drained by a number of seasonal channels which drain into Talangi Nala which in turn drains into Damsal Nala, which is the principal drainage channel of the Sukinda valley. The Damsal Nala flows from west to east along the length of Sukinda valley. The lease area is drained by several seasonal channels, which drain into a water reservoir at about a km north of lease area. A perennial stream, Kukurangi Nala emerges from the reservoir and flows initially towards north east but subsequently turns towards the south east and joins another perennial river, Kusei Nadi. Kusei Nadi receives drainage channels from the western, northern (including a perennial stream Baggi Nadi from the north) and eastern part of the study area. It flows initially from North West to South East but turns towards the east.

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**MODIFICATIONS PROPOSED IN THE APPROVED MINING
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**LESSEE: THE ODISHA MINING CORPORATION LTD.
RQP : MECON LIMITED**



4.0 STACKING OF MINERAL REJECT /SUB GRADE MATERIAL AND DISPOSAL OF WASTE

- a) **Indicate briefly the nature and quantity of top soil, overburden / waste and Mineral Reject to be disposed off.**

In the approved scheme of mining material containing Fe% more than 58% was considered usable ore, material with 45% - 58% Fe content as Subgrade and material containing Fe% below 45% was considered as waste. In the approved scheme of mining no waste and subgrade generation was envisaged.

Modification Proposed

No change has been proposed in the present document.

- b) **The proposed dumping ground within the lease area be proved for presence or absence of mineral and be outside the UPL unless simultaneous backfilling is proposed or purely temporary dumping for a short period is proposed in mineralized area with technical constraints & justification.**

No waste generation has been envisaged in the approved scheme upto 26.01.2016, therefore no additional land will be required for waste dumping.

- c) **Attach a note indicating the manner of disposal of waste, configuration and sequence of year wise build up of dumps along with the proposals for protective measures.**

No waste generation has been envisaged in the approved scheme upto 26.01.2016, therefore its disposal, configuration and built up is not applicable for the proposed scheme period.

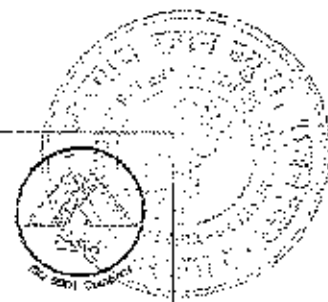
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**MODIFICATIONS PROPOSED IN THE APPROVED MINING
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RQP : MECON LIMITED



5.0 USE OF MINERAL AND MINERAL REJECT

- a) **Describe briefly the requirement of end-use industry specifically in terms of physical and chemical composition.**

The entire ore production including lumps and fines produced from Daitari lease will be consumed in neighbouring steel plants of Odisha. Quality parameters of lumps and fines as specified by the steel plants are as follows.

SN	Parameters	Lump Ore	Fines Ore
i	Fe	65.0 % (min)	64.5 % (min)
ii	SiO ₂	2.0 % (max)	2.0 % (max)
iii	Al ₂ O ₃	2.0 % (max)	2.0 % (max)
iv	Total Gangue (Al ₂ O ₃ + SiO ₂)	4.0 % (max)	4.0 % (max)
v	Size	+10 - 40 mm (Over & under size : Max. 5% Each)	Size: - 10mm {with oversize 5% maximum and undersize 20% maximum.

- b) **Give brief requirement of intermediate industries involved in up-gradation of mineral before its end-use.**

The entire ore produced will be sold to long term buyers for use in their steel plants.

- c) **Give detail requirements for other industries, captive consumption, export, associated industrial use etc.**

The entire ore produced will be sold to long term buyers for use in their steel plants.

- d) **Indicate precise physical and chemical specification stipulated by buyers**

The entire ore production including lumps and fines produced from Daitari lease will be consumed in neighbouring steel plants of Odisha. Quality parameters of lumps and fines as specified by the steel plants are as follows.

SN	Parameters	Lump Ore	Fines Ore
i	Fe	65.0 % (min)	64.5 % (min)
ii	SiO ₂	2.0 % (max)	2.0 % (max)
iii	Al ₂ O ₃	2.0 % (max)	2.0 % (max)
iv	Total Gangue (Al ₂ O ₃ + SiO ₂)	4.0 % (max)	4.0 % (max)
v	Size	+10 - 40 mm (Over & under size : Max. 5% each)	Size: - 10mm {with oversize 5% maximum and undersize 20% maximum.

- d) **Give details of processes adopted to upgrade the ROM to suit the user requirements.**

All the ROM ore produced is blended at the mine site itself and sized to the desired range suitable for its use in the steel plants.

- e) **The useable mineral recovered from ROM may not be directly used in any industry and may need intermediate process to suit the user industry in terms of physical and chemical compositions.**

All the ROM ore produced is blended at the mine site itself and sized to the desired range suitable for its use in the steel plants.

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6.0 PROCESSING OF ROM AND MINERAL REJECT

- a) If processing / beneficiation of the ROM or Mineral Reject is planned to be conducted, briefly describe nature of processing / beneficiation. This may indicate size and grade of feed material and concentrate (finished marketable product), recovery etc.

As per last approved Scheme of Mining approved vide letter no. 314(3)/2012-MCCM(CZ)/MS-52/223 dated 12.07.2013

Dry crushing & Screening Plants

ROM ore from the Daitari Hill Top Iron ore Deposit shall be subjected to processing. A part of the production (ROM) shall be crushed & screened by dry process for which two dry screening & crushing plants are installed in the lease area. The capacity of screening plant is 200 tph and that of dry crushing & screening plant is 350 tph. Recovery of these plants is 100% of feed quantity of ROM. The other part of production (ROM) shall be processed through 800 tph capacity OHP.

No middling concentrates tailing is there. (-) 10 mm size is termed as fines while 10 to 40 mm size is lump. All size of materials contains >60% Fe. Recovery percentage of (-) 10 mm size is 47.39% by weight while the balance 52.61% by weight is 10 to 40 mm size. The finished products are transported by road to Baliparbat area stack yard and Railway siding for final dispatch to buyers.

Flow Sheet of 350 TPH Crushing & Screening Plant is given in Annexure – 22B. Flow Sheet of 200 tph Screening Plant is given in Annexure – 22A.

800 TPH OHP

The ROM from the mines is transported by 35 t dumpers to the hopper of primary crusher house located at 688.551 RL. The ROM is fed to a vibrating grizzly (800 tph capacity) by an apron feeder. Oversize of grizzly is fed to primary jaw crusher of 800 tph capacity, whereas the undersize material of grizzly & the product of primary jaw crusher (-275 mm) is discharged in belt conveyor BC-1 which fed the material to the Double deck scalping screen. Oversize material (+40 mm) of screen is transported to a surge bin installed at the end of DD screen which is fed to a secondary cone crusher of 400tph capacity through belt conveyor BC-2. Undersize of screen & crushed product of secondary cone crusher is carried to primary stock pile of 5000 t capacity.

-40mm material of stockpile is fed to a long distance belt conveyor (LDBC) of 3.8 km length by a series of conveyors. Provision of 15000 t capacity intermediate stockpile has been also made ensure uninterrupted supply to ore to downstream crushing & screening plant located at Baliparbat. The ore from stock pile may be fed to downstream conveyor by a pay loader through a movable hopper. Material from downhill LDBC is collected in 3 nos. of hoppers each having 200 t capacity. The ROM is fed to a double deck screen at Baliparbat processing plant. Oversize material is fed to another jaw crusher of 50 tph capacity. Product of 50 tph jaw crusher is fed to a double deck screen. Oversize of screen is recirculated to the jaw crusher, -10 mm material of double deck screens are collected in a hopper and finally carried to the fines stack yard at Baliparbat. Similarly -40 +10 mm CLO are carried to the CLO stackyard at Baliparbat through a series of belt conveyor. Fines & CLO from Baliparbat stackyard is dispatched to different buyers either by road or through Daitari railway siding.

Flow Sheet of 800 tph OHP is given in annexure – 22C.

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Proposed New Standalone Project (1000 tph Capacity)

A new stand alone project of 1000 TPH production capacity is proposed to be installed with mechanized wagon loading facility. It is envisaged to mine 1000 tph iron ore from Daitari Hill Top deposit and the ROM shall be maximum 1000 mm size. These products shall be crushed to an optimum size at the proposed crusher in the hilltop at a approximate lead distance of 3 km (to & fro) from the mines and will be transported to Odisha State Commercial Transport Corporation (OSCTC) area at the foothills through a suitable downhill conveyor system of approximately 4.5 km long. The above crushed ore shall be subjected to further crushing and sizing, as required, in the plant to be installed at OSCTC area and screened to produce (-) 40 mm and (+) 10 mm calibrated ore (-) 10 mm fines. These products will be stacked in the adjacent area in 2 different stock piles. The capacity of the lump ore stock pile will be 0.2 million tonnes and fines ore stock pile of around 0.3 million tonnes. The finished products will be reclaimed and subsequently transported to railway siding area at a distance of 5 km through another conveyor for mechanized loading into wagons at a new captive railway siding.

Modification Proposed

No changes have been proposed in the present document.

- b) Give a material balance chart with a flow sheet or schematic diagram of the processing procedure indicating feed, product, recovery, and its grade at each stage of processing.
The same is given in annexure 22A, 22B, 22C & 22D.
- c) Explain the disposal method for tailings or reject from the processing plant.
Not applicable
- d) Quantity and quality of tailings /reject proposed to be disposed, size and capacity of tailing pond, toxic effect of such tailings, if any, with process adopted to neutralize any such effect before their disposal and dealing of excess water from the tailings dam.
Not applicable
- e) Specify quantity and type of chemicals if any to be used in the processing plant.
Not applicable
- f) Specify quantity and type of chemicals to be stored on site / plant.
Not applicable
- g) Indicate quantity (cum per day) of water required for mining and processing and sources of supply of water, disposal of water and extent of recycling. Water balance chart may be given.
Average water consumption at Daitari Iron Ore Mine for domestic and industrial use are to the tune of 1290 m³/day and 130 m³/day, respectively.

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7.0 OTHER

a) Site Services

No changes have been proposed for this chapter of the approved mining scheme approved vide letter no. 314(3)/2012-MCCM(CZ)/MS-52/223 dated 12.07.2013

b) Employment Potential:

No changes have been proposed for this chapter of the approved mining scheme approved vide letter no. 314(3)/2012-MCCM(CZ)/MS-52/223 dated 12.07.2013



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8.0 PROGRESSIVE MINE CLOSURE PLAN UNDER RULE 23 (B) OF MCDR'1988

8.1 Environment Base line information:

Existing land use pattern

The total land use as on 1.08.2014 is 94.5 Ha.

Water regime

The area exhibits a dendritic pattern of drainage. The SE part of the lease area is drained by a number of seasonal channels which drain into Talangi Nala which in turn drains into Damsal Nala, which is the principal drainage channel of the Sukinda valley. The Damsal Nala flows from west to east along the length of Sukinda valley. The lease area is drained by several seasonal channels, which drain into a water reservoir at about a km north of lease area. A perennial stream, Kukurangi Nala emerges from the reservoir and flows initially towards north east but subsequently turns towards the south east and joins another perennial river, Kusai Nadi. Kusei Nadi receives drainage channels from the western, northern (including a perennial stream Baggi Nadi from the north) and eastern part of the study area. It flows initially from North West to South East but turns towards the east.

Quality of air, water and ambient noise level

The same is enclosed as Annexure – 19.

Flora and Fauna

Flora

The core zone is a part of Rebana RF & Daitari PF. Shorea robusta, is the most dominant species with *Xylia xylocarpa*, *Syzigium cumini*, *Careya arborea*, *Terminalia tomentosa*, *Buchanania lanzan*, *Casareoa elliptica*, *Gardenia gummifera*, *Dillenea pentagyna* as common associates. The forest / natural vegetation in the project site mostly contains forests reaching up to 20m in height and girth size more than 90cm.

Fauna

Rodents, reptiles, wild dog, bear, deer, pig and birds are found in the core zone.

Aquatic Fauna

The area contains numerous small and large species of fish, the principal ones being Rohu.

Climatic conditions

Climate of the area is subtropical with abundant rainfall during monsoon. More than 70% of the rainfall occurs during June to September. Average annual rainfall in the area is of the order of 1231 mm. Temperature in the area varies from 7°C - 47°C. Relative humidity varies from 20%-89%. Predominant wind direction is due SW.

Human settlements

Only Talpada villages have been found in the 500 m buffer zone of the area. The details of the population of the villages in the buffer zone are given in the table below:-

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Name of villages in the buffer zone	Population, Nos.
Talpada	860

Public buildings, places of worship and monuments

There is no place of archaeological or religious importance within 5 km of the lease.

Indicate any sanctuary is located in the vicinity of leasehold

No sanctuary is located in the vicinity of leasehold

Environment plan of the mine is shown in drawing no. MEC/Q756/11/16/05.

8.2 Impact Assessment: Attach an Environmental Impact Assessment Statement describing the impact of mining and beneficiation on environment on the following:

- i) Land area indicating the area likely to be degraded due to quarrying, dumping, roads, workshop, processing plant, tailing pond/dam, township etc.

As per last approved Scheme of Mining approved vide letter no. 314(3)/2012-MCCM(CZ)/MS-52/223 dated 12.07.2013

Existing & proposed land use pattern as per last approved scheme of mining is given below:-

Type of land use	Existing	During scheme period upto 2015-16	Conceptual period
Mining	61.63	61.63	166.8199
Sub-grade stack	5.50	5.5	0
Mineral Stacking & Processing	14.00	14	14
Camp/Township/Infrastructure	5.50	5.5	5.5
Road	8.97	8.97	8.97
Plant & Machineries	-	2.6495	2.6495
Safety zone	13.28	13.277	13.277
OB dump	-	-	132.461
Undisturbed area (For future Exploration)	909.43	906.782	674.6311
Total	1018.31	1018.3085	1018.3085

Modification Proposed:

No change to the proposals as made in the last approved document is being made in the present submission.

- ii) Air quality

As per last approved Scheme of Mining approved vide letter no. 314(3)/2012-MCCM(CZ)/MS-52/223 dated 12.07.2013

Dust particles, which are normally generated due to mining operation and transportation deteriorates the ambient air quality. Adequate control measures are therefore being taken in the project area. Dry fog dust suppression system is being used in the mines to suppress fugitive dust emission.

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Drilling operation

Drill bits are maintained and Drilling is done with water flushing system. Drill bits are sharpened regularly. Drillers and associated people are provided with nose mask.

Blasting operation

Proper burden and spacing are maintained. Proper charge per delay is given. Dust suppression system (water sprinkling) is adopted on faces before and after blasting and faces while loading

Loading and transportation

Overloading of vehicles are strictly prohibited to avoid spillage that generates dust. Continuous cleaning of haul roads are being done by dozer and grader. Regular maintenance of HEMM engines to control emission of exhaust fumes and their composition are monitored. Water sprinkling is done during loading and unloading of excavated materials.

Haul road

Haul roads are the major source of dust in a mine. To overcome the problem of dust generation in mine haul roads, the following actions are being taken. Haul roads are constructed with the layers of hard stone overlaid by laterite and subsequently compacted by road rollers. Using small quantity, water spraying is done in a number of runs each time just sufficient to wet the surface. Transport equipments are

Modifications Proposed:

No change has been proposed in the present document.

The results of the ambient air quality / noise quality monitoring reports as enclosed in Annexure – 19 indicates that the quality parameters are within the acceptable levels.

iii) Water quality

The water table will not be touched during the proposed scheme period. However due to surface run offs there will be likely impact on the surface water quality. Since no waste generation has been envisaged during the ensuing scheme period ending on 26.01.2016, no dumping plan has been proposed. For the purpose, 60 nos. of check dams with boulder packing have been constructed along the streams to protect surface runoff.

iv) Noise levels

Due to operation of the HEMM & plant, ambient noise levels is likely to increase but the same will be managed through proper maintenance of the plant & machineries & use of personal protective equipments.

The monitoring of Ambient air quality, surface water & ground water quality and noise quality will be carried out for all the four quarters of the year by the forest & environment section of OMC /External agency. The details of the monitoring stations are given in the table below:-

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Location of Ambient Air Quality Monitoring Stations
Ambient Air Quality Monitoring Stations

SL No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Mine Office at Hill Top	A1	21°05'35.7"N	85°45'42.84"E
2	Daitari Guest House	A2	21°06'54.05"N	85°49'29.4"E
3	OMC Office	A3	21°06'40.44"N	85°50'22.56"E
4	Baliparbat Township	A4	21°06'30.72"N	85°51'35.7"E
5	Water Reservoir Pump House	A5	21°07'39.06"N	85°48'43.44"E
6	Near Hospital Daitari	A6	21°06'49.14"N	85°49'25.2"E

Location of Surface Water Sampling Stations
Surface Water Sampling Locations

SL No.	Location	Sample code	Coordinates	
			Latitude	Longitude
1	Daitari Dam Site	SW1	21°07'39.12" N	85°48'42.84"E
2	Stream Flowing Near Pichida	SW2	21°07'7.36" N	85°48' 56.7"E
3	Stream Flowing Near Old Marker	SW3	21°06'49.98"N	85°49' 29.58"E
4	Stream Near Baliparbat	SW4	21°06'24.18" N	85°51' 35.85"E

Location of Noise Monitoring Stations
Ambient Noise Monitoring Locations

SL No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Mine Office at Hill Top	N1	21°05'35.7"N	85°48'43.54"E
2	Sector-3 near bank	N2	21°06'41.52"N	85°49'35.04"E
3	OMC Office	N3	21°06'40.44"N	85°50'22.56"E
4	Baliparbat Township	N4	21°06'30.72"N	85°51'35.7"E
5	Water Reservoir Pump House	N5	21°07'39.06"N	85°48'43.44"E
6	Near Hospital Daitari	N6	21°06'49.14"N	85°49'25.2"E
Work zone Noise Level				
7	Near Narayani Crusher	N7	21°05'52.2"N	85°48'32.84"E
8	Excavation site	N8	21°06'19.12"N	85°48'29.4"E
9	Drilling point	N9	21°06'28.28"N	85°48'20.04"E

v) Vibration levels (due to blasting)

The blast induced ground vibrations will be controlled through limiting the charge per delay and use of in-hole delay by NONEL means of initiation. The blasting frequency will be limited to 1-2 times per week. Ground vibration monitoring will be carried out on regular basis.

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vi) Water regime

It is to be noted that the existing groundwater levels on the hill top are well below the ore-body floor, expectedly more than 130m bgl. These would therefore remain unaffected by mining operations.

vii) Acid mine drainage

Not applicable

viii) Surface subsidence

Not applicable

ix) Socio-economics

This mining employment has greatly increased the income levels of the natives. In addition, creation of comparatively well paid jobs in the area has generated not only sizeable trade in household supplies (including vegetables, milk, food, textile, etc) but also some household employment. It has also generated demand for tertiary services like transport and repair shops. The impact of mining operations in the area on socio-economic has been a positive one. The infrastructure of the area roads, public transport P&T facilities and electricity supply, has also improved after the advent of mining operation in the area.

x) Historical monuments etc.

There are no historical monuments or places of archeological interest within 5 km radius of the lease.

8.3 Progressive Reclamation Plan :

8.3.1. Mined-Out Land: Describe the proposals to be implemented for reclamation and rehabilitation of mined-out land including the manner in which the actual site of the pit will be restored for future use. The proposals may be supported with yearly plans and sections depicting yearly progress in the activities for land restoration/ reclamation/rehabilitation, afforestation etc, called "Reclamation Plan".

No fresh area is proposed to be degraded as all the workings have been proposed within the broken area only. There is no proposal for reclamation and rehabilitation of mined-out land in the approved scheme period ending upto 26.01.2016.

8.3.2 Topsoil Management: The topsoil available at the site and its utilization may be described.

No top soil will be generated during the year 2014-15 to 2025-16.

8.3.3 Tailings Dam Management: The steps to be taken for protection and stability of tailing dam, stabilization of tailing material and its utilization, periodic desilting measures to prevent water pollution from tailings etc, arrangement for surplus water overflow along with detail design, structural stability studies, the embankment seepage loss into the receiving environment and ground water contaminant if any may be described.

Not applicable

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8.3.4 Acid mine drainage, if any and its mitigative measures.

Not applicable

8.3.5 Surface subsidence mitigation measures through backfilling of mine voids or by any other means and its monitoring mechanism. The information on protective measures for reclamation and rehabilitation works year wise may be provided as per the following table.

Summary of year-wise proposal for item no. 8.3 for the FY 2014-15

Items	Details	Cumulative actual carried out till date (upto 30.7.14)	Proposed as per the last approved document
Dump management	Area afforested (ha)	NIL	NIL
	No of saplings planted	NIL	NIL
	Cumulative no of plants	NIL	NIL
	Cost including watch and care during the year	NIL	NIL
Management of worked out benches	Area available for rehabilitation (ha)	NIL	NIL
	Afforestation done(ha)	NIL	NIL
	No of saplings planted in the year	NIL	NIL
	Cumulative no of plants	NIL	NIL
	Any other method of rehabilitation (specify)	NIL	NIL
	Cost including watch and care during the year	NIL	NIL
Reclamation and Rehabilitation by backfilling	Void available for Backfilling (L x B x D) pit wise /slope wise	NIL	NIL
	Void filled by waste /tailings	NIL	NIL
	Afforestation on the backfilled area	NIL	NIL
	Rehabilitation by making water reservoir	NIL	NIL
	Any other means (specify)	NIL	NIL
Rehabilitation of waste land within lease	Area available (ha)	NA	NA
	Plantation carried out (within present retained ML area)	1 Ha./ 1500 Nos.	-
	Plantation carried out (within surrendered ML area)	1 Ha./ 4000 Nos.	-
	Check dams (within retained/ surrendered area)	60 Nos.	-
	Method of rehabilitation	NA	NA
Others (specify)	Total no of saplings planted outside lease area during FY 2014-15 (Actual upto 30.07.2014).	4261 Nos.	5000 Nos.
	Total cost including watch and care during FY 2014-15 (Actual upto 30.07.2014).	5.00 Lakh	5.00 lakhs
	Total cost for monitoring of Ambient Air Quality, water quality etc. during FY 2014-15 (Actual upto 30.07.2014)	5.80 Lakh	5.80 lakhs

(Signature)

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Summary of year-wise proposal for item no. 8.3 for the FY 2015-16

Items	Details	Cumulative actual carried out till date (upto 30.7.14)	Proposed as per the last approved document
Dump management	Area afforested (ha)	NIL	NIL
	No of saplings planted	NIL	NIL
	Cumulative no of plants	NIL	NIL
	Cost including watch and care during the year	NIL	NIL
Management of worked out benches	Area available for rehabilitation (ha)	NIL	NIL
	Afforestation done(ha)	NIL	NIL
	No of saplings planted in the year	NIL	NIL
	Cumulative no of plants	NIL	NIL
	Any other method of rehabilitation (specify)	NIL	NIL
Reclamation and Rehabilitation by backfilling	Cost including watch and care during the year	NIL	NIL
	Void available for Backfilling (L x B x D) pit wise /slope wise	NIL	NIL
	Void filled by waste /tailings	NIL	NIL
	Afforestation on the backfilled area	NIL	NIL
	Rehabilitation by making water reservoir	NIL	NIL
Rehabilitation of waste land within lease	Any other means (specify)	NIL	NIL
	Area available (ha)	NA	NA
	Plantation carried out (within present retained ML area)	1 Ha./ 1500 Nos.	-
	Plantation carried out (within surrendered ML area)	1 Ha./ 4000 Nos.	-
	Check dams (within retained/ surrendered area)	60 Nos.	-
Others (specify)	Method of rehabilitation	NA	NA
	No of saplings proposed to be planted outside lease area during FY 2015-16 (Actual upto 30.07.2014).	4261 Nos.	5000 Nos.
	Total cost including watch and care during FY 2015-16 (Actual upto 30.07.2014).	5.00 Lakh	5.00 lakhs
	Total cost for monitoring of Ambient Air Quality, water quality etc. during FY 2015-16 (Actual upto 30.07.2014)	5.80 Lakh	5.80 lakhs

A tentative time frame for completion of jobs for mine closure operation (in months) during the scheme period is shown in table below.

Time scheduling for abandonment

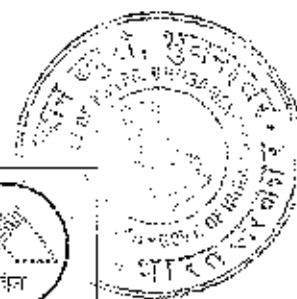
Activities	Tentative time frame for completion of jobs for mine closure operation (in months) from date of cessation.
Reclamation & Rehabilitation of mined out land.	No reclamation has been planned in the FY 2014-15 to 2015-16.
Waste Management	No waste generation has been envisaged in the FY 2014-15 to 2015-16.
Decommission of infrastructure	NOT APPLICABLE FOR THE FY 2014-15 to 2015-16.
Safety & Security	
Monitoring of air & water	
Disposal of mining m / c.	NOT APPLICABLE FOR THE FY 2014-15 to 2015-16.

(P K Bhattacharjee, Key Person)
MECON LIMITED
RQP/RNC/113/2004/B



**MODIFICATIONS PROPOSED IN THE APPROVED MINING
PLAN OF DAITARI IRON ORE LEASE (1018.3085 Ha.)**

**LESSEE: THE ODISHA MINING CORPORATION LTD.
RQP : MECON LIMITED**



- 8.4 Disaster Management and Risk Assessment:** This may deal with action plan for high risk accidents like landslides, subsidence flood, inundation in underground mines, fire, seismic activities, tailing dam failure etc. and emergency plan proposed for quick evacuation, ameliorative measures to be taken etc. The capability of lessee to meet such eventualities and the assistance to be required from the local authority may also be described.

No change has been proposed in the present document.

- 8.5 Care and maintenance during temporary discontinuance:** An emergency plan for the situation of temporary discontinuance due to court order or due to statutory requirements or any other unforeseen circumstances may indicate measures of care, maintenance and monitoring of status of discontinued mining operations expected to re-open in near future.

No change has been proposed in the present document.

8.6 FINANCIAL ASSURANCE:

As per last approved Scheme of Mining approved vide letter no. 314(3)/2012-MCCM(CZ)/MS-52/223 dated 12.07.2013

S N	Type of land use	Area of land use (in Ha)			The area considered as fully reclaimed and rehabilitated	Net area considered for calculation of financial assurance
		Area put into use at the start of plan period	Addl. Area required During Plan period	Total Area at the end of the Plan period		
	(a)	(b)	(c)	(d) = (b) + (c)	(e)	(f) = (d) - (e)
1	Area under Mining	61.6300	Nil	61.6300	Nil	61.6300
2	Storage for top-soil	Nil	Nil	Nil	Nil	Nil
3	Subgrade	5.5000	Nil	5.5000	Nil	5.5000
4	Mineral storage	14.0000	Nil	14.0000	Nil	14.0000
5	Infrastructure (workshop, admn. building etc))	5.5000	Nil	5.5000	Nil	5.5000
6	Roads	8.9700	Nil	8.9700	Nil	8.9700
7	Railways	Nil	Nil	Nil	Nil	Nil
8	Green belt	Nil	13.2770	13.2770	Nil	13.2770
9	Tailing pond	Nil	Nil	Nil	Nil	Nil
10	Effluent treatment plant	Nil	Nil	Nil	Nil	Nil
11	Mineral processing plant	Nil	2.6495	2.6495	Nil	2.6495
12	Township area	Nil	Nil	Nil	Nil	Nil
Total		95.6000	15.9265	111.5265	Nil	111.5265

(P K Bhattacharjee, Key Person)
MECON LIMITED
RQP/RNC/113/2004/B



**MODIFICATIONS PROPOSED IN THE APPROVED MINING
PLAN OF DAITARI IRON ORE LEASE (1018.3085 Ha.)**

**LESSEE: THE ODISHA MINING CORPORATION LTD.
RQP : MECON LIMITED**



Total financial assurance already paid upto year 2015-16 is Rs. 2788163/- and is valid upto 26.1.2016.

Modification Proposed

No change has been proposed in the present document.

APPROVED

REGIONAL CONTROLLER OF MINES
INDIAN BUREAU OF MINES
GOVERNMENT OF INDIA

(P K Bhattacharjee, Key Person)
MECON LIMITED
RQP/RNC/113/2004/B

**MODIFICATIONS PROPOSED IN THE MINING PLAN
&
PROGRESSIVE MINE CLOSURE PLAN**

(UNDER RULE 22(6) of MCR 1960 & 23(B) OF MCDR 1988)

VOLUME – II (ANNEXURE)

**IN RESPECT OF DAITARI IRON ORE LEASE
ORIGINAL LEASE AREA: 1812.99 HECTARES
RETAINED LEASE AREA: 1018.3085 HECTARES**

FOREST: 846.3995 HECTARES

(PRF: 563.0789 Ha., RF : 229.6126 Ha. & VILLAGE FOREST : 53.708 Ha.)

NON FOREST: 171.9090 Ha

MINERAL: IRON ORE

VILLAGE: TALPADA, REBANA RF & DAITARI PF, TALUKA: HARICHANDANPUR,

DISTRICT: JAIPUR & KEONJHAR

STATE: ODISHA

CATEGORY: "A" FULLY MECHANISED (FM)

EXECUTED LEASE PERIOD: 27.01.1966 TO 26.01.1996

(1st RML PERIOD: 27.01.1996 TO 26.01.2016)

RML APPLICATION	APPLIED/ GRANT DATE	PERIOD	APPLIED AREA
EXECUTED LEASE DEED	27.1.1966	30 Years	1812.99 Ha
1 st RML	21.01.1995	20 Years	1812.99 Ha
REVISED 1 st RML	22.05.1997	20 Years w.e.f 27.01.1996	190.20 Ha
SUBSEQUENT REVISION IN 1 st RML	09.02.2006	20 Years w.e.f 27.01.1996	1812.99 Ha
FURTHER SUBSEQUENT REVISION IN 1 st RML	8.10.2013	20 Years w.e.f 27.01.1996	1018.3085 Ha

SCHEME PROPOSED INSIDE THE PLAN PERIOD: 01.04.2014 TO 26.1.2016

LESSEE

ODISHA MINING CORPORATION LIMITED.

OMC HOUSE, POST BOX NO.- 34, BHUBANESWAR - 751001,

ODISHA, PIN - 751001

PREPARED BY

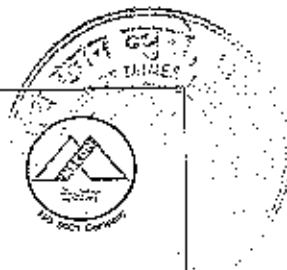
MECON LIMITED, RANCHI – 834002, JHARKHAND

REG.NO. RQP/RNC/113/2004/B VALID UPTO 16.12.2017



**MODIFICATION PROPOSED IN THE APPROVED MINING PLAN
OF DAITARI IRON ORE LEASE (1018.3085 HA.)**

**LESSEE: THE ODISHA MINING CORPORATION LTD.
RQP : MECON LIMITED**



VOLUME -II (ANNEXURE)

LIST OF ANNEXURE

Description	Annex. No.	Page No.
List of Board of Directors	1	1-1
Relevant extract from the minutes of the 409 th meeting approved by Board regarding appointment of Nominated Owner	2	2-2
Photo Id & Address proof of the Nominated Owner	3	3-5
Power of attorney (POA) by the Nominated Owner	4	6-9
Photo Id & address proof (Permanent & Temporary) of the POA Holder	4A	10-11
Undertaking of Board of Directors regarding their working in other firms/company/Organisation under Section 184 (1) and Rule 9(1)	4B	12-21
Certificate of incorporation	5	22-22
List of leases held by the applicant in India	6	23-24
Copy of Lease deed	7	25-82
Copy of the acknowledgement (Form-D) & application (Form-J) for 1 st renewal of lease for 1812.99 Ha lease area.	8	83-89
Copy of the acknowledgement (Form-D) & revised application (Form-J) for 1 st renewal of lease for 190.16 Ha lease area	8A	90-103
Copy of letter to Principal Secretary to Govt., Govt. of Odisha, Department of Steel & Mines Bhubaneswar to grant 1 st renewal of the mining lease over an area of 1812.99 Ha	8B	104-106
Copy of letter to Director of Mines (Odisha) to grant 1 st renewal of the mining lease over an area of 1812.99 Ha	8C	107-107
Copy of the Approval letter of last modified mining scheme	9	108-110
Copy of the Approval Letter of Final Mine Closure Plan for Surrendered area of 794.6815 Ha.	10	111-112
Certificate of implementation of protective, reclamation & rehabilitation work in accordance with approved FMCP required under sub rule (2) of rule 29A of MCR 1960 issued by Regional Controller of Mines, Bhubaneswar	10A	113-113
Letter of Govt. of Odisha wherein OMC was directed to take steps for obtaining renewal of the ML over 1018.3085 Ha.	10B	114-114
Letter to Govt. of Odisha for grant of RML of 1018.3085 Ha.	10C	115-116
Precise Area Plan	11	117-118
Land Schedule	12	119-121
Copy of forest clearance letter	13	122-123
Copy of environment clearance letter	14	124-133

(PK Bhattacharjee, key person)
MECON LIMITED
RQP/RNC/113/2004/B



**MODIFICATION PROPOSED IN THE APPROVED MINING PLAN
OF DAITARI IRON ORE LEASE (1018.3085 HA.)**

**LESSEE: THE ODISHA MINING CORPORATION LTD.
RQP : MECON LIMITED**



Copy of the consents to establish & operate from SPCB	15	134-152
Copy of the surface right permission letter	16	153-154
Permission letter of IBM to prepare the plans & sections on scale other than prescribed scale	16A	155-155
Copy of the NABL certificates & reports	17	156-375
Copy of the last bank guarantee paid	18	376-379
Copy of the environment monitoring report	19	380-520
Copy of RQP certificate	20	521-522
Copy of the violations raised by DGMS office and its compliance report	21	523-535
Process flow sheet of 200 tph Dry Crushing & Screening Plant	22A	536-536
Process flow sheet of 350 tph Dry Crushing & Screening Plant	22B	537-537
Process flow sheet of 800 tph OHP Plant	22C	538-538
Process flow sheet of standalone proposed 1000 tph Crushing & Screening Plant	22D	539-539
Typical Design of Retaining Wall, Garland Drain & Settling Pit	23	540-540
Copy of the forest permission for Drilling Borholes	24A	541-542
Copy of Form – J for permission of drilling boreholes	24B	543-546
Typical Photographs	25	547-550
Surveyor Certificate	26	551-552
Feasibility Report	27	553-570

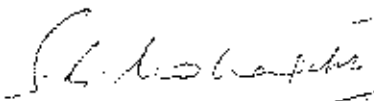
(person)
LIMITED
(PK Bhattacharjee, K/2004/B
MECO
RQP/RNC/1



Annexure - 1
Odisha Mining Corporation Limited
(A GOLD CATEGORY STATE PSU)

LIST OF BOARD OF DIRECTORS OF OMC LIMITED AS ON 07.12.2014

Sri Pradipta Kumar Mohapatra, IAS Chairman, OMC Ltd., Bhubaneswar	Sri Parag Gupta, IAS Principal Secretary to Govt. Public Enterprises Department, Odisha Bhubaneswar
Sri Rajesh Verma, IAS Principal Secretary to Government Steel & Mines Department, Odisha Bhubaneswar	Sri Priyanath Padhi, IFS Principal Chief Conservator of Forest, Odisha Aranya Bhawan, C.S. Pur Bhubaneswar
Sri Girish S. N., IAS, Managing Director, OMC Limited, Bhubaneswar	Sri Deepak Kumar Mohanty, IFS Director of Mines, Odisha Bhubaneswar
Sri A. K. Mishra, IA & AS Special Secretary to Government Finance Department, Odisha Bhubaneswar. Ph. 2395799	Sri C.R. Das Director, OMC Ltd. Plot C/91, Pallaspalli, Bhubaneswar
Sri D.K. Roy Director, OMC Limited Plot No. N-2/63, IRC Village Bhubaneswar	Dr. S. Acharya Director, OMC Limited Plot No. 155, VIP Colony, IRC Village Bhubaneswar
Sri S.N. Padhi Director, OMC Ltd. Plot No. A/8, Pallaspalli Bhubaneswar	Sri G.S. Khuntia Director, OMC Ltd. Plot No. 21-B, Jayadurga Nagar Bhubaneswar-751006

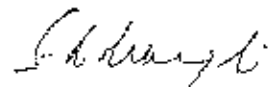

2/12/14
S.G. Mohapatra
Secretary, OMC

Annexure - 2

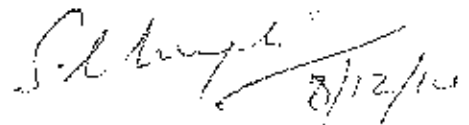
**RELEVANT EXTRACT FROM THE MINUTES OF THE 409TH MEETING APPROVED
BY THE BOARD ON 05.11.2014,**

Item No. 7	Nomination of Sri Girish S. N., IAS, as nominated owner of the mines of OMC Ltd. as per the Mines Act, 1952.
	The Board ratified that the action of Chairman for nominating Sri Girish S.N., IAS, MD, OMC as the owner of the Mines of OMC Limited as required under Section 73 of the Mines Act, 1952 w.e.f. 25.08.2014.

True Copy Certified



(S. R. Mohapatra)
Company Secretary



S. R. Mohapatra
Secretary, OMC

Annexure - 3

सिटीयूएफ INCOME TAX DEPARTMENT GIRISH S N NAGARAJ SHANBHOG 12/02/1977 Permanent Account Number AHRPN4030F	सिटीयूएफ INCOME TAX DEPARTMENT GIRISH S N NAGARAJ SHANBHOG 12/02/1977 Permanent Account Number AHRPN4030F	सिटीयूएफ INCOME TAX DEPARTMENT GIRISH S N NAGARAJ SHANBHOG 12/02/1977 Permanent Account Number AHRPN4030F	सिटीयूएफ INCOME TAX DEPARTMENT GIRISH S N NAGARAJ SHANBHOG 12/02/1977 Permanent Account Number AHRPN4030F

Annexure - 3

In case this card is lost / found, kindly inform / return to :
 Income Tax PAN Services Unit, UY11SL,
 Plot No. 3, Sector 11, CBD Belapur,
 Navi Mumbai - 400 614.
 For more details, visit our website :
 www.iti.gov.in, UY11SL
 यादी कार्ड गहाळ / मिळाले, कृपया सूचित करा / परतवा :
 उत्पन्नाकर पॅन सेवा युनिट, UY11SL,
 प्लॉट नं. ३, सेक्टर ११, सीडी बीलपूर,
 नावी मुंबई - ४०० ६१४.

In case this card is lost / found, kindly inform / return to :
 Income Tax PAN Services Unit, UY11SL,
 Plot No. 3, Sector 11, CBD Belapur,
 Navi Mumbai - 400 614.
 For more details, visit our website :
 www.iti.gov.in, UY11SL
 यादी कार्ड गहाळ / मिळाले, कृपया सूचित करा / परतवा :
 उत्पन्नाकर पॅन सेवा युनिट, UY11SL,
 प्लॉट नं. ३, सेक्टर ११, सीडी बीलपूर,
 नावी मुंबई - ४०० ६१४.

Annexure - 3

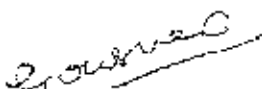


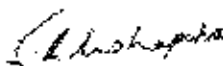
The Odisha Mining Corporation Limited

OMC House, P.B. No. 34, Bhubaneswar-751001
Phone: 0674-2392778, Fax: 06742398889
Web: omcltd.in

Name : GIRISH S.N., IAS
S/o. : SHANBHOG NAGARAJ
Emp. No. : 11006039
Designation : MANAGING DIRECTOR
DOB : 12.05.1977
Blood Group : AB+ve




Signature of Employee


Issuing Authority

Address :

OMC House, P.B. No. 34, Bhubaneswar-751001
Phone : 0674-2392778, Fax: 06742398889
Web : omcltd.in

INSTRUCTION :

1. Employees must carry their cards with them while on duty & produce the same on demand.
2. Loss of this card must be reported to the Issuing Authority immediately.
3. This card must be surrendered on leaving the service.

If found please return to :

The Odisha Mining Corporation Limited

OMC House, P.B. No. 34, Bhubaneswar-751001
Phone: 0674-2392778, Fax: 06742398889
Web: omcltd.in

14/001



उदीया ODISSA

C 724032

POWER OF ATTORNEY

BE IT KNOWN TO ALL THAT on behalf of the Odisha Mining Corporation, Bhubaneswar, I Shri Girish S.N., IAS, Managing Director, OMC Ltd., Bhubaneswar aged about 37 years, son of Shanbhog Nagaraj hereby appoint Shri Sudhansu Kumar Das, aged about 57 years, son of Shri Prahallad Chandra Das of Jajpur at present residing at Quarter No.C-8, OMC Colony, Unit-8, Nayapalli, Bhubaneswar, Dist: Khurda and presently working as Dy. General Manager (Geo),

Contd. P/2

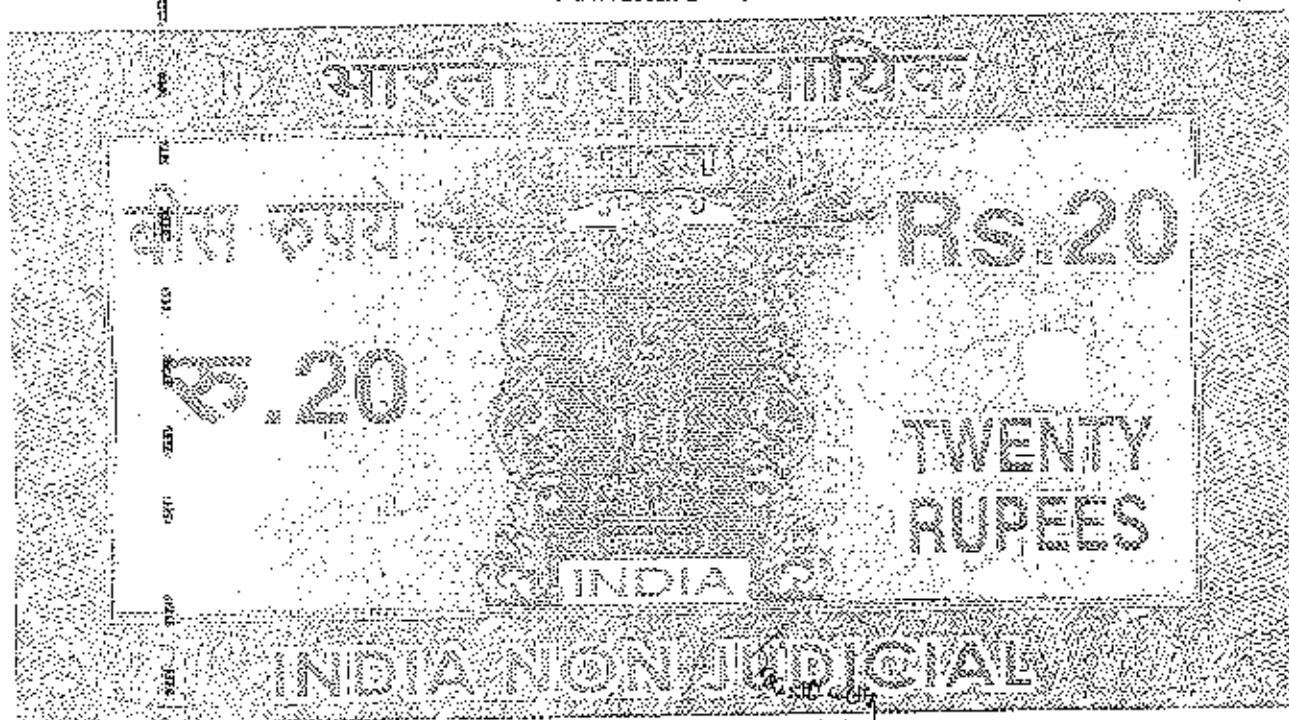


(Sudhansu Kumar Das)



Managing Director
Odisha Mining Corporation Ltd.
Bhubaneswar 751 001

Annexure - 4



3961 अरुण ORISSA

064A 103082



Odisha Mining Corporation Limited, Bhubaneswar as the Attorney to act in the name of the Corporation and on its behalf to sign for filing applications for all Reconnaissance Permits, Prospecting Licences, Mining Leases, Quarry Leases and Surface Right permission and to execute all Reconnaissance Permits, Prospecting Licences, Mining Leases and Quarry Lease deeds.

The Nominated Owner Shri Girish S.N., IAS also authorizes Shri S.K.Das to sign in all matters regarding Mining Plan, Scheme of Mining, Modification to Mining Plan, Modification to Scheme of Mining,

(Signature)

Contd. P/3

(Signature)
Managing Director
Odisha Mining Corporation Ltd.
Bhubaneswar 751 001



0551 107083

06AA 107083



0551 107083
06AA 107083
0551 107083

Progressive Mine Closure Plan, Final Mine Closure Plan and any other matter with Indian Bureau of Mines, Govt. of India & Directorate of Mines, Govt. of Odisha.

AND the Corporation do hereby agree to ratify all acts, deeds, instruments done or made by the above named Dy. General Manager(Geology) which shall be deemed to be done or made by the Corporation and shall be binding on the Corporation with full force and effect.

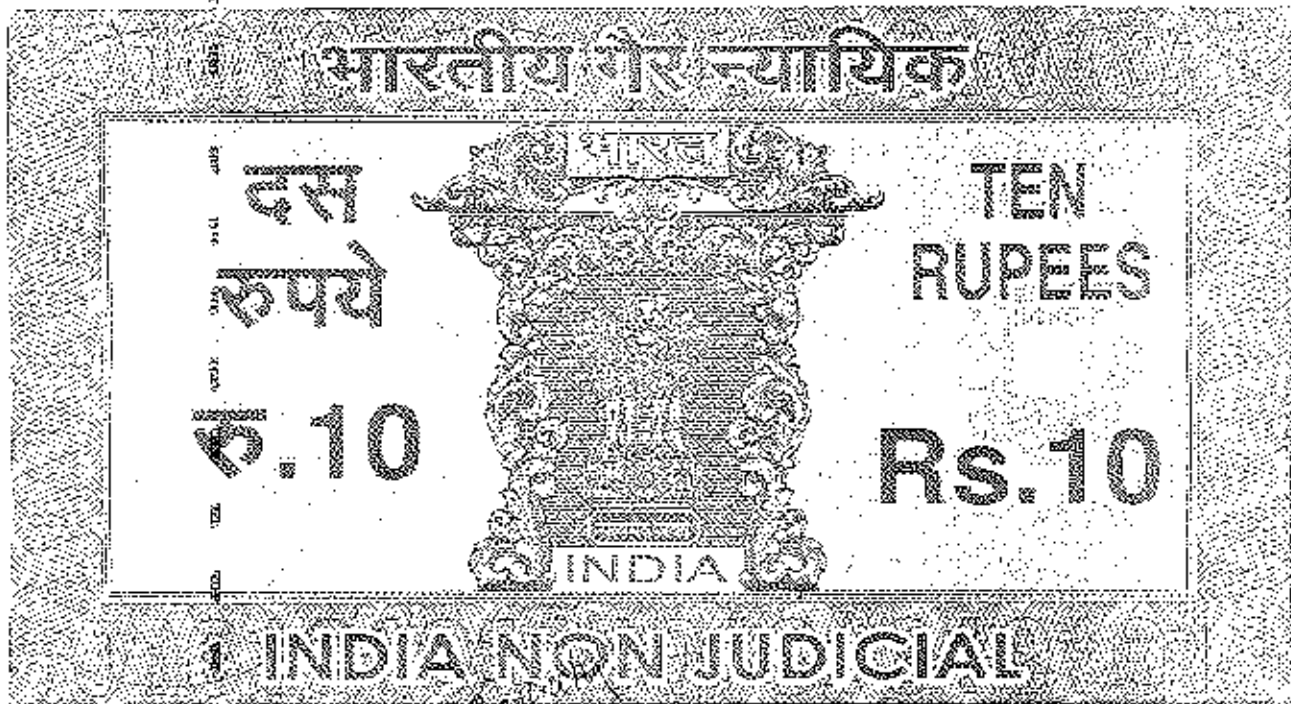
(Signature)

(Signature)

Contd.P/4

Managing Director
Orissa Mining Corporation Ltd
B. No. 751/001

(Signature)



ORISSA MINE REGISTRATION

22AA 537807

In witness whereof, this power of attorney is signed in the presence of the witnesses hereinafter mentioned this day of 30.12.2014.

ATTESTED BY

(Girish S.N.)

Managing Director
Odisha Mining Corporation Ltd.
Bhubaneswar

Witnesses:

1. Nannaban Nayak
PMC HO
O.M.C. Ltd., BBSR

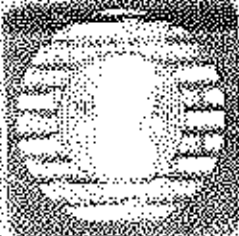
Managing Director
Odisha Mining Corporation Ltd.
Bhubaneswar 751 001

2. Kiran Kumar Mahapatra
Sr. PS to Sd. G. Mahapatra
O.M.C. Ltd., BBSR

Certified that the executant is my client and the documents has been typed by my typist according to my dictation

Advocate, Bhubaneswar

ANNEXURE 4

आयकर विभाग INCOME TAX DEPARTMENT		भारत सरकार GOVT. OF INDIA
* SUDHANSU KUMAR DAS PRAHALLAD CHANDRA DAS		
10/10/1957		
Permanent Account Number		
AANPD9674J		
Sudhansu Kumar Das		
Signature		

ANNEXURE - 4A

ANEX. 4

Address proof of Power of Attorney holder Sri S.K.Das

[illegible]

Annexure - 4B

Annexure-1

FORM MBP - 1

Notice of interest by director

[Pursuant to section 184 (1) and rule 9(1)]

To

The Board of Directors

Odisha Mining Corporation Limited

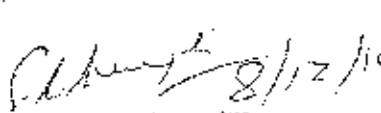
Dear Sir(s)

I, **Pradipta Kumar Mohapatra**, son/daughter/spouse of **Late Gandharba Mohapatra**, resident of **Qrs. No. 4, Type-VIII, Unit-I, Bhubaneswar** being a director in the company hereby give notice of my interest or concern in the following company or companies, bodies corporate, firms or other association of individuals:-

Sl. No.	Names of the Companies/bodies corporate/ firms/ association of individuals	Nature of interest or concern / Change in interest or concern	Shareholding	Date on which interest or concern arose / changed
01.	The Odisha Mining Corporation Limited	Chairman	Nil	27.08.2014
02.	M/s. Odisha State Medical Corporation Limited	Director		

Signature:

MD/Director/Secretary/Whole time Director

 Place: **3 BSR**
 Date: **24.9.14**

S.R. Mohapatra
 Secretary, OMC



Odisha Mining Corporation Limited

(A GOLD CATEGORY STATE PSU)

Mr. P. K. Mohapatra, IAS
Chairman

ANNEXURE - VB 216
No. 16274/OMC/14
Dt. 14.11.14

Dear

As per composition of the Board of Directors of OMC Ltd approved by Govt., one Director should represent your Department on the Board of Directors of OMC Ltd.

It is found from the record that since 17.10.2012 no representative of your Department is attending the meeting of the Board of Directors of OMC Ltd.

Further it is learnt Sri Rajesh Verma, IAS, Principal Secretary to Govt., Steel & Mines Department who was a Director to the Board of OMC Ltd from your Department has been transferred to other Department.

It is urgently required to nominate new Director for smooth functioning of the OMC Board.

You are requested to take up the matter at appropriate level for filling up of the above vacancy at an early date.

With

Yours

Sri G. Srinivas, IAS
Commissioner-cum-Secretary to Govt.
Steel & Mines Department
Govt. of Odisha
Bhubaneswar

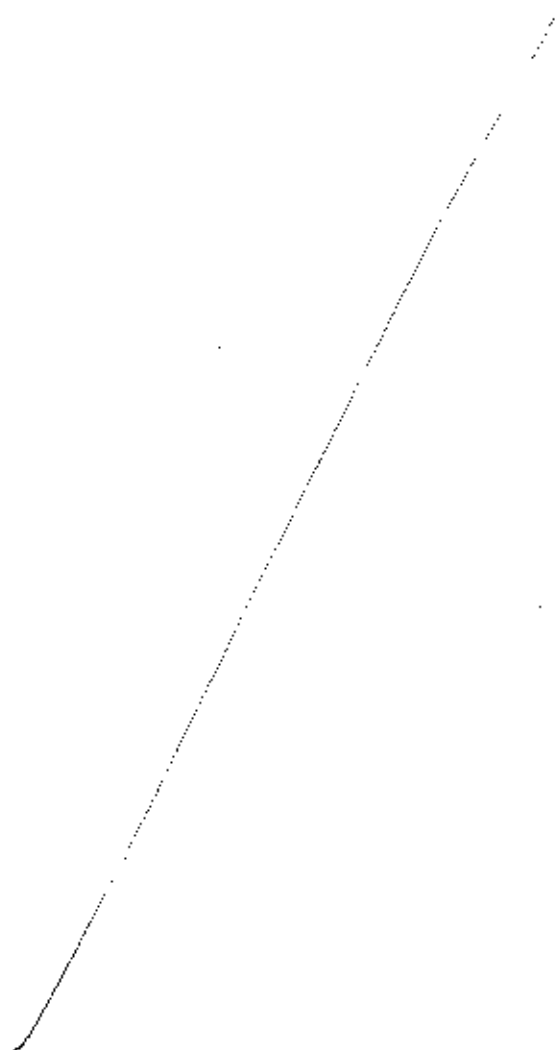
(P. K. Mohapatra)

Memo No. 16275 :OMC:14

Dtd. 14/11/14

Copy to the Chief Secretary, Odisha for kind information.

CHAIRMAN



Annexure - 4B

Annexure-1

FORM MBF - 1

Notice of interest by director

[Pursuant to section 184 (1) and rule 9(1)]

To

The Board of Directors

Odisha Mining Corporation Limited

Dear Sir(s)

I, **Girish S. N.**, son/daughter/spouse of **Shanbhog Nagaraj** resident of **OMC House, Unit-V, Bhubaneswar** being a director in the company hereby give notice of my interest or concern in the following company or companies, bodies corporate, firms or other association of individuals:-

Sl. No.	Names of the Companies/bodies corporate/ firms/ association of individuals	Nature of interest or concern / Change in interest or concern	Shareholding	Date on which interest or concern arose /changed
01.	The Odisha Mining Corporation Limited	Managing Director		26.08.2014
02.	Neelachal Ispat Nigam Ltd.	Director		27.09.2014
03.	Odisha Thermal Power Corporation Limited	Director		27.09.2014
04.	Mandakini-B Coal Corporation Limited	Director		27.09.2014
05.	South West Orissa Bauxite Mining Company Pvt. Ltd.	Director		27.09.2014
06.	East Coast Bauxite Mining Company Pvt. Ltd.	Director		27.09.2014
07.	Nuagaon Coal Company Limited	Director		27.09.2014

Girish S. N.
 Signature:
 MD/Director/Secretary/Whole time Director

Place: Bhubaneswar

Date: 24.09.2014

S.R. Mohapatra
 28/9/14
 S.R. Mohapatra
 Secretary, OMC

FORM MBP - 1
Notice of interest by director
[Pursuant to section 184 (1) and rule 9(1)]

ANNEXURE-1

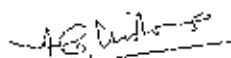
To
 The Board of Directors
 Odisha Mining Corporation Limited

Dear Sir(s):

I, ASWINI KUMAR MISHRA Son/Daughter/Spouse
 of HEMANTA KUMAR MISHRA resident of
BHUBANESWAR being a director in the company hereby
 give notice of my interest or concern in the following company or companies, bodies,
 corporate, firms or other association of individuals:-

Sl. No.	Name of the Companies/bodies corporate/ firms/ association of individuals	Nature of interest or concern/change in interest or concern	Shareholding	Date on which interest or concern arose/ changed
1-	OTDC	Director - Govt. nominee		
2.	OFDC	Director - Govt. nominee		
3.	OSBC	Director - Govt. nominee		

Place: Bhubaneswar
 Date: 16/11/14


 Signature
 CMD/Director
 Spl. Secy. to Govt.
 Finance Deptt.

384

Annexure - 4B

FORM MBP-1
Notice of Interest by Director

[Pursuant to section 184(1) and rule 9 (1)]

To
The Board of Directors,
Odisha Mining Corporation Limited

Dear Sir(s)

I, Parag Gupta, Son/daughter/spouse of Mahesh Chandra Gupta, resident of Qr No.7-Type-VII, Unit-1, Bhubaneswar-751001, Odisha, being a director in the company hereby give notice of my interest or concern in the following company or companies, bodies corporate, firms or other association individuals:-

Sl No	Name of the companies/bodies/corporate/firms/as association of individuals	Nature of interest or concern/change in interest or concern	Share holding	Date on Which interest or concern arose/changed
1.	OHPC Ltd	Director		26.04.2014
2.	GRIDCO	Director		26.04.2014
3.	OPTCL	Director		26.04.2014
4.	OMC	Director		28.05.2014
5.	OTDC	Director		30.03.2014

Place: BBSR
Date: 27/6/14

Signature

[Signature]
Member Secretary to Govt.
Dept. of Public Enterprises
Bhubaneswar

[Signature]
S.R. Mohapatra
Secretary, OMC

Annexure - 4B

300

Annexure-1

FORM MBP - 1 Notice of interest by director [Pursuant to section 184 (1) and rule 9(1)]

To
The Board of Directors
Odisha Mining Corporation Limited

Dear Sir(s)

I, Deepak Mohanty, Son/Daughter/Spouse of
Late S. S. Mohanty, resident of
P.O. No. SRF - 11, Mahatmayasandhi Marg, BBSR, being a director in the company hereby
give notice of my interest or concern in the following company or companies, bodies,
corporate, firms or other association of individuals:-

Sl. No.	Name of the Companies/bodies corporate/firms/ association of individuals	Nature of interest or concern/change in interest or concern	Shareholding	Date on which interest or concern arose/ changed

Place: Bhubaneswar
Date: 22.05.2014

S.R. Mohapatra
8/12/14

S.R. Mohapatra
Secretary, OMC

Deepak Mohanty
Signature
MD/Director
Director of Mines
Orissa, Bhubaneswar

39.3

Annexure - 4B

FORM MBP-1

Notice of Interest by Director
(Pursuant to section 184(1) & rule 9(1))

To

The Board of Directors, Orissa mining Corporation Ltd,
Bhubaneswar-751001,

Dated 21/5/14

Dear Sirs

I Sri Ghana Shyama Khuntia, son of Late Sri Lingaraj Khuntia, resident of 21B, Jaydurganagar, Bhubaneswar-751006, being Director in Company of Companies, bodies, Corporate firms or other associations of individuals

Sl No	Name of corporate bodies, corporate Firms/Association of individuals	Nature of Interest or concern/Change in interest or concern Share holding	Share holding	Date on which interest or concern arose/changed
1	SGAT, Bhubaneswar	Council member	Nil	From last 4 years
2	Institution of Engineers (Odisha), Bhubaneswar	Council member	Nil	From 2000
3	MGMT/MEAI/IGS, Roorkee	Member	Nil	From last 26 years
4	RINL-Board Subcommittee for transit & handling loss of raw materials	Member	Nil	Last 2 years
5	Consulting Group-India International Mining Consultancy & Services, Bhubaneswar	Consultant with a team of expert & experienced retired Mining Engineers from the 'coal & non-coal mineral sectors,	Nil	From 2000 onwards
6	Multidisciplinary Center of Safety, Health & Environment, an Autonomous body of Orissa govt.	Vice President	Nil	(1993 onwards, continuing)

Signature

(GS Khuntia)

Director

S.R. Mohapatra
Secretary, OMC

1377

Annexure - 4B

FORM MBP - 1

Annexure-1

Notice of interest by director
[Pursuant to section 184 (1) and rule 9(1)]

To

The Board of Directors
Odisha Mining Corporation Limited

Dear Sir(s)

I, Jayendra Kumar Roy, Son/Daughter/Spouse of
_____ resident of
_____ being a director in the company hereby
give notice of my interest or concern in the following company or companies, bodies,
corporate, firms or other association of individuals:-

Sl. No.	Name of the Companies/bodies corporate/ firms/ association of individuals	Nature of interest or concern/change in interest or concern	Shareholding	Date on which interest or concern arose/ changed
1	Odisha Power Transmission Corporation Ltd.	Independent Director	NIL	2003
2	GRIDCO Ltd.	Do	NIL	2003
3	Odisha Thermal Power Company Ltd	OMC Nominated Director	Ten number share	2007
4	Kalinga Hospital Ltd	Independent Director	NIL	2013

Place:
Date:

Bhubaneswar
10.05.14.

Signature
MD/Director

S.R. Mohapatra
Secretary, OMC

Annexure - 4B

FORM MBP - 1

Notice of interest by director
[Pursuant to section 184 (1) and rule 9(1)]

Annexure-1

To

The Board of Directors
Odisha Mining Corporation Limited

Dear Sir(s)

I, Dr. Satyananda Acharya (M.D.) Son/Daughter/Spouse of
Late Padmananda Acharya, resident of
155, V.P. Colony, Bhubaneswar - 751 015 being a director in the company hereby
give notice of my interest or concern in the following company or companies, bodies,
corporate, firms or other association of individuals:-

Sl. No.	Name of the Companies/bodies corporate/ firms/ association of individuals	Nature of interest or concern/change in interest or concern	Shareholding	Date on which interest or concern arose/ changed
1	Odisha Mining Corporation (OMC)	Independent Director (attend Board meeting)	X	23.6.2004
2	Indian Metals & Ferro Alloys Ltd. (IMFA)	Independent Director (B attend Board meeting)	X	1987
3	Odisha Environmental Society, BBSR, (OES)	President and member	X	2008
4	J.D. Centre of Arts (J.D.C.A)	member & Trustee	X	2002

Place:
Date:

BBSR
23/5/14

Signature
MD/Director

S. Acharya
8/12/14 (S. Acharya)

S.R. Mohapatra
Secretary, OMC

Annexure - 4B

Annexure-1

FORM MBP - 1
 Notice of interest by director
 [Pursuant to section 184 (1) and rule 9(1)]

To

The Board of Directors
 Odisha Mining Corporation Limited

Dear Sir(s)

I, Sunandhanali Pathe, Son/Daughter/Spouse of
Lat Gyan Chandra Pathe, resident of
A/8, Palash-palli, Bluebanyan-2 being a director in the company hereby
 give notice of my interest or concern in the following company or companies, bodies,
 corporate, firms or other association of individuals:-

Sl. No.	Name of the Companies/bodies corporate/firms/ association of individuals	Nature of interest or concern/change in interest or concern	Shareholding	Date on which interest or concern arose/ changed
1	Quality Mining Solutions Private Ltd, Sosanthen Gopabandhu Hill, Bhubaneswar - 751001	Nil	N.A.	N.A.
2	India International Mining Consultancy & Services 21B, Jaydurga Nagar, Bhubaneswar - 751006	Nil	N.A.	N.A.

Place:
 Date:

Bhubaneswar
 05/6/2019

S.R. Mohapatra
 9/2/19
 S.R. Mohapatra
 Secretary, OMCL

S.R. Mohapatra
 Signature
 MD/Director

Annexure - 4B

Annexure-1

FORM MBP - 1
Notice of interest by director
[Pursuant to section 184 (1) and rule 9(1)]

To
The Board of Directors
Odisha Mining Corporation Limited

Dear Sir(s)

I, CHITTARANJAN DAS, Son/Daughter/Spouse of
LATE CHANDRA MOHAN DAS, resident of
C/O, TALASPALLI, BHUBANESWAR being a director in the company hereby
give notice of my interest or concern in the following company or companies, bodies,
corporate, firms or other association of individuals:-

Sl. No.	Name of the Companies/bodies corporate/ firms/ association of individuals	Nature of interest or concern/change in interest or concern	Shareholding	Date on which interest or concern arose/ changed
1	ODISHA THERMAL POWER CORPORATION LTD	DIRECTOR AS NOMINEE OF OMC LTD	700 numbers of shares	FROM THE TIME OF INCORPORATION
2	ODISHA MINING CORPORATION LTD	INDEPENDENT DIRECTOR		FROM 19.3.2009

Place: BHUBANESWAR
Date: 22.05.2014

S.R. Mohapatra
Secretary, OMC

Chittaranjan Das
Signature
Director
(CR DAS)

~~Annexure - 5~~

Annexure - 5

Form 1 B.

Certificate of Incorporation

No. 2 of 1956-57

I hereby certify that THE ORISSA MINING CORPORATION (PRIVATE) LIMITED is this day incorporated under the Companies Act 1956 (No 1 of 1956) and that the Company is limited.

Given under my hand at Sambalpur this sixteenth day of May, one thousand nine hundred fifty six.

Sd. B. K. JAYAKUMAR
Registrar of Companies, Orissa

A. The word (PRIVATE) was deleted in pursuance of order No. 1111/56, (VI) dated the 14th March, 1956, Ministry of Mines, Department of Company Law, Government of India, Delhi.

25/5/56

25/5/56

✓

ANNEXURE - 6
ANNEXURE - 6

LIST OF LEASES OF THE APPLICANT

Sl. No	Name of M.L. area	Mineral	Area (ha)	District	Date of grant	Date of renewal	Period (years)
1	SGSK	Iron	1011.800	Keonjhar	-	-	-
2	Ringpahar	Iron	79.300	-do-	24.08.84	24.08.94	30
3	Kumliar	Iron	4212.470	Sundergarh	29.04.85	29.04.85	20
4	Banba	Iron	408.870	-do-	-do-	31.12.98	30
5	Gandramardan (A)	Iron	819.576	Keonjhar	21.05.88	21.05.88	30
6	Gandramardan (B)	Iron	1593.867	-do-	11.07.70	11.07.70	30
7	Banspani	Iron	380.400	-do-	21.05.85	21.05.85	30
8	Khandabandha	Iron	363.910	-do-	30.11.83	30.11.83	30
9	BPU	Iron	881.521	-do-	27.02.70	27.02.2002	30
10	Kaira-Katsra	Iron	418.960	Sundergarh	12.10.75	12.10.92	20
11	Kaira-Bhanjipsa	Iron	141.240	-do-	07.05.82	07.05.2012	30
12	Daitari	Iron	190.200	Keonjhar & Jajpur	27.01.85	27.01.95	30
13	Bafda-unisa	Iron	881.621	Keonjhar	27.02.78	27.02.2000	30
14	Tamra	Iron	1225.027	Jajpur	-	-	-
15	Sekradahi	Iron	188.85	Keonjhar	28.12.59	28.12.89	30
16	Serenida-Bhadreshi	Iron & manganese	1734.570	-do-	30.08.86	30.08.2003	20
17	Dubra-Sekradhi	Iron & manganese	1932.019	-do-	28.12.59	28.12.89	30
18	Daki	Iron & manganese	285.290	-do-	07.08.76	07.08.96	20
19	Nalakhel	Manganese	501.67	Koraput	28.09.87	28.09.2007	20
20	Paripada	Manganese	104.96	Keonjhar	25.04.81	25.04.2001	20
21	Boda	Manganese	78.711	-do-	25.04.81	25.04.2001	20
22	Dura	Manganese	1185.419	-do-	03.09.71	03.09.91	20
23	Kolha-Roda	Manganese	192.81	-do-	09.02.77	09.02.77	20
24	Kalapara	Chromite	971.245	Jajpur	08.07.87	08.07.87	20
25	Sauli-Kalapara	Chromite	552.457	-do-	22.01.80	22.01.2000	20
26	Sukraei	Chromite	362.709	-do-	29.09.80	29.09.2000	20
27	Banipank (Bouda-B)	Chromite	1832.583	-do-	-	-	30
28	Bangur	Chromite	145.850	-do-	01.09.75	01.09.75	20
29	Baula	Chromite	207.360	-do-	37.08.85	37.08.85	20
30	Basa of Mahugin	Chromite	165.810	-do-	39.09.70	39.09.70	20
31	Saruahi-Sakarangi	Chromite	23.543	-do-	29.01.81	29.01.81	15
32	Kahapal	Chromite	284.468	Dhenkanal	10.02.59	10.02.59	20
33	Bisal	Chromite	683.21	-do-	04.11.76	04.11.76	20
34	Katarang	Chromite	935.220	Jajpur	09.12.88	09.12.88	20
35	Baphimati	Bauxite	1388.74	Rayagada & Kalahandi	-	-	-
36	Unadavalley	Limestone	859.930	Koraput	20.08.76	20.08.96	20
37	Jilingahar	Gemstone	35.686	Kalahandi	01.10.82	01.10.2002	10
38	Hajibahal	Gemstone	57.465	-do-	14.08.200	14.08.2003	10

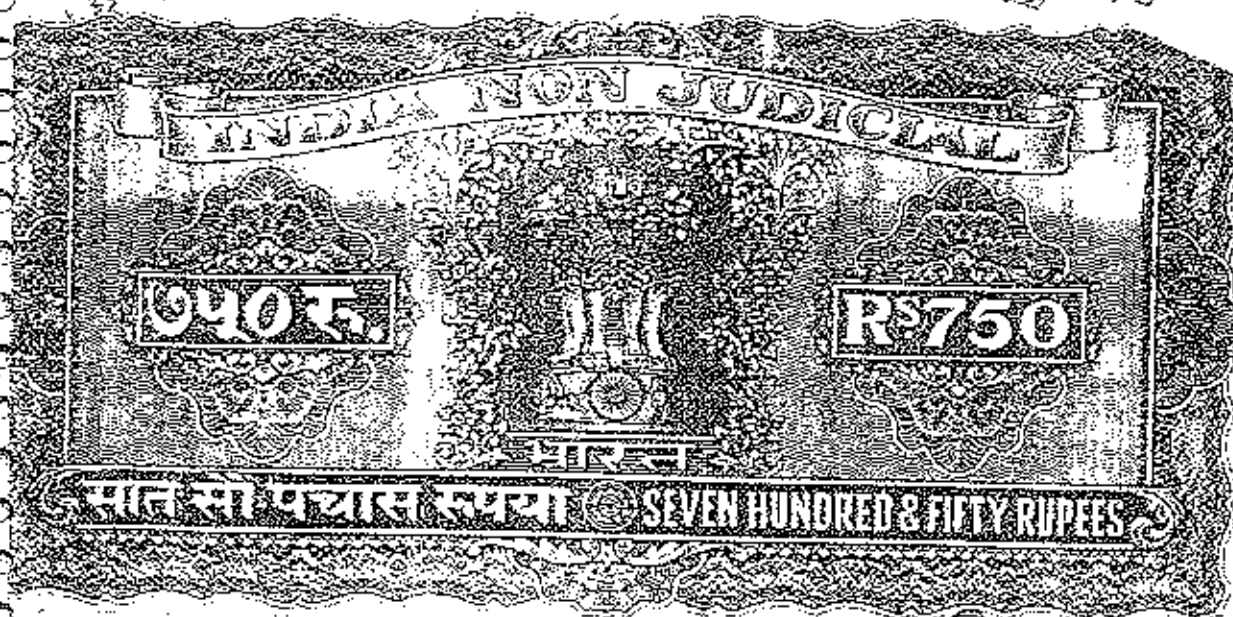
1 of 2

1 OF 2

ANNEX - 6
ANNEXURE - 6

Sl. No	Name of B.L area	Mineral	Area (ha)	District	Date of grant	Date of renewal	Period (years)
33	Budhapara	Gemstone	58.950	Neapara	14.06.93	14.06.2003	10
43	Kumardaha	Titanium bearing vanadiferous magnetite	289.852	Mayurbhanj			
44	Dumura	China clay	142.70	Mayurbhanj	09.08.78	09.08.98	20

ANNEXURE -

$$\begin{array}{r} 913 \overline{) 837} \\ \underline{819} \\ 18 \\ \underline{18} \\ 0 \end{array}$$


19405

Rs 750

सात सौ पचास रुपया  SEVEN HUNDRED & FIFTY RUPEES

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12/12

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RCM

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MODEL FORM OF MINING LEASE
(See rule 31).

THIS INDENTURE made this 27th day of January 1966 between the Governor of Orissa (hereinafter referred to as the "State Government" which expression shall where the context so admits be deemed to include the successors and assigns) of the one part; and

Contd...2/

750 Rs



- 2 -

When the
lessee is a
registered
company.

M/s. Orissa Mining Corporation Ltd.,
Bhubaneswar (Name of company) a company
registered under the Indian Companies Act 1956
(Act under which incorporated) and having
its registered Office at Bhubaneswar, District -Puri
(Address) hereinafter referred to as the lessees)

Contd ..3/

अनुमोदित
APPROVED

750 Rs



- 3 -

which expression shall where the context so admits be deemed to include its successors and permitted assigns) of the other part.

WHEREAS the lessees have applied to the State Government in accordance with the Mineral Concession Rules , 1960 (hereinafter referred to as the said Rules), for a mining lease

Contd ..4/

2

3/4/2011
A17

Int. Tahseer

750 Rs.



- 4 -

for Iron Ore in respect of the lands
described in Part I of the Schedule
hereunder written and have deposited with
the State Government the sum of Rs. 1000/-
as security and the sum of Rs. 500/- for

Contd..5/

4 OF 58

750Rs.



- 5 -

meeting the preliminary expenses for a
mining lease (and WHEREAS the Central
Government has approved the grant of the lease*)

WITNESSETH that in consideration of
the rents and royalties covenants and agreements

Contd...5/

45

(P) [Signature], Key Person]
MECON LIMITED
ROD/ANCO/11/2004/8

750 Rs.



-6-

by and in these presents and the Schedule
 hereunder written reserved and contained and
 of the
 on the part/lessees to be paid observed and
 performed, the State Government (with the
 approval of the Central Government) *
 hereby grants and demises unto lessees.

* In case of minerals included in the
 first Schedule of the Mines and Minerals (Regulation
 and Development) Act, 1957.

Contd...7/

 अनुमोदित
 APPROVED

750 Rs.

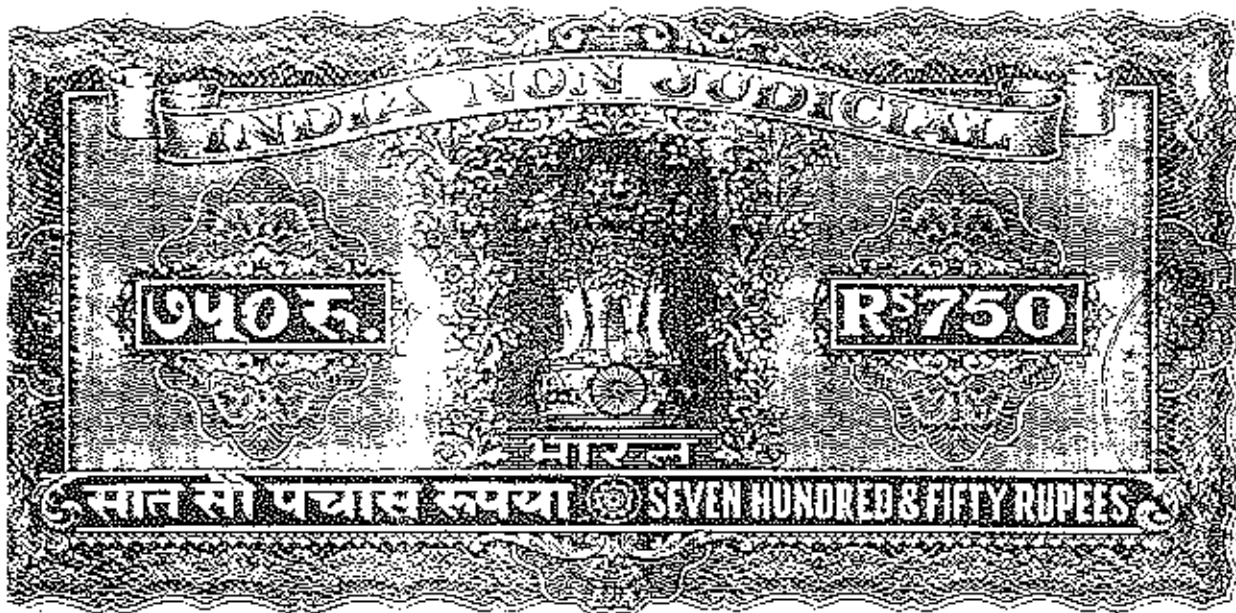


- 7 -

All those the mines beds/veins
 seams of Iron Ore (Here state the mineral
 or minerals) (Hereinafter and in the
 Schedule referred to as the said minerals)
 situated lying and being in or under the lands

Contd.. 8/

सं. ४०६८
 २०१९/२०



-8-

which are referred to in Part I of
the said Schedule together with the
liberties, powers and privileges to be
exercised or enjoyed in connection herewith
which are mentioned in Part II of the

Contd..9/

h

750 Rs



-9-

said Schedule subject to the restrictions and conditions as to the exercise and enjoyment of such liberties, powers and privileges which are mentioned in Part III of the said Schedule EXCEPT and reserving out of this demise unto

Contd.. 10/

4

750 Rs.



-10-

the State Government the liberties, powers
and privileges mentioned in Part IV of
the said Schedule TO HOLD the premises
herely granted and demised unto the
lessees from the 27th..... day February... 1954
for the term of 30 years thence next ensuing

Contd.. 11/

अनुमोदित
APPROVED

750 Rs



- 11 -

YIELDING AND PAYING therefore unto the State Government the several rents and royalties mentioned in Part V of the said Schedule at the respective times therein specified subject to the provisions contained in Part VI of the said Schedule

Contd...12/



- 22 -

and the lessors hereby covenant with the State Government as in Part VII of the said Schedule is expressed and the State Government hereby covenants with the lessees as in Part VIII of the said Schedule as expressed AND it is hereby mutually agreed between the

Contd..13/



- 13 -

parties hereto as in Part IX of the said Schedule is expressed.

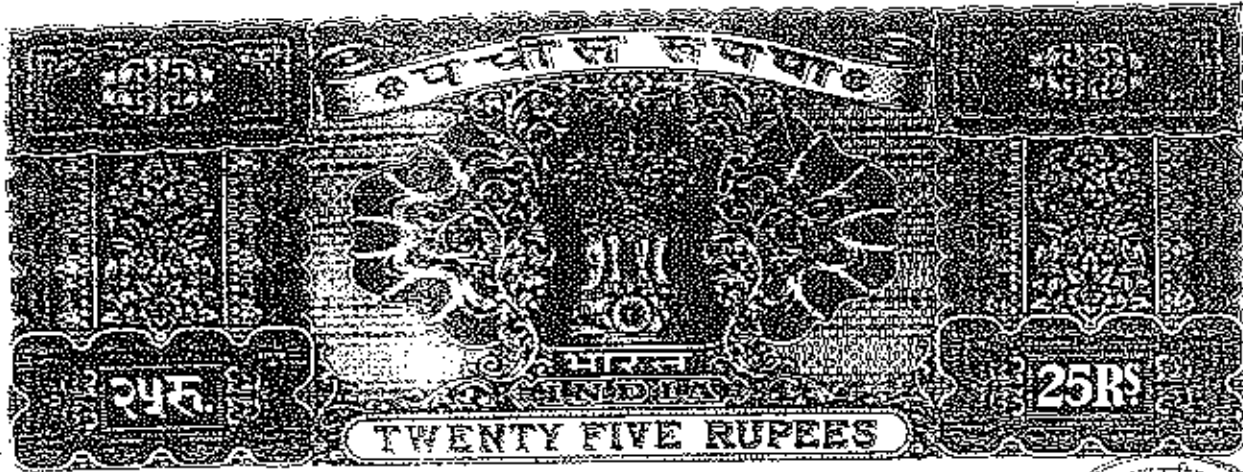
IN WITNESS WHEREOF these presents have been executed in manner hereunder appearing the day and year first above written.

The Schedule above referred to

62

Contd...14/

25 Rs.



- 14 -

PART I

THE AREA OF THIS LEASE

Location and
area of the
lease.

All that tract of lands situated at
Daitari village (Description of area or
areas) in Jajpur Sub-Division the Registration
district of Cuttack Sub-District Jajpur
and Thana Harichandanpur bearing Cadastral
Survey Nos as indication below containing

Contd...15/

अनुमोदित
APPROVED

ANNEXURE-7



-18-

an area of 1812.99 hectares or 4480 acres
thereabouts delineated on the plan hereto
annexed and thereon coloured blue and
bounded as follows:-

Contd...16/

ANNEXURE-7

- 16 -

Boundary description of Mining lease area of Orissa Mining Corporation Ltd (A Govt. of Orissa Undertaking) for Daitari Iron ore project over an area of 4480 acres or 1812.99 hectares in Keonjhar and Cuttack District.

Ref:- Topo sheet No.73 G/16.

The reference point for the area is the Survey of India triangulation point marked on Daitari Peak (Δ 2370). The area is enclosed by four sides AE, BC, CD and DA forming a rectangle ABCD. The point 'Y' on the Northern boundary (BC) of the area is located at a distance of 3802 feet or 1158.85 metres from and exactly North of the Daitari Peak (Δ 2370).

The line EB as shown on the plan runs due West (Starting from Y) for 12728 feet or 4184.29 metres with 10 stations and 40 sub-stations and terminates at 'C'. From 'C' the line CD runs due South for 10560 feet or 3218.68 metres with 8 stations and 36 sub stations and terminates at point 'D'. From 'D' the line DA takes a turn and runs due East for 18480 feet or 5632.70 metres with 15 stations and 71 sub-stations and terminates at 'A'. From 'A' the line AB runs due North for 10560 feet or 3218.68 metres with 10 stations and 23 sub-stations and terminates at B. From 'B' again the line BY takes a turn and runs due West for 4752 feet or 1448.41 metres with 3 stations and 20 sub stations and meets YC at point Y making BC straight line. The total H.L. Area is 4480 acres or 1812.99 hectares. hereinafter referred to as 'the said land'.

Contd.....17/

ANNEXURE-7

- 17 -

LIBERTIES, POWERS AND PRIVILEGES TO BE EXERCISED
AND ENJOYED BY THE LESSEES SUBJECT TO THE
RESTRICTIONS AND CONDITIONS IN PART III.

To enter
upon land
and search
for win
work, etc.

1. Liberty and power at all times during the
term hereby demised to enter upon the said lands
and to search for mine, bore, dig, drill for win work
dress process convert carry away and dispose of the
said mineral.

To sink
drive and
make pits,
shafts
and incli-
nes etc.

2. Liberty and power for or in connection with
any of the purposes mentioned in this part to sink,
drive, make, maintain and use in the said lands any
pits, shafts, inclines, drifts, levels, waterways,
airways and other works (and to use, maintain, deepen
or extend any existing works of the like nature in
the said lands).

To bring
and use
machine
and
equipment
etc.

3. Liberty and power for or in connection
with any of the purposes mentioned in this part to
erect, construct, maintain and use on or under the
said lands any engines machinery, plant, dressing
floors, furnaces, coke ovens, brick-kilns, workshops,
store houses, bungalows, godowns, sheds and other
buildings and other works and conveniences of the
like nature on or under the said lands.

To make
roads and
ways etc.
and use
existing
roads and
ways.

4. Liberty and power for or in connection
with any of the purposes mentioned in this part
to make any tramways, railways, roads, aircraft
landing grounds and other ways in or over the
said lands and to use maintain and go and repass
with or without horses, cattle wagons, aircrafts,

Contd.....18/

ANNEXURE-7

- 18 -

locomotives or other vehicles over the same
(or any existing tramways, railways, roads and
other ways in or over the said lands) on such
conditions as may be agreed to.

To get
building
and road
materials,
etc.

5. Liberty and power for or in connection
with any of the purposes mentioned in this part
to quarry and get stone gravel and other building
and road materials and clay and to use and employ
the same and to manufacture such clay into bricks
or tiles and to use such bricks or tiles but not
to sell any such material bricks or tiles.

To use
water
from
streams,
etc.

6. Liberty and power for or in connection
with any of the purposes mentioned in this part
but subject to the rights of any existing or future
lessees and with the written permission of
Collector to appropriate and use water from any
streams, water courses, springs or other sources
in or upon the said lands and to divert step up
or dam any such stream or water-course and collect
or impound any such water and to make, construct
and maintain any water-course, culverts, drains
or reservoirs but not as to deprive any cultivated
lands, villages, buildings or watering places
for livestock of a reasonable supply of water as

APPROVED

Contd.....18/

ANNEXURE-7

- 19 -

before accustomed nor in any way to foul or pollute any streams or springs. Provided that the lessees shall not interfere with the navigation in any navigable stream nor shall divert such stream without the previous written permission of the State Government.

To use and for stacking, heaping, depositing purposes.

7. Liberty and power to enter upon and use a sufficient part of the surface of the said lands for the purpose of stacking, heaping, storing or depositing therein any produce of the mines or works carried on and any tools, equipment, earth and materials and substances dug or raised under the liberties and powers mentioned in this part.

Beneficiation and conveying away of production.

8. Liberty and power to enter upon and use a sufficient part of the said lands to beneficiate any ore produced from the said lands and to carry away such beneficiated ore.

To clear brush-wood and to fell and utilise trees, etc.

9. Liberty and power for or in connection with any of the purposes mentioned in this part and subject to the existing rights of others and save as provided in clause 3 of Part III of this Schedule to clear undergrowth and brushwood and to fell and utilise any trees or timber standing or found on the said lands provided that the State Government may ask the lessees to pay for any trees or timber felled and utilised, by them at the rates specified by the Collector or the State Government.

Contd.....20/-

ANNEXURE-7



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PART III

RESTRICTIONS AND CONDITIONS AS TO THE EXERCISE
OF THE LICENCES, POWER AND PRIVILEGES IN PART II

No building etc.
upon
certain
places.

1. No building or thing shall be erected, set up or placed and no surface operations shall be carried on in or upon any public pleasure ground burning or burial ground or place held sacred by any class of persons or any house or village site, public road or other place which the State Government may determine as public ground nor in such a manner as to injure or prejudicially affect any buildings works property or rights of other persons and no land shall be used for surface operations which is already occupied by persons other than the State Government for works or purposes not included in this lease. The lessees shall not also interfere with any right or way, well or tank.

Permission
for sur-
face ope-
rations in
a land not
already in
use.

2. Before using for surface operations any land which has not already been used for such operations, the lessees shall give to Collector of the district two calendar months' previous notice in writing, specifying the name or other description of the situation and the extent of the land proposed to be so used and the purpose for which the same is required and the said land shall not be so used if objection is issued by the Collector within two months

Contd.....21/

ANNEXURE-7

- 21 -

after the receipt by him of such notice unless the objections so stated shall on reference to the State Government be annulled or waived.

To cut trees
in unreser-
ved land.

3. The lessees shall not without the express sanction of the Collector cut down or injure any timber or trees on the said lands but may without such sanction clear away any brush-wood or undergrowth which interferes with any operations authorised by these presents. The Collector or the State Government may require the lessees to pay for any trees or timber felled and utilised by them at the rates specified by the Collector of the district.

To enter
upon reser-
ved forests.

4. Notwithstanding anything in this Schedule contained the lessees shall not enter upon any reserved forest included in the said lands without previous sanction in writing of the District Forest Officer nor fell, cut and use any timber or trees without obtaining the sanction in writing of that Officer nor otherwise than in accordance with such conditions as the State Government may prescribe.

No mining
operations
within 50
metres of
public
works, etc.

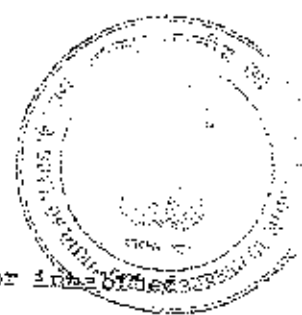
5. The lessees shall not work or carry on or allow to be worked or carried on any mining operations at or to any point within a distance of 50 metres from any railway line except with the previous written permission of the Railway Administration concerned or from any reservoirs, canal or other public works.

APPROVED

Contd..... 22/ 4

ANNEXURE-7

- 22 -



such as public roads and buildings or in any other site except with the previous written permission of the Collector or any other Officer authorised by the State Government in this behalf and otherwise than in accordance with such instructions, restrictions and conditions either general or special which may be attached to such permission. The said distance of 50 metres shall be measured in the case of railway, reservoir or canal horizontally from the outer toe of the bank or the outer edge or the cutting as the case may be and in case of a building horizontally from the plinth thereof. In the case of village roads no working shall be carried on within a distance of 10 metres of the outer edge of the cutting except with the previous permission of the Collector or any other officer duly authorised by the State Government in this behalf and otherwise than in accordance with such directions, restrictions and additions, either general or special, which may be attached to such permission.

Explanation - For the purposes of this clause the expression 'Railway Administration' shall have the same meaning as it is defined to have in the Indian Railway Act, 1900, by clause (6) of section 3 of that Act, 'Public Road' shall

Contd.....23/

ANNEXURE-7

- 23 -

mean a road which has been constructed by artificial surfacing as distinct from a track resulting from repeated use. Village road will include any track shown in the Revenue record as village road.

Facilities for adjoining Government licences and leases.

6. The lessees shall allow existing and future holders of Government licences or leases over any land which is comprised in or adjoins or is reached by the land held by the lessees reasonable facilities of access thereto:

PROVIDED THAT no substantial hindrance or interference shall be caused by such holders of licences or leases to the operations of the lessees under these presents and fair compensations (as may be mutually agreed upon or in the event of disagreement as may be decided by the State Government) shall be made to the lessees for all loss or damage sustained by the lessees by reason of the exercise of this liberty.

PART IV

LIBERTIES, POWER AND PRIVILEGES RESERVED TO THE STATE GOVERNMENT

To work other minerals.

1. Liberty and power for the State Government or to any lessee or persons authorised by it in that behalf to enter into and upon the said lands and to search for, win, work, dig, get, raise, dress, process, convert and carry away minerals

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other than the said minerals and any other substances and for those purposes to sink, drive, make, erect, construct, maintain and use such pits, shafts, inclines, drifts, levels and other lines, waterways, airways, water-courses, drains, reservoirs, engines machinery plant, buildings canals tramways, railways, roadways and other works and conveniences as may be deemed necessary or convenient:

PROVIDED THAT in the exercise of such liberty and power no substantial hindrance or interference shall be caused to or with liberties, powers and privileges of the lessees under these presents and that fair compensation (as may be mutually agreed upon or in the event of disagreement as may be decided by the State Government) shall be made to the lessees for a loss or damage sustained by the lessees by reason or in consequence of the exercise of such liberty and power.

To make
railways
and
roads.

2. Liberty and power for the State Government or any lessee or person authorised by it in that behalf to enter into and upon the said lands and to make upon, over or through the same any railways, tramways, roadways or pipelines for any purpose other than those mentioned in Part II of these presents and to get from the said lands

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stones, gravel, earth, and other materials for making, maintaining and repairing such railways, tramways and roads or any existing railways and roads and to go and repass at all times with or without horses, cattle or other animals, carts, wagons, carriages, locomotives or other vehicles over or along any such railways, tramways, roads, lines and other ways for all purposes and as occasion may require; provided that in the exercise of such liberty and power by such other lessee or person no substantial hindrance or interference shall be caused to or with the liberties, powers and privileges of the lessees under these presents and that fair compensation, as may be mutually agreed upon or in the event of disagreement as may be decided by the State Government, shall be made to the lessees for all loss or damage sustained by the lessees by reason or in consequence of the exercise by such lessee or person of such liberty and power.

PART V

RENT AND ROYALTIES RESERVED BY THIS LEASE

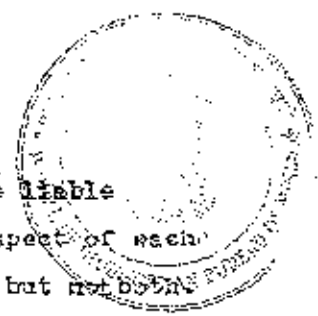
To pay dead rent or royalty which ever is greater.

1. The lessees shall pay, for every year, except the first year of the lease yearly dead rent as specified in clause 2 of this Part in respect of each mineral:

Contd.....26/

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Rate and
mode of
payment
of dead
rent.

Provided that the lessees shall be liable to pay the dead rent or royalty in respect of each mineral whichever is higher in amount but not both.

2. Subject to the provisions of clause 1 of this part during the subsistence of the lease, the lessees shall pay to the State Government annual dead rent at the following rates or at such revised rates which may be communicated in writing to the lessees by the State Government per mineral per hectare of the lands demised and described in Part I of this Schedule:-

Name of mineral	Dead rent fixed per hectare	Area of demised land	Dead rent payable	Total dead rent payable in a year
1. Iron Ore	R.12.50	1812.6020 hectares	R.22,657.60	R.22,657.60
2.				
3.				

(Here insert the manner in which and the time at which the dead rent, surface rent and water rate should be paid.)

The first payment of dead rent to be made on or before the 15th July 1967 for the period commencing from the 27th January '67 to the 30th June '67 calculated at the said half-yearly rate of rent and subsequent payments to be equal and to be made every half year thereafter, that is, for the period

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from January to June be paid on or before 15th January and for the period from July to December on or before 15th July each year.

Rate and mode of payment of royalty.

3. Subject to the provision of clause 1 of this Part, the lessees shall, during the subsistence of this lease, pay to the State Government at such time and in such manner as the State Government may prescribe royalty in respect of any mineral removed by them from the leased area at the rate specified in the second Schedule to the Mines and Minerals (Regulation and Development) Act, 1957 as amended from time to time.

Payment of surface rent and water rate.

4. The lessees shall pay rent to the State Government in respect of all parts of the surface of the said lands which shall, from time to time, be occupied or used by the lessees under the authority of these presents at the rate Rs. 2.50 for waste lands and at rates not exceeding rates of land revenue and cesses for cultivated lands and water rate at the rates as may be fixed from time to time per annum per hectare of the area so occupied or used and so in proportion for any area less than an hectare during the period from the commencement of such occupation or use until the area shall cease to be so occupied or used.

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and shall as far as possible, restore the surface land so used to its original condition. Surface rent and water-rate shall be paid as hereinafore detailed in clause Z; PROVIDED THAT NO such rent/ water-rate shall be payable in respect of the occupation and use of the area comprised in any roads or ways to which the public have full right of access.

PART VI

PROVISION RELATING TO THE RENTS AND ROYALTIES

Rent and royalties to be free from deduction etc.

1. The rent, water rate and royalties mentioned in Part V of this Schedule shall be paid free from any deductions to the State Government at Cuttack and in such manner as the State Government may prescribe PROVIDED ALWAYS and it is hereby agreed that Rs.1000/- the balance standing to the credit of the lessees on account of the deposit made by them as a licensee over an area which included the said lands shall be retained and accepted by the State Government in satisfaction of the rents and royalties mentioned in Part V until they reach that amount.

Mode of computation of royalty.

2. For the purposes of computing the said royalties the lessees shall keep a correct account of the mineral/minerals produced and despatched. The accounts as well as the weight of the mineral/minerals in stock or in the process of export may be

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checked by an officer authorised by the Central or State Government.

For the purpose of computing the said royalties the quality of the ore shall ascertained as follows:-

The lessee shall, before despatch, whether the ore has been sold at site or not, or before beneficiation shall grade the ore into such qualities as may be prescribed by the State Government and every consignment despatched or sent for beneficiation shall not contain ore of more than one such grade. The lessee shall produce evidence of analysis of each consignment despatched or sold or beneficiated by laboratory recognised in the trade for such analysis within two months of the sale, despatch or beneficiation and such analysis report which shall contain analysis of the various factors which the State Government may specify in this behalf shall be taken subject to the following proviso as the quality report for assessing quality of the ore; PROVIDED that the lessor may take out samples of the ore sold, despatched or beneficiated and get the same analysed through a recognised ANALYST in case such ANALYST discloses a more favourable quality for the lessor, adopt such quality for computation of the said royalty and in addition,

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if such analysis report discloses a difference of one per cent or more in the quality of high grade ore or two per cent or more in the case of low grade ore, the cost of such analysis by the lessor shall also be recoverable from the lessee.

Course of action if rents and royalties are not paid, in time.

3. Should any rent, royalty or other sums due to the State Government under the terms and conditions of these presents be not paid by the lessees within the prescribed time, the same may be recovered on a certificate of such officer as may be specified by the State Government by general or special order, in the same manner as an arrear of land revenue.

PART VII

THE COVENANTS OF THE LESSEE/LESSEES

Lessee to pay rents and royalties, taxes, etc.

1. The lessees shall pay the rent, water rate and royalties reserved by this lease at such times and in the manner provided in PARTS V and VI of these presents and shall also pay and discharge all taxes, rates, assessments and impositions whatsoever being in the nature of public demands which shall from time to time be charged, assessed or imposed by the authority of

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the Central and State Governments upon or in respect of the premises and works of the lessees in common with other premises and works of a like nature except demands for land revenues.

To maintain and keep boundary marks in good order.

2. The lessees shall at their own expenses erect and at all times maintain and keep in repair boundary marks and pillars according to the demarcation to be shown in the plan annexed to this lease. Such marks and pillars shall be sufficiently clear of the shrubs and other obstructions as to allow easy identification.

To commence operations within a year and work in a workman like manner.

3. Unless the State Government for good cause permits otherwise, the lessees shall commence operation within one year from the date of execution of the leases and shall thereafter at all times during the continuance of this lease search for, win, work and develop the said minerals without voluntary intermission in a skilful and workmanlike manner and as prescribed under clause 12 hereinafter without doing or permitting to be done any unnecessary or avoidable damage to the surface of the said lands or the crops, buildings, structures or other property thereon. For the purposes of this clause operations shall include the erection of machinery laying of a tramway or construction of a road in connection with the mine.

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To indemnify
Government
against all
claims.

4. The lessees shall make and pay such reasonable satisfaction and compensation as may be assessed by lawful authority in accordance with the law in force on the subject for all damage, injury or disturbance which may be done by them in exercise of the powers granted by this lease and shall indemnify and keep indemnified fully and completely the State Government against all claims which may be made by any person or persons in respect of any such damage, injury or disturbance and all costs and expenses in connection therewith.

To secure and
keep good
condition
pits, shafts,
etc.

5. The lessees shall during the subsistence of this lease well and sufficiently secure and keep open with timber or other durable means all pits, shafts and workings that may be made or used in the said lands and make and maintain sufficient fences to the satisfaction of the State Government round every such pit shaft or working whether the same is abandoned or not and shall during the same period keep all working in the said lands except such as may be abandoned accessible free from water and foul air as far as possible.

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✓
To strengthen
and support
the mine
to necessary
extent.

6. The lessees shall strengthen and support to the satisfaction of the Railway Administration concerned or the State Government, as the case may be any part of the mine which in its opinion requires such strengthening or support for the safety of any railway, reservoir, canal, road and any other public works or structures.

To allow
inspection
of workings.

7. The lessees shall allow any officer authorized by the Central Government or the State Government in that behalf to enter upon the premises including any building, excavation or land comprised in the lease for the purpose of inspecting, examining, surveying prospecting and making plans thereof sampling and collecting any data and the lessees shall with proper person employed by the lessees and acquainted with the mines and work effectually assist such officer, agents, servants and workmen in conducting every such inspection and shall afford them all facilities, information connected with the working of the mines which they may reasonably require and also shall and will conform to and observe all orders and regulations which the Central and State Governments as the result of such inspection or otherwise may from time to time see fit to impose.

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To report
accident.

8. The lessees shall without delay send to the Collector a report of any accident causing death or serious bodily injury or serious injury to property or seriously affecting or endangering life or property which may occur in the course of the operations under this lease.

To report
discovery
of other
minerals.

9. The lessees shall report to the State Government the discovery in the leased area of any mineral not specified in the lease within sixty days of such discovery along with full particulars of the nature and position of each such find. If any mineral not specified in the lease is discovered in the leased area, the lessees shall not win and dispose of such mineral unless such mineral is included in the lease or a separate lease is obtained therefor.

To keep
records and
accounts
regarding
production
and employ-
ees etc.

10. The lessees shall at all times during the said term keep or cause to be kept at an office to be situated upon or near the said lands correct and intelligible books of accounts which shall contain accurate entries showing from time to time -

- (1) Quantity and quality of the said mineral realised from the said lands.
- (2) Quantity of the various qualities of ores beneficiated or converted (for example coal converted into coke).
- (3) Quantities of the various qualities of the said mineral sold and exported separately.



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- (4) Quantities of the various qualities of the said mineral otherwise disposed of and the manner and purpose of such disposal.
- (5) The prices and all other particulars of all sales of said mineral.
- (6) The number of persons employed on the mines or works or upon the said lands specifying nationality, qualifications and pay of the technical personnel.
- (7) Such other facts, particulars and circumstances as the Central or the State Government may from time to time require and shall also furnish free of charge to such officers and at such times as the Central and State Governments may appoint true and correct abstract of all or any such books of accounts and such information and returns to all or any of the matters aforesaid as the State Government may prescribe and shall at all reasonable times allow such officers as the Central Government or State Government shall in that behalf appoint to enter into and have free access to the said officers for the purpose of examining and inspecting the said books of account, plans and records and to make copies thereof and make extracts therefrom.

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To maintain
plans, etc.

11. The lessees shall at all times during the said term maintain at the mine office correct intelligible up-to-date and complete plans and sections of the mines in the said lands. They shall show all the operations, and workings and all the trenches, pits and drillings made by them in the course of operations carried on by them under the lease, faults and other disturbances encountered and geological data and all such plans and sections shall be amended and filled up by and from actual surveys to be made for that purpose at the end of twelve months or any period specified from time to time and the lessees shall furnish free of charge to the Central and State Governments true and correct copies of such plans and sections whenever required. Accurate records of trenches, pits and drillings shall show -

(a) The sub-soil and strata through which they pass.

(b) Any mineral encountered.

(c) Any other matter of interest and all data required by the Central and State Governments from time to time.

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The lessees shall allow any officer of the Central or the State Government, authorised in its behalf by the Central Government, inspect the same at all reasonable times. They shall also supply when asked for by the State Government/ the Coal Controller/ the Director, Geological Survey of India/ the Director, Indian Bureau of Mines, a composite plan of the area showing thickness, dip, inclination etc., of all the seams as also the quantity of reserves quantity-wise.



Act 67 of
1957

12. The lessees shall be bound by such rules as may be issued from time to time by the Government of India under section 18 of the Mines and Minerals (Regulation and Development) Act, 1957 (Act 67 of 1957), and shall not carry on mining or other operations under the said lease in any way other than as prescribed under these rules.

To provide
weighing
machine.

13. Unless specifically exempted by the State Government the lessees shall provide and at all times keep at or near the pit head or each of the pit heads at which the said minerals shall be brought to bank a properly constructed and efficient weighing machine and shall weigh or cause to be weighed thereon all the said minerals from time to time brought to bank sold,

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exported and converted and also the converted products and shall at the close of each day cause the total weights ascertained by such means of the said minerals, ores products raised sold, exported and converted during the previous twenty-four hours to be entered in the aforesaid books of accounts. The lessees shall permit the State Government at all times during the said term to employ any person or persons to be present at the weighing of the said minerals as aforesaid and to keep accounts thereof and to check the accounts kept by the lessees. The lessees shall give 7 days previous notice in writing to the Collector of every such measuring or weighing in order that he or some officer on his behalf may be present thereat.

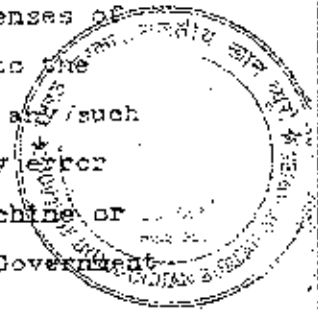
To allow test
of weighing
machine.

14. The lessees shall allow any person or persons appointed in that behalf by the State Government at any time or times during the said term to examine and test every weighing machine to be provided and kept as aforesaid and the weights used therewith in order to ascertain whether the same respectively are correct and in good repair and order and if upon any such examination or testing any such weighing machine or weights shall be found incorrect or out of repair or order the State Government may require that the same be adjusted, repaired and put in order by and at the expense of the lessees and if such requisition be not complied with within fourteen days after the same shall have been

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and the State Government may cause such weighing machine or weights to be adjusted required, and put in order and the expenses of so doing shall be paid by the lessees to the State Government on demand and if upon any such examination or testing as aforesaid any error shall be discovered in any weighing machine or weights to the prejudice of the State Government such error shall be regarded as having existed for three calendar months previous to the discovery thereof or from the last occasion of examining and testing the same weighing machine and weights in case such occasion shall be within such period of three months and the said rent and royalty shall be paid and accounted for accordingly.



To pay compensation for injury of third parties.

15. The lessees shall make and pay reasonable satisfaction and compensation for all damage injury or disturbance of person or property which may be done by or on the part of lessees in exercise of the liberties and power granted by these presents and shall at all times be and keep harmless and keep indemnified the State Government from and against all suits claims and demands which may be brought or made by any person or persons in respect of any such damage, injury or disturbance.

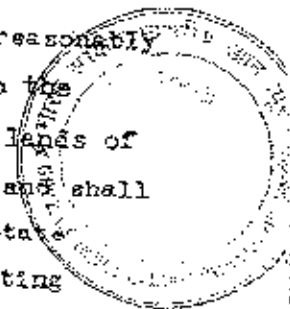
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Not to
obstruct
working
of other
minerals.

15. The lessees will exercise the liberties and powers hereby granted in such a manner as to offer no unnecessary or reasonably avoidable obstruction or interruption to the development and working within the said lands of any minerals not included in this lease and shall at all times afford to the Central and State Government and to the holders of prospecting licences or mining leases in respect of any such minerals or any minerals within any land adjacent to the said lands as the case may be reasonable means of access and safe and convenient passage upon and across the said lands to such minerals for the purpose of getting working, developing and carrying away the same provided that the lessees shall receive reasonable compensation for any damage or injury which they may sustain of reason or in consequence of the use of such passage by such lessees or holders of prospecting licences.



Transfer
of lease

17. (1) The lessees shall not, without the previous consent in writing of the State Government, which in the case of a mining lease in respect of any mineral specified in the First Schedule to the Act shall not be given except

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after previous approval of the Central Government.

(a) assign, sublet, mortgage, or in any other manner transfer the mining lease, or any right, title or interest therein, or

(b) enter into or make any arrangement, contract or understanding whereby the lessees will or may be directly or indirectly financed to a substantial extent by, or under which the lessee's operations or undertakings will or may be substantially controlled by, any person or body of persons other than the lessees.

✓ (2) Without prejudice to the above provisions, the lessees may, subject to the conditions specified in the proviso to rule 35 of said Rules transfer this lease or any right, title or interest therein, ✓ to a person holding a certificate of approval and an income-tax clearance certificate from the Income-tax Officer concerned, on payment of a fee of rupees one hundred to the State Government.

Provided that the lessees shall make available to the transferee the original or certified copies of all plans of abandoned workings in the area and in a belt 65 metres wide surrounding it.

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(3) The State Government, may, by order in writing determine the lease at any time if the lessees have in the opinion of the State Government, committed a breach of any of the above provisions or have transferred the lease or any right, title or interest therein otherwise than in accordance with clause (2).

Provided that no such order shall be made without giving the lessees a reasonable opportunity of stating his/their case.

18. The lease shall not be controlled and the lessees shall not allow themselves to be controlled by any Trust, Syndicate, Corporation Firm or person except with the written consent of the Central Government. The lessees shall not enter into or make any arrangement compact or understanding whereby the lessees will or may be directly or indirectly financed by or under which the lessees, operation or undertakings will or may be carried on directly or indirectly by or for the benefit of or subject to the control of any Trust, Syndicate, Corporation, Firm or person unless with the written sanction given prior to such arrangement compact or understanding being entered into or made of the Central Government and any or every such arrangement compact or understanding as aforesaid (entered into or made with such sanction as aforesaid) shall only be entered into or

Not to be
financed
or controlled
by a
Trust Corp-
oration
Firm or
person.

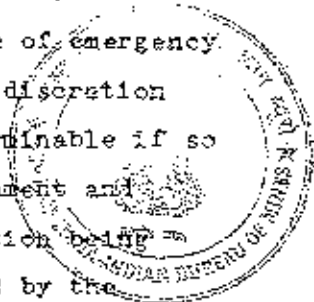
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made and shall always be subject to an express condition binding upon the other party or parties thereto that on the occasion of a state of emergency of which the President of India in his discretion shall be the sole judge it shall be terminable if so required in writing by the State Government and shall in the event of any such requisition being made be forthwith thereafter determined by the lessees accordingly.



Lessee shall deposit any additional amount necessary.

19. Whenever the security deposit of Rs.1,000/- or any part thereof or any further sum hereafter deposited with the State Government in replenishment thereof shall be forfeited or applied by the Central or State Government pursuant to the power hereinafter declared in that behalf the lessees shall deposit with the State Government such further sum as may be sufficient with the unappropriated part thereof to bring the amount in deposit with the State Government up to the sum of Rs. 1,000/-

Delivery of workings in good order to State Governments after determination of lease.

20. The lessees shall at the expiration or sooner determination of the said term or any renewal thereof deliver up to the State Government all mines, pits, shafts, inclines, drifts, levels, water-ways, air-ways and other works now existing or hereafter to be sunk or made or on under the said lands except such as have been accorded with the sanction of the State Government and in any ordinary and fair course of working all engines, machinery, plant, buildings,

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structures, other works and conveniences which at the commencement of the said term were upon or under the said lands and all such machinery set up by the lessees below ground which can not be removed without causing injury to the mines or works under the said lands (except such of the same as may with the sanction of the State Government have become disused) and all buildings and structures of bricks or stone erected by the lessees above ground level is good repair order and conditions and fit in all respects for further working of the said mines and the said minerals.

Right of
preemption.

21. (a) The State Government shall from time to time and all times during the said term have the right (to be exercised by notice in writing to the lessees) of pre-emption of the said minerals (and all products thereof) lying in or upon the said lands hereby demised or elsewhere under the control of the lessees and the lessees shall with all possible expedition deliver all minerals or products or minerals purchased by the State Government under the power conferred by this provision in the quantities at the times in the manner and at the places specified in the notice exercising the said right.

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(b) Should the right of pre-emption conferred by this present provision be exercised and vessel chartered to carry the minerals or products thereof procured on behalf of the State Government or the Central Government be detained on demurrage at the port of loading the lessees shall pay the amount due for demurrage according to the terms of the charter party of such vessel unless the State Government shall be satisfied that the delay is due to causes beyond the control of the lessees.

(c) The price to be paid for all minerals or products of minerals taken in pre-emption by the State Government in exercise of the right hereby conferred shall be the fair market price prevailing at the time of pre-emption PROVIDED THAT in order to assist in arriving at the said fair market price the lessees shall if so required furnish to the State Government for the confidential information of the Government particulars of the quantities descriptions and prices of the said minerals or products thereof sold to other customers and of charters entered into for freight for carriage of the same and shall produce to such officer or officers as may be directed by the State Government original or authenticated

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copies of contracts and charter parties entered into for the sale or freightage of such minerals or products.



(d) In the event of the existence of a state of war or emergency (of which existence the President of India shall be the sole judge and a notification to this effect in the Gazette of India shall be conclusive proof), the State Government with the consent of the Central Government shall from time to time and all times during the said term have the right (to be exercised by a notice in writing to the lessees) forthwith take possession and control of the works, plant, machinery and premises of the lessees on or in connection with the said lands or operations under this lease and during such possession or control the lessees shall conform to and obey all directions given by or on behalf of the Central Government or State Government regarding the use or employment of such work plants premises and minerals PROVIDED THAT fair compensation which shall be determined in default of agreement by the State Government shall be paid to the lessees for all loss or damage sustained by them by reason or in consequence of the exercise of the powers conferred by this clause and PROVIDED ALSO that the exercise of such powers shall not determine the said term hereby granted or affect the

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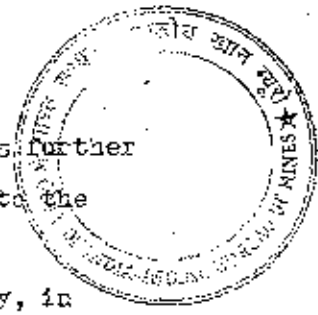
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terms and provisions of these presents further that may be necessary to give effect to the provisions of this clause.



Employment of foreign national.

22. The lessees shall not employ, in connection with the mining operations any person who is not an Indian national except with the previous approval of the Central Government.

Recovery of expenses incurred by the State Government.

23. If any of the works or matters which in accordance with the covenants in that behalf hereinbefore contained are to be carried out or performed by the lessees be not so carried out or performed within the time specified in that behalf, the State Government may cause the same to be carried out or performed and the lessees shall pay the State Government on demand all expenses which shall be incurred in such carrying out or performance of the same and the decision of the State Government as to such expenses shall be final.

Furnishing of geophysical data.

24. The lessees shall furnish -
(a) all geophysical data relating to mining fields or engineering and ground water surveys, such as anomaly maps, sections, plans, structures, contour maps, logging, collected by him/them during the course of mining operations to the Director, Geological Survey of India, Calcutta.

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(b) all information pertaining to investigations of radio active minerals collected by them during course of mining operations to the Secretary, Department of Atomic Energy, New Delhi.

Data or information referred to above shall be furnished every year reckoned from the date of commencement of the period of the mining lease.

PART VIII

THE COVENANTS OF THE STATE GOVERNMENT

Lessee/
lessees
may hold
and enjoy
rights
quietly.

1. The lessees paying the rents, water-rate and royalties hereby reserved and observing and performing all the covenants and agreements herein contained and on the part of the lessees to be observed and performed shall and may quietly hold and enjoy the rights and premises hereby demised for and during the term hereby granted without any unlawful interruption from or by the State Government, or any person rightfully claiming under it.

Acquisition
of land of
third per-
ties and
compensa-
tion thereof.

2. If in accordance with the provision of clause 4 of Part VII of this Schedule the lessees shall offer to pay to an occupier of the surface of any part of the said lands compensation for any damage or injury which may arise from the proposed operations of the lessees and the said occupier shall refuse his consent to the exercise of the right and powers reserved to the State Government and demised to the lessees by these presents and the lessees shall report the matter to the State Government and shall deposit with it the

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and if offered as compensation and if the State Government are satisfied that the amount of compensation offered is fair and reasonable or if it is not so satisfied and the lessees shall have deposited with it such further amount as the State and the Central Governments shall consider fair and reasonable the State Government shall order the occupier to allow the lessees to enter the land and to carry out such operations as may be necessary for the purpose of this lease. In assessing the amount of such compensation the State Government shall be guided by the principles of the Land Acquisition Act.

renew.

3. Where the mining lease relates to any mineral not specified in the First Schedule to the Act, it shall be renewable for one period not exceeding the period specified in sub-section (2) of section 8, at the option of the lessees:

Provided that the State Government may for reasons to be recorded in writing reduce the area applied for.

If the lease is in respect of minerals specified in the First Schedule to the Act, renewal will be subject to the prior approval of the Central Government.

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If the lessees be desirous of taking a renewed lease of the premises hereby demised or of any part or parts of them for a further term from the expiration of the term hereby granted and is otherwise eligible, they shall prior to the expiration of the last mentioned term give to the State Government six calendar months previous notice in writing and shall pay the rents, rates and royalties hereby reserved and shall observe and perform the several covenants and agreements herein contained and on the part of the lessees to be observed and performed up to the expiration of the term hereby granted. The State Government on receipt of application for renewal, shall consider it in accordance with rule 28 of the said rules and shall pass orders as it deems fit. If renewal is granted, the State Government will at the expense of the lessees and upon their executing and delivering to the State Government if required a counterpart thereof execute and deliver to the lessees a renewed lease of the said premises or part thereof for the further term of not exceeding 30 years at such rents, rates and royalties and on such terms and subject

Contd..... 51/

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to such rents, rates and royalties and on such terms and subject to such covenants and agreements, including this present covenants and agreements, including this present covenant to renew as shall be in accordance with the Mineral Concession Rules, 1960, applicable to Iron Ore (name of minerals) on the day next following the expiration of the term hereby granted.

4. The lessees may at any time determine this lease by giving not less than 12 calendar months notice in writing to the State Government or to such Officer or authority as the State Government may specify in this behalf and upon the expiration of such notice provided that the lessees shall upon such expiration render and pay all rents, water rates, royalties, compensation for damages and other moneys which may then be due and payable under these presents to the lessor or any other person or persons and shall deliver these presents to the State Government then this lease and the said term and the liberties, powers and privileges hereby granted shall absolutely cease and determine but without prejudice to any right or remedy of the lessor in respect of any breach of any of the covenants or agreement contained in this presents.

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Contd..... 52/

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4.(a) The State Government may on an application made by the lessees permit ~~the lessee~~ to surrender one or more minerals from ~~his lease~~ ^{leases} which is for a group of minerals on the ground that the deposits of that mineral have since exhausted or depleted to such an extent that it is no longer possible to work the mineral economically subject to the condition that the lessees (a) make an application for such surrender of mineral at least six months before the intended date of surrender, and (b) give an undertaking that they will not cause any hindrance in the working of the mineral so surrendered by any other person who is subsequently granted a mining lease for that mineral.

Refund of
security
deposits.

5. On such date as the State Government may elect within 12 calendar months after the determination of this lease or of any renewal thereof, the amount of the security deposit paid in respect of this lease and then remaining in deposit with the State Government and not required to be applied to any of the purposes mentioned in this lease shall be refunded to the lessees. No interest shall run on the security deposit.

Contd..... 53/1980/11

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PART IX

GENERAL PROVISIONS



Obstructions
to inspection.

1. In case the lessees or their transferees/assignees does not allow entry or inspection by the officer authorised by the Central or State Government under clauses (1), (j) or (l) of sub-rule (1) of rule 27 of said rules, the State Government shall give notice in writing to the lessees requiring them to show cause within such time as may be specified in the notice why the lease should not be determined and their security deposit forfeited; and if the lessees fail to show cause within the aforesaid time to the satisfaction of the State Government, the State Government may determine the lease and forfeit the whole or part of the security deposit.

Penalty in
case of
default in
payment of
royalty and
breach of
covenants.

2. If the lessees or their transferee or assignee makes any default in payment of rent or water-rate or royalty as required by section 9 of the Act or commits a breach of any of the conditions and covenants other than those referred to in clause (1) above, the State Government shall give notice to the lessees requiring them to pay the rent, water-rate, royalty or remedy the breach, as the case may be within sixty days from the date of receipt of the notice and if the rent, water-rate and royalty are not paid or the breach is not remedied within such

Contd..... 54/

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period, the State Government may without prejudice to any proceedings that may be taken against them, determine the lease and forfeit the whole or part of the security deposit.

Penalty for repeated breaches of covenants.

3. In cases of repeated breaches of covenants and agreements by the lessees for which notice has been given by the State Government in accordance with clause (1) and (2) aforementioned on earlier occasion, the State Government without giving any further notice, may impose such penalty not exceeding twice the amount of annual dead rent specified in clause 2, Part V.

Failure to fulfil the terms of leases due to "Force Majeure".

4. Failure on the part of the lessees to fulfil any of the terms and conditions of this lease shall not give the Central or State Government any claim against the lessees or be deemed a breach of this lease, in so far as such failure is considered by the said Government to arise from force majeure, and if through force majeure the fulfilment by the lessees of any of the terms and conditions of this lease be delayed, the period of such delay shall be added to the period fixed by this lease. In this clause the expression "force majeure" means Act of God, war, insurrection, riot, civil commotion, strike, earthquake, tide storm, tidal wave, flood, lightning, explosion.

Contd..... 55

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ANNEXURE-7

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fire, earthquake and any other happening which the lessees could not reasonably prevent or control.

Lessee/
lessees to
remove his/
their
properties
on the
expiry of
lease.

5. The lessees having first paid and discharged rents, rates and royalties payable by virtue of these presents may at the expiration or sooner determination of the said term or within six calendar months thereafter (unless the lease shall be determined under clauses 1 and 2 of this part and in that case at any time not less than three calendar months nor more than six calendar months after such determination) take down and remove for their own benefit all or any engines machinery plant, building, structures, tramways, railways and other works erections and conveniences which may have been erected set up or placed by the lessees in or upon the said lands and which the lessees are not bound to deliver to the State Government under clause 20 of part VII of this Schedule and which the State Government shall not desire to purchase.

Forfeiture
of Property
left more
than six
months after
determina-
tion of
lease.

6. If at the end of six calendar months after the expiration or sooner determination of the said term under the provision contained in clause 4 of part VIII of this Schedule become effective there shall remain in or upon the said land any engines, machinery plant,

Contd..... 56/

ANNEXURE-7

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buildings, structures, tramways, railways, and other work erections and conveniences or other property which are not required by the lessees in connection with operations in any other lands held by them under prospecting licence or mining lease the same shall if not removed by the lessees within one calendar month after notice in writing requiring their removal has been given to the lessees by the State Government be deemed to become the property of the State Government and may be sold or disposed of in such manner as the State Government shall deem fit without liability to pay any compensation or to account to the lessees in respect thereof.

Notices

7. Every notice by these presents required to be given to the lessees shall be given in writing to such person resident on the said lands as the lessees may appoint for the purpose of receiving such notices and if there shall have been no such appointment then every such notice shall be sent to the lessees by registered post addressed to the lessees at the address recorded in this lease or at such other address in India as the lessees may from time to time in writing to the State Government designate for the

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APPROVED

Contd..... 57/

ANNEXURE-7

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receipt of notices and every such service shall
be deemed to be proper and valid service upon
the lessees and shall not be questioned or
challenged by ~~him~~ *the lessee*

Immunity of
State Government
from liability to
pay compensation.

8. If in any event the orders of the State
Government are revoked, reviewed or cancelled by
the Central Government in pursuance of proceedings
under chapter VII of the Mineral Concession Rules,
1960, the lessees shall not be entitled to
compensation for any loss sustained by the lessees
in exercise of the powers and privileges conferred
upon them by these presents.

9. For the purpose of stamp duty the
anticipation royalty from the demised
land is Rs. one Lakh per year.

Contd....58/

Original -

[Handwritten signature]

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RECEIVED
APPROVED

ANNEXURE-7

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IN WITNESS WHEREOF these presents have
been executed in the manner hereunder appearing
the day and year first above written.

In the presence of: Signed by the Collector,
Cuttack for and on
behalf of the Governor
of Orissa.

1. Baburam Rath-Bhal,
Tangi Nohi, Cuttack,
27-1-66



2. Shriph. Singh,
4 D.C. Mining Section
Cuttack Collectorate,
27-1-66.

Signature

In the presence of: Signed by the
Managing Director,
Orissa Mining Corporation Ltd
for and on behalf of the
Orissa Mining Corporation Ltd,
Bhubaneswar.

1. Krishna Kumar Singh
Senior Assistant,
27-1-66

2. Banamali Mohapatra,
27-1-66.
Junior Administrative Officer
OMC Ltd.

The original is the same as that of
the original.

Signature

Annexure - 8

No. 21895 :LAC:ES:95
To

The Collector,
Keonjhar (Orissa).

Sub: Application for the first renewal of AL over an area of 1812.99 hec. for Iron Ore in Jaitari of Keonjhar/Jajpur Districts held under A.L. by M/s. Orissa Mining Corporation Ltd.

Sir,

We are submitting herewith 6 (six) copies of application for renewal of mining lease in Form-12 as per Rule-24(2) of MC Rules, 1961 issued in 1967 alongwith necessary documents as mentioned below in respect of Jaitari Iron Ore Mine of MC Ltd. in Keonjhar/Jajpur Districts for its first renewal.

We would therefore request you that the application may please be forwarded to the State Government with your esteemed recommendations for ^{grant of} renewal of above AL in favour of Orissa Mining Corporation Ltd.

The receipt of the applications may please be acknowledged.

Yours faithfully,

nd/-

M. L. D. SINGH

Enclosed: 12 sets of AL application each set consisting of the following:

- 1) Form-12 Application for renewal of AL.
- 2) Treasury Chalan bearing No. 3/10/12 Dt. 24.12.94 for Rs. 50/- in original.
- 3) Copy of I.T.C from Income Tax Officer.
- 4) Copy of Boundary Description.
- 5) Copy of plan of the AL applied area over 1812.99 hec.
- 6) Copy of Affidavit on lease of AL area held, granted and applied but not granted.
- 7) Copy of power of Attorney.
- 8) List of Technical personnel for supervising the mine of ...
- 9) Copy of village map in 1:50,000 scale and 1967 schedule.
- 10) Copy of mine lease clearance certificate.

Memo No. 2196 :OMC:GS:95 Dtd. 20.1.95

Copy to the Dy. Secretary to Govt. of Orissa,
Deptt. of Steel & Mines, Bhubaneswar for kind information
and necessary action.

Copy alongwith last copy of RML application
forwarded to the Collector, Jajpur for kind information
and necessary action.

Copy to the Director of Mining & Geology, Orissa,
Bhubaneswar for kind information.

Mining Officer, Keonjhar/
Copy to the Dy. Director of Mines, B.K. Road for
kind information.

Encl: a. a. :

Sd/-
DY. CHIEF GEOLOGIST.

Memo No. 2197 :OMC:GS:95 Dtd. 20.1.95

Copy to the General Manager I/c, OMC Ltd., Daitari
Iron Ore Project for kind information.

h
20.1.95
DY. CHIEF GEOLOGIST.

O/C

ANNEXURE-8

ANNEXURE-8

16/0/95

MARKED

RECEIVED
OFFICE OF APPLICATION FOR LEASE OF
(See Rule - 30(4) and 33(4))
GOVERNMENT OF ORISSA.

RECEIVED

File No. 606

Date: 21.12.95

Received the application with the following enclosures for renewal of M.L. of M/s Orissa Mining Corporation Ltd., Post Box No. 34, Bhubaneswar-751001 on 21.12.95 over an area of 1812.9900 hectares in Baitarani of Keonjhar district and Jajpur district for Iron Ore.

Enclosures:

1. Application in form 61 for M.L. :- 6 copies.
2. T.D. (Bank receipt of Rs. 12.00) for renewal of M.L. application fee.
3. List of technical personnel for superintending mines :- 6 copies.
4. Map 16"=1 mile scale with key plan :- 6 copies.
5. Map scale - 1:50,000 - 6 copies.
6. Boundary description :- 6 copies.
7. Income Tax Clearance Certificate :- 6 copies (Xerox)
8. Affidavit regarding holding/non-holding/granted but not executed and applied for P.L./M.L./R.M.L. in the state :- 6 copies (Xerox)
9. Issue of Mining lease clearance certificate to M/s Orissa Mining Corporation Ltd. - Exemption thereof issued by Govt. of Orissa, Mining & Geology Dept. :- 6 copies (Xerox).
10. General Power of Attorney :- 6 copies (Xerox)

Collector
Signature of the Receiving Officer

ANNEXURE-8

FORM - J
(To be submitted in duplicate)

GOVERNMENT OF ORISSA
MODEL FORM

Application for Renewal of Mining Lease
(See Rule-24 A(1))

Dated _____ Day of _____ 19____

Received _____

at _____ (Place)

on _____ (Date)

Initial of

Receiving Officer

To

The Principal Secretary to Government,
Department of Steel and Mines,
Orissa, Bhubaneswar.

Through the Collector, _____

Sir,

I/we request for renewal of my/our mining lease under
the Mineral Concession Rules, 1960.

A sum of (Rs.500/-)being the application fee payable
under sub-rule (3)(ii)(3) of Rule-22 of the said rules has been de-
posited (No.MIT-132(37)/63, dated 22.7.63) vide treasury challan No.3/10/17

2. The required particulars are given below:-
Jtd.24.12.74

(i) Name of the applicant with complete address: M/s.Orissa Mining Corporation Limited,
(A Government of Orissa Undertaking)
PO No.14, DM, Orissa, Bhubaneswar-751 001.

(ii) Is the applicant a private individual/private company/
public company/firm or association? Public Sector Undertaking.

(iii) In case applicant is:

(a) an individual, his nationality, case does not arise.

(b) a private company, the nation-ality of all members of the
company alongwith place of registration : case does not arise.

(c) a public company, the nation-ality of directors, the
percentage of share capital held by Indian nationals
alongwith place of incorpo-ration. India
100% share held by Govt.of Orissa

ANNEXURE-8

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- (d) a firm or association, the nationality of all the partners of the firm or members of the association. **Case does not arise.**
- (iv) Profession or nature of business of applicant. **Exploration, Exploitation and marketing of Ore/Minerals.**
- (v) 2 (x x x x)
- (vi) 2 (x x x x)
- (vii) An affidavit, that up-to date Income Tax returns, as prescribed under the Income Tax Act, 1961, have been filed, and the tax due, including the tax on account of self-assessment has been paid.)
- (vii-a) No. and date of income tax clear- ance certificate from the Income tax Officer (attached). **Copy of I.T.O.C. is enclosed.**
- (viii) (a) Particulars of the Mining lease of which renewal is desired ; **1st renewal is required over 1612.99 hectrs. for Iron Ore in Saltari of Raonjhar district and Jajpur district.**
- (b) Details of previous renewal granted, if any.
- (ix) Period for which renewal of mining lease is required. **20 (twenty) years.**
- (x) Whether renewal is applied for the whole or part of the lease hold? **Entire area of the leasehold.**
- (a) the area applied for renewal
- (b) description of the area applied for renewal (description should be adequate for the purpose of demarcating the plot). **Boundary Description of the area applied for renewal is enclosed over 1612.99 hectrs.**
- (c) particulars of map of the lease hold with area applied for renewal clearly marked on it (attached). **Attached.**
- (d) particulars of existing or created Surps of ore, if any (No. MII-169 (44)/61 dated 7.9.61). **No such.**

ANNEXURE-8

- (x-A) (a) Does the applicant continue to have surface rights over the area of the land for which he requires renewal of the mining lease. **Yes, over an area of 520.30 hecta.**
- (b) If not, has he obtained the consent of the owner and occupier for undertaking mining operations. If so, the consent of the owner and occupier of the land obtained in writing to be filed. **Does not arise.**
- (x-B) Particulars of the areas mineral-wise in each State duly supported by affidavit for which the applicant or any person joint in interest with him. **Affidavit is enclosed.**
- (c) already holds under mining lease ;
- (b) has already applied for but not granted, or
- (c) being applied for simultaneously ;
- (x-C) A mining plan which shall include:-
- (a) the plan of the area showing the nature and extent of the mineral body, spot or spots where the excavation is to be done in the first year and its extent, a detailed cross-sections and detailed plan of spot(s) of excavation based on prospecting data gathered by the applicant, a tentative scheme of mining for the period of the lease. **ISW approved mining plan will be submitted.**
- (b) the details of geology and lithology of the area, the extent of manual mining and through machines ;
- (c) annual programme and plan for excavation from year to year;

(7)

- (d) the plan of the area showing natural water courses; limit of reserved and other forest areas and density of trees, assessment of impact of mining activity on forest, land surface and Environment including air and water pollution, and details of the scheme for restoration of the same by afforestation, land reclamation, use of pollution control devices.
- (xi) means by which the mineral is to be raised i.e. by hand labour or mechanical or electric power, **fully mechanised means**
- (xii) Manner in which the mineral raised is to be utilised ;
- (a) for manufacture in India.
- (b) exports to foreign countries **both according to the demand.**
- (c) in form either case the industries in connection with which it is required, should be specified. In the latter case, the countries to which the mineral will be exported and whether the mineral is to be exported after processing or in raw form should be stated. **for export & Steel plants.**
- (xiii) Details of output during the last three years and phased programme for production during the next three years alongwith a layout plan for development, if any.
- | | | |
|---------|---|-----------------|
| 1991-92 | - | 2,41,028.230 MT |
| 1992-93 | - | 1,88,555,000 MT |
| 1993-94 | - | 2,02,825,000 MT |
| 1994-95 | - | 4 lakhs |
| 1995-96 | - | 6 lakhs |
| 1996-97 | - | 8 lakhs |
- (xiv) In case of coal, details of existing railway transport facility, available and additional transport facility, if any, required. **Case does not arise.**
- (xv) any other particulars which the applicant will be submitted on demand. wishes to furnish.

I/we do hereby declare that the particulars furnished above are correct and I/we are ready to furnish any other details, including accurate plant as required by you before the grant of renewal of the lease.

Date : 19.1.95

Place : BBSR

Yours faithfully,

Signature and Designation of the applicant.

Dr. Chief Geologist

Orissa Mining Corporation Ltd.

Headquarters.

2.3: If the application is signed by an authorised agent of the applicant, Power of Attorney should be attached. **h**

1 AUG 1997

Through Special Messenger.

CCF & DISTRICT MAGISTRATE: KEONJHAR.

MII/1-95/No.

/Mines, Dt.

The Collector, Jagpur,
District - Jagpur.

M/s T. B. M. D. M. 15
12/8/97

Sub:- Renewal of M.L. application filed on 22.5.97
by M/s O.M.C. Ltd. for Iron Ore over 190.20
hects. in village - Daitari of Keonjhar Dist.
processing thereof.

Sir,

Ch. Ch. Ch.

12/8/97

As per the letter No. 6026 dated 15.7.97 of Govt.
in Steel and Mines Deptt., Orissa, Bhubaneswar, I am to send
herewith the following documents through special messenger
submitted by M/s O.M.C. Ltd. for renewal of F.L. application
over 190.20 hects. in village - Daitari for necessary processing
of the application at your level as desired by Govt.

The receipt of the letter alongwith the documents
may please be acknowledged.

Yours faithfully,

Enclosures:

for Collector, Keonjhar.

- 1) Renewal of M.L. application dt. 21.1.96 over 1312.99 hects.
alongwith its enclosures :- One copy in original.
- 2) T.C. (Bank Scroll No. 3 dt. 24.12.94) for Rs. 500/- towards
application fee :- in original.
- 3) Letter No. 2195 dt. 20.1.96 of M/s O.M.C. Ltd. :- in original.
- 4) Letter No. 3732 dt. 25.8.95 of O.M.C., Jagpur road :- in original.
- 5) Memo No. 865 dt. 25.1.96 of S.F.O., Keonjhar addressed to
Collector, Keonjhar :- in original.
- 6) Memo No. 1483 dt. 24.12.95 of D.M., Jagpur road addressed to
the Collector, Keonjhar :- in original.
- 7) Memo No. 8202 dt. 26.3.96 of G.M. (Geo), M/s O.M.C. Ltd. addressed
to the Collector, Keonjhar :- in original.
- 8) Letter dt. 22.4.96 of G.M. M/s O.M.C. Ltd. addressed to
SFO, Keonjhar :- in original.
- 9) Letter dt. 30.4.96 of D.M., Jagpur road addressed to Mines
Manager, Daitari :- in original.
- 10) Letter No. 2674 dt. 31.3.95 of SFO, Keonjhar addressed to
Collector, Keonjhar :- in original.
- 11) Letter No. 1 dt. 1.1.97 of Govt. addressed to Collector, Keonjhar
in original.
- 12) Letter dt. 22.1.97 of G.M. O.M.C. addressed to D.M., S.F.O. Road
in original.
- 13) Letter dt. 21.5.97 of G.M. O.M.C. addressed to Conservation of
Forest :- in original.
- 14) Revised application dt. 22.5.97 alongwith the plan, boundary
description over Page 90 of 552-

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- 15) Letter No.698 dt.2.7.97 of IES, Keonjhar addressed to Collector, Keonjhar :- In original.
- 16) Letter No.2285 dt.4.8.97 of Mining Officer, Keonjhar addressed to G.M., IFC Ltd:- In original.

Memo No. /Mines, Dt.
Copy forwarded to the D.O.M., Jagpur Road, District:-
Jagpur for information and necessary action.

for Collector, Keonjhar.

Memo No. 9345 /Mines, Dt. 7-8-97
Copy forwarded to the General Manager (Geo) of
I/a O.P.C.Ltd., Bhubaneswar for information & necessary action.

for Collector, Keonjhar.

Memo No. /Mines, Dt.
Copy forwarded to the Joint Secretary to Govt. in Encl.
and Mines Department, Orissa, Bhubaneswar for information with
reference to this letter No.6026/SF, dt.15.7.97.

for Collector, Keonjhar.

Memo No. /Mines, Dt.
Copy forwarded to the Director of Mines, Orissa,
Bhubaneswar for information.

for Collector, Keonjhar.

ANNEXURE-8A

Government of Orissa
Department of Mines

No. / dt. Bhubaneswar, the
111(1)/M-74/96

From,

Shri K. Mohanty,
Joint Secretary to Govt.

To

The Collector,
Keonjhar.

Sub:

Renewal of Govt. application filed on 22.5.97
by S/s G.P. & Co. Ltd. for iron ore over 190.20 Hects.
in village Oditari of Keonjhar district -
Processing thereof.

Sir,

I am directed to invite reference to this Deptt.
letter No.1 dt.1.1.97 and subsequent reminder No.4695 dt.2.6.97
on the subject mentioned above and to say that Collector, Baisur
in his letter No.4601 dt.23.5.97 (copy enclosed) has suggested
that the renewal of P.L. application of G.P. & Co. Ltd. in the above
area has to be processed in his Collectorate to avoid all the
administrative difficulties.

You are, therefore, requested to please send all
the relevant papers with you in connection with the renewal of
Mining lease application of S/s G.P. & Co. Ltd. to the Collector, Baisur
immediately under intimation to Government.

Yours faithfully,

[Signature]

Joint Secretary to Government

Form No. 6027 / dt. Bhubaneswar, the

Copy form sent to the Director of Mines / Orissa
Mining Corpora Ltd. for information and necessary action.

Form No. / dt. Bhubaneswar, the

Copy form sent to the Collector, Baisur for
information and necessary action with reference to his letter
No.4601 dt.23.5.97.

Joint Secretary to Government

ANNEXURE-8A

ANNEXURE-8

Phone-251754, 402300, 402720, 410926
Telex-0875-201

ORSMINCORP Bhudaneswar



The Orissa Mining Corporation Ltd.

(A Government of Orissa Undertaking)
BHUDANESWAR-761 001



No. 14356/Gen/94

To
The Collector,
Koraput District.

Subject: Application for the area of 193.20
hectres, for Iron Ore in District of Koraput/Koraput
District.

Reference: This Office Letter No. 1189/Gen/94 dt. 12.12.93 and
Form 'A' dt. 12.12.93 submitted vide Form
No. 1189/Gen/94 dt. 12.12.93.

Sir,
In continuation to our A.M. application No. 1189/Gen/94
(Form 'A' dt. 12.12.93) in District of Koraput
of 193.20 hectres for Iron Ore in Koraput and Deogarh District
I am to mention that the entire lease held area is forest land
and excluding the broken areas, the other areas are having good
forest growth. Also various areas of the above lease held is
covered by economic minerals. The Iron Ore deposit of District
is well within the broken areas broken prior to 25.12.90. So
Orissa Mining Corporation Ltd. has come to retain an area of
193.20 hectres out of previous lease held area of 193.20 hectres.

As per an enclosing herewith the revised map plan in 191
mile over an area of 193.20 hectres alongwith boundary description
(see map) to be retained by us for consideration and grant
in favour of O.M.C.

Yours faithfully,

Sd/-

General Manager (O&M)

Enclosed above.

cc/-

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ANNEXURE-8A

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Page No. 14257

24.12.87

Copy to the Commissioner, Mines, for copy of written report of the Director of Mines, for favour of kind information and necessary action. of the revised and application is enclosed herewith.

Copy alongwith (enclosed) copy of revised and application to the Director of Mines, for kind information and necessary action.

Copy to the Director of Mines, for kind information and necessary action.

Copy to the Mining Officer, for kind information.

Copy to the General Manager, for kind information and necessary action.

24.12.87



g/c

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APPROVED

1 AUG 1997

Through Special Messenger.

OFFICE OF THE COLLECTOR & DISTRICT MAGISTRATE, KEONJHAR.

MII/1-95/No.

/Mines, Dt.

The Collector, Jagpur,
District - Jagpur.

Sub:- Renewal of M.L. application filed on 22.5.97
by M/s G.M.C. Ltd. for Iron Ore over 190.20
hects. in village - Daitari of Keonjhar dist.
processing thereof.

Sir,

C.A. 22/97

As per the letter No. 6025 dated 15.7.97 of Govt.
in Steel and Mines Deptt., Orissa, Bhubaneswar, I am to send
herewith the following documents through special messenger
submitted by M/s G.M.C. Ltd. for renewal of M.L. application
over 190.20 hects. in village-Daitari for necessary processing
of the application at your level as desired by Govt.

The receipt of the letter alongwith the documents
may please be acknowledged.

Yours faithfully,

Enclosures:

for Collector, Keonjhar.

- 1) Renewal of M.L. application dt. 21.1.95 over 1872.99 hects.
alongwith its enclosures :- One copy in original.
- 2) T.C. (Bank Scroll No. 3 dt. 24.12.94) for Rs. 500/- towards
application fee :- in original.
- 3) Letter No. 2195 dt. 20.1.95 of M/s G.M.C. Ltd. :- in original.
- 4) Letter No. 3792 dt. 25.2.95 of DM, Jagpur road :- in original.
- 5) Memo No. 865 dt. 25.1.96 of D.F.O., Keonjhar addressed to
Collector, Keonjhar :- In original.
- 6) Memo No. 1483 dt. 24.12.95 of DM, Jagpur Road addressed to
the Collector, Keonjhar :- In original.
- 7) Memo No. 8207 dt. 25.3.96 of G.M. (Gen), M/s G.M.C. Ltd. addressed
to the Collector, Keonjhar :- In original.
- 8) Letter dt. 22.4.96 of G.M., M/s G.M.C. Ltd. addressed to
DM, Keonjhar :- In original.
- 9) Letter dt. 30.4.96 of DM, Jagpur road addressed to Mines
Manager, Daitari :- In original.
- 10) Letter No. 2674 dt. 31.1.95 of DM, Keonjhar addressed to
Collector, Keonjhar :- In original.
- 11) Letter No. 1 dt. 1.1.97 of Govt. addressed to Collector, Keonjhar
In original.
- 12) Letter dt. 22.1.97 of G.M., G.M.C. addressed to DM, J.K. Road
In original.
- 13) Letter dt. 21.5.97 of G.M., G.M.C. addressed to Conservation of
Forest :- In original.
- 14) Revised application dt. 22.5.97 alongwith the plan, boundary
description over Page 95 of 552

- 15) Letter No.698 dt.2.7.97 of DFO,Keonjhar addressed to Collector,Keonjhar :- In original.
- 16) Letter No.2283 dt.4.8.97 of Mining Officer,Keonjhar addressed to G.M.,GMC Ltd:- In original.

Memo No. /Mines,Dt.
Copy forwarded to the D.D.M.,Jajpur Road,District:-
Jajpur for information and necessary action.

for Collector,Keonjhar.

Memo No. 9345 /Mines,Dt.7-8-97
Copy forwarded to the General Manager(Ceo) of
M/s G.M.C.Ltd., Bhubaneswar for information & necessary action.

for Collector,Keonjhar.

Memo No. /Mines,Dt.
Copy forwarded to the Joint Secretary to Govt.in Steel
and Mines Department,Orissa,Bhubaneswar for information with
reference to this letter No.5026/SP,dtd.15.7.97.

for Collector, Keonjhar.

Memo No. /Mines,Dt.
Copy forwarded to the Director of Mines, Orissa,
Bhubaneswar for information.

for Collector, Keonjhar.

ANNEXURE-8A

Government of Orissa
Department of Steel Mines

No. _____ / dt. Bhubaneswar, Or.
21/1/97-74/96

From,

Shri N. Mohanty,
Joint Secretary to Govt.

To

The Collector,
Keonjhar.

Subj:

Renewal of M.L. application filed on 22.5.97
by M/s G.F.C. Ltd. for iron ore over 190.20 Hect.
in village Gelteri of Keonjhar district -
Processing thereof.

Sir,

I am directed to invite reference to this Deptt.
letter No.1 dt.1.1.97 and subsequent reminder No.4595 dt.2.6.97
on the subject mentioned above and to say that Collector, Bajeur
in his letter No.4601 dt.23.5.97 (copy enclosed) has suggested
that the renewal of M.L. application of G.F.C. Ltd. in the above
area has to be processed in his Collectorate to avoid all the
administrative difficulties.

You are, therefore, requested to please send all
the relevant papers with you in connection with the renewal of
Mining lease application of M/s G.F.C. Ltd. to the Collector, Bajeur
immediately under intimation to Government.

Yours faithfully,

Joint Secretary to Government
Memo No. 6027 / dt. Bhubaneswar, Or. 15/7/97

Copy forwarded to the Director of Mines / Orissa
Mining Corporation Ltd. for information and necessary action.

Joint Secretary to Government
Memo No. _____ / dt. Bhubaneswar, Or.

Copy forwarded to the Collector, Bajeur for
information and necessary action with reference to his letter
No.4601 dt.23.5.97.

Joint Secretary to Government

ORMINCORP' Bhubaneswar

Phone-402744, 402370, 402220, 4109



The Orissa Mining Corporation Ltd.

(A Government of Orissa Undertaking)

BHUBANESWAR - 751 001

No. 14350/OMC/97

Date 22/5/97

To
The Collector,
Keonjhar (Orissa).

Subj:- ^{revised} Application for RML over an area of 190.20
hects. for Iron Ore in Daltari of Keonjhar/Jajpur
district.

Ref:- This Office Letter No. 2195/OMC/95 dt. 20.1.95 and
Form 'D' Sl. No. 606 dt. 21.1.95 communicated with you
letter No. 635 dt. 9.2.95.

Sir,

In continuation to our RML application dt. 20.1.95
(Form 'D' Sl. No. 606 dt. 21.1.95) in Daltari over an area
of 1812.99 hects for Iron Ore in Keonjhar and Jajpur distr
I am to mention that the entire lease hold area is forest
and excluding the broken areas, the other areas are having
forest growth. Also maximum areas of the above lease hold
is devoid of any economic minerals. The Iron Ore Deposit of Dal
is well within the broken areas broken prior to 25.10.95.
Orissa Mining Corporation Limited wants to retain an area
190.20 hects out of previous lease hold area of 1812.99 h

So, I am enclosing herewith the revised RML plan in
file over an area of 190.20 hects alongwith boundary survey
(plan sets) to be retained by us for consideration and approval
is favour of OMC.

Yours faithfully,

Sd/-

Encloses above.

GENERAL MANAGER (GEO)

...2/-

- 2 -

Memo No. 14357 /OMC/97

Dt. 24.5.97

Copy to the Commissioner-Cum-Secretary to Govt. of Orissa, Department of Steel & Mines, Bhubaneswar for favour of kind information and necessary action. A copy of the revised OM application is enclosed herewith.

Copy alongwith original set copy of revised OM application to the Dy. Director of Mines, Jajpur Road for information and necessary action.

Copy to the Director of Mines (Directorate of Mining & Geology) Orissa, Bhubaneswar for kind information.

Copy to the Mining Officer, Kanojhar for kind information.

Copy to the General Manager I/C, Orissa Mining Corporation Ltd., Bailadira Iron Ore Project for information and further necessary action.

[Signature]
GENERAL MANAGER (BAILADIRA)

[Signature]

ANNEXURE-8A

FORM - I
(to be submitted in duplicate)
GOVERNMENT OF RAJASTHAN
MINE MINISTRY
Application for Renewal of Mining Lease
(See Rule-22 (1))

Dated

Day of

Received _____
at _____ (Place)
on _____ (Date)
Initial of
Receiving Officer

The Commissioner-Secretary to Government,
Department of Steel and Mines,
Jaipur, Rajasthan.

Through the Collector, _____

Sir,
I/We request for renewal of my/our mining lease under the
Mines and Minerals Act, 1952.

A sum of Rs. 500/- being the application fee payable under
sub-rule (3)(i) of Rule-22 of the said Act has been deposited
(No. 411-52(17)/62, dated 22.07.63) vide Treasury Order No. 24/12/64
dated 24.12.64. A copy of the said order is enclosed.

2. The required particulars are
given below:

(i) Name of the applicant with
complete address:

His Grace a Mining Engineer (A),
(A copy of order is enclosed)
P.O. No. 14, New House, B-10, Jaipur

(ii) Is the applicant a private
individual/private company/
public company/firm or
association?

Public Sector undertaking
100% share held by Govt. of India

(iii) In case applicant is:

- a) an individual, his nationality.
- b) a private company, the nationality
of all members of the company
alongwith place of
registration.
- c) a firm or association, the
nationality of all the
partners of the firm or
members of the association.

case does not arise

copy of the certificate
of registration is enclosed.

case does not arise

ANNEXURE-8A

1. 2. 1.

(iv) Declaration of nature of business of applicant: *Ballast, Exploitation and marketing of gravel.*

(v) Size of land: *2.1 x 1.1 x 1.1*

(vi) Date and date of valid clearance Certificate of Payment of Mining dues: *19.6.97*

(vii) An affidavit, sworn and dated, Income tax returns, as prescribed under the Income Tax Act, 1961, have been filed, and the tax due, including the tax on account of self-assessment, has been paid.

(viii) (a) Particulars of the Mining lease of which removal is required: *Copy of T.T.C. & C.S. enclosed.*

(b) Details of previous removal granted, if any: *First removal is required over an area of 1000 sq. m. in the year 1997.*

(ix) Period for which removal of mining lease is required: *20 (Twenty) years*

(x) Whether removal is applied for the whole or part of the lease held? *Part of the lease held over*

(xi) (a) Does the applicant continue to have surface rights over the area of the land for which he requires removal of the mining lease? *Yes over an area of 1000 sq. m.*

(b) If not, has he obtained the consent of the owner and occupier for undertaking mining operations. If so, the consent of the owner and occupier of the land obtained in writing is filed. *Does not arise.*

(xii) Particulars of the areas mineral-lease in each State duly supported by affidavit for which the applicant or any person joint in interest with him: *Copy of the affidavit is enclosed.*

(a) already holds under mining lease;

(b) has already applied for but no granted, or

(c) being applied for simultaneously;

3/4

19.6.97

ANNEXURE-8A

(X-2) A mining plan shall contain:-

- (a) the plan of the area showing the nature and extent of the mineral body, spot or spots where the excavation is to be done in the first year and its extent, detailed cross-sections and detailed plan of surface of excavation based on existing data gathered by the applicant, a tentative scheme of mining for the period of the lease;
- (b) the details of geology and lithology of the area, the extent of actual mining and through measures;
- (c) annual programme and plan for excavation from year to year;
- (d) the plan of the area showing natural water courses; limit of reserved and other forest areas and density of trees, assessment of impact of mining activity on forest, land surface and environment including air and water pollution, and details of the scheme for restoration of the same by afforestation; land reclamation; use of pollution control devices.

(X-3) Is the mineral going to be used in his own industry? If so, give full details of his own industry. Ex-plantation under rule 24-B

(xii) Is more the mineral applied for in only part of the lease hold?

(a) the area applied for removal.

(b) description of the area applied for removal (description should be adequate for the purpose of demarcation of the plot).

(c) particulars of map of the lease hold with area applied for removal clearly marked on it (attached).

(d) particulars of existing or created dumps of ore, if any (No. MH-167 (24)/61 dated 07.09.61).

(xiii) means by which the mineral is to be raised i.e. by hand labour or mechanical or electric power.

(xiv) manner in which the mineral raised is to be utilised:

(a) for manufacture in India

(b) ~~export to foreign countries~~

Plan of area showing excavation.
 ~~Excavation~~
 ~~Excavation~~

mineral is used in the industry for the purpose of steel plant.
 190.20 Hkts.
 140.20 Hkts.
 attached.

Grounds description of area applied for removal is attached.

100 such dump is created or as

Both by Manual & Mechanical both

Both according to the demand

ANNEXURE-8A

- (v) In form within which the industries in connection with which it is required, should be specified. In the latter case, the countries to which the mineral will be exported and whether the mineral is to be exported after processing or in raw form should be stated.

- (vi) Estimate or notes during the last three years on proposed programme for production during the next three years along with a layout plan for development, if any.

- (vii) Details of existing mining transport facility, available and additional transport facility, if any, required.

- (viii) Any other particulars which the applicant wishes to furnish.

1991-92 - 5,37,83 MT
1992-93 - 84,996 MT
1996-97 - 2,60,000 MT
1997-98 - 1,00,000 MT
1998-99 - 1,00,000 MT
1999-2000 - 1,00,000 MT

Case does not arise.

Will be submitted on demand

I/we do hereby declare that the particulars furnished above are correct and complete and to furnish any other details, including documents also as required by you before the grant of renewal of the license.

Yours faithfully,

Date: 17/3/97
Place: Bhubaneswar

Signature and designation of the applicant.

(iii) If the application is signed by an authorized agent of the applicant, Form of Agency should be attached.

mu/29497

4

5/6

2002-03

doi:10.1017/S0022292412001270

the 1990s, the number of people in the world who are illiterate has increased from 1.2 billion to 1.5 billion. The number of illiterate people in the world is projected to reach 1.7 billion by the year 2015. The number of illiterate people in the world is projected to reach 1.7 billion by the year 2015. The number of illiterate people in the world is projected to reach 1.7 billion by the year 2015.

the 1990s, the number of people in the world who are under 15 years of age is expected to increase from 1.1 billion to 1.5 billion. The number of people aged 65 and over is expected to increase from 200 million to 400 million. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion. The number of people aged 15 and over is expected to increase from 3.5 billion to 4.5 billion.

6. Source: This is difficult to obtain; appears on Florida Dept. of Indus-
try and Commerce website; date of 181,000 of Florida, Fla. and
1998. Diversion Report was prepared after 1992 in response
to the state's need to bring Florida's 1991 11.4% GDP per
capita to 1990 levels (keeping a record of 1990, 1991 and 1992).

[illegible][illegible]

ANNEXURE-8B

over 239,7795 H and re-use the renewal applied area as 129,9795 H including 190.20 H in Daitari Block.

5. The market demand in the past was mostly met by working in the Daitari BHL range only. As a result, the balance area over 1623,79H have not yet been explored in detail for preparation of Mining Plan and FDP.
6. In view of the increased demand of iron ore by the nearby units and the difficulties faced by OMC to meet the entire requirement from Daitari Block only, OMC has decided to prepare mining plan and FDP after detail exploration in other available blocks inside the original applied RML area over 1812.99 H.

Under the above circumstances, we would like to request the State Government to kindly consider and grant 1st renewal of lease over the entire leasehold area of 1812.99 Hects in favour of OMC in three separate blocks, i.e. Daitari Block over 190.20 Hects (Mining Plan over 190.20 H and FDP over 95.60 H have already been approved in this block), Sindurmundi Block over 239.7795 H and Talapade Block over balance area of 1383.0105 H so that mining plan and FDP for other two blocks will be prepared and submitted for approval by OMC in phases. The lease plan in 1:4000 scale showing three blocks with respect to the original applied area over 1812.99 Hects, boundary description and land schedule of these blocks are enclosed herewith for your kind consideration and further necessary action.

Yours faithfully,

Encl: As above

6/11/06
DY. GENERAL MANAGER (GEO)

Memo No. 3157 /

Di 09/02/06

Copy along with one set of enclosures to the Director of Mines.

Governorment of Odisha, Bhubaneswar for favour of kind information and further necessary action.

Copy forwarded to the Collector, Jajpur for favour of kind information and further necessary action.

Copy along with one set of enclosures to the Dy. Director of Mines, Jajpur Road, Jajpur for favour of kind information and further necessary action.

6/12/06
DY. GENERAL MANAGER (GEO)

(PK Bhattacharjee, Xy Person)
HPSCH LIMITED
RDP/3NCH/130204/3

ANNEXURE-8B

Memo No. 3158/OMC/06

On 09/02/06

Copy forwarded to the ED(F&E), OMC Ltd., Bishanewar for perusal of
kind information and further necessary action.

Copy forwarded to the Regional Manager, OMC Ltd., Dairi for perusal
of kind information and further necessary action.


DY. GENERAL MANAGER (GEO)

o/c



6/3

ANNEXURE-8C

ANNEXURE - 8C/08

No. _____ /OMC/08
To
The Director of Mines,
Government of Orissa,
Bhubaneswar

Dt. _____



Sub: Application for grant of the first renewal of ML over an area of 1812.99 Hects in Robana RP, Daitari PT and Talapada village for iron ore in Jajpur and Keonjhar Dist..

Sir,

In inviting a reference to the above cited subject, we are to submit the following for your kind consideration and favourable orders.

1. That OMC executed Daitari mining lease for iron ore over an area of 1812.99 H in Cuttack and Keonjhar District 25.1.66 for a period of 30 years.
2. 1st RML was applied over the entire ML area over 1812.99 H vide D form SN 606, Dt.21.1.95 under rule 24A of MC Rules, 1960.

We, therefore, request to kindly consider grant of 1st renewal of lease over 1812.99 Hects in favour of OMC.

Yours faithfully,

ADDL. GENERAL MANAGER (GEO)

Memo No. _____ /OMC/08

Dt. _____

Copy forwarded to the Commissioner cum Secretary to Government, Department of Steel & Mines, Government of Orissa, Bhubaneswar for favour of kind information and further necessary action.

Copy forwarded to the Collector, Jajpur/Keonjhar for favour of kind information and further necessary action.

Copy forwarded to the Mining Officer, Keonjhar and Dy. Director of Mines, Jajpur Road for favour of kind information and further necessary action.

Memo No. 3720 / OMC/08

ADDL. GENERAL MANAGER (GEO)

Dt. 15/2/08

Copy forwarded to the DGM(F&E), OMC Ltd., HO for favour of kind information and further necessary action.

ADDL. GENERAL MANAGER (GEO)

ANNEXURE-9



GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES
MCCM CENTRAL ZONE

Regd. AD

Stamp: MINES DEPARTMENT, GOVERNMENT OF INDIA, NEW DELHI
Circular stamp: 13 AUG 2013
Handwritten: Nagpur, die 12 July, 2013
Handwritten: 24/7

51463/2012-MCCM/CZY/MS-52 / 2.2.3

To,
M/s Odisha Mining Corporation Ltd.,
OMC House, Post Box No. 34,
Bhubaneswar-751001.

Subject:- Approval of Scheme of Mining alongwith Progressive Mine Closure Plan in respect of Daitari iron ore mining lease of M/s Odisha Mining Corporation Ltd. over an area of 1812.85 ha in Jajpur & Keonjhar districts of Odisha State submitted under Rule 12 of MCCMR, 1988.

Ref:- 1) Your letter No. 2020/OMC/P & T-2013 dated 11/02/2013.
2) This office letter of even number dated 26/04/2013.
3) Your RQP's letter No. Nil dated 14/06/2013.

Sir,

In exercise of the powers conferred by sub rule (4) of Rule 12 of Mineral Conservation and Development Rules 1988 I hereby approve the Scheme of Mining including Progressive Mine Closure Plan of Daitari iron ore mining lease of M/s Odisha Mining Corporation Ltd. over an area of 1812.99 ha in Jajpur & Keonjhar districts of Odisha State submitted under Rule 12 of MCCMR, 1988. This approval is subject to the following conditions:-

- This Scheme of Mining is approved without prejudice to any other laws applicable to the mine/area from time to time whether made by the Central Government, State Government or any other authority.
- It is clarified that this approval of Scheme of mining does not in any way imply the approval of the Government in terms of any other provisions of the Mines & Minerals (Development & Regulation) Act, 1957 or the Mineral Concession Rules, 1960 and any other laws including the Forest Conservation Act, 1980, Environment (protection) Act 1986 and the rules made there under.
- It is further clarified that this approval of Scheme of mining is subject to the provisions of Forest (Conservation) Act, 1980, Forest Conservation Rules, 1981, and other relevant statutes/orders and guidelines as may be applicable to the lease area from time to time.
- The provisions of Mines Act, 1952 and Rules and Regulations made there under including submission of notice of opening, appointment of Manager and other statutory officials as required by the Mines Act, 1952 shall be complied with.
- The execution of Scheme of Mining shall be subjected to variations of prohibitory orders/notices, if any.
- The Scheme of mining is approved without prejudice to any other order or direction from the court of competent jurisdiction.
- The approval of mining operations and associated activities is restricted to the mining lease area only and also within the diverted area by the competent authorities of forest department till the requisite permission is granted by such authorities in additional areas as proposed in the document. The mining lease area is as shown on the statutory plans under Rule 28 of Mineral Conservation and Development Rules 1988, by the

8th Floor, 12th Block, Indira Bhawan, Civil Lines, Nagpur - 440102

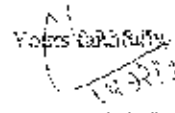
Phone: (0712) 2555555 Fax: (0712) 2555555

ANNEXURE-9

-2-

- viii) lessee/COA/applicant and Indian Bureau of Mines has not undertaken verification of the mining lease boundary on the ground.
- ix) If anything is found to be concealed as required by the Mines Act in the context of the Scheme of Mining and the proposals for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.
- x) At any stage, if it is observed that the information furnished in the document are incorrect or misleading or wrong, the approval of the document shall be revoked with immediate effect.
- xi) The approval of Scheme of mining is subject to the compliance of OCOM's Circular No. 2/2010 regarding Geo-referenced cadastral map within 6 months from the date of approval failing which the approval of the documents shall be deemed to have been withdrawn with immediate effect.
- xii) Yearly report as required under rule 39V (2) of MCDR, 188 stating forth the extent of protection and rehabilitation works carried out as envisaged in the approved progressive mine closure plan and if there is any deviation, reasons thereof shall be submitted before 1st July of every year to the Regional Office, IBM, Bhubaneswar.
- xiii) Your attention is invited to the Supreme Court interim order in W.P.(C) No.202 dated 12-12-95 for compliance. The approval of scheme of mining is, therefore, issued without prejudice to and is subject to the said directions of the Supreme Court as applicable.
- xiv) A copy of Environment Impact Assessment-Environment Management Plan (EIA-EMP) as approved by MOEF (Ministry of Environment & Forests) shall be submitted to IBM immediately after approval by MOEF.
- xv) The Environmental Monitoring Cell established by the company shall continue monitoring ambient air quality, dust-fall rate, water quality, soil sample analysis and noise level measurements at various stations established for the purpose both in the core zone and buffer zone as per requirement of Environment Guidelines and keeping in view IBM's circular No. 3/92 & 2/93 season wise every year by engaging the services of an Environmental Laboratory approved by MOEF/CPCB. The data so generated shall be maintained in a bound page'd register kept for the purpose and the same shall be made available to the inspecting officer, on demand.
- xvi) This approval is restricted in respect of proposal given in the document for the period 2013-14 to 2015-16 with validity upto 26/01/2016 and from the date of approval.
- xvii) The financial assurance submitted by you for Rs 27,83,163/- (Twentyseven lakh eighty-eight thousand one hundred sixty-three only) is valid upto scheme period and next financial assurance shall be submitted on or before 26/01/2016.
- xviii) If any comments are received from the State Govt. then the necessary action as per comments shall be taken immediately.

Encl:- One copy of approved
Scheme of Mining


(Ranjan Sahai)
Controller of Mines (CZ)

ANNEXURE-9

-3-

Copy for information to :-

1. The Director of Mines Safety, Directorate General of Mines Safety, Chaibasa Region, P.O. Chaibasa-833 261, Dist. West Singhbhum, Jharkhand, alongwith a copy of approved Scheme of Mining.
2. The Director of Mining, Directorate of Mining & Geology, Government of Odisha, Head of the Department Building, New Capital, Bhubaneswar 751 001 Odisha alongwith one copy of approved scheme of mining.
3. S/Shri S.M. Patro & P.S. Acharya, RQP, M/s Geotech Consultancy (P) Ltd. A/C, Barananda Housing Board Colony, Bhubaneswar- 751003, Odisha.

(Ranjit Sahai)
Controller of Mines (CZ)



ANNEXURE -10

Annexure-8



GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES
MCCM CENTRAL ZONE

File
10/5/2013

Nagpur, the 15 April, 2013

314(S)/2012/MCCM(CZ)/FMC/6/15

To,
M/s Odisha Mining Corporation Ltd.,
OMC House, Post Box No. 34,
Bhubaneswar-751001.

Sub: Approval Final Mine Closure Plan in respect of Daitari Iron ore mining lease of M/s Odisha Mining Corporation Ltd. over an area of 794.6815 ha (out of 1812.99 ha) in Jajpur & Keonjhar Districts of Odisha State submitted under Rule 23C of MCDR, 1988.

Ref: 1. Your letter No. 15889/OMC/F&E/2012 dated 19/10/2012.
2. This office letter of even no. dated 27/02/2013.
3. Your RQI's letter No. 151 dated 21/03/2013.

Sir,
In exercise of the powers conferred by the sub-Rule 2 of Rule 23C read with Rule 65 of Mineral Conservation and Development Rules, 1988, I hereby approve the above said Final Mine Closure Plan in respect of your Daitari Iron ore mining lease covering an area of 794.6815 ha (out of 1812.99 ha) hectares in Jajpur & Keonjhar Districts of Odisha State. This approval is subject to the following conditions:-

- 1) That the Final Mine Closure Plan is approved without prejudice to any other laws applicable to the mine area from time to time whether made by the Central Government, State Government or any other authority.
- 2) That this approval of the Final Mine Closure Plan does not in any way imply the approval of the Government in terms of any other provisions of the Mines & Minerals (Development & Regulation) Act, 1957 or the Mineral Concession Rules, 1960 or any other laws including Forest (Conservation) Act, 1980, Environment (Protection) Act, 1986 and the rules made there under.
- 3) That the Final Mine Closure Plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.
- 4) That the Regional Office, Indian Bureau of Mines, Bhubaneswar, shall be informed after completion of activities of final mine closure as per proposal of the Final Mine Closure Plan.

Yours faithfully

Encl.: One copy of approved
Final Mine Closure Plan

(Ranjana Saini)
Controller of Mines (C)

8/1

60, P.O. Block, India Bhawan, Civil Lines, Nagpur-462002
Email: oia.nag@ibm.gov.in Fax: (0712) 2555603 Telephone: (0712) 2555603

ANNEXURE -10

-2-

Copy for information to :-

- 1) The Director of Mines Safety, Directorate General of Mines Safety, Chaitani Region, P.O. Chaitani-833 201, Dist. West Singhbhum, Jharkhand alongwith one copy of approved Final Mine Closure Plan.
- 2) The Director of Mining, Directorate of Mining & Geology, Government of Odisha, Head of the Department Building, New Capital, Bhubaneswar 751 031 Odisha alongwith one copy of approved Final Mine Closure Plan
- 3) S/Shri S.M. Patra & P.S. Acharya, RQP, M/s Gemtech Consultants (P) Ltd., H/O, A/10, Housing Board Colony, Bhubaneswar - 751003, Odisha.


(Ranjan Saha)
Controller of Mines (CZ)

2/2

Annexure - 10A

3493
5/6/13
REGISTERED POST



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

REGISTERED POST

No.FMCP/FM/05-OR/BHU-2012-13

Dated 25.06.2013

CERTIFICATE

In exercise of the powers conferred on me under Sub-Rule (2) of Rule 29A of Mineral Concession Rules' 1960, I hereby certify that the protective, reclamation and rehabilitation work in accordance with the Final Mine Closure Plan approved vide letter No314(3)/2012-MCCM(CZ)/FMCP-6 dated 05.04.2013 have been carried out in the part of mining lease over an area of 794.6815 ha(out of 1812.99 ha) in respect of **Daitari Iron ore Mine, of M/s OMC Ltd** in Jaipur and Keonjhar district in the State of Odisha.

This Certificate is issued without prejudice to any other laws applicable to the mine/lease area from time to time and also without any prejudice to any other order or direction from any court of competent jurisdiction.



(M BISWAS)

Regional Controller of Mines
Indian Bureau of Mines

To

M/s Odisha Mining Corporation Ltd,
OMC House, Post Box No,34
Bhubaneswar - 751 001
Odisha.

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Annexure - 10B

Government of Odisha
Steel & Mines Department

121

No-II (A) SM-05/2012 9715 /SM, Bhubaneswar, the 8-10-2013

From

Smt D S. Jana,
Under Secretary to Government

To

The Chairman cum Managing Director,
Odisha Mining Corporation Ltd
Bhubaneswar

Sub- Application dt.21.1.1995 of OMC Ltd. for grant of 1st renewal of ML for iron ore over 1812.99 hec in Rebena RF, Dattari PF and Talpada village in Keonjhar and Jaipur districts-Revision of RML applied area to 1018.3085 Hectares and surrender of 794.6815 hectares.

Ref- Letter No-9332, dated-15.07.2013 of OMC Ltd.

Sir,

In inviting reference to this Department letter No-6596/SM, dated-07.09.2012 wherein the proposal for surrender of 794.6815 hec has been accepted by the State Government. Since in the meantime you have submitted the Final Mine Closure Plan duly approved vide order No-314(3)/2012-MCOM(CZ)/FMCP-6/88 dated-15.04.2013 & Certificate thereof vide No-FMCP/FM/05-ORI/BHU-2012-13 dated-25.05.2013 of the Indian Bureau of Mines, Office of the Regional Controller of Mines, Bhubaneswar, as required under Rule-29 (A) (1) & (2) of MCR, 1960. I am directed to say that necessary steps may please be taken for obtaining renewal of mining lease over the reduced area of 1018.3085 hec for iron ore in Rebena RF, Dattari PF and Talpada village in Keonjhar and Jaipur districts.

Yours faithfully,

~~AGM (Mining)~~

9/10/13

Memo No. 9716 /SM, Bhubaneswar, the 8-10-2013

Copy forwarded to the Regional Controller of Mines, Indian Bureau of Mines, Government of India, Mahanagar Complex, 2nd Floor, 308 District Centre, Chandrasekharpur, Bhubaneswar-751015 for information and necessary action.

Under Secretary to Government

Annexure 10C

No. 9332 /OMC/GS/2013.

15th July, 2013

To

The Under Secretary to Govt.
Govt. of Odisha
Steel & Mines Department
Bhubaneswar.

Sub: Application dated 21.01.1995 of OMC Limited for grant of 1st renewal of ML for iron ore over 1812.99 hec in Rebena RF, Daitari PF and Talapada village in Keonjhar and Jajpur Dist. - **Revision of RML applied area to 1018.3085 hec and surrender of 794.6815 Hec.**

Ref: Letter no. III (A) SM-05/2012/6596/SM dated 7.9.12 of the Under Secretary to Govt., Govt. of Odisha, Steel & Mines Department.

Sir,

In inviting a reference to the above cited subject and letter, we are submitting herewith a copy of the letter of IBM, No. 314(3)/2012-MCCM (CZ)/FMCP-6/88 dated 15.4.2013 approving the final Mine Closure Plan over 794.6815 hec surrendered out of 1812.99 hec of executed Daitari ML area. One set of approved Final Mine Closure Plan u/r 29 (A)(1) of MC Rules, 1960 has already been forwarded by IBM to the Director of Mines, Govt. of Odisha.

Further a copy of the certificate from IBM on implementation of approved FMCP over 794.6815 hec. by OMC under 29(A)(2) of MC Rules, 1960 issued vide letter no. FMCP/FM/05- ORI/ BHU, dated 25.6.2013 is also furnished herewith for your kind reference.

We therefore, request your good-self to **kindly consider grant of 1st RML over revised area of 1018.3085 hec. in respect of Daitari ML for iron ore of OMC in Keonjhar & Jajpur Districts and communicate OMC for obtaining requisite statutory clearances (Mining Plan/ Mining Scheme, FDP etc) over the revised area.**

Encl:

- (15/7/13) 1. Copy of the letter of IBM No. 314(3)/2012-MCCM (CZ)/FMCP-6/88 dated 15.4.2013 under Rule 29 (A)(1)
- (15/7/13) 2. Copy of certificate issued by IBM vide letter no. FMCP/FM/05- ORI/ BHU, dated 25.6.2013 Under Rule 29 (A)(2)

Yours faithfully,

(Signature)
Senior Manager (Geo)

(Signature)
Senior Manager (Geo)

Annexure 10C

Memo No. 9323 /OMC/G&S/2013

Dated: 15th July, 2013

Copy to the Director of Mines, Govt. of Odisha, Bhubaneswar for kind information and necessary action.

Copy to the Collector, Jajpur & Keonjhar for kind information and necessary action.

Copy to the Dy. Director of Mines, Jajpur Road for kind information and necessary action.

Copy to the Senior Manager (F&E), / Dy. General Manager (MP), OMC Limited, Bhubaneswar for kind information and necessary action.


15/7/13
Senior Manager (Geo)

4

**DIRECTORATE OF MINES, ODISHA
BHUBANESWAR**

No. M-A-7/95- 3616 /DM., dt. 11-4-14
From

Deepak Mohanty, IES,
Director of Mines, Odisha,
Bhubaneswar.

To chairman -
The ~~Chairman~~ Managing Director,
M/s OMC Ltd., Bhubaneswar.

Sub: - Application dt.21.01.95 of M/s OMC Ltd. for grant of 1st renewal of mining lease for Iron ore over 1812.99 hecst. in Rehana R.F., Daitari & Talapada in Keonjhar District and Jajpur District. Revision of RML applied area to 1018.3085 Hecst. and surrendered of 794.6815 Hecst.

Sir,

In inviting a reference to the letter No. 276/ Mines dt.01.02.14 of DDM (Dc), Jajpur Road on the subject cited above, I am to say that the survey documents both retained area over 1018.3085 Hecst. and surrendered area over 794.6815 Hecst. of Daitari Iron ore mines of M/s OMC Ltd. have been rectified and duly signed by the Chief Surveyor (Dc) of this Directorate and found to be in order.

Accordingly one set of approved retained & surrendered area survey documents is sent herewith for further action at your end.

Yours faithfully,

Encl-As above

11/4/2014
DIRECTOR OF MINES, ODISHA

Memo No.

/DM., dt.

Copy to DDM (Dc), Jajpur Road alongwith the copy of one set of survey documents of retained area and surrender area for information & necessary action.

DIRECTOR OF MINES, ODISHA

Retained

Boundary Description over ~~revised~~ area of 1018.3085 Hect. out of 1812.99 Hect. applied for renewal of mining lease by Orissa Mining Corporation Ltd. for Iron ore in Daitari Protected Forest, Mehana Reserve Forest and village Talapada under Daitari PS No.18 of Keonjhar and Jajpur District.

The starting point Y, (which is as per the original ML), is situated exactly on the old boundary line, at a distance of 1158.65 Mtrs. in the bearing of $009^{\circ}07'00''$ exactly North of the Daitari Peak (A 865 M) marked on the Survey of India 1:50,000 scale Toposheet no. 73G/16. Then the traverse goes due west upto a distance of 4184.29 mtrs to meet pillar C.

Then the traverse runs as follows:

Sl. No.	STATION		Bearing	Interior angle	Distance in mtrs	Remarks
	FROM	TO				
1	A	C	$270^{\circ}00'00''$	$180^{\circ}00'00''$	4184.29	4180.2
2	C	C1		$90^{\circ}30'00''$	127.34	
3	C1	C2		$127^{\circ}34'00''$	2336.76	
4	C2	C3		$188^{\circ}24'00''$	2574.62	
5	C3	C4		$168^{\circ}24'00''$	421.59	
6	C4	C5		$166^{\circ}54'00''$	903.02	
7	C5	E		$90^{\circ}54'00''$	2636.93	2693.03
8	E	Y		$90^{\circ}00'00''$	1148.41	

Thus the traverse closes.

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

Divisional Forest Officer
Keonjhar (W.L.) Division
Ansambur

GENERAL MANAGER (GEO)

ASST SURVEYOR
Daitari

MANAGER (GEO)
Daitari

SR. MANAGER (W)
Daitari

CHIEF SURVEYOR &
DIRECTORATE OF MINES
ODISHA, SHUBANESWAR

Range Officer
Bomka Range

Manager
S.K. Padhi
(Survey), DMC

Sr. Manager (Mining)
Keonjhar (W.L.) Division

Sr. Manager (Geo)
Power of Attorney Holder
Odisha Mining Corporation Ltd.
Shubaneswar-751004

Tahasildar, Danagada

Asst Conservator of Forests
Daitari Forest Division

ANNEXURE -12

Page 1

LAND SCHEDULE OVER AN AREA OF 1013.3085 HECTS. (REVISED NWL AREA) OUT OF THE ORIGINAL 151 RENEWAL APPLIED AREA OVER 1812.99 HECTS BY ODISHA MINING CORPORATION LIMITED FOR IRON ORE IN BERANA RE AND TALAPADA VILLAGE IN KEONJHAR DISTRICT & DAITARI P.P IN JAIPUR DISTRICT.

Village- Talapada					
P.5.- Daitari MO.18					
District- Keonjhar					
Plot No.	Khata No.	Name of the Tenants	Kissan	Area in ha.	Remarks
291	25	Rakhta	Ganaya Janga	5.54	Part
292	21	Naradi Janga, s/o Zaladi Janga	Talla	0.272	Part
293	26	Rakhta	Ganaya Janga	1.52	Part
297	26	Abad Jyga Anabadi	Bali	0.140	Part (UAD by Rasika Munda)
298	28	Abad Jyga Anabadi	Bali		Part (UAD by Ghansham Majhi)
299	28	Abad Jyga Anabadi	Bali	0.40	UAD by Ananta Majhi
300	28	Abad Jyga Anabadi	Bali	0.44	UAD by Parman Majhi
301	28	Abad Jyga Anabadi	Bali	0.80	UAD by Damodar Majhi
302	28	Abad Jyga Anabadi	Bali	2.35	UAD by Raghu Nath Majhi
303	28	Abad Jyga Anabadi	Ganaya Janga	0.12	Part
304	28	Abad Jyga Anabadi	Bali	0.75	UAD by Raghu Nath Majhi
305	28	Abad Jyga Anabadi	Talla	0.15	UAD by Raghu Nath Majhi
306	28	Abad Jyga Anabadi	Gharabari	0.04	UAD by Raghu Nath Majhi
307	28	Abad Jyga Anabadi	Bali	0.25	UAD by Raghu Nath Majhi
308	28	Abad Jyga Anabadi	Bali	0.15	UAD by Parman Majhi
309	28	Abad Jyga Anabadi	Gharabari	0.07	UAD by Parman Majhi
310	28	Abad Jyga Anabadi	Gharabari	0.05	UAD by Ghansham Majhi
311	28	Abad Jyga Anabadi	Bali	0.05	UAD by Ghansham Majhi
312	28	Abad Jyga Anabadi	Bali	0.08	UAD by Damodar Majhi
313	28	Abad Jyga Anabadi	Gharabari	0.04	UAD by Damodar Majhi
314	28	Abad Jyga Anabadi	Gharabari	0.04	UAD by Ananta Majhi
315	28	Abad Jyga Anabadi	Bali	0.12	UAD by Ananta Majhi
316	28	Abad Jyga Anabadi	Bali	0.11	UAD by Parman Majhi
317	28	Abad Jyga Anabadi	Gharabari	0.04	UAD by Parman Majhi
318	26	Abad Jyga Anabadi	Gharabari	1.01	UAD by Rasika Munda
319	28	Abad Jyga Anabadi	Bali	0.11	UAD by Rasika Munda
320	28	Abad Jyga Anabadi	Bali	0.18	UAD by Shree Hari Prasad
321	28	Abad Jyga Anabadi	Talla	0.18	UAD by Ramdas Majhi
322	28	Abad Jyga Anabadi	Talla	0.056	Part (UAD by Ghansham Majhi)
324	28	Abad Jyga Anabadi	Part-2	2.9	Part (UAD by Shyam Majhi)
325	27	Saika Sachan	Part	0.5	

CHIEF SURVEYOR I/C
DIRECTORATE OF MINES
ODISHA, BHUBANESHWAR

P10.

ANNEXURE -12

Page 2

PLOT No	Khasra No	Name of the Tenants	Khasra No	Area in ha.	Remarks
326	28	Abad Jogyo Anabadi	Talla	0.1	UAD by Khase Ramoram
327	28	Abad Jogyo Anabadi	Talla	0.1	UAD by Basika Munda
328	28	Abad Jogyo Anabadi	Sarad-3	0.17	UAD BY Raghunath Munda
329	28	Abad Jogyo Anabadi	Sarad-3	0.18	UAD by Ghoshan Majhi
330	28	Abad Jogyo Anabadi	Talla	0.13	UAD by Ramadas Majhi
331	22	Abad Jogyo Anabadi	Talla	0.15	UAD by Ananta Majhi
332	22	Abad Jogyo Anabadi	Talla	0.11	UAD by Daman Majhi
333	25	Abad Jogyo Anabadi	Talla	0.13	UAD by Ghoshan Majhi
334	28	Abad Jogyo Anabadi	Talla	0.18	UAD by Prantu Majhi
335	28	Abad Jogyo Anabadi	Talla	0.48	UAD by Raghunath Majhi
336	28	Abad Jogyo Anabadi	Sarad-3	0.20	UAD by Prantu Majhi
337	28	Abad Jogyo Anabadi	Sarad-3	0.24	UAD by Khase Ramoram
338	28	Abad Jogyo Anabadi	Parbat-1	18.85	
339	28	Abad Jogyo Anabadi	Talla	0.58	UAD by Ananta Majhi
340	28	Abad Jogyo Anabadi	Sarad-3	0.48	UAD by Ananta Majhi
341	28	Abad Jogyo Anabadi	Sarad-3	0.16	UAD by Ramadas Majhi
342	28	Abad Jogyo Anabadi	Talla	0.2	UAD by Ramadas Majhi
343	28	Abad Jogyo Anabadi	Talla	0.0985	UAD by Basika Munda
344	28	Abad Jogyo Anabadi	Sarad-3	0.12	UAD by Basika Munda
345	28	Abad Jogyo Anabadi	Sarad-3	0.11	UAD by Raghunath Majhi
346	28	Abad Jogyo Anabadi	Talla	0.12	UAD by Raghunath Majhi
347	29	Abad Jogyo Anabadi	Parbat-2	18.12	
348	29	Abad Jogyo Anabadi	Parbat-2	11.27	
349	29	Abad Jogyo Anabadi	Parbat-2	11.73	
350	29	Abad Jogyo Anabadi	Parbat-2	11.92	
351	29	Abad Jogyo Anabadi	Parbat-2	7.674	Part
352	28	Abad Jogyo Anabadi	Sarad-3	0.003	Part (UAD by S. Denu)
353	28	Abad Jogyo Anabadi	Sarad-3	0.003	UAD by Parat Sekari
354	28	Abad Jogyo Anabadi	Sarad-3	0.18	Part (UAD by S. Denu)
355	28	Abad Jogyo Anabadi	Sarad-2	0.09	UAD by Parat Sekari
356	28	Abad Jogyo Anabadi	Talla	0.19	UAD by Kandan Dahan
357	28	Abad Jogyo Anabadi	Parbat	0.05	Reserve for Soldiers
413	27	Sarasacharana	Rasta	0.18	Part
415	26	Rakanta	Gramya Jungle	14.55	
417	26	Rakanta	Gramya Jungle	9.562	Part
418	28	Abad Jogyo Anabadi	Gharabari	3.384	Part (Reserve for Soldiers)

CHIEF SURVEYOR CC
DIRECTORATE OF MINES
ODISHA, BHUBANESWAR
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ANNEXURE -12

Page 3

Plot No.	Khasra No.	Name of the Tenant	Khasra No.	Area in H.	Remarks
443	28	Abad Alogya Anabadi	Patharban	0.2156	Part
444	28	Abad Alogya Anabadi	Pathar	12.8056	
445	28	Abad Alogya Anabadi	Pathar	12.8056	
446	39	Abad Alogya Anabadi	Pathar	12.56	
447	25	Abad Alogya Anabadi	Pathar	12.6951	
Total				235.51	
Rajana GP (Kandhamal District)				523.0785	
Daitari GP (Jajpur District)				129.6128	
Grand Total				1038.3085	

[Signature]
S.K. Padhi
Asst Surveyr, OMC

[Signature]
Asst Manager (Survey)

[Signature]
Manager (Geo)

[Signature]
Sr. Manager (M)

Sr. Manager (Mining)
Daitari Iron Ore Mines
Mys OMC Ltd.

[Signature]
S.K. Das
Sr. Manager (Geo)
Power of Attorney Holder
Odisha Mining Corporation Ltd.
Bhubaneswar-751001

[Signature]
Tahasildar, Daitari

[Signature]
Tahasildar, Daitari

[Signature]
Tahasildar, Daitari

[Signature]
Tahasildar, Daitari

[Signature]
Forest Range Officer
Bhagampanipat (W.L.) Range
Daitari

[Signature]
Asst Conservator of Forests
Cutback Forest Division

[Signature]
Divisional Forest Officer
Cutback Forest Division
CUTTACK

[Signature]
Divisional Forest Officer
Machilipatnam (W.L.) Division
Bhubaneswar

[Signature]
Senior Surveyor
O.O. Deputy Director Mines
Jajpur Road

[Signature]
Chief Surveyor
Directorate of Mines
Odisha, Bhubaneswar

[Signature]
Chief Surveyor
Directorate of Mines
Odisha, Bhubaneswar

ANNEXURE -13

ANNEXURE-13

ORISSA GOVT STATE

FAX NO. 7 511 24699374

Jan-27 2005 02:06PM

E.No.8-16493-FC
Government of India
Ministry of Environment & Forests
(FC Division)

Paryavaran Bhawan, CGO Complex,
Lodi Road, New Delhi-110003

Dated the 23rd January 2005

ED/FC/

To
The Secretary (Forests),
Government of Orissa,
Bhubaneswar.

SUB: Division of 55.60 ha. already broken up forest land for renewal of mining lease in favour of M/s Orissa Mining Corporation Limited in respect of Daitari Iron Ore Mines in Keonjhar and Jajpur Districts, Orissa.

Sir,

I am directed to refer to your letters No. 10P (Cons)-90/92/19932/F&E dated: 20-10-97, 10P (Cons)-1/2002/578/F&E dated: 9.1.2002 and 10P (Cons)-342064/584/F&E dated: 11-1-2005 on the above mentioned subject, seeking prior approval of the Central Government in accordance with Section-2 of Forest (Conservation) Act, 1980.

After careful consideration of the proposal of the State Government and on the basis of the recommendations of the Forest Advisory Committee, the Central Government hereby conveys its approval under Section 2 of Forest (Conservation) Act, 1980 for the division of 55.60 ha. already broken up forest land for renewal of mining lease in favour of M/s Orissa Mining Corporation Limited in respect of Daitari Iron Ore Mines in Keonjhar and Jajpur Districts, Orissa, subject to fulfilment of following conditions:-

1. Legal status of forest land shall remain unchanged.
2. Safety zone shall be registered and protected by the User Agency, and the plantations shall be raised and maintained over degraded forest lands elsewhere, over an area one and half times of the extent of the safety zone, by the State Forest Department, at the project cost.
3. The State Government shall deposit and maintain the funds (including the funds collected for Net Present Value of diverted forest land, in form of Fixed Deposits in the name of concerned DEO/Block Officer of the State, till such time the Compensatory Afforestation Fund Management and Planning Authority (CAMPA) fulfils the financial obligation for the deposition of funds. The ROP pillars already erected for demarcation of the area will be maintained by the User Agency at the project cost.
4. Trees shall not be felled.
5. The user agency shall protect the top soil at the project cost.

7. Concurrent Reclamation plan shall be executed by the user agency from the very first year, and an annual report shall be sent to the Nodal Officer and the Regional CCF, Bhubaneswar. If it is found from the Annual report that the annual programme mentioned in Concurrent Reclamation Plan is not being adhered to by the user agency and mining activities shall remain suspended till such time the annual programme is completed for that year.
8. The monitoring of reclamation works shall be done periodically by the State Forest Department and the Regional Office, Bhubaneswar.
9. No labour camps shall be established on the forest land.
10. Sufficient firewood shall be provided by the User Agency to the labourers at the project cost after purchase from the State Forest Department/Forest Development Corporation.
11. Mining shall be done as per the approved mining plan.
12. The User Agency shall ensure that there is no damage to the wildlife.
13. The forest land shall not be used for any purpose other than that specified in the proposal.
14. The lease period shall be co-terminus with the current lease granted under NMFRD Act, 1957, i.e., upto 26.01.2016.
15. A team involving District Collector, Divisional Forest Officer and a nominee of Chief Wildlife Warden of Orissa should be constituted at the District level to immediately take cognizance of and assess the damage, if and when caused, attributable to the project. Cost of damage will be paid by the user agency, and quantification and valuation of damage will be done on case to case basis.
16. Any other condition that the State Government or the Chief Conservator of Forests (Central), Regional Office, Bhubaneswar may impose from time to time in the interest of conservation, protection and development of forests shall also be applicable.

Yours faithfully,

Sd/-

(ANURAG BHASKAR)

Asst. Inspector General of Forests

Copy to:

1. The Principal Chief Conservator of Forests, Government of Orissa, Bhubaneswar.
2. The Chief Conservator of Forests (Central), Regional Office (EZ), Bhubaneswar.
3. The Nodal Officer, Forest Department, Government of Orissa, Bhubaneswar.
4. R1 (Mg), New Delhi.
5. User Agency.
6. Monitoring Cell.
7. Guard file.

(ANURAG BHASKAR)

Asst. Inspector General of Forests

ANNEXURE -14



No. I-11015/1003/2007-14.II(M)
Government of India
Ministry of Environment & Forests

Paryavaran Bhavan,
C.G.O. Complex, Lodi Road,
New Delhi-110 003.

Dated the 22nd September, 2010

To,
M/s The Orissa Mining Corporation Limited
(A Government of Orissa Undertaking)
OMC House,
Bhubaneswar
Orissa-751 001.

Subject: Daitari Iron Ore Mining Project of M/s The Orissa Mining Corporation Limited located in Village Talapada, Tehsil Harichandapur & Sukinda, District Keonjhar & Jajpur, Orissa - Environmental clearance regarding:

Sir,

This has reference to your letter No. 7529/OMC/P&E/10 dated 26.04.2010 and subsequent letters dated 10.05.2010 and 09.05.2010 on the subject mentioned above. The project was earlier prescribed Terms of Reference (TORs) by the Ministry of Environment and Forests on 17.05.2009 for undertaking detailed EIA study for the purpose of obtaining environmental clearance. The proposal is for renewal of mine lease and enhancement of production of iron ore to three (3) million tonnes per annum (million TPA). No beneficiation is proposed as part of this project; however, crushing and screening is proposed. The mine is reported to be closed properly since January, 2010.

2. The total mine lease area of the project is 1612.99ha, out of which 10.687ha is an agricultural land, 1619.937ha is forestland and 162.356ha is wasteland. Area proposed for mining is 61.336ha. An area of 5.5ha is kept for dumping of sub-grade, 14ha for mineral storage, 5.5ha for infrastructure, 8.97ha for roads, 94.6ha for green belt and 1622.79ha is others (untouched area). The Daitari township and Baliparbat township are outside the mine lease at a distance of 3.5km and 4km respectively; however, these are not proposed as part of this project. The Kukurangli Nala, the Damsal Nala and the Kusai Nadi are flowing in the in the buffer zone of the mine at a distance of 2km, 2.5km and 6.5km respectively from the mine lease boundary. No modification/diversion of the existing-natural drainage pattern at any stage has been envisaged.

3. No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. are reported to be located in the core and buffer zone of the mine. The buffer zone of the project reported to form corridor for

Schedule-I fauna. The Mahagiri PF and two reserve forests namely Rebna RF and Tamka RF are located in the buffer zone of the mine at a distance of 2k, 3.5km and 7km respectively from the mine lease boundary.

4. The mine working will be opencast by mechanized method involving drilling and blasting. The targetted production capacity of the mine is 3,000,000TPA (3million TPA) of iron ore and the life of mine is 23years. Approximately 10,000TPD of iron ore will be transported through 3.8km long downhill closed conveyor belt upto the stock pile at Baliparbat and the sized ore from Baliparbat will be dispatched by the rail. The topography of the area is hilly at an elevation above mean sea level ranging from 230m-840m. The present working depth of mine is 765m AMSL and the ultimate working depth of mine will be 700m AMSL. The groundwater table is reported at 580m AMSL. The mine working will not intersect the groundwater table. The peak water requirement of the project is estimated as 1490m³ per day, out of which 1290m³ per day will be met from the ground water and the remaining 200m³ per day will be met from the recycled water. It has been stated that 175households from one village comprising a population of 910people are in the core zone. Displacement of population and R&R has not been envisaged. It has been envisaged that no solid waste will be generated. Plantation will be raised in an area of 175.72ha at the end of the mine life and there will be no water body left during the post mining stage.

5. The State Pollution Control Board, Orissa conveyed its Consent to Establish on 12.01.2009 for enhancement of production of iron ore from 3LTPA to 3million TPA with 1200 TPH crusher and screening plant over mine lease hold area of 1812.99ha. The public hearing of the project was held on 07.04.2010 separately for Keonjhar District and for Jajpur District for production of 3million TPA of iron ore over mine lease area of 1812.99ha. The Ministry of Environment and Forests had conveyed its approval under Section 2 of Forest (Conservation) Act, 1980 for diversion of 95.5ha already broken up forestland for renewal of mining lease on 27.01.2005. The Indian Bureau of Mines had approved the scheme of mining alongwith PMCP of the project on 06.10.2008 over an area of 1812.99ha. The capital cost of the project is Rs.480Crores and the capital cost for the environmental protection measures is proposed as Rs.200Lakhs. The annual recurring cost towards the environmental protection measures is proposed as Rs.50Lakhs. It has been stated that there is no court case to the project or related activity.

6. The Ministry of Environment and Forests has examined the application in accordance with the EIA Notification, 2005 and hereby accords environmental clearance under the provisions thereof to the above mentioned Daitari Iron Ore Mining Project of M/s The Orissa Mining Corporation Limited for an annual production capacity of 3,000,000tonnes (3million tonnes) of iron ore by the opencast mechanized method involving total mine lease area of 1812.99ha, subject to implementation of the following conditions and environmental safeguards,

12/10/09

A. Specific Conditions

- (i) All the conditions stipulated by the State Pollution Control Board, Orissa in their Consent to Establish shall be effectively implemented.
- (ii) The project proponent shall obtain Consent to Operate from the State Pollution Control Board, Orissa and effectively implement all the conditions stipulated therein.
- (iii) The environmental clearance is subject to grant of approval of the State Land use Department, Government of Orissa for diversion of agricultural land for non agricultural use.
- (iv) Environmental clearance is subject to grant of forestry clearance. Necessary forestry clearance under the Forest (Conservation) Act, 1980 for an area of 1619.237ha forestland involved in the project shall be obtained before starting mining operation in that area. Till such time the mining operation shall be restricted to 95.6ha already broken up forestland for which forestry clearance was obtained on 27.01.2005. No mining shall be undertaken in the forest area without obtaining requisite prior forestry clearance.
- (v) Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Gox Foundation Vs. Union of India in writ Petition (Civil) No. 450 of 2004, as may be applicable to this project.
- (vi) Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority, as may be applicable to this project.
- (vii) The mining operations shall be restricted to above ground water table and it should not intersect the groundwater table. In case of working below the ground water table, prior approval of the Ministry of Environment and Forests and the Central Ground Water Authority shall be obtained, for which a detailed hydro-geological study shall be carried out.
- (viii) The project proponent shall ensure that no natural watercourse and water resources shall be obstructed due to any mining operation. Adequate measures shall be taken for conservation and protection of first order and the second order streams, if any emanating/passing through the mine lease area during the course of mining operation.
- (ix) The top soil, if any shall temporarily be stored at earmarked site(s) and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation.

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- (x) There shall be no external dump(s). Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Shubanswar on six monthly basis.
- (xi) Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, sub-grade and mineral dump(s) to prevent run off of water and flow of sediments directly into the agricultural fields, the Kukurangi Nala, the Damsal Nala, the Kusai Nadi and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after the monsoon and maintained properly.
- Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and sub-grade and mineral dump(s) to prevent run off of water and flow of sediments directly into the Kukurangi Nala, the Damsal Nala, the Kusai Nadi and other water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the garland drains and desilted at regular intervals.
- (xii) Dimension of the retaining wall at the toe of the GB benches within the mine to check run-off and siltation shall be based on the rain fall data.
- (xiii) Plantation shall be raised in an area of 175.73ha including a 7.5m wide green belt in the safety zone around the mining lease by planting the native species around reclaimed area, mine benches, along the roads etc. in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per hectare. Greenbelt shall be developed all along the mine lease area in a phased manner and shall be completed within first five years.
- (xiv) Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as around crushing and screening plant, loading and unloading point and transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- (xv) The project authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.

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- (xvi) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and installing new piezometers during the mining operation. The periodic monitoring [(at least four times in a year- pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January)) once in each season]] shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office Bhubaneswar, the Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity, necessary corrective measures shall be carried out.
- (xvii) Appropriate mitigative measures should be taken to prevent pollution of the Kusal Nadi in consultation with the State Pollution Control Board.
- (xviii) The project proponent shall obtain necessary prior permission/NOC of the competent authorities for drawl of requisite quantity of water required for the project.
- (xix) Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.
- (xx) Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded. No transportation of ore outside the mine lease area shall be carried out after the sunset.
- (xxi) No blasting shall be carried out after the sunset. Blasting operation shall be carried out only during the daytime. Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.
- (xxii) Drills shall either be operated with the dust extractors or equipped with water injection system.
- (xxiii) Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- (xxiv) Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation.

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(xxv) Digital processing of the entire lease area using remote sensing technique should be done regularly once in three years for monitoring land use pattern and report submitted to MOEF and its Regional Office located at Lucknow.

(xxvi) Effective safeguard measures should be taken to control fugitive emissions so as to ensure that PSPM (PM₁₀) levels are within prescribed limits.

(xxvii) Door to door sample survey should be undertaken within the impact zone to assess the family based need of the tribals and it should be appropriately addressed in the CSR activities to be undertaken in the area. An action plan in this regard should be prepared and submitted.

(xxviii) Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.

(xxix) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna namely elephant, pangolin, python, King cobra etc. in the study area fauna found in the study area. Action plan for conservation of flora and fauna prepared shall be implemented in consultation with the State Forest and Wildlife Department. All the safeguard measures brought out in the Wildlife Conservation Plan prepared specific to this project site shall be effectively implemented. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. A copy of action plan shall be submitted to the Regional Office of the Ministry of Environment and Forests, Bhubaneswar.

(xxx) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile-SFP, safe drinking water, medical health care, canteen etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

(xxxi) The critical parameters such as RSPM (Particulate matter with size less than 10 micron i.e., PM₁₀) and NO_x in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored [TDS, DO, PH and Total Suspended Solids (TSS)]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The Circular No. J-20012/1/2006-XA.II(M) dated 27.05.2009 Issued by Ministry of Environment and Forests, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance.

(xxii) A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.

B. General conditions

- (i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.
- (ii) No change in the calendar plan including excavation, quantum of mineral iron ore and waste should be made.
- (iii) At least four ambient air quality monitoring stations should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10 micron i.e., PM_{10}) and NO_x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.
- (iv) Data on ambient air quality [(RSPM (Particulate matter with size less than 10 micron i.e., PM_{10}) and NO_x] should be regularly submitted to the Ministry including its Regional office located at Shubaneswar and the State Pollution Control Board / Central Pollution Control Board once in six months.
- (v) Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.
- (vi) Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.
- (vii) Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standard prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.
- (viii) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

Occupational health surveillance program of the workers should undertaken periodically to observe any contractions due to exposure dust and take corrective measures, if needed.

ANNEXURE -14

- (ix) A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
- (x) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhubaneswar.
- (xi) The project authorities should inform to the Regional Office located at Bhubaneswar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
- (xii) The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
- (xiii) The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Office Bhubaneswar, the respective Zonal Office of Central Pollution Control Board and the State Pollution Control Board. The proponent shall upload the status of compliance of the environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment and Forests, Bhubaneswar, the respective Zonal Office of Central Pollution Control Board and the State Pollution Control Board.
- (xiv) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.
- (xv) The State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and the Collector's office/ Tehsildar's Office for 30 days.
- (xvi) The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of

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compliance of environmental clearance conditions and shall also be sent to the respective Regional Office of the Ministry of Environment and Forests, Bhubaneswar by e-mail.

(xvi) The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at <http://envfor.nic.in> and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubaneswar.

7. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

8. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

9. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made thereunder and also any other orders passed by the Hon'ble Supreme Court of India/ High Court of Orissa and any other Court of Law relating to the subject matter.

10. Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 90 days as prescribed under Section 11 of the National Environment Appellate Authority Act, 1997.

(SAYISH C. GARKOTI)
Scientist 'F'

Copy to:

- (i) The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
- (ii) The Secretary, Department of Environment, Government of Orissa, Secretariat, Bhubaneswar.
- (iii) The Secretary, Department of Mines and Geology, Government of Orissa, Secretariat, Bhubaneswar.

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- (iv) The Secretary, Department of Forests, Government of Orissa, Secretariat, Bhubaneswar.
- (v) The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
- (vi) The Chief Conservator of Forests, Regional Office (EZ), Ministry of Environment and Forests, A-3 Chandrasekharpur, Bhubaneswar-751023.
- (vii) The Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/118 Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012.
- (viii) The Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
- (ix) The District Collector, District Keonjhar, Government of Orissa.
- (x) The District Collector, District Jajpur, Government of Orissa.
- (xi) E1 Division, Ministry of Environment & Forests, E1 Division, New Delhi.
- (xii) Monitoring File.
- (xiii) Guard File.
- (xiv) Record File.

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BY REGD POST

OFFICE OF THE STATE POLLUTION CONTROL BOARD, ORISSA

Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII,
Bhubaneswar-751012

No. 104 And-IL-KOC- 4766Date 12-01-09

OFFICE MEMORANDUM

In consideration of the application for obtaining Consent to Establish for M/s. Dattari Iron Ore Mine of the Orissa Mining Corporation Ltd. (Expansion), the State Pollution Control Board has been pleased to convey its Consent to Establish under section 25 of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1986 for enhancement of production of Iron Ore of quantity from 3.0 lakh Ton/Annum to 3.0 Million Ton/Annum with 1200 TPH Crusher & Screening Plant (Dry process) over mine lease hold area of 1812.99 Ha.) At - Dattari, Talapada in the district of Keonjhar and Jajpur with the following conditions:

GENERAL CONDITIONS.

1. This Consent to establish is valid for the product, quantity manufacturing process and raw materials as mentioned above & for a period of five years from the date of issue of this letter, provided commencement of production of the proposed project has not taken place in the meantime.
2. If the proponent fails to start operation of the project but substantial physical progress has been made then a renewal of this consent shall be sought by the proponent.
3. Adequate effluent treatment facilities are to be provided such that the quality of sewage and trade effluent satisfies the standards as prescribed under EP Rule or as prescribed by the Central Pollution Control Board and/or State Pollution Control Board or otherwise stipulated in the special conditions.
4. All emission from the industry as well as the ambient air quality and noise are to conform to the standards as laid down under EP Rule/Central Pollution Control Board/State Pollution Control Board or otherwise stipulated in the special conditions.
5. Adequate method of disposal of solid waste is to be adopted to avoid environmental pollution.
6. The industry is to comply to the provisions of EP Act, 1986 and the rules made thereunder with their amendments from time to time such as the Hazardous Chemical Manufacture, Storage and Import Rule, 1989 etc. The industry is also to comply to the provisions of Public Liability Insurance Act, 1991, if applicable.

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ANNEXURE -15

7. The industry is to apply for grant of Consent to operate under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 & Air (Prevention & Control of Pollution) Act, 1986 (if coming under air pollution control area) at least 3 (three) months before the commercial production and obtain Consent to Operate.
8. This consent to establish is subject to statutory and other clearances from Govt. of Orissa and / or Govt. of India as and when applicable.

SPECIAL CONDITIONS

1. The mine has to seek environmental clearance as per the EIA notification 2006 or as recommended by EAC/SEAC. However, commencement of mining activity for proposed expansion shall be done after obtaining environmental clearance or as recommended by EIA/SEIAA.
2. A bank guarantee, commensurate with the production level will be taken by the Board for continuous satisfactory environmental compliance of the mine during the period for which consent to operate is granted as and where required.
3. The mine shall completely dismantle the existing wet beneficiation plant and carry out dry process for processing of iron ore if they want to continue with wet processing they must have adequate tailing pond before operationalising the wet process.
4. The enhanced production of iron ore and manganese ore will be achieved through deployment of following equipments/ machineries.

Sl. No.	Equipment	Dia / Capacity	Numbers
01.	Blast hole drill	150mm dia	4
02.	Electrical shovel	1.9 m ³	1
03.	Diesel shovel	1.3 m ³	1
04.	Hydraulic shovel	2.5 m ³	2
05.	Hydraulic shovel	3.8 m ³	1
06.	Pay loader	3.1/5.6 m ³	3
07.	Bull dozer	320 HP	1
08.	Motor grader	145 HP	1
09.	Dumper	35 MT/32 ST	15

5. Oil contaminated wastes like oil filters, oily muck, cotton wastes etc. generated from work shops, garages and other areas shall be disposed in a secured landfill specially designed for hazardous wastes.

ANNEXURE -15

5. No change in mining technology and scope of working shall be made without prior approval of the Board.
7. Top soil should be stacked properly with proper slope at demarked site(s) with adequate measures and shall be used for reclamation and rehabilitation of mined out areas.
8. Concurrent back-filling should be started from the fourth year of operation. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests with a copy to the Board on yearly basis.
9. A green belt of adequate width shall be raised for suppression of dust by planting the native species around to ML area, roads, OS dump sites, etc., in consultation with the local DFO/Agriculture Department.
10. Reclamation programme along with the post closure plan is to be submitted within 03 months from the date of issue of this order.
11. Silt drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil and mineral dumps. The drains should be regularly de-silted and maintained properly. The garland drains (size, gradient and length) and sump capacity should be designed keeping 80% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material.
12. Regular monitoring of ground water level and quality should be carried out by establishing a net work of existing wells. The monitoring should be done four times a year in pre-monsoon (April/May), Monsoon (August), Post-monsoon (November) and winter (January) seasons. Data thus collected should be submitted to the Board quarterly. Following heavy rains need to be monitored at least once during post monsoon period whose values shall not exceed as per following standard.

i)	Cd	-	2.0 mg/l
ii)	Cr+6	-	0.10 mg/l
iii)	Copper	-	3.0 mg/l
iv)	Lead	-	0.10 mg/l
v)	Mercury	-	0.01 mg/l
vi)	Nickel	-	0.50 mg/l
vii)	Zinc	-	5.0 mg/l
13. Sewage treatment plant should be installed for the treatment of domestic effluent generated from the colony and mines so as to meet the prescribed standard of the Board for discharge to inland surface water.

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ANNEXURE -15

14. Wastewater (workshop, wastewater from the mine i.e. pit water, check dams or any other discharge leaving lease boundary of the mine) should be properly collected, treated so as to conform the prescribed standard i.e. pH = 6 - 9.0, SS = 50 mg/l, & O & G = 5 mg/l and dissolved iron as Fe = 2 mg/l or as amended from time to time. Oil and grease trap should be installed before discharge of effluents from workshop. Domestic effluent shall be discharged to soak pit via septic tank.
15. Mine drainage water, if any has to be treated and disposed of after conforming to the standard prescribed by the Board i.e. pH = 6-9.0, Total SS = 50mg/l & O & G = 5mg/l and Dissolved iron as Fe = 2 mg/l.
16. Drill should be wet operated or with dust extractors and controlled blasting should be practices.
17. Six ambient air quality monitoring stations for 24 hours operation should be established in the core zone as well as in the buffer zone for RPM, SPM, SO₂, NO_x and CO monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Data on ambient air quality (RPM, SPM, SO₂, NO_x and CO) should be regularly submitted to the State Pollution Control Board once in six months.
18. Adequate measures to control fugitive emission shall be taken during loading and transportation of minerals, haul roads, drilling, excavation, ore stack pile and truck loading areas.
19. The haulage roads and arterial roads shall be made black topped / concrete with avenue plantation. Appropriate plan to this effect shall be submitted to the board within a month. Initially 50% of haul road shall be black topped/concrete surfaced. The speed of dumpers / trucks on haul roads shall be controlled as increased speed increases dust emission. Overloading of transport vehicles shall be avoided.
20. Drilling operation need to be conducted as per the recommendations of the manufacturer using sharp drill bits. Applying sufficient thrust on the drill bit and providing dust hood at the mouth of drill hole collar to prevent the generation of dust to be air-borne.
21. The operator's cabin in the drills shall be provided with dust proof enclosure and the persons working at high dust prone areas shall be provided with dust mask.
22. Conditioning of the ore with water (7.5 - 9.5%) can be practiced as a primary method to minimize the dust emissions without affecting flow of the ore in the ore processing and handling areas.

23. Air blast level resulting from blasting on any premises or public place must not exceed 95 dB (insan) peak at any other premises outside the period between 7 AM and 5 PM on any day.
24. Pre-wetting of Blasting site shall be practiced.
25. Avoid Blasting when temperature inversion is likely to occur and strong wind blows towards the residential areas.
26. Use site specific scientific blast design using modern software.
27. Optimized blasting methods shall be practiced by matching the explosive to the drilling pattern, rock characteristics and proper stemming of the holes.
28. Site specific drilling pattern, optimum charging of explosives, adequate stemming and introduction of delays shall be practiced.
29. During transportation of ore by trucks through public roads, the truck shall be properly covered with tarpaulin sheets / leak proof coverings and shall ply at safe speed.
30. Dust suppression on mine haul roads, dumps and mine working benches shall be done by spraying water through water sprinklers, along with chemical binders/wetting agents at frequent interval in order to reduce water consumption and to improve retention and re-absorption capacity of water. The additive chemicals should not have any adverse impact on the environment. Water sprinklers of fixed type shall also be provided at the mine HEMM maintenance shop, other service centers and approach roads from mines to crusher hopper to prevent the generation of dust to be air borne.
31. Regular collection of spilled over-tow material from haul roads shall be practiced to prevent the generation of dust due to movement of dumpers / truck.
32. At stockpile and loading plant area, a net work of drains with concrete bottom shall be constructed at a depth of 1.5 meter below the lowest level on the sites parallel to the stockpile area with interconnected box culverts. The sloping of surface shall be given toward to the stockpiles so that surface water will only infiltrate in to the drain.
33. To arrest the slimes/suspended solid fine particles flowing through the streams a no. of check dams shall be constructed across the original course of the stream along with wire mesh and boulders. De-silting of check dams shall be done at regular interval during non-monsoon period.

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ANNEXURE -15

34. Sedimentation ponds shall be constructed at strategic points in order to guide all surface run-off water containing sediments for settlement of suspended solids before discharge of water in to natural stream/water courses during monsoon.
35. Riverine afforestation shall be practiced to prevent soil erosion during monsoon.
36. Noise is best abated at source by selecting right machinery and equipment by proper mounting of equipment by providing noise insulating enclosures or padding as far as possible.
37. Noise barriers shall be constructed between sources and affected areas (thick belt of trees around mine boundaries, waste dumps, hills and mountainous land forms can act as such barrier).
38. Safety fuse shall be covered with sand layer of 15 cm thick in order to reduce noise level during blasting operation.
39. Occupational exposure limit of noise limit for ground vibration at the foundation level and permissible peak particle velocity (PPV) at the foundation level of structures in the mining areas as specified by DGM's shall be complied with by the iron ore mines.
40. Adequate measures shall be taken for control of noise levels in the work environment of mine area so that noise levels at the boundary line of M.L. area shall not exceed 75 dB(A) during day time (6 AM to 10 AM) and 70 dB(A) during night time (10 PM to 6 AM).
41. The top soil (20-30 cm) shall be removed separately utilize for restoration or rehabilitation of land or store it in a separate heap for future use duly covered with grass and vegetal cover to preserve its fertility / biomass.
42. Waste rock should be back filled into main excavations to the maximum extent possible in order to restore the land.
43. The waste dumps shall be located away from the natural hills, rivers in the area and on an impervious & non-mineralised area to minimize the water pollution.
44. The waste dumps shall be properly dressed benched stepped at low angle with terracing and bamboo barricades in the slopes making retaining walls stone barriers at the toe of the dump gully plugging etc to prevent the soil erosion during monsoon besides establishing vegetation on dump top as well as its slope surface. In difficult cases, hydro-seeding technique or use of geotiles mat embedded with seeds shall be adopted.

45. The completed out-slope of the waste dumps should not exceed 20 degrees from horizontal to avoid excessive erosion and easy vegetation.
46. Project authority shall undertake sample survey to generate data on pre-project community health status within a radius of 1km. from proposed mine. The report shall be submitted within 06 months from the date of issue of this order.
47. Consent to operate shall be obtained from this Board before commencing the mining activities of proposed expansion project.
48. Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.
49. The mine shall provide bag filter as well as dry fog system at potential dust generating points of iron ore crusher and screening plants.
50. The particulate matter emission in the stack attached to dedusting system shall not exceed 100mg/Nm³.
51. The mine shall provide dry fog system at crusher hopper during unloading operation and at iron ore stock yard.
52. The mine shall provide hoods at transfer points, chutes shall be properly designed and vulcanizing of conveyor belt joints to control fugitive emission.
53. The ore right from primary crusher to screening plant, and for further processing shall be carried out through a system of closed conveyor belts in order to control the dust generation during transportation of iron ore from hill top to down the fill.
54. A separate environmental management cell with suitable qualified personnel should be set up under the control of a Senior Executive, who will report directly to the Head of the organization.
55. The above conditions will be enforced, inter-alia, under the provisions of the water (Prevention & Control of pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1986 and Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rule.
56. All efforts shall be taken to protect the existing water bodies in the surrounding. A definite plan in this regard shall be submitted to the Board within 06 month from the date of issue of this order.

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ANNEXURE -15

57. This consent to establish is granted subject to grant of Explosive License from competent Authority. The valid Explosive License must be submitted to this Board while applying for consent to operate to this Board.
58. The Board may impose further conditions or modify the conditions stipulated in this order during installation and/or at the time of obtaining consent to operate and may revoke this clearance in case the stipulated conditions are not implemented.
59. The mine shall abide by all the provisions of Environment (Protection) Act, 1986 and rules framed thereunder.
60. The mine shall obtain forest clearance under Forest (Conservation) Act, 1980 if there is involvement of forest land in the mining lease area.

To,
 ✓ The Deputy General Manager (Geo),
 The Orissa Mining Corporation Ltd.,
 P.O. Box: -34, Bhubaneswar - 751 001
 (Original)

Signature
 MEMBER SECRETARY

Memo No. _____/DL
 Copy forwarded to :

1. Secretary Steel & Mines, Govt. of Orissa, Bhubaneswar
2. Collector, Keonjhar & Jajpur
3. District Industries Centre, Keonjhar & Jajpur
4. Consent Section
5. Director, Factories & Boilers, Bhubaneswar
6. Regional Officer, O.S.P.C. Board, Keonjhar
7. DFO, Keonjhar & Jajpur
8. Copy to Guard file

Signature
 SR. ENV. ENGINEER (K)

CONSENT ORDER

Page 1

BY REG. POST AIRMAIL

STATE POLLUTION CONTROL BOARD, ORISSA

A/118, Nilakantha Nagar, Unit-VII, Bhubaneswar-751012
Phone-2561505, Fax-2562822, 2560555

CONSENT ORDER

No. 5917 IND-T-CON-246Dt. 05-04-2014CONSENT ORDER NO. 441

Sub: Consent for discharge of sewage and trade effluent under section 25(2) of Water (Pollution) Act, 1974 and for existing / new operation of the plant under section 21 of Air (Pollution) Act, 1986.

Ref: Your application No. 37/OMC/Daitari/Mine/2014, Dt. 12/01/2014

Consent to operate is hereby granted under section 25(2) of Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act, 1986 and rules framed thereunder to

Name of the Industry Daitari Iron Ore Mines, Orissa Mining Corporation Ltd.Name of the Occupier & Designation Abhinav Sahoo, Sr. Manager (Mining)Address At - Daitari, Po - Talapada, Dist - KeonjharThis consent order is valid for the period up to 31.03.2016

This consent order is valid for the product quantity, specified effluents, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions as specified below. This consent is granted subject to the general and special conditions stipulated therein.

A. Details of Products Manufactured

Sl. No.	Product	Quantity
1.	Iron Ore	5.6 MTPA

T.T.O

ANNEXURE -15

CONSENT ORDER

Page 2

B. Discharge permitted through the following outlet subject to the standard

Outlet No.	Description of outlet	Point of discharge	Quantity of discharge KLD or KL/hr	Pre-scribed Standard			
				pH	TSS (mg/l)	BOD ₅ & Chemical Oxygen Demand (mg/l)	SSB (mg/l)
01.	Domestic effluent	Septic tank & soak pit	—	5.5 to 9.0	200	—	100
02.	Mine drainage water / surface run off / other wastewater	Monthly land / inland surface water	—	5.5 to 9.0	100 (Rainy day) 50 (Non rainy day)	10	—

C. Emission permitted through the following stack subject to the prescribed standard

Chimney Stack No.	Description of Stack	Stack height (m)	Quantity of emission	Prescribed Standard			
				PM	SO ₂	NO _x	

D. Disposal of solid waste permitted in the following manner

Sl. No.	Type of Solid waste	Quantity generated (TPD)	Quantity to be reused on site (TPD)	Quantity to be reused off site (TPD)	Quantity disposed off (TPD)	Description of disposal site.
01.	Top Soil / Overburden	As per approved mining plan	—	—	—	As per approved mining plan

E.T.D

F GENERAL CONDITIONS FOR ALL UNITS

- [illegible]

ANNEXURE -15



CONSENT ORDER

Page 4

21. The applicant shall not change or alter either the quality or quantity or type of material or fuel, engine or other the air pollution control equipment or change the size, material or manufacturing process resulting in any change in quality or quantity of emissions, without the previous written permission of the Board.
22. No control equipment or chimney shall be altered or replaced or so the mass may be extended or restricted except with the previous approval of the Board.
23. The facility shall comply with all the provisions of the air pollution control equipment, such as, burning in the furnace and in the air pollution control equipment, as provided by the Board in accordance with the provisions of the Air Pollution Control and Control of Pollutants Act, 1974 (as amended).
24. The air pollution control system installed by the applicant shall be operated in accordance with the Board's requirements.
25. The applicant shall maintain a record of the emissions of the pollutants from the process.
26. In case of such system, the applicant shall take measures to bring down the emissions within the limits prescribed by the Board in accordance with the provisions of the Air Pollution Control and Control of Pollutants Act, 1974 (as amended).
27. The applicant shall keep the records of the emissions of the pollutants from the process and shall submit the same to the Board in the form of a report, as prescribed by the Board.
28. The applicant shall keep the records of the emissions of the pollutants from the process and shall submit the same to the Board in the form of a report, as prescribed by the Board.
29. The applicant shall keep the records of the emissions of the pollutants from the process and shall submit the same to the Board in the form of a report, as prescribed by the Board.
30. The applicant shall keep the records of the emissions of the pollutants from the process and shall submit the same to the Board in the form of a report, as prescribed by the Board.
31. The applicant shall keep the records of the emissions of the pollutants from the process and shall submit the same to the Board in the form of a report, as prescribed by the Board.
32. The applicant shall keep the records of the emissions of the pollutants from the process and shall submit the same to the Board in the form of a report, as prescribed by the Board.
33. The applicant shall keep the records of the emissions of the pollutants from the process and shall submit the same to the Board in the form of a report, as prescribed by the Board.
34. The applicant shall keep the records of the emissions of the pollutants from the process and shall submit the same to the Board in the form of a report, as prescribed by the Board.
35. The applicant shall keep the records of the emissions of the pollutants from the process and shall submit the same to the Board in the form of a report, as prescribed by the Board.
36. The applicant shall keep the records of the emissions of the pollutants from the process and shall submit the same to the Board in the form of a report, as prescribed by the Board.
37. The applicant shall keep the records of the emissions of the pollutants from the process and shall submit the same to the Board in the form of a report, as prescribed by the Board.
38. The applicant shall keep the records of the emissions of the pollutants from the process and shall submit the same to the Board in the form of a report, as prescribed by the Board.
39. The applicant shall keep the records of the emissions of the pollutants from the process and shall submit the same to the Board in the form of a report, as prescribed by the Board.
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43. The applicant shall keep the records of the emissions of the pollutants from the process and shall submit the same to the Board in the form of a report, as prescribed by the Board.

GENERAL CONDITIONS FOR UNITS WITH INVESTMENT OF MORE THAN RS. 50 CRORES, AND A-CATEGORIES OF HIGHLY POLLUTING INDUSTRIES (RED A).

1. The applicant shall submit the emissions report to the Board in the form of a report, as prescribed by the Board.
2. The applicant shall submit the emissions report to the Board in the form of a report, as prescribed by the Board.
3. The applicant shall submit the emissions report to the Board in the form of a report, as prescribed by the Board.

P.T.O.

ANNEXURE -15

CONSENT ORDER

Page 5

1. The applicant, jointly, severally, and the duly trading shall be required and the consent order shall be given to the following:-
The applicant shall forward the following information to the Member Secretary, State Pollution Control Board, Odisha, Bhubaneswar, regularly:-
a. Report of the work of the applicant, including the quality monitoring, environmental data as required every month.
b. Report of the work of the applicant.

2. The applicant shall submit technical documents including equipment and personnel for monitoring from the applicant, and the applicant shall be required to submit the following information to the Member Secretary of the State Pollution Control Board, Odisha, Bhubaneswar, regularly:-
a. Performance of the applicant.
b. Monthly statement of daily discharges of effluents, water body, effluent.

3. Non-compliance with consent limitations

4) If for any reason the applicant does not comply with or is unable to comply with the consent limitations provided in this consent order, the applicant shall immediately notify the relevant authority by telephone and provide the relevant authority with the following information in writing within 7 days of such non-compliance:-

- a. Cause of non-compliance.
- b. A description of the primary cause of discharge including its impact on the receiving water body.
- c. Anticipated time of onset and nature of the discharge if expected to continue or if such discharge has been suspended for duration or period of non-compliance.
- d. Steps taken by the applicant to rectify the non-compliance discharge and
- e. Steps to be taken by the applicant to prevent the recurrence of non-compliance.

5) The applicant shall take all necessary steps to ensure that the discharge of effluents from the applicant shall not cause any adverse effect on the receiving water body, including the discharge of effluents, and the applicant shall ensure that the discharge of effluents shall not cause any adverse effect on the receiving water body.

6) Nothing in this consent order shall be construed to relieve the applicant from the obligation to comply with the consent limitations, and the applicant shall ensure that the discharge of effluents shall not cause any adverse effect on the receiving water body.

7. The applicant shall ensure that the effluent samples collected from the applicant shall be analyzed at an approved laboratory every month for the parameters and listed in Part B and shall submit the analysis report to the Board.

8. The applicant shall ensure that the effluent samples collected from the applicant shall be analyzed at an approved laboratory every month for the parameters and listed in Part B and shall submit the analysis report to the Board.

9. In the absence of a consent order or in the absence of the authority that there is no need for the consent order.

10. The applicant shall ensure that the effluent samples collected from the applicant shall be analyzed at an approved laboratory every month for the parameters and listed in Part B and shall submit the analysis report to the Board.

11. The applicant shall ensure that the effluent samples collected from the applicant shall be analyzed at an approved laboratory every month for the parameters and listed in Part B and shall submit the analysis report to the Board.

12. The applicant shall ensure that the effluent samples collected from the applicant shall be analyzed at an approved laboratory every month for the parameters and listed in Part B and shall submit the analysis report to the Board.

13. The applicant shall ensure that the effluent samples collected from the applicant shall be analyzed at an approved laboratory every month for the parameters and listed in Part B and shall submit the analysis report to the Board.

14. The applicant shall ensure that the effluent samples collected from the applicant shall be analyzed at an approved laboratory every month for the parameters and listed in Part B and shall submit the analysis report to the Board.

15. The applicant shall ensure that the effluent samples collected from the applicant shall be analyzed at an approved laboratory every month for the parameters and listed in Part B and shall submit the analysis report to the Board.

16. The applicant shall ensure that the effluent samples collected from the applicant shall be analyzed at an approved laboratory every month for the parameters and listed in Part B and shall submit the analysis report to the Board.

P.T.O.

ANNEXURE -15

CONSENT ORDER

Page 1

- 14) The mine shall take necessary action for compliance of the following air and water quality standards. Emission and wastewater quality monitoring shall be done by the lessee twice in a week and report shall be submitted once in six months to the Board.

Parameter	Standard
A. Emission standards for stack for Ore-crushing unit.	
Particulate matter	100 mg/m ³
Stack height	15.0m
A Stack height for Ore-crushing unit shall be calculated as $H=74 Q^{0.42}$, where H and Q are stack height in metre and particulate matter (PM) emission in tonne / in respectively, i.e.,	
Q (tonne/h)	H (metre)
Up to 2.71	15
2.72-7.68	20
7.69-17.36	25
17.37-55.20	30
Note :- Stack attached to Ore-crushing unit shall have minimum height of 15.0 meters and would be atleast 2.80 metres above the top-most point of the nearby building / shed or flag in the mine.	
B. Fugitive Emission Standards	
Particulate Matter	1200 µg/m ³
Note :- Fugitive emission shall be monitored in the predominant downwind direction at a distance 20.0 ± 2.0 metres from the source of fugitive emission as per following :-	
Area	Monitoring Location
Mine face / Bonedies	Drilling, excavation and loading applicable for operating benches above water table.
Oral Road/ Service Roads	Along roads to ore processing plant, waste dumps and loading areas and service road.
Crushing plant	Run-off mine unloading at hopper, crushing areas, screens and transfer points.
Screening plant	Screens, conveying and transportation of ore discharge points.
Ore storage and loading	Intermediate stock bin / pile areas, ore stock bin / pile areas, wagon / truck loading areas.
Waste dump	Active waste / reject dump.
C. Effluent Standards	
pH	6.5-8.5
Suspended solids (non-rainy day)	50 mg/l
Suspended solids (rainy day)	100 mg/l
Oil & Grease	10 mg/l
Note :- (i) All effluents shall be treated to remove and re-circulate the treated effluent. (ii) This standard effluent standards shall be complied with for sewage, service water, beneficiation of ore wash water and surface run-off put together.	

20.0

ANNEXURE -15



CONSENT ORDER

Page 5

- 25) Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and other action as deemed fit.

To,

The Sr. Manager (Mines),
Dastari Iron Ore Mines, M/s. OMC Ltd.,
Po. - Talasada,
Dist - Keonjhar

[Signature]
MEMBER SECRETARY
STATE POLLUTION CONTROL BOARD, ORISSA

Memo No. _____/CL

Copy forwarded to:

- i) Regional Officer, State Pollution Control Board, Keonjhar
- ii) District Collector, Keonjhar
- iii) S.F.O. Keonjhar
- iv) District Mining Officer, Keonjhar
(For Mines and Minerals Processing Unit only)
- v) Cess Section (Head Office)
- vi) Consent Register

[Signature]
ENV. SCIENTIST
STATE POLLUTION CONTROL BOARD, ORISSA

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CONSENT ORDER

Page 10

**GENERAL STANDARDS FOR DISCHARGE OF
ENVIRONMENT POLLUTANTS**

4

P.T.O.

ANNEXURE -15

CONSENT ORDER

Page 13

NATIONAL AMBIENT AIR QUALITY STANDARDS

Sl. No.	Pollutants	Time Weighted Average	Concentration of Ambient Air		
			Industrial, Residential, Rural and other Area	Ecologically Sensitive Area (Notified by Central Government)	Methods of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1	Sulphur Dioxide (SO_2), $\mu\text{g}/\text{m}^3$	Annual ^a	50	30	- Improved wet and dry
		24 Hours ^{aa}	80	80	- Ultraviolet fluorescence
2	Nitrogen Dioxide (NO_2), $\mu\text{g}/\text{m}^3$	Annual ^a	40	30	- Modified Jones & Hochlander (Na Acetate)
		24 Hours ^{aa}	80	80	- Chemiluminescence
3	Particulate Matter (size less than $10\mu\text{m}$) or PM_{10} , $\mu\text{g}/\text{m}^3$	Annual ^a	60	60	- Gravimetric
		24 Hours ^{aa}	100	100	- TOSSM
4	Particulate Matter (size less than $2.5\mu\text{m}$) or $\text{PM}_{2.5}$, $\mu\text{g}/\text{m}^3$	Annual ^a	40	40	- Gravimetric
		24 Hours ^{aa}	60	60	- TOSSM
5	Ozone (O_3), $\mu\text{g}/\text{m}^3$	8 Hours ^{aa}	100	100	- UV Photometric
		1 Hour ^{aa}	180	180	- Chemiluminescence
6	Lead (Pb), $\mu\text{g}/\text{m}^3$	Annual ^a	0.50	0.50	- AAS/ICP method after sampling on HPLC 2000 or equivalent filter paper
		24 Hours ^{aa}	1.0	1.0	- EID XRF using Teflon filter
7	Carbon Monoxide (CO), $\mu\text{g}/\text{m}^3$	8 Hours ^{aa}	02	02	- Non-Dispersive Infra Red (NDIR)
		1 Hour ^{aa}	04	04	- Spectrophotometry
8	Arsenic (As), $\mu\text{g}/\text{m}^3$	Annual ^a	100	100	- Chemiluminescence
		24 Hours ^{aa}	400	400	- Inductively Coupled Plasma Method
9	Benzene (C_6H_6), $\mu\text{g}/\text{m}^3$	Annual ^a	05	05	- Gas Chromatography mass spectrometry analysis
					- Adsorption and Desorption followed by GC analysis
					- Solvent extraction followed by HPLC/GC analysis
10	Fluoro (F) Pyrene (Fluor) - particulate phase only, $\mu\text{g}/\text{m}^3$	Annual ^a	01	01	- AAS/ICP method after sampling on HPLC 2000 or equivalent filter paper
11	Arsenic (As), $\mu\text{g}/\text{m}^3$	Annual ^a	06	06	- AAS/ICP method after sampling on HPLC 2000 or equivalent filter paper
12	Nickel (Ni), $\mu\text{g}/\text{m}^3$	Annual ^a	20	20	- AAS/ICP method after sampling on HPLC 2000 or equivalent filter paper

^a Annual arithmetic mean of continuous 24 hour measurement in a year of 7 particulates shall be taken twice a week 24 hourly at uniform intervals.

^{aa} 24 hourly or 60 hourly or 60 hourly maximum values, as applicable, shall be complied with 95% of the time in a year; 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

P.T.O

ANNEXURE -15

CONSERVATION

Page 11

GENERAL STANDARDS FOR DISCHARGE OF ENVIRONMENTAL POLLUTANTS PART -A : EFFLUENTS

Sl.No.	Parameters	Standards			
		Inland surface	Public waters	Land for irrigation	Marine Coastal Areas
		(a)	(b)	(c)	(d)
1.	Colour & odour	Colours/Odour free as far as practicable	---	See 6 of Annex-1	See 6 of Annex-1
2.	Suspended Solids (spp)	100	600	200	For process wastewater - 100 For cooling water effluent 10% above total suspended matter of influent.
3.	Particulate size of SS	Shall pass 630	---	---	---
5.	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
6.	Temperature	Shall not exceed 5°C above the receiving water temperature	---	---	Shall not exceed 5°C above the receiving water temperature
7.	DO & Oxygen mg/l max.	10	20	30	20
8.	Total residual chlorine	1.0	---	---	1.0
9.	Ammonical nitrogen (as N) mg/l max.	50	50	---	50
10.	Total Kjeldahl nitrogen (as NH ₃) mg/l max.	100	---	---	100
11.	Free ammonia (as NH ₃) mg/l max.	5.0	---	---	5.0
12.	Biochemical Oxygen Demand (5 days at 20°C) mg/l max.	30	50	100	100
13.	Chemical Oxygen Demand, mg/l max.	250	---	---	250
14.	Arsenic (as As) mg/l max.	0.2	0.2	0.2	0.2
15.	Mercury (as Hg) mg/l max.	0.01	0.01	---	0.001
16.	Lead (as Pb) mg/l max.	0.1	1.0	---	2.0

NO
T.T.O

14/1

4.

ANNEXURE -15



CONSISTENT ORDER

Page 12

17.	Cadmium (as Cd) mg/l max.	2.0	1.5	—	2.0
18.	Hexavalent Chromium (as Cr + 6) mg/l max.	0.5	2.0	—	1.0
19.	Total Chromium (as Cr) mg/l max.	2.0	2.0	—	2.0
20.	Copper (as Cu) mg/l max.	5.0	3.0	—	3.0
21.	Zinc (as Zn) mg/l max.	5.0	15	—	15
22.	Selenium (as Se) mg/l max.	0.05	0.05	—	0.05
23.	Nickel (as Ni) mg/l max.	3.0	3.0	—	5.0
24.	Cyanide (as CN) mg/l max.	0.2	3.0	0.2	0.01
25.	Fluoride (as F) mg/l max.	2.0	15	—	15
26.	Dissolved Phosphates (as P) mg/l max.	5.0	—	—	—
27.	Sulphide (as S) mg/l max.	2.0	—	—	5.0
28.	Fluorogenic compounds as (C ₁₀ H ₈ O ₄) mg/l max.	1.0	5.0	—	5.0
29.	Radioactive materials a. Alpha emitter micro curies/ml. b. Beta emitter micro curies/ml.	10 ³ 10 ⁴	10 ² 10 ³	10 ⁵ 10 ⁴	10 ² 10 ⁵
30.	Bio-assay test	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent
31.	Manganese (as Mn)	2 mg/l	2 mg/l	—	2 mg/l
32.	Iron (Fe)	3 mg/l	3 mg/l	—	3 mg/l
33.	Vanadium (as V)	0.2 mg/l	0.2 mg/l	—	0.2 mg/l
34.	Nitrate Nitrogen	10 mg/l	—	—	20 mg/l

13.3

ANNEXURE-18

Sri R. P. Singh
DISTRICT OFFICE, CUTTACK. 21/11

No. 317 / Mines Dt. 19-11-66

From

The Additional District Magistrate, Cuttack.

To

The Secretary of the Orissa Mining Corporation Ltd.,
Bhubaneswar.

Sub:- Grant of permission for surface operation over an area
of 520.30 hectares within the lease hold area of 1812.
hectares in Daitari M.L. area to M/S Orissa Mining
Corporation Ltd.

Ref:- Your letter No. Nil/OMT/66 dated 1.4.66.

Sir,

Permission for surface operation over an area of
520.30 hectares is accorded under clause 2 Part III of the
executed lease deed. The Mining Officer, Sukinda P.O. Jaipur Road
is being authorised to deliver the formal possession to you.

Yours faithfully,

K. C. Singh
Additional District Magistrate, Cuttack

Memo No. / Mines Dt.

Copy forwarded to the Mining Officer, Sukinda, P.O. Jaipur-
Road for information and necessary action with reference to
his letter No. 1262/Mines dated 3.11.66. He is requested to
deliver the formal possession to the party.

Sd/-
Additional District Magistrate,
Cuttack.

Memo No. / Mines Dt.

Copy with a copy of the plan forwarded to the Divisional
Forest Officer, Bhubaneswar for information and necessary action.

Sd/-
Additional District Magistrate, Cuttack.

Office of the Mining Officer,
Jajpur Road Circle.

No. _____ / Mines 'D'., Dated _____ / 1966.

From:-

Sri P.K.Rath, M.Sc.,
Mining Officer, Jajpur Road.

To

The Additional District Magistrate,
Cuttack.

Sub:- Grant of surface occupation over an area of 520.30 hect
in favour of M/S Orissa Mining Corporation Ltd.

Ref:- District Office Memo No.320 dated 19.11.66.

Sir,

With reference to your memo on the above subject, I am
to inform you that the formal possession of an area of 520.30 hect
was delivered on 9.12.66 to M/S Orissa Mining Corporation through
Sri A.T.Das for surface operation.

Yours faithfully,

Sd/-

Mining Officer
Jajpur Road Circle, Jajpur Road.

Memo No. 1486 / Mines 'D'., Dated 26/12/1966.

Copy to the Secretary, M/S Orissa Mining Corporation
Ltd., Bhubaneswar for information with reference to his memo No.
23828/OMC/ dated 15.11.66.

Mining Officer,
Jajpur Road Circle, Jajpur Road.

Raju/-26/12/

Annexure - 16A

Copy to be sent to V&E.
sent to V&E

APPENDIX - 12

EX-1002052

GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES
OFFICE OF THE CHIEF CONTROLLER OF MINES

Sl. No. 1113/MIN/1977-COON (PR-4)

Nagpur dated 22.11.2011

To: Sd/- P.K. Bhow
Deputy General Manager Geol
Power of Attorney Holder
The Orissa Mining Corporation Limited,
OMC House
Bhubaneswar-751 001

Sub: Permission for preparation of plans on a scale other than prescribed Scale, vide rule 27(1)(d) of MCDR, 1988 in respect of 'Dutari' from OMC mine over an area of 1412.59 ha. in Rajour & Kumbhar blocks of Orissa in favour of Orissa Mining Corporation Limited.

Ref: (1) Letter No. 35630-MCDR&E/11 dated 26.06.2011 and
(2) Letter No. 14650-MCDR&E/36/11 dated 08.03.2011.

Sir,

With reference to above letters, I am to request to inform that your request has been duly considered and permission is hereby granted to prepare Surface Plan and Cross-Section of the stipulated mining lease for iron ore on a scale of 1:2500, provided that mining plan is disseminated clearly on the surface plan showing the area proposed for excavation, for the purpose.

Year-wise development plan for period at the end of every year for five years, where the mining block boundary should be drawn on a scale of 1:1000. The sections should be drawn on the same vertical scale and all the plans and sections should be laid down on suitable and durable material.

Yours faithfully,

(Signature)
Sd/- SASHI K. P. SINGH
Regional Controller of Mines

(Signature)
APPROVED

50/1

4



NABL

National Accreditation Board for Testing and Calibration Laboratories

Department of Science & Technology, India

CERTIFICATE OF ACCREDITATION

SUPERINTENDENCE COMPANY OF INDIA (P) LTD.

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2005

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

Plot Y-23, Block EP, Sector V, Salt Lake City, Kolkata

in the discipline of

CHEMICAL TESTING

(To see the scope of accreditation of this laboratory, refer to the NABL website www.nabl.org)

Certificate Number: **1-1230**

Issue Date: **31/03/2012**



Valid Until: **30/03/2014**

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the additional requirements of NABL.

Signed for and on behalf of NABL

R. Prakash

R. Prakash
Convener

Anil Ralia

Anil Ralia
Director

Dr. T. Ramasami

Dr. T. Ramasami
Chairman

SUPERINTENDENCE CO. OF INDIA (P) LTD.

Dy. Managing Director



SUPERINTENDENCE COMPANY OF INDIA (PRIVATE) LIMITED

(AN ISO 9001 : 2000 Certified)

Plot No. 545/1707, (2nd Floor), Near Sanjeevani Hospital, Lower Road, Bhubaneswar - 751003

Phone : (6674) 334-2245.

Website : www.superintendence-co.com

Certificate No: BBS- 582

Date: 02.02.2013

TEST CERTIFICATE

Name & Address of Client:	M/S. The Odisha Mining Corporation Ltd, Daitari
Letter No. & Date:	324/OMC/DTR/13, Date: 23.01.2013
Material:	Iron Ore Sample of Drill core
Source:	Daitari Iron Ore Mines
Name of Work:	Analysis of 07 nos. of Iron Ore samples of Drill core of Daitari Mines submitted by M/S. The Odisha Mining Corporation Ltd., Daitari.

TEST RESULTS

ALL RESULTS ARE ON DRY BASIS

Name of Tests		Sample Mark					
		DTR-79/10	DTR-79/20	DTR-79/30	DTR-79/50	DTR-79/62	DTR-79/71
RUN IN MT.	FROM	8	16	24	41.5	52	62
	TO	9	17	25	43	53	63
LUMPS/FINES				LUMPS		LUMPS	
Fe ₂ O ₃ %		81.46	83.33	88.63	90.33	93.80	88.64
FeO %		0.20	0.20	0.27	0.29	0.15	0.29
LOI %		10.43	6.51	7.06	5.60	4.12	7.39
SiO ₂ %		1.96	1.35	1.08	0.39	0.28	0.50
Al ₂ O ₃ %		4.58	2.24	1.05	2.27	0.91	2.02
P ₂ O ₅ %		0.219	0.224	0.231	0.215	0.187	0.222
SO ₃ %		0.057	0.032	0.029	0.024	0.017	0.027
TiO ₂ %		0.105	0.085	0.080	0.090	0.060	0.103
MnO %		0.14	0.09	0.10	0.10	0.08	0.14
CaO %		0.36	0.30	0.26	0.24	0.16	0.24
MgO %		0.17	0.14	0.12	0.11	0.07	0.11
T Alkali (Na ₂ O + K ₂ O) % by difference		0.128	0.152	0.162	0.130	0.092	0.150
Pb & Zn %		Not Found	Not Found	Not Found	Not Found	Not Found	Not Found
Cu %		Not Found	Not Found	Not Found	Not Found	Not Found	Not Found
V ₂ O ₅ %		Not Found	Not Found	Not Found	Not Found	Not Found	Not Found

Fe %	57.13	62.01	62.33	63.39	65.72	62.22	61
P %	0.096	0.098	0.101	0.094	0.082	0.097	0
S %	0.023	0.013	0.012	0.010	0.007	0.011	0

N.B.

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Tested by:



Checked by:

[Signature]
Sr. Chemist

Page 582 of 582

Certified by:

[Signature]
(S.P. SINGH)
Branch Manager

Certified that analysis of 7 nos. of Pdt samples are received as per requirement & entered in sampling register at P-1.

[Signature]
24.5.13
M/D



SUPERINTENDENCE COMPANY OF INDIA (PRIVATE) LIMITED

(AN ISO 9001 : 2008 Certified)

Plot No. 345/1707, (2nd Floor), Near Sanjeevani Hospital, Lewis Road, Bhubaneswar - 751002

Phone : (0674) 234-2245,

Website : www.superintendence-co.com

Certificate No: BBS- 504

Date: 17.01.2013

TEST CERTIFICATE

Name & Address of Client:	M/S. The Odisha Mining Corporation Ltd, Daitari
Letter No. & Date:	72/OMC/DTR/13, Date: 07.01.2013
Material:	Iron Ore Sample of Drill core
Source:	Daitari Iron Ore Mines
Name of Work:	Analysis of 21 nos. of Iron Ore samples of Drill core of Daitari Mines submitted by M/S. The Odisha Mining Corporation Ltd., Daitari

TEST RESULTS

ALL RESULTS ARE ON DRY BASIS

ALL RESULTS ARE ON DRY BASIS								
Name of Tests		Sample Mark						
		DTR-78/10	DTR-78/20	DTR-78/30	DTR-78/40	DTR-78/50	DTR-78/60	DTR-78/70
IN IN IN	FROM	9	19	29	38	47	55	52
	TO	10	20	30	39	48.5	56	64
LUMPS/FINES					FINES	FINES		FINES
Fe ₂ O ₃ %		90.34	92.78	86.75	86.87	87.88	87.12	94.70
FeO %		0.27	0.18	0.29	0.33	0.38	0.37	0.29
LOI %		7.20	5.38	6.82	7.88	6.88	8.04	3.31
SiO ₂ %		0.36	0.29	1.04	0.52	1.18	0.72	0.41
Al ₂ O ₃ %		0.83	0.58	3.73	3.15	2.44	2.61	0.68
P ₂ O ₅ %		0.210	0.183	0.233	0.222	0.224	0.231	0.167
SO ₂ %		0.024	0.017	0.034	0.042	0.032	0.037	Trace
TiO ₂ %		0.085	0.070	0.105	0.080	0.065	0.100	0.049
MnO %		0.11	0.08	0.13	0.10	0.12	0.13	0.09
CaO %		0.22	0.16	0.52	0.29	0.34	0.28	0.17
MgO %		0.101	0.07	0.16	0.14	0.15	0.12	0.0
T. Alkali (Na ₂ O + K ₂ O)% by difference		0.150	0.110	0.180	0.210	0.085	0.140	0.09
Pb & Zn %		Not Found	Not Found	Not Found	Not Found	Not Found	Not Found	Not Found
Cu %		Not Found	Not Found	Not Found	Not Found	Not Found	Not Found	Not Found
V ₂ O ₅ %		Not Found	Not Found	Not Found	Not Found	Not Found	Not Found	Not Found

Fe %	63.39	65.01	60.90	61.01	61.76	61.22	68.4
P %	0.032	0.080	0.132	0.097	0.098	0.101	0.01
S %	0.010	0.007	0.014	0.017	0.013	0.015	Trace

CONTD. P/

ANNEXURE - 17



SUPERINTENDENCE COMPANY OF INDIA (PRIVATE) LIMITED

(AN ISO 9001 : 2000 Certified)

Plot No. 545/1707, (2nd Floor), Near Sanjeevani Hospital, Lawa Road, Bhulandhara - 751002

Phone : (0674) 234-2245,

Website : www.superintendence-co.com

// P - 2 //

Name of Tests		Sample Mark						
		DTR-78/80	DTR-78/90	DTR-78/100	DTR-79/110	DTR-78/120	DTR-79/130	DTR-79/140
MINI MIN	FROM	76	84.5	95.5	106.5	121.5	134	147
	TO	77.5	85.5	97	108.5	123	136.0	149
LUMPS/FINES						FINES		
Fe ₂ O ₃ %		91.13	91.34	88.98	86.00	86.67	91.47	83.55
FeO %		0.25	0.19	0.36	0.28	0.37	0.21	0.25
LOI %		6.04	5.62	7.61	10.08	9.02	5.67	7.92
SiO ₂ %		0.65	0.78	1.14	0.93	1.06	0.63	3.2
Al ₂ O ₃ %		0.96	1.09	2.56	1.41	1.59	0.90	3.64
P ₂ O ₅ %		0.208	0.189	0.233	0.219	0.235	0.190	0.224
SO ₃ %		0.022	0.019	0.039	0.037	0.032	0.019	0.044
TiO ₂ %		0.095	0.075	0.115	0.100	0.080	0.090	0.085
MnO %		0.11	0.09	0.18	0.13	0.11	0.08	0.14
CaO %		0.20	0.25	0.39	0.32	0.35	0.29	0.38
MgO %		0.10	0.11	0.15	0.16	0.17	0.13	0.18
T. Alkali (Na ₂ O + K ₂ O) % by difference		0.130	0.140	0.120	0.180	0.110	0.150	0.190
Pb & Zn %		Not Found	Not Found	Not Found	Not Found	Not Found	Not Found	Not Found
Cu %		Not Found	Not Found	Not Found	Not Found	Not Found	Not Found	Not Found
V ₂ O ₅ %		Not Found	Not Found	Not Found	Not Found	Not Found	Not Found	Not Found

Fe %	63.93	64.03	61.11	60.36	60.90	64.14	58.63
P %	0.090	0.087	0.102	0.098	0.103	0.083	0.098
S %	0.009	0.008	0.016	0.015	0.013	0.003	0.018

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CONTD. P/3



SUPERINTENDENCE COMPANY OF INDIA (PRIVATE) LIMITED

(AN ISO 9001 : 2000 Certified)

Plot No. 545/5797, (2nd Floor), Near Sanjeevani Hospital, Lewis Road, Bhubaneswar - 751002
Phone : (0674) 254-2245, Website : www.superintendence-co.com

// P - 3 //

Name of Tests		Sample Mark						
		DTR-78/150	DTR-78/160	DTR-78/170	DTR-78/180	DTR-78/190	DTR-78/200	DTR-78/210
RUN IN TRL	FROM	161	181	197	216.5	234	246.5	260
	TO	163	182.5	200	219	236	249	262
LUMPS/FINES								
Fe ₂ O ₃ %		73.54	68.21	63.23	60.75	61.73	61.23	64.06
FeO %		0.34	0.23	0.43	0.27	0.21	0.24	0.32
LOI %		6.90	7.24	7.26	8.70	8.22	10.05	10.62
SiO ₂ %		16.30	1.02	19.74	7.46	5.00	3.15	1.16
Al ₂ O ₃ %		1.50	2.26	7.83	1.27	3.42	4.10	2.3
P ₂ O ₅ %		0.180	0.231	0.183	0.215	0.213	0.222	0.23
SO ₃ %		0.052	0.029	0.084	0.044	0.039	0.042	0.03
TiO ₂ %		0.110	0.075	0.085	0.095	0.115	0.080	0.07
MnO %		0.12	0.06	0.15	0.19	0.13	0.12	0.1
CaO %		0.41	0.27	0.44	0.42	0.38	0.35	0.4
MgO %		0.20	0.13	0.22	0.20	0.19	0.17	0.2
T. Alkali (Na ₂ O + K ₂ O) % by difference		0.140	0.120	0.210	0.160	0.136	0.130	0.12
Pb & Zn %		Not Found	Not Found	Not Found	Not Found	Not Found	Not Found	Not Found
Cu %		Not Found	Not Found	Not Found	Not Found	Not Found	Not Found	Not Found
V ₂ O ₅ %		Not Found	Not Found	Not Found	Not Found	Not Found	Not Found	Not Found

Fe %	51.70	61.87	44.56	56.68	57.33	57.00	59
P %	0.079	0.101	0.080	0.094	0.093	0.097	0.1
S %	0.021	0.012	0.026	0.018	0.016	0.017	0.0

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Tested by:



Checked by:

[Signature]
Sr. Chemist

Certified by:

[Signature]
(S.P. SINGH)
Branch Manager



SUPERINTENDENCE COMPANY OF INDIA (PRIVATE) LIMITED

(AN ISO 9001 : 2000 Certified)

PLA No. 645/1737, (2nd Floor), Near Sanjeevani Hospital, Lewis Road, Bhubaneswar - 751002
Phone : (0674) 234-2245, Website : www.superintendence-co.com

Certificate No: BBS- 586

Date: 06.02.2013

TEST CERTIFICATE

Name & Address of Client:	M/S. The Odisha Mining Corporation Ltd, Daitari
Letter No. & Date:	335/OMC/DTR/13, Date: 24.01.2013
Material:	Iron Ore Sample of Drill core
Source:	Daitari Iron Ore Mines
Name of Work:	Analysis of 05 nos. of iron Ore samples of Drill core of Daitari Mines submitted by M/S. The Odisha Mining Corporation Ltd., Daitari.

TEST RESULTS

ALL RESULTS ARE ON DRY BASIS

Name of Tests		Sample Mark				
		DTR-80/16	DTR-80/25	DTR-80/35	DTR-80/46	DTR-80/56
FROM IN MT.	FROM	12	19	28	37	45
	TO	13	20	29	38	46
	Fe ₂ O ₃ %	88.87	91.38	95.23	93.50	94.45
	FeO %	0.23	0.18	0.10	0.15	0.12
	LOI %	8.12	6.50	2.88	4.94	4.05
	SiO ₂ %	0.30	0.26	0.33	0.18	0.21
	Al ₂ O ₃ %	1.29	0.75	0.58	0.39	0.34
	P ₂ O ₅ %	0.215	0.203	0.182	0.187	0.155
	SO ₃ %	0.032	0.022	Trace	0.014	Trace
	TiO ₂ %	0.095	0.080	0.060	0.075	0.055
	MnO %	0.11	0.08	0.07	0.09	0.08
	CaO %	0.24	0.22	0.15	0.13	0.14
	MgO %	0.11	0.09	0.07	0.06	0.07
	TAKail (Na ₂ O+K ₂ O)% by difference	0.172	0.145	0.085	0.091	0.095
	Pb & Zn %	Not Found	Not Found	Not Found	Not Found	Not Found
	Cu %	Not Found	Not Found	Not Found	Not Found	Not Found
	V ₂ O ₅ %	Not Found	Not Found	Not Found	Not Found	Not Found

Fe %	62.33	64.03	68.88	65.51	66.15
P %	0.084	0.069	0.071	0.082	0.068
S %	0.013	0.009	Trace	0.006	Trace

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Tested by:

Checked by:

Certified by:



Sr. Chemist
Page 161 of 552
END OF REPORT

S.P. SINGH
Branch Manager

Certified three
 Analy. results of
 05 nos - 9.8.13.20
 are received
 per requirement
 & entered in
 register &
 p-4
 BKS-12
 30.3



SUPERINTENDENCE COMPANY OF INDIA (PRIVATE) LIMITED

(AN ISO 9001 : 2000 Certified)

Plot No. 645/1707, (2nd Floor), Near Sarjeevati Hospital, Lewis Road, Bhubaneswar - 751002

Phone : (0674) 294-2245,

Website : www.superintendence-co.com

Certificate No. BBS- 566

Date: 06.02.2013

TEST CERTIFICATE

Name & Address of Client:	M/S. The Odisha Mining Corporation Ltd, Daitari
Letter No. & Date:	335/OMC/DTR/13, Date: 24.01.2013
Material:	Iron Ore Sample of Drill core
Source:	Daitari Iron Ore Mines
Name of Work:	Analysis of 05 nos. of Iron Ore samples of Drill core of Daitari Mines submitted by M/S. The Odisha Mining Corporation Ltd, Daitari.

TEST RESULTS

ALL RESULTS ARE ON DRY BASIS

Name of Tests	Sample Mark				
	DTR-80/15	DTR-80/25	DTR-80/35	DTR-80/45	DTR-80/55
FROM	12	19	28	37	45
TO	13	20	29	38	46
Fe ₂ O ₃ %	88.87	91.36	95.23	93.50	94.45
FeO %	5.23	0.18	0.10	0.15	0.12
LOI %	6.12	6.50	2.98	4.94	4.08
SiO ₂ %	0.30	0.26	0.33	0.18	0.21
Al ₂ O ₃ %	1.29	0.75	0.58	0.39	0.34
P ₂ O ₅ %	0.215	0.203	0.162	0.137	0.155
SO ₃ %	0.032	0.022	Trace	0.014	Trace
TiO ₂ %	0.096	0.080	0.060	0.076	0.055
MnO %	0.11	0.08	0.07	0.09	0.08
CaO %	0.24	0.22	0.15	0.13	0.14
MgO %	0.11	0.09	0.07	0.08	0.07
T Alkali (Na ₂ O+K ₂ O)% by difference	0.172	0.145	0.085	0.091	0.095
Pb & Zn %	Not Found	Not Found	Not Found	Not Found	Not Found
Cu %	Not Found	Not Found	Not Found	Not Found	Not Found
V ₂ O ₅ %	Not Found	Not Found	Not Found	Not Found	Not Found

Fe %	82.33	84.53	86.88	85.51	86.15
P %	0.094	0.089	0.071	0.062	0.068
S %	0.013	0.009	Trace	0.008	Trace

N.B.

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Tested by:



Checked by:

Sr. Chemist
Page 102 of 102

Certified by:

(S.P. SINGH)
Branch Manager

Certified that
Analy. results of
05 nos. of S.P. Samp
are received as
per requirement
of Bhubaneswar
registered and put
B.K. Singh
30.5.13
M/S.

Borehole Logs

Borehole Collar Data

BH No.	Northing	Easting	Collar RL	Depth	Hole path
DTR-01	-299.85	-100	814.58	10.3	linear
DTR-01A	-299.75	-102	814.58	80	linear
DTR-02	-299.8	-150	814.58	70	linear
DTR-03	-300	-203	822.05	92	linear
DTR-04	-400	-150	813.68	82	linear
DTR-05	-1000	0	800.585	70	linear
DTR-06	-900	0.9	809.435	57.7	linear
DTR-07	-950	-141	778.535	110	linear
DTR-08	-550	-43	840.865	67.6	linear
DTR-09	-855.6	75	804.795	57	linear
DTR-10	-697.7	72	832.865	82.5	linear
DTR-11	-700	-60	794.74	108	linear
DTR-12	-600	0	830.965	116.6	linear
DTR-13	-708	1.5	807.59	83.6	linear
DTR-14	-421	40	830.685	63	linear
DTR-15	-850	-110	783.915	100.4	linear
DTR-16	-207	-212	828.065	75	linear
DTR-17	-200	-110	814.9	103	linear
DTR-18	-100	-217	831.81	117	linear
DTR-19	0	77	834.785	103	linear
DTR-20	0	-220	840.545	78.8	linear
DTR-21	-1095	-200	768.355	107.5	linear
DTR-22	-805	-10.5	800.485	135	linear
DTR-23	-1300	-100	759.36	104	linear
DTR-24	-500	0	830.415	80	linear
DTR-25	-100	35	841.869	91	linear
DTR-26	-1100	-75	841.869	12	linear
DTR-27	-300	5	830.345	73	linear
DTR-28	-1150	-80	771.45	87.6	linear
DTR-29	-1250.12	-154.76	757.928	95.5	linear
DTR-30	58.328	-405.87	808.5	56.5	linear
DTR-31	40.5	-365	805.5	41.5	linear
DTA-01	-1000	-164	784.35	206.55	linear
DTA-02	-800	-100	788.825	143.3	linear
DTA-03	-400	-190	813.46	200	linear
DTA-04	-100	-100	814.32	205.25	linear
DTA-05	60	-160	826.896	195.5	linear
DTR-60	-243.787	-225.138	816.377	80	linear
DTR-71	-769.435	-55.182	791.342	257	linear
DTR-73	-496.357	-88.546	808.475	284	linear
DTR-78	-1035.16	-160.488	771.859	266	linear
BH-03	-117	-150	830	20	linear
BH-04	-162	-151	840	30	linear
BH-05	-266	-150	840.2	30.2	linear
BH-06	-266	-100	840	30	linear
BH-07	-213	-100	840	30	linear
BH-08	-162	-100	840.1	30.1	linear
BH-09	-117	-100	840	30	linear
BH-11	-58	-100	850	40	linear
BH-12	-117	-48	850	40	linear
BH-13	-162	-49	850	40	linear
BH-14	-213	-50	850	30	linear
BH-15	-266	-50	851	41.5	linear

BH No.	Northing	Easting	Collar RL	Depth	Hole path
BH-16	-266	0	850	40	linear
BH-17	-213	1	855	45	linear
BH-18	-163	0	855	45	linear
BH-19	-117	0	855	28.5	linear
BH-31	-306	-150	837	27	linear
BH-32	-306	-161	840.2	30.2	linear
BH-36	-306	-100	840	30.5	linear
BH-42	-360	-50	852	42	linear
BH-43	-410	-50	850	40	linear
BH-44	-440	-80	840	30	linear
BH-46	-805	0	851	41	linear
BH-47	-360	0	855	45	linear
BH-48	-410	0	856	46	linear
BH-49	-440	-46	840	30	linear
BH-50	-530	-27	840	30	linear
BH-62	-20	-150	852.5	42.5	linear
BH-63	-20	-100	850	40	linear
BH-64	-4	0	855	20	linear
BH-65	-58	38	850	20	linear
BH-66	-567	0	840	30	linear
BH-67	-568	8	832	22.2	linear
BH-69	-667	50	830	30	linear
BH-70	-667	1	820	20	linear
BH-71	-667	30	828	20	linear
BH-74	-38	63	833	23	linear
BH-75	36	1	837	27	linear
BH-76	36	-47	843	33	linear
BH-78	37	-150	837	24	linear
BH-79	37	-200	840	30	linear
DT-1	-7	-154	852.55	70	linear
DT-2	-150	-9	860.71	60	linear
DT-2A	-150	-9	860.71	83	linear
DT-3	-225	-203	860.71	60	linear
DT-4	-448	-25	860.71	90	linear
DT-5	-447	-133	860.71	60	linear
DT-6	-675	57	860.71	60	linear
DT-7	-823	-100	860.71	33	linear
DT-8	-963	-52	860.71	52	linear
DT-9	-1198	-75	860.71	31.95	linear
DT-10	-15	-328	860.71	61	linear
DTR/32	105.183	-482.163	794.383	103.5	linear
DTR/33	119.01	-597.652	767.543	100	linear
DTR/35	83.532	-603.499	777.811	100.5	linear
DTR/36	84.827	-703.499	775.528	109	linear
DTR/37	65.953	-798.671	811.396	118	linear
DTR/38	81.568	-892.787	827.662	100	linear
DTR/39	73.112	-991.426	808.253	103	linear
DTR/40	-1.194	-999.461	816.572	80	linear
DTR/41	27.492	-1101.82	810.945	115	linear
DTR/42	-109.143	-1002.56	797.958	102	linear
DTR/43	66.985	-1204.26	798.86	86	linear
DTR/44	-29.229	-787.682	767.483	104.5	linear
DTR/45	-177.437	-996.51	763.22	108	linear
DTR/46	-14.877	-500.642	755.235	109.5	linear
DTR/47	21.392	-1286.97	772.01	105	linear
DTR/48	-61.59	-1130.27	776.8	99	linear
DTR/49	-266.065	-985.645	672.115	103	linear
DTR/50	-105.236	-740.595	728.589	112	linear

Borehole Collar Data

BH No.	Northing	Easting	Collar RL	Depth	Hole path
DTR/51	-183.62	-744.674	698.962	96	linear
DTR/52	-96.667	-492.405	732.546	100	linear
DTR/53	-200	-1100	752.018	100	linear
DTR/54	-300	-1100	719.005	100	linear
DTR/55	-32.149	-1229.91	778.214	95	linear
DTR/56	-95.108	-625.509	700.1	103	linear
DTR/57	-132.908	-1188.55	740.763	109	linear
DTR/58	436.199	-1355.2	810.145	100	linear
DTR/59	356.107	-1281.08	799.473	94	linear
DTR/60	-243.787	-225.138	816.377	80	linear
DTR/61	468.164	-1455.06	815.93	95	linear
DTR/62	482.1	-1554.03	822.3	97	linear
DTR/63	-175.764	-479.68	711.733	93	linear
DTR/64	-2.315	-918.513	809.182	100	linear
DTR/65	605.858	-1738.41	788.298	100	linear
DTR/66	563.205	-1635.2	792.108	99	linear
DTR/67	-243.978	-528.801	673.561	100	linear
DTR/68	652.234	-1812.6	767.84	100	linear
DTR/69	557.494	-1810.58	770.912	100	linear
DTR/70	-90.522	-898.775	770.311	94	linear
DTR/72	-307.719	-465.913	687.821	96	linear
DTR/74	686.038	-1895.71	726.238	96	linear
DTR/75	522.204	-1901.33	734.959	97	linear
DTR/79	636.06	-1988.4	691.161	90	linear
DTR/80	503.341	-2006.37	693.239	53	linear


 Manager (Geology)
 Dalkari Iron Ore Project
 C. M. C. Ltd.

Borehole Log

Assay & Litho Data

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-01A	1	0	0.58	66	1.11	0.52	0.078	0.001	3.66	SLO_FO
DTR-01A	2	0.58	1.58	66.02	0.92	0.32	0.062	0.001	3.7	SLO_FO
DTR-01A	3	1.58	2.58	65.68	0.95	0.35	0.001	0.001	4.12	SLO_FO
DTR-01A	4	2.58	3.58	65.2	0.82	0.53	0.086	0.001	5.21	SLO_FO
DTR-01A	5	3.58	4.58	64.38	0.63	0.18	0.14	0.001	6.74	SLO_FO
DTR-01A	6	4.58	5.58	64.5	0.58	0.21	0.127	0.002	6.34	SLO_FO
DTR-01A	7	5.58	6.58	64.2	0.76	0.19	0.85	0.001	6.66	SLO_FO
DTR-01A	8	6.58	7.58	63.2	0.86	0.31	0.073	0.002	7.94	SLO_FO
DTR-01A	9	7.58	8.58	63.3	1.12	0.15	0.77	0.002	7.66	SLO_FO
DTR-01A	10	8.58	9.58	63.6	1.14	0.19	0.068	0.001	7.02	SLO_FO
DTR-01A	11	9.58	10.58	64	1.12	0.1	0.116	0.002	6.92	SLO_FO
DTR-01A	12	10.58	11.58	64.2	1.12	0.22	0.043	0.001	6.42	HLO
DTR-01A	13	11.58	12.58	63.6	1.14	0.18	0.57	0.002	7.22	HLO
DTR-01A	14	12.58	13.58	63.8	0.92	0.19	0.065	0.006	6.96	HLO
DTR-01A	15	13.58	14.58	63.1	1.04	0.15	0.067	0.005	8.08	HLO
DTR-01A	16	14.58	15.58	63	1.27	0.12	0.057	0.006	8.33	HLO
DTR-01A	17	15.58	16.58	64.4	0.94	0.24	0.078	0.006	6.3	HLO
DTR-01A	18	16.58	17.58	65.2	0.8	0.36	0.059	0.006	5.25	HLO
DTR-01A	19	17.58	18.58	65.2	0.93	0.39	0.08	0.005	5.16	HLO
DTR-01A	20	18.58	19.58	64.4	0.53	0.23	0.19	0.006	6.83	HLO
DTR-01A	21	19.58	20.58	66.27	0.79	0.3	0.05	0.006	4.1	HLO
DTR-01A	22	20.58	21.58	65.6	1.01	0.38	0.065	0.009	4.44	HLO
DTR-01A	23	21.58	22.58	64.89	1.44	0.39	0.077	0.008	4.85	HLO
DTR-01A	24	22.58	23.58	63.7	1.38	0.57	0.069	0.007	6.66	SLO_FO
DTR-01A	25	23.58	24.58	63.3	1.94	0.61	0.09	0.004	6.79	SLO_FO
DTR-01A	26	24.58	25.58	65	1.34	0.49	0.055	0.002	4.7	SLO_FO
DTR-01A	27	25.58	26.58	64.6	1.99	0.63	0.073	0.003	4.49	SLO_FO
DTR-01A	28	26.58	27.58	63	2.39	1.31	0.086	0.004	6.05	SLO_FO
DTR-01A	29	27.58	28.58	64.82	0.98	0.36	0.073	0.005	5.45	SLO_FO
DTR-01A	30	28.58	29.58	64.22	1.53	0.58	0.063	0.003	5.2	SLO_FO
DTR-01A	31	29.58	30.58	65.66	1.55	0.52	0.057	0.005	3.96	SLO_FO
DTR-01A	32	30.58	31.58	64.9	2.12	0.69	0.054	0.008	3.66	SLO_FO
DTR-01A	33	31.58	32.58	64.4	1.72	0.47	0.062	0.007	4.42	SLO_FO
DTR-01A	34	32.58	33.58	66.2	1.4	0.5	0.058	0.003	3.14	SLO_FO
DTR-01A	35	33.58	34.58	65.2	1.54	0.56	0.063	0.001	3.54	SLO_FO
DTR-01A	36	34.58	35.58	65.6	0.93	0.42	0.059	0.002	3.36	BD_PO
DTR-01A	37	35.58	36.58	66.1	0.85	0.39	0.061	0.001	3.13	BD_PO
DTR-01A	38	36.58	37.58	63.5	2.18	1.4	0.091	0.001	4.78	BD_PO
DTR-01A	39	37.58	38.58	62.8	2.97	2.71	0.095	0.001	3.32	BD_PO
DTR-01A	40	38.58	39.58	60.4	3.28	3.7	0.1	0.001	4.56	BD_PO
DTR-01A	41	39.58	40.58	61.2	3.09	3.47	0.091	0.001	4.57	BD_PO
DTR-01A	42	40.58	41.58	60.9	3.5	3.29	0.08	0.001	4.8	BD_PO

Borehole Assay & Litho Data

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-01A	43	41.58	42.58	59.7	3.7	4.3	0.087	0.001	5.3	BD_PO
DTR-01A	44	42.58	43.58	58.6	3.4	5.78	0.081	0.001	5.8	BD_PO
DTR-01A	45	43.58	44.58	59.8	3.3	4.33	0.076	0.001	5.6	BD_PO
DTR-01A	46	44.58	45.58	63.8	2.04	1.22	0.054	0.001	4.4	BD_PO
DTR-01A	47	45.58	46.58	60.4	3.52	3.92	0.088	0.001	5	BD_PO
DTR-01A	48	46.58	47.58	58.8	3.47	5.65	0.087	0.001	5.7	BD_PO
DTR-01A	49	47.58	48.58	59.8	3.42	4.06	0.07	0.001	5.3	BD_PO
DTR-01A	50	48.58	49.58	63.9	2.04	1.23	0.06	0.001	4.15	BD_PO
DTR-01A	51	49.58	50.58	66	1.6	0.7	0.047	0.001	3.16	BD_PO
DTR-01A	52	50.58	51.58	65.2	2.22	0.45	0.048	0.002	3.44	BD_PO
DTR-01A	53	51.58	52.58	66.1	0.18	0.65	0.047	0.002	3.24	BD_PO
DTR-01A	54	52.58	53.58	65.8	1.4	0.69	0.047	0.001	3.3	BD_PO
DTR-01A	55	53.58	54.58	65	1.9	0.81	0.049	0.002	3.68	HLO
DTR-01A	56	54.58	55.58	65.8	1.3	0.61	0.06	0.001	3.31	HLO
DTR-01A	57	55.58	56.58	66	1.14	0.7	0.066	0.001	3.31	HLO
DTR-01A	58	56.58	57.58	64.56	2.02	1.41	0.079	0.001	3.81	HLO
DTR-01A	59	57.58	58.58	63.57	2.27	1.57	0.065	0.001	3.77	HLO
DTR-01A	60	58.58	59.58	64.27	1.77	1.6	0.072	0.001	4	HLO
DTR-01A	61	59.58	60.58	67.37	1.17	0.28	0.081	0.001	1.51	HLO
DTR-01A	62	60.58	61.58	67.34	0.96	0.6	0.094	0.001	1.7	HLO
DTR-01A	63	61.58	62.58	66.82	0.86	0.22	0.114	0.001	3.2	HLO
DTR-01A	64	62.58	63.58	67.2	0.87	0.26	0.098	0.013	2.28	HLO
DTR-01A	65	63.58	64.58	66.6	0.86	0.25	0.111	0.001	3.31	HLO
DTR-01A	66	64.58	65.58	66.4	0.77	0.27	0.025	0.002	3.39	HLO
DTR-01A	67	65.58	66.58	65.8	0.97	0.26	0.12	0.001	4.49	HLO
DTR-01A	68	66.58	67.58	67.2	1.06	0.31	0.057	0.002	1.93	HLO
DTR-01A	69	67.58	68.58	67.2	0.86	0.48	0.083	0.014	2.4	HLO
DTR-01A	70	68.58	69.58	65.4	1.03	0.36	0.13	0.008	5.06	HLO
DTR-01A	71	69.58	70.3	67.5	1.15	0.24	0.016	0.007	1.3	HLO
DTR-01A	72	70.3	73	31.8	4.89	33.32	0.003	0.002	15.58	Feruginous Shale
DTR-01A	73	73	75	21.12	21.55	33.44	0.052	0.006	13.7	Feruginous Shale
DTR-01A	74	75	80	22	23.29	31	0.053	0.005	13.53	Feruginous Shale
DTR-02	75	0	0.6	62.2	2.28	1.3	0.087	0.003	7.3	SLO_FO
DTR-02	76	0.6	1.6	59.4	4.52	1.65	0.097	0.001	7.76	Limonic Ore
DTR-02	77	1.6	2.6	61.2	2.88	1.7	0.1	0.001	7.26	SLO_FO
DTR-02	78	2.6	3.6	55.2	2.25	7.05	0.113	0.004	11.06	Limonic Ore
DTR-02	79	3.6	4.6	58.1	1.32	2.96	0.092	0.004	11.72	Limonic Ore
DTR-02	80	4.6	5.6	59.2	2.05	1.75	0.09	0.004	11.2	Limonic Ore
DTR-02	81	5.6	6.6	59.4	1.36	1.72	0.093	0.003	11.38	Limonic Ore
DTR-02	82	6.6	7.6	59.2	1.22	1.87	0.115	0.003	11.73	Limonic Ore
DTR-02	83	7.6	8.6	59.6	0.96	1.45	0.102	0.002	11.76	Limonic Ore
DTR-02	84	8.6	9.6	59.9	0.8	1.58	0.104	0.003	11.82	Limonic Ore
DTR-02	85	9.6	10.6	60.2	0.56	1.1	0.095	0.002	11.6	SLO_FO
DTR-02	86	10.6	11.6	60.2	0.62	1.19	0.092	0.002	11.42	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-02	87	11.6	12.6	60.1	0.66	1.21	0.102	0.007	11.48	SLO_FO
DTR-02	88	12.6	13.6	59.85	0.71	1.4	0.096	0.01	11.47	Limonitic Ore
DTR-02	89	13.6	14.6	59.73	0.83	1.42	0.104	0.012	11.55	Limonitic Ore
DTR-02	90	14.6	15.6	59.72	1	1.52	0.109	0.012	11.14	Limonitic Ore
DTR-02	91	15.6	16.6	60.23	1.32	1.22	0.098	0.002	11.07	SLO_FO
DTR-02	92	16.6	17.6	57.16	1.11	4.19	0.114	0.015	12.15	Limonitic Ore
DTR-02	93	17.6	18.6	63.45	0.63	2.12	0.085	0.001	6.12	BD_PO
DTR-02	94	18.6	19.6	63	0.9	1.37	0.087	0.001	7.38	BD_PO
DTR-02	95	19.6	20.6	59.7	1	2.25	0.119	0.001	11.15	BD_PO
DTR-02	96	20.6	21.6	60.3	0.81	2.58	0.105	0.001	10.3	BD_PO
DTR-02	97	21.6	22.6	65.85	0.43	0.57	0.06	0.002	4.82	BD_PO
DTR-02	98	22.6	23.6	65.85	0.4	0.73	0.06	0.001	4.56	BD_PO
DTR-02	99	23.6	24.6	65.89	0.4	0.84	0.056	0.002	4.32	BD_PO
DTR-02	100	24.6	25.6	67.11	0.5	0.5	0.054	0.003	2.87	BD_PO
DTR-02	101	25.6	26.6	67.84	0.37	0.33	0.058	0.001	2.06	BD_PO
DTR-02	102	26.6	27.6	66.94	0.51	0.59	0.07	0.002	3.08	BD_PO
DTR-02	103	27.6	28.6	66.6	0.62	0.41	0.066	0.003	3.52	BD_PO
DTR-02	104	28.6	29.6	66.4	0.94	0.63	0.068	0.002	3.26	BD_PO
DTR-02	105	29.6	30.6	65.2	0.74	1.04	0.077	0.009	4.4	BD_PO
DTR-02	106	30.6	31.6	65.2	0.66	0.71	0.012	0.007	4.9	BD_PO
DTR-02	107	31.6	32.6	65.4	0.72	0.83	0.072	0.007	4.46	BD_PO
DTR-02	108	32.6	33.6	66.2	0.6	0.67	0.07	0.003	4	BD_PO
DTR-02	109	33.6	34.6	66.1	0.6	0.63	0.07	0.007	3.98	BD_PO
DTR-02	110	34.6	35.6	66	0.62	0.72	0.072	0.1	4	BD_PO
DTR-02	111	35.6	36.6	65.44	0.85	0.56	0.09	0.001	4.85	BD_PO
DTR-02	112	36.6	37.6	63.77	0.88	0.61	0.089	0.01	6.87	BD_PO
DTR-02	113	37.6	38.6	64.42	1.1	0.66	0.085	0.009	5.2	SLO_FO
DTR-02	114	38.6	39.6	65.29	0.87	0.48	0.079	0.007	4.87	SLO_FO
DTR-02	115	39.6	40.6	66	0.67	0.67	0.078	0.007	4.16	SLO_FO
DTR-02	116	40.6	41.6	64.6	0.94	1.73	0.084	0.008	4.21	SLO_FO
DTR-02	117	41.6	42.6	63.4	1.04	2.16	0.066	0.008	5.5	SLO_FO
DTR-02	118	42.6	43.6	60.2	0.83	5.27	0.084	0.008	7.59	SLO_FO
DTR-02	119	43.6	44.6	58.4	1.64	6.59	0.096	0.007	7.52	SLO_FO
DTR-02	120	44.6	45.6	58.9	1.04	5.73	0.117	0.007	7.96	SLO_FO
DTR-02	121	45.6	46.6	58.5	1.07	5.58	0.137	0.007	8.37	SLO_FO
DTR-02	122	46.6	47.6	59.4	0.97	4.24	0.134	0.008	8.04	SLO_FO
DTR-02	123	47.6	48.6	62.8	0.76	3.16	0.119	0.01	4.74	BD_PO
DTR-02	124	48.6	49.6	66.3	0.56	1.39	0.109	0.012	2.46	BD_PO
DTR-02	125	49.6	50.6	67.58	0.52	0.52	0.113	0.013	2.1	BD_PO
DTR-02	126	50.6	51.6	66.75	0.83	0.62	0.086	0.009	2.45	BD_PO
DTR-02	127	51.6	52.6	67.09	0.56	0.5	0.093	0.007	2.54	BD_PO
DTR-02	128	52.6	53.6	66.98	0.81	0.6	0.094	0.005	2.2	BD_PO
DTR-02	129	53.6	53.9	56	0.66	12.66	0.8	0.009	6.32	BD_PO
DTR-02	130	53.9	57.2	61.6	27.98	36	0.049	0.01	11.9	BD_PO
DTR-02	131	57.2	60	62	23.83	27.24	0.074	0.008	11.46	BD_PO

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-02	132	60	61	68.05	0.64	0.44	0.048	0.009	1.37	BD_PO
DTR-02	133	61	62	68.13	0.6	0.38	0.054	0.01	1.48	SLO_FO
DTR-02	134	62	63	67.35	0.7	0.41	0.052	0.009	2.28	SLO_FO
DTR-02	135	63	66	66.47	0.4	0.28	0.058	0.006	4.1	HLO
DTR-02	136	66	69	66.6	0.86	0.42	0.098	0.007	3.47	HLO
DTR-02	137	69	70	67	0.94	0.31	0.108	0.012	2.89	SLO_FO
DTR-03	138	0	1	56.6	3.52	6.21	0.077	0.019	9.14	Limonitic Ore
DTR-03	139	1	2	56.6	4.14	4.84	0.098	0.001	10.04	Limonitic Ore
DTR-03	140	2	3	58.8	3.08	3.67	0.073	0.001	8.94	Limonitic Ore
DTR-03	141	3	4	53.4	5.24	7.88	0.075	0.001	10	Limonite
DTR-03	142	4	5	52.8	4.58	8.48	0.087	0.035	10.98	Limonite
DTR-03	143	5	6	59.8	1.99	3.35	0.102	0.001	9.14	Limonitic Ore
DTR-03	144	6	7	61.8	1.84	3.61	0.081	0.001	6.12	SLO_FO
DTR-03	145	7	8	60.4	2.74	4.56	0.082	0.001	6.14	BD_PO
DTR-03	146	8	9	59.8	3.3	4.92	0.087	0.001	6.12	BD_PO
DTR-03	147	9	10	60	2.51	4.1	0.088	0.001	7.14	BD_PO
DTR-03	148	10	11	58	4.49	4.62	0.078	0.001	7.79	BD_PO
DTR-03	149	11	12	60	2.91	4.09	0.104	0.001	6.91	BD_PO
DTR-03	150	12	13	62	1.75	2.2	0.07	0.001	7.2	BD_PO
DTR-03	151	13	14	61.8	2.53	3.35	0.07	0.001	5.71	BD_PO
DTR-03	152	14	15	63.8	0.36	2.22	0.105	0.002	5.4	HLO
DTR-03	153	15	16	62.6	0.42	0.83	0.082	0.006	8.96	HLO
DTR-03	154	16	17	57.6	2.05	6.35	0.093	0.001	7.98	SLO_FO
DTR-03	155	17	18	28.4	0.6	37.09	0.115	0.001	20.51	Limonite
DTR-03	156	18	19	25.4	0.2	40.68	0.101	0.001	22.08	Limonite
DTR-03	157	19	20	36.5	1.68	27.86	0.122	0.001	17.58	Limonite
DTR-03	158	20	21	32.5	0.76	32.68	0.119	0.001	19.63	Limonite
DTR-03	159	21	22	40.8	1.85	23	0.113	0.011	15.91	Limonite
DTR-03	160	22	23	39.9	2.78	23.4	0.132	0.001	16.07	Limonite
DTR-03	161	23	24	38.5	4.07	24.28	0.083	0.014	16.33	Limonite
DTR-03	162	24	25	45.3	2.39	18.64	0.101	0.002	14.07	Limonite
DTR-03	163	25	26	51.9	1.54	11.8	0.099	0.001	11.9	Limonite
DTR-03	164	26	27	51.8	1.2	11.79	0.155	0.001	11.89	Limonite
DTR-03	165	27	28	52.1	1.09	10.68	0.116	0.003	11.65	SLO_FO
DTR-03	166	28	29	58.1	1	6.16	0.127	0.011	8.9	SLO_FO
DTR-03	167	29	30	59.7	1.26	5.5	0.144	0.011	7.6	SLO_FO
DTR-03	168	30	31	61.05	1.45	3.11	0.095	0.005	7.75	SLO_FO
DTR-03	169	31	32	61	1.42	3.09	0.085	0.001	7.45	SLO_FO
DTR-03	170	32	33	60.5	1.48	5.02	0.07	0.004	6.3	SLO_FO
DTR-03	171	33	34	64.8	1.2	1.66	0.057	0.004	3.82	SLO_FO
DTR-03	172	34	35	66	0.86	1.46	0.052	0.003	3.07	SLO_FO
DTR-03	173	35	36	64.1	0.98	2	0.058	0.011	4.69	SLO_FO
DTR-03	174	36	37	62.6	0.95	1.41	0.074	0.011	7.07	SLO_FO
DTR-03	175	37	38	66.3	0.66	0.93	0.056	0.011	3.5	SLO_FO
DTR-03	176	38	39	63.6	1.44	1.05	0.061	0.012	5.96	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-03	177	39	40	62	1.66	2.96	0.085	0.005	7.6	SLO_FO
DTR-03	178	40	41	65.8	0.66	0.64	0.057	0.007	4.34	SLO_FO
DTR-03	179	41	42	65.1	1.05	0.73	0.038	0.009	5.06	SLO_FO
DTR-03	180	42	43	64.9	1.04	0.58	0.042	0.008	5.48	SLO_FO
DTR-03	181	43	44	66.3	0.89	0.48	0.041	0.004	3.67	SLO_FO
DTR-03	182	44	45	66.9	0.97	0.47	0.045	0.003	2.8	SLO_FO
DTR-03	183	45	46	67.7	0.48	0.28	0.036	0.002	2.14	SLO_FO
DTR-03	184	46	47	68.65	0.5	0.2	0.04	0.007	1.12	SLO_FO
DTR-03	185	47	48	69.15	0.12	0.04	0.036	0.008	0.78	SLO_FO
DTR-03	186	48	49	68.85	0.18	0.17	0.036	0.01	1.12	SLO_FO
DTR-03	187	49	50	68.45	0.34	0.66	0.034	0.008	1.1	SLO_FO
DTR-03	188	50	51	68.18	0.68	0.3	0.04	0.008	1.29	SLO_FO
DTR-03	189	51	52	68.63	0.61	0.31	0.037	0.009	0.79	SLO_FO
DTR-03	190	52	53	68.29	0.61	0.31	0.036	0.009	1.06	SLO_FO
DTR-03	191	53	54	68.4	0.62	0.27	0.04	0.008	1.2	SLO_FO
DTR-03	192	54	55	68.38	0.34	0.22	0.048	0.009	1.46	SLO_FO
DTR-03	193	55	56	64.01	0.85	0.79	0.071	0.007	6.6	SLO_FO
DTR-03	194	56	57	65.5	1	0.55	0.064	0.008	4.5	SLO_FO
DTR-03	195	57	58	64.9	3.5	0.25	0.089	0.009	2.92	BD_PO
DTR-03	196	58	59	65.79	1.12	0.3	0.05	0.008	4.05	BD_PO
DTR-03	197	59	60	67.23	0.97	0.27	0.05	0.007	2.5	BD_PO
DTR-03	198	60	61	68	1.63	0.17	0.026	0.007	1	BD_PO
DTR-03	199	61	62	67.4	1.87	0.37	0.039	0.008	1.09	BD_PO
DTR-03	200	62	63	67.7	1.36	0.4	0.052	0.007	1.37	BD_PO
DTR-03	201	63	64	65.1	4.7	0.6	0.069	0.008	1.45	SLO_FO
DTR-03	202	64	65	67	2.78	0.37	0.041	0.008	0.86	SLO_FO
DTR-03	203	65	66	65.5	4.46	0.44	0.042	0.008	0.91	SLO_FO
DTR-03	204	66	67	62.2	9.05	0.41	0.032	0.007	0.72	SLO_FO
DTR-03	205	67	68	66.6	2.34	0.37	0.039	0.008	1.33	SLO_FO
DTR-03	206	68	69	66.8	1.87	0.3	0.052	0.008	2	SLO_FO
DTR-03	207	69	70	65	3.5	0.43	0.054	0.007	2.46	SLO_FO
DTR-03	208	70	71	65.9	2.61	0.43	0.08	0.008	2.37	SLO_FO
DTR-03	209	71	72	64.7	5.39	0.56	0.06	0.008	0.59	SLO_FO
DTR-03	210	72	73	64.6	5.03	0.81	0.026	0.009	1.62	SLO_FO
DTR-03	211	73	74	67.42	1.89	0.36	0.02	0.009	1.2	SLO_FO
DTR-03	212	74	75	66.47	2.86	0.3	0.01	0.008	1.73	SLO_FO
DTR-03	213	75	76	60.67	11.05	0.27	0.1	0.007	1.49	SLO_FO
DTR-03	214	76	77	63.68	6.17	0.6	0.02	0.007	1.56	SLO_FO
DTR-03	215	77	78	62.73	7.49	0.3	0.02	0.008	1.78	SLO_FO
DTR-03	216	78	79	63.6	6.2	0.2	0.04	0.008	2.54	SLO_FO
DTR-03	217	79	80	66	3.98	0.3	0.015	0.008	1.3	SLO_FO
DTR-03	218	80	81	63.8	5.8	0.77	0.058	0.009	1.9	SLO_FO
DTR-03	219	81	82	63.4	6.9	0.28	0.04	0.007	1.92	SLO_FO
DTR-03	220	82	83	60.7	10.61	0.5	0.038	0.007	1.51	SLO_FO
DTR-03	221	83	84	66.4	3.02	0.45	0.037	0.008	1.28	SLO_FO

Borehole Assay & Litho Data

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-03	222	84	85	67	2.05	0.84	0.041	0.007	0.81	SLO_FO
DTR-03	223	85	86	60.8	9.87	0.45	0.045	0.007	2.19	SLO_FO
DTR-03	224	86	87	61.1	7.68	0.54	0.058	0.008	3.24	SLO_FO
DTR-03	225	87	88	65.2	4.8	0.35	0.047	0.007	1.34	SLO_FO
DTR-03	226	88	89	64.2	6.05	0.26	0.044	0.008	1.14	SLO_FO
DTR-03	227	89	90	48.8	28.19	0.25	0.034	0.007	0.97	Limonite
DTR-03	228	90	91	50.3	25.7	0.4	0.033	0.008	1.2	Limonite
DTR-03	229	91	91.4	61.1	11	0.12	0.05	0.009	1.08	SLO_FO
DTR-04	230	0	0.7	63.8	1.42	1.6	0.1	0.009	5.4	SLO_FO
DTR-04	231	0.7	1.7	65.1	0.98	0.98	0.09	0.009	4.5	SLO_FO
DTR-04	232	1.7	2.7	63.9	1.8	1.73	0.06	0.009	4.8	SLO_FO
DTR-04	233	2.7	3.7	63.7	1.54	1.96	0.063	0.008	5	SLO_FO
DTR-04	234	3.7	4.7	64.1	1.8	1.3	0.08	0.009	4.78	SLO_FO
DTR-04	235	4.7	5.7	64	2	1.42	0.045	0.009	4.78	SLO_FO
DTR-04	236	5.7	6.7	65.5	2.44	0.82	0.09	0.008	2.7	HLO
DTR-04	237	6.7	7.7	64.5	3.3	1.34	0.08	0.008	2.8	HLO
DTR-04	238	7.7	8.7	64.1	3.4	1.52	0.09	0.009	3	HLO
DTR-04	239	8.7	9.7	65.8	1.5	0.86	0.046	0.008	3.22	HLO
DTR-04	240	9.7	10.7	65.3	1.22	0.7	0.024	0.006	3.94	SLO_FO
DTR-04	241	10.7	11.7	64	1.7	1.74	0.027	0.005	3.98	SLO_FO
DTR-04	242	11.7	12.7	64	1.6	1.03	0.024	0.004	4.52	SLO_FO
DTR-04	243	12.7	13.7	64.53	2.09	2.1	0.045	0.006	3.22	SLO_FO
DTR-04	244	13.7	14.7	65.47	1.16	1.1	0.051	0.006	3.79	SLO_FO
DTR-04	245	14.7	15.7	67.37	0.67	0.5	0.049	0.007	2.22	SLO_FO
DTR-04	246	15.7	16.7	67.35	0.77	0.5	0.054	0.005	2.27	SLO_FO
DTR-04	247	16.7	17.7	67.8	0.78	0.35	0.048	0.007	1.52	SLO_FO
DTR-04	248	17.7	18.7	67	0.57	0.75	0.066	0.001	2.57	SLO_FO
DTR-04	249	18.7	19.7	67	0.38	0.72	0.063	0.001	2.74	SLO_FO
DTR-04	250	19.7	20.7	67.32	0.47	0.8	0.065	0.001	2.13	SLO_FO
DTR-04	251	20.7	21.7	67.05	0.45	0.81	0.066	0.001	2.34	SLO_FO
DTR-04	252	21.7	22.7	68.2	0.2	0.68	0.037	0.005	1.37	SLO_FO
DTR-04	253	22.7	23.7	68.6	0.3	0.4	0.058	0.009	1.04	SLO_FO
DTR-04	254	23.7	24.7	67.8	0.47	0.42	0.054	0.009	1.72	SLO_FO
DTR-04	255	24.7	25.7	68.2	0.49	0.3	0.05	0.008	1.5	SLO_FO
DTR-04	256	25.7	26.7	67.5	0.62	0.31	0.052	0.009	1.71	SLO_FO
DTR-04	257	26.7	27.7	66.3	0.36	0.5	0.058	0.006	4	SLO_FO
DTR-04	258	27.7	28.7	66.3	0.1	0.52	0.058	0.006	4.22	SLO_FO
DTR-04	259	28.7	29.7	67.1	0.2	0.33	0.071	0.006	3.1	SLO_FO
DTR-04	260	29.7	30.7	66.7	0.42	0.32	0.065	0.006	3.5	SLO_FO
DTR-04	261	30.7	31.7	67.2	0.29	0.45	0.038	0.009	2.7	SLO_FO
DTR-04	262	31.7	32.7	68.05	0.41	0.37	0.027	0.009	1.66	SLO_FO
DTR-04	263	32.7	33.7	67	0.62	0.54	0.066	0.006	2.7	SLO_FO
DTR-04	264	33.7	34.7	67	0.55	0.63	0.063	0.009	2.69	SLO_FO
DTR-04	265	34.7	35.7	66.9	0.4	0.63	0.059	0.009	3	SLO_FO
DTR-04	266	35.7	36.7	67.7	0.56	0.18	0.063	0.009	2.18	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-04	267	36.7	37.7	67.7	0.49	0.17	0.069	0.005	2.22	SLO_FO
DTR-04	268	37.7	38.7	67.6	0.58	0.1	0.028	0.009	1.89	SLO_FO
DTR-04	269	38.7	39.7	67.2	0.48	0.32	0.028	0.009	2.8	SLO_FO
DTR-04	270	39.7	40.7	67.6	0.58	0.73	0.036	0.009	1.69	SLO_FO
DTR-04	271	40.7	41.7	67.4	0.5	0.71	0.039	0.009	2.06	SLO_FO
DTR-04	272	41.7	42.7	67.6	0.56	0.65	0.044	0.009	2	SLO_FO
DTR-04	273	42.7	43.7	67.4	0.58	0.21	0.03	0.008	2.58	SLO_FO
DTR-04	274	43.7	44.7	67.2	0.74	0.4	0.054	0.009	1.87	SLO_FO
DTR-04	275	44.7	45.7	61.4	1.68	4.96	0.036	0.009	4.24	SLO_FO
DTR-04	276	45.7	46.7	35.3	12.88	20.2	0.051	0.009	13.4	Feruginous Shale
DTR-04	277	46.7	47.7	27	20.84	24.8	0.04	0.007	12.52	Feruginous Shale
DTR-04	278	47.7	48.7	64.9	1.74	2.38	0.03	0.008	2.56	SLO_FO
DTR-04	279	48.7	49.7	64.6	1.72	2.64	0.04	0.008	2.78	SLO_FO
DTR-04	280	49.7	50.7	66.7	0.74	0.65	0.066	0.007	2.56	SLO_FO
DTR-04	281	50.7	51.7	66.7	0.78	0.58	0.063	0.006	1.81	SLO_FO
DTR-04	282	51.7	52.7	66.5	0.99	1.14	0.078	0.007	1.83	SLO_FO
DTR-04	283	52.7	53.7	67.2	0.67	1.35	0.066	0.006	1.56	SLO_FO
DTR-04	284	53.7	54.7	67.6	0.52	0.47	0.05	0.005	1.88	SLO_FO
DTR-04	285	54.7	55.7	68.2	0.42	0.36	0.045	0.007	1.42	SLO_FO
DTR-04	286	55.7	56.7	67.2	0.76	0.82	0.04	0.007	2.12	SLO_FO
DTR-04	287	56.7	57.7	68.2	0.44	0.43	0.057	0.006	1.34	SLO_FO
DTR-04	288	57.7	58.7	66.6	0.56	0.68	0.047	0.008	3.26	SLO_FO
DTR-04	289	58.7	59.7	65.19	1.01	0.69	0.021	0.008	4.95	SLO_FO
DTR-04	290	59.7	60.7	65.69	1.04	0.58	0.032	0.008	4.34	SLO_FO
DTR-04	291	60.7	61.7	67.07	0.62	0.34	0.03	0.007	2.88	SLO_FO
DTR-04	292	61.7	62.7	66.43	1.05	0.72	0.052	0.007	3.06	SLO_FO
DTR-04	293	62.7	63.7	66.9	1.06	0.66	0.051	0.007	2.42	SLO_FO
DTR-04	294	63.7	64.7	66.6	0.89	0.6	0.059	0.007	2.7	SLO_FO
DTR-04	295	64.7	65.7	66.7	0.9	0.61	0.057	0.007	2.15	SLO_FO
DTR-04	296	65.7	66.7	67.6	0.83	0.54	0.052	0.007	1.6	SLO_FO
DTR-04	297	66.7	67.7	67.7	0.83	0.52	0.051	0.007	1.64	SLO_FO
DTR-04	298	67.7	68.7	67.4	0.91	0.5	0.049	0.006	2.08	SLO_FO
DTR-04	299	68.7	69.7	67.5	0.89	0.36	0.035	0.006	2.08	SLO_FO
DTR-04	300	69.7	70.7	67.3	0.87	0.63	0.048	0.007	1.9	SLO_FO
DTR-04	301	70.7	71.7	66.8	0.92	0.64	0.054	0.007	2.25	SLO_FO
DTR-04	302	71.7	72.7	66.4	1.55	0.5	0.059	0.007	2.68	SLO_FO
DTR-04	303	72.7	73.7	64.2	2.14	1.2	0.073	0.007	4.37	SLO_FO
DTR-04	304	73.7	74.7	65	1.41	0.5	0.05	0.009	4.9	SLO_FO
DTR-04	305	74.7	75.7	66	1.34	0.4	0.059	0.008	3.73	SLO_FO
DTR-04	306	75.7	76.7	66.4	1.31	0.2	0.045	0.007	3.41	SLO_FO
DTR-04	307	76.7	77.7	66.5	0.99	0.25	0.062	0.006	3.48	SLO_FO
DTR-04	308	77.7	78.7	66	1.27	0.15	0.071	0.007	3.9	SLO_FO
DTR-04	309	78.7	79.7	65.8	1.79	0.2	0.061	0.006	3.67	SLO_FO
DTR-04	310	79.7	80.7	67.5	0.94	0.25	0.072	0.008	1.97	SLO_FO

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-04	311	80.7	81.7	66.3	0.98	0.6	0.044	0.008	3.2	SLO_FO
DTR-04	312	81.7	82	63.7	2.42	0.93	0.071	0.006	5.34	SLO_FO
DTR-05	313	0	0.6	59.6	1.69	3.25	0.097	0.003	7.81	HLO
DTR-05	314	0.6	1.6	57.2	1.97	5.88	0.1	0.009	9.33	HLO
DTR-05	315	1.6	2.6	61.8	1.2	3.05	0.11	0.009	6.45	SLO_FO
DTR-05	316	2.6	3.6	61.6	1.03	2.84	0.11	0.003	6.63	SLO_FO
DTR-05	317	3.6	4.6	64	0.56	1.06	0.09	0.005	5.57	SLO_FO
DTR-05	318	4.6	5.6	58.6	2.02	3.76	0.08	0.004	7.4	HLO
DTR-05	319	5.6	6.6	55	2.16	6.84	0.084	0.007	11.34	HLO
DTR-05	320	6.6	7.6	51.4	3.78	7.66	0.082	0.006	12.85	Limonite
DTR-05	321	7.6	8.6	50.6	4.54	11.1	0.09	0.007	10.27	Limonite
DTR-05	322	8.6	9.6	51.38	2.39	11.1	0.1	0.001	11.38	Limonite
DTR-05	323	9.6	10.6	52.7	2.11	10.8	0.11	0.001	11.27	Limonite
DTR-05	324	10.6	11.6	57.43	1.21	7.16	0.11	0.001	9.26	Limonitic Ore
DTR-05	325	11.6	12.6	56.2	1.45	8	0.11	0.001	9.9	Limonitic Ore
DTR-05	326	12.6	13.6	56.39	0.71	4.63	0.074	0.003	7.8	Limonitic Ore
DTR-05	327	13.6	14.6	57.79	0.96	2.22	0.08	0.001	7.39	Limonitic Ore
DTR-05	328	14.6	15.6	60.59	0.93	2.33	0.09	0.001	7.48	SLO_FO
DTR-05	329	15.6	16.6	59.53	0.93	5.87	0.08	0.002	7.67	SLO_FO
DTR-05	330	16.6	17.6	54.8	0.48	3.59	0.133	0.003	6.5	SLO_FO
DTR-05	331	17.6	18.6	61	1.1	1.85	0.157	0.004	9.42	SLO_FO
DTR-05	332	18.6	19.6	60.4	0.7	1.99	0.172	0.001	9.64	SLO_FO
DTR-05	333	19.6	20.6	60.8	0.72	2.74	0.136	0.005	9.08	SLO_FO
DTR-05	334	20.6	21.6	61.3	0.86	2	0.167	0.004	8.9	SLO_FO
DTR-05	335	21.6	22.6	62.8	0.72	1.55	0.187	0.001	7.7	SLO_FO
DTR-05	336	22.6	23.6	60.7	0.86	1.91	0.2	0.003	9.97	SLO_FO
DTR-05	337	23.6	24.6	60.7	0.46	1.86	0.2	0.002	10.22	SLO_FO
DTR-05	338	24.6	25.6	62.8	0.94	1.16	0.192	0.002	7.64	SLO_FO
DTR-05	339	25.6	26.6	62.8	0.73	1.87	0.2	0.001	7	SLO_FO
DTR-05	340	26.6	27.6	61.4	0.79	2.11	0.178	0.001	8.8	SLO_FO
DTR-05	341	27.6	28.6	61.8	1.17	2.66	0.2	0.001	6.73	SLO_FO
DTR-05	342	28.6	29.6	63.1	0.98	1.35	0.21	0.001	7	SLO_FO
DTR-05	343	29.6	30.6	63.32	0.7	1.25	0.22	0.001	7	SLO_FO
DTR-05	344	30.6	31.6	62.31	0.6	2.27	0.23	0.001	7.28	SLO_FO
DTR-05	345	31.6	32.6	62.16	0.88	2.13	0.195	0.001	7.54	SLO_FO
DTR-05	346	32.6	33.6	62.02	0.86	3.02	0.25	0.001	6.9	SLO_FO
DTR-05	347	33.6	34.6	61.4	0.79	1.84	0.147	0.004	9.1	SLO_FO
DTR-05	348	34.6	35.6	60.8	0.95	1.91	0.267	0.001	9.33	SLO_FO
DTR-05	349	35.6	36.6	60	1	2.4	0.21	0.001	10.07	SLO_FO
DTR-05	350	36.6	37.6	60.8	0.93	2.47	0.21	0.001	8.65	SLO_FO
DTR-05	351	37.6	38.6	57.6	1.34	2.05	0.26	0.001	9.07	SLO_FO
DTR-05	352	38.6	39.6	58.7	1.2	2.45	0.197	0.001	8.68	SLO_FO
DTR-05	353	39.6	40.6	30.56	0.9	1.56	0.014	0.004	12.27	SLO_FO
DTR-05	354	40.6	41.6	25.59	0.93	1.67	0.025	0.003	12.94	SLO_FO
DTR-05	355	41.6	42.6	25.17	0.83	1.7	0.026	0.003	12.67	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-05	356	42.6	43.6	43.49	1.05	1.1	0.099	0.001	11.35	SLO_FO
DTR-05	357	43.6	44.6	50	0.76	1.45	0.12	0.001	9.87	SLO_FO
DTR-05	358	44.6	45.6	54	0.78	0.83	0.133	0.003	7.79	SLO_FO
DTR-05	359	45.6	46.6	54.8	1.42	3.54	0.145	0.004	10.23	Limonite
DTR-05	360	46.6	47.6	50.6	2.02	3.97	0.148	0.001	11.43	Limonite
DTR-05	361	47.6	48.6	51.6	2.1	4.23	0.14	0.001	10.57	Limonite
DTR-05	362	48.6	49.6	51.6	2.02	3.21	0.145	0.003	11.51	Limonite
DTR-05	363	49.6	50.6	40.8	1.41	1.52	0.086	0.002	11.78	Feruginous Shale
DTR-05	364	50.6	51.6	30.8	0.97	1.59	0.043	0.001	11.74	Feruginous Shale
DTR-05	365	51.6	52.6	33	1.11	1.76	0.051	0.001	11.36	Feruginous Shale
DTR-05	366	52.6	53.6	31	1.1	2.37	0.061	0.001	12.76	Feruginous Shale
DTR-05	367	53.6	54.6	33.3	1.46	2.75	0.064	0.017	11.36	Feruginous Shale
DTR-05	368	54.6	55.6	26.6	1.02	2.24	0.023	0.017	11.55	Feruginous Shale
DTR-05	369	55.6	56.6	26.3	0.96	2.26	0.037	0.018	12.19	Feruginous Shale
DTR-05	370	56.6	57.6	31.8	1	1.72	0.043	0.018	11.52	Feruginous Shale
DTR-05	371	57.6	58.6	31.8	1.08	1.78	0.044	0.017	12.88	Feruginous Shale
DTR-05	372	58.6	59.6	31.2	1.14	2.11	0.052	0.018	12.82	Feruginous Shale
DTR-05	373	59.6	60.6	35.2	1.16	1.55	0.15	0.014	12.98	Feruginous Shale
DTR-05	374	60.6	61.6	57.2	1.14	1	0.044	0.008	10.5	Lateritic Ore
DTR-05	375	61.6	62.6	53.2	5.24	4.12	0.052	0.008	10.9	Feruginous Shale
DTR-05	376	62.6	63.6	30.1	24.47	16.53	0.1	0.018	11.04	Feruginous Shale
DTR-05	377	63.6	70	9.6	49.3	22.11	0.082	0.006	8.12	Feruginous Shale
DTR-06	378	0	0.4	47.6	9.18	10.77	0.18	0.008	10.24	Laterite
DTR-06	379	0.4	1.4	48.6	5.12	10.99	0.087	0.002	12	Laterite
DTR-06	380	1.4	2.4	43.2	4.6	19.33	0.155	0.004	13.81	Laterite
DTR-06	381	2.4	3.4	45	5.16	17	0.153	0.003	13.14	Laterite
DTR-06	382	3.4	4.4	50.1	2.27	12.3	0.116	0.001	13.41	Laterite
DTR-06	383	4.4	5.4	50.4	2.19	11.53	0.133	0.001	12.75	Laterite
DTR-06	384	5.4	6.4	51.1	2.32	11.5	0.16	0.001	12.26	Laterite
DTR-06	385	6.4	7.4	55.01	1.26	8.44	0.141	0.001	11.28	Limonitic Ore
DTR-06	386	7.4	8.4	54.14	1.82	7.22	0.162	0.002	12.91	Limonite
DTR-06	387	8.4	9.4	48.6	2.56	12.92	0.181	0.002	14.4	Limonite
DTR-06	388	9.4	10.4	49.51	2.21	11.46	0.17	0.004	14.97	Limonite
DTR-06	389	10.4	11.4	52.4	1.85	9.57	0.147	0.001	13.26	Limonite
DTR-06	390	11.4	12.4	47.4	3.26	13.44	0.17	0.005	15.05	Limonite
DTR-06	391	12.4	13.4	44.8	5.28	15.3	0.2	0.011	14.58	Limonite
DTR-06	392	13.4	14.4	52.6	2.28	8.8	0.153	0.006	13.28	Limonite

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-06	393	14.4	15.4	48	3.5	12.83	0.17	0.008	14.42	Limonite
DTR-06	394	15.4	16.4	50.3	2.6	9.67	0.183	0.008	13.74	Limonite
DTR-06	395	16.4	17.4	52.9	2.03	6.92	0.185	0.007	13.84	Limonite
DTR-06	396	17.4	18.4	58.4	1.2	2.87	0.186	0.006	11.54	Limonitic Ore
DTR-06	397	18.4	19.4	59.3	1.21	2.25	0.182	0.006	10.77	Limonitic Ore
DTR-06	398	19.4	20.4	60.95	0.96	2.6	0.17	0.004	8.8	HLO
DTR-06	399	20.4	21.4	59.58	0.87	3.8	0.144	0.006	9.24	Limonitic Ore
DTR-06	400	21.4	22.4	65.01	0.78	0.59	0.076	0.006	4.77	HLO
DTR-06	401	22.4	23.4	63.6	0.92	0.88	0.103	0.003	6.33	HLO
DTR-06	402	23.4	24.4	63.8	1.02	1.26	0.17	0.005	6	HLO
DTR-06	403	24.4	25.4	60.4	1.44	1.91	0.2	0.004	9.66	HLO
DTR-06	404	25.4	26.4	58.7	1.64	3.5	0.139	0.004	10.22	Limonitic Ore
DTR-06	405	26.4	27.4	61.2	1.36	2.4	0.066	0.006	8.06	SLO_FO
DTR-06	406	27.4	28.4	62.8	1.25	1.19	0.037	0.003	7.11	SLO_FO
DTR-06	407	28.4	29.4	58.7	1.6	3.4	0.071	0.005	10.42	Limonitic Ore
DTR-06	408	29.4	30.4	60.8	1.08	2.27	0.142	0.006	9.36	SLO_FO
DTR-06	409	30.4	31.4	61	0.74	2.06	0.155	0.005	9.3	SLO_FO
DTR-06	410	31.4	32.4	62.3	1	2.39	0.135	0.006	6.86	SLO_FO
DTR-06	411	32.4	33.4	62.4	0.74	2.29	0.135	0.004	7.5	SLO_FO
DTR-06	412	33.4	34.4	61.8	0.77	3.72	0.052	0.006	6.78	SLO_FO
DTR-06	413	34.4	35.4	61.9	0.48	2.83	0.067	0.005	8.1	SLO_FO
DTR-06	414	35.4	36.4	60.3	0.86	2.55	0.101	0.008	9.89	SLO_FO
DTR-06	415	36.4	37.4	60.1	0.88	2.71	0.075	0.007	7.6	SLO_FO
DTR-06	416	37.4	38.4	61.1	0.7	2.6	0.124	0.007	7.84	SLO_FO
DTR-06	417	38.4	39.4	63	0.56	1.88	0.122	0.006	7.09	SLO_FO
DTR-06	418	39.4	40.4	63	0.9	1.19	0.112	0.006	7.04	SLO_FO
DTR-06	419	40.4	41.4	60.4	1.22	2.05	0.15	0.007	9.54	SLO_FO
DTR-06	420	41.4	42.4	61.4	1.12	0.95	0.095	0.007	8.18	SLO_FO
DTR-06	421	42.4	43.4	62.8	0.88	1.14	0.079	0.004	7.34	HLO
DTR-06	422	43.4	44.4	58.9	1.14	4.53	0.11	0.005	9.34	HLO
DTR-06	423	44.4	45.4	63.4	0.86	1.41	0.075	0.006	6.64	HLO
DTR-06	424	45.4	46.4	64	0.9	1.46	0.076	0.005	5.52	HLO
DTR-06	425	46.4	47.4	65.2	0.82	1.25	0.056	0.003	4.05	HLO
DTR-06	426	47.4	48.4	60.3	1.1	1.52	0.063	0.003	6.32	SLO_FO
DTR-06	427	48.4	49.4	62.3	1.26	1.09	0.094	0.006	8.3	HLO
DTR-06	428	49.4	50.4	62.4	1.47	0.91	0.132	0.007	7.9	HLO
DTR-06	429	50.4	51.4	61.8	1.84	0.85	0.139	0.006	8.64	Limonitic Ore
DTR-06	430	51.4	52.4	61.1	1.94	1.21	0.158	0.007	9.07	Limonitic Ore
DTR-06	431	52.4	53.4	59	1.77	2.19	0.078	0.007	10.98	Limonitic Ore
DTR-06	432	53.4	54.4	60.3	1.18	1.47	0.173	0.005	10.72	Limonitic Ore
DTR-06	433	54.4	55.4	59.5	1.2	2.26	0.135	0.005	9.67	Limonitic Ore
DTR-06	434	55.4	56.4	59.8	1.98	1.6	0.118	0.006	9.62	Limonitic Ore
DTR-06	435	56.4	57.4	60	1.18	1.84	0.183	0.004	10	Limonitic Ore
DTR-06	436	57.4	57.7	59.8	1.3	2.32	0.2	0.002	10	Limonitic Ore
DTR-07	437	0	0.5	55.1	3.5	6.45	0.133	0.003	10.69	Lateritic Ore

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-07	438	0.5	1.5	53.8	6.25	6.97	0.119	0.005	9.17	Laterite
DTR-07	439	1.5	2.5	53.1	6.82	6.91	0.128	0.005	8.95	Laterite
DTR-07	440	2.5	3.5	59.8	1.61	6.5	0.065	0.002	6.3	Lateritic Ore
DTR-07	441	3.5	4.5	62.73	1.14	3.63	0.039	0.001	5.51	HLO
DTR-07	442	4.5	5.5	62.91	1.3	3.45	0.022	0.001	5.29	HLO
DTR-07	443	5.5	6.5	62.43	1.59	4.55	0.006	0.001	4.53	HLO
DTR-07	444	6.5	7.5	60.83	1.98	4.71	0.03	0.002	6.06	Lateritic Ore
DTR-07	445	7.5	8.5	59.69	2.07	5.11	0.029	0.003	7.41	Lateritic Ore
DTR-07	446	8.5	9.5	54.8	3.78	7.77	0.06	0.006	9.88	Laterite
DTR-07	447	9.5	10.5	53.8	4.14	7.13	0.07	0.007	11.2	Laterite
DTR-07	448	10.5	11.5	56	3.4	7.93	0.05	0.008	8.48	Limonitic Ore
DTR-07	449	11.5	12.5	55.8	3.11	4.27	0.059	0.007	10.73	Limonitic Ore
DTR-07	450	12.5	13.5	56.3	2.88	5.49	0.068	0.007	10.74	Limonitic Ore
DTR-07	451	13.5	14.5	55.8	3.12	4.58	0.046	0.007	11.36	Limonitic Ore
DTR-07	452	14.5	15.5	52.3	6.88	6.34	0.046	0.008	11.45	Limonite
DTR-07	453	15.5	16.5	58.8	1.8	2.8	0.065	0.008	10.68	Limonitic Ore
DTR-07	454	16.5	17.5	56.8	3.61	3.71	0.073	0.009	10.87	Limonitic Ore
DTR-07	455	17.5	18.5	59.3	3.11	2.63	0.083	0.009	8.96	Limonitic Ore
DTR-07	456	18.5	19.5	63.4	1.24	1.58	0.042	0.009	5.97	SLO_FO
DTR-07	457	19.5	20.5	64	1.78	1.67	0.028	0.009	4.64	SLO_FO
DTR-07	458	20.5	21.5	65.29	1.21	1.47	0.033	0.008	3.84	SLO_FO
DTR-07	459	21.5	22.5	65.3	1.29	1.52	0.028	0.008	3.42	SLO_FO
DTR-07	460	22.5	23.5	63.56	1.56	1.19	0.04	0.008	6.12	SLO_FO
DTR-07	461	23.5	24.5	62.03	1.84	1.21	0.075	0.009	7.84	SLO_FO
DTR-07	462	24.5	25.5	62.5	2.04	2.09	0.076	0.009	6.13	SLO_FO
DTR-07	463	25.5	26.5	62.25	1.8	1.95	0.136	0.007	6.2	SLO_FO
DTR-07	464	26.5	27.5	63.49	0.81	1.24	0.128	0.008	5.83	SLO_FO
DTR-07	465	27.5	28.5	64.92	0.82	0.95	0.14	0.008	4.65	SLO_FO
DTR-07	466	28.5	29.5	62	1.5	1.81	0.126	0.008	7.28	SLO_FO
DTR-07	467	29.5	30.5	58.4	3.41	2.1	0.08	0.007	10.2	SLO_FO
DTR-07	468	30.5	31.5	64.11	1.15	1.25	0.06	0.005	5.78	SLO_FO
DTR-07	469	31.5	32.5	64.38	0.81	1.12	0.053	0.008	5.56	SLO_FO
DTR-07	470	32.5	33.5	65.36	0.66	0.71	0.03	0.007	3.8	SLO_FO
DTR-07	471	33.5	34.5	61.55	1.33	1.56	0.073	0.008	8.97	SLO_FO
DTR-07	472	34.5	35.5	64.6	0.63	0.79	0.075	0.007	5.88	SLO_FO
DTR-07	473	35.5	36.5	65.8	0.69	0.32	0.02	0.008	4.8	SLO_FO
DTR-07	474	36.5	37.5	64.32	0.84	0.92	0.073	0.006	6	SLO_FO
DTR-07	475	37.5	38.5	63.45	1.08	0.78	0.083	0.006	7.15	SLO_FO
DTR-07	476	38.5	39.5	62.38	1.46	1.14	0.095	0.005	7.82	SLO_FO
DTR-07	477	39.5	40.5	66.21	0.62	0.39	0.033	0.007	4.12	SLO_FO
DTR-07	478	40.5	41.5	65.05	0.76	0.52	0.064	0.007	5.34	SLO_FO
DTR-07	479	41.5	42.5	64.91	0.84	0.39	0.091	0.008	5.65	SLO_FO
DTR-07	480	42.5	43.5	67.98	0.41	0.3	0.069	0.009	1.71	SLO_FO
DTR-07	481	43.5	44.5	67.8	0.38	0.32	0.025	0.009	2.1	SLO_FO
DTR-07	482	44.5	45.5	67.46	0.39	0.44	0.083	0.006	2.32	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-07	483	45.5	46.5	67.49	0.4	0.4	0.082	0.006	2.14	SLO_FO
DTR-07	484	46.5	47.5	68.28	0.31	0.3	0.082	0.008	1.49	SLO_FO
DTR-07	485	47.5	48.5	68.1	0.38	0.36	0.094	0.009	1.53	SLO_FO
DTR-07	486	48.5	49.5	67.4	0.46	0.34	0.051	0.008	2.24	SLO_FO
DTR-07	487	49.5	50.5	67.6	0.46	0.2	0.038	0.009	2.54	SLO_FO
DTR-07	488	50.5	51.5	67.6	0.55	0.21	0.018	0.009	2.12	SLO_FO
DTR-07	489	51.5	52.5	67.9	0.6	0.24	0.017	0.01	2.06	SLO_FO
DTR-07	490	52.5	53.5	68.87	0.51	0.22	0.037	0.01	0.72	SLO_FO
DTR-07	491	53.5	54.5	68.8	0.52	0.21	0.039	0.01	0.64	SLO_FO
DTR-07	492	54.5	55.5	68.37	0.56	0.16	0.07	0.009	1.43	SLO_FO
DTR-07	493	55.5	56.5	68.22	0.53	0.2	0.046	0.01	1.48	SLO_FO
DTR-07	494	56.5	57.5	64	1.73	2.6	0.11	0.003	3.83	SLO_FO
DTR-07	495	57.5	58.5	67.8	0.73	0.26	0.034	0.01	1.66	SLO_FO
DTR-07	496	58.5	59.5	67.2	0.53	0.75	0.054	0.01	2.31	SLO_FO
DTR-07	497	59.5	60.5	67	1.36	0.19	0.049	0.009	2.57	SLO_FO
DTR-07	498	60.5	61.5	66.2	1.2	0.24	0.07	0.01	3.49	SLO_FO
DTR-07	499	61.5	62.5	66.95	1.09	0.22	0.03	0.009	2.61	SLO_FO
DTR-07	500	62.5	63.5	67.67	0.77	0.2	0.023	0.01	1.72	SLO_FO
DTR-07	501	63.5	64.5	67.22	0.5	0.23	0.026	0.01	2.4	SLO_FO
DTR-07	502	64.5	65.5	67.4	0.5	0.16	0.026	0.01	2.33	SLO_FO
DTR-07	503	65.5	66.5	67.84	0.6	0.23	0.029	0.01	1.59	SLO_FO
DTR-07	504	66.5	67.5	67.8	0.82	0.28	0.035	0.009	1.55	SLO_FO
DTR-07	505	67.5	68.5	67.8	0.68	0.24	0.042	0.01	1.69	SLO_FO
DTR-07	506	68.5	69.5	67.4	0.55	0.21	0.068	0.01	2.37	SLO_FO
DTR-07	507	69.5	70.5	67.7	0.79	0.28	0.031	0.009	1.88	SLO_FO
DTR-07	508	70.5	71.5	67.4	0.58	0.2	0.048	0.01	2	SLO_FO
DTR-07	509	71.5	72.5	66.8	0.73	0.28	0.043	0.01	3.4	SLO_FO
DTR-07	510	72.5	73.5	66.7	0.73	0.26	0.053	0.01	3.42	SLO_FO
DTR-07	511	73.5	74.5	66.65	0.88	0.32	0.056	0.009	3.3	SLO_FO
DTR-07	512	74.5	75.5	66.3	0.97	0.31	0.065	0.01	3.54	SLO_FO
DTR-07	513	75.5	76.5	67.6	0.59	0.18	0.039	0.009	2.23	SLO_FO
DTR-07	514	76.5	77.5	68	0.75	0.24	0.05	0.01	1.67	SLO_FO
DTR-07	515	77.5	78.5	68	0.74	0.19	0.049	0.009	1.45	SLO_FO
DTR-07	516	78.5	79.5	67.8	0.81	0.21	0.051	0.01	1.89	SLO_FO
DTR-07	517	79.5	80.5	67.79	1.09	0.18	0.019	0.01	1.69	SLO_FO
DTR-07	518	80.5	81.5	67.7	0.92	0.18	0.014	0.01	1.92	SLO_FO
DTR-07	519	81.5	82.5	67.09	1.39	0.24	0.009	0.009	2.11	SLO_FO
DTR-07	520	82.5	83.5	66.74	2.18	0.19	0.008	0.009	2	SLO_FO
DTR-07	521	83.5	84.5	67.64	1.17	0.29	0.022	0.009	1.63	SLO_FO
DTR-07	522	84.5	85.5	67.5	1	0.27	0.049	0.01	2.14	SLO_FO
DTR-07	523	85.5	86.5	67.2	1.2	0.17	0.081	0.009	2.2	SLO_FO
DTR-07	524	86.5	87.5	66.9	1	0.18	0.038	0.01	2.99	SLO_FO
DTR-07	525	87.5	88.5	66.47	1.07	0.18	0.042	0.009	3.52	SLO_FO
DTR-07	526	88.5	89.5	65.12	1.62	0.14	0.024	0.007	4.65	SLO_FO
DTR-07	527	89.5	90.5	63.99	2.5	0.12	0.03	0.006	5.71	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-07	528	90.5	91.5	66.7	1.33	0.17	0.033	0.008	3	SLO_FO
DTR-07	529	91.5	92.5	64.44	1.86	0.12	0.05	0.007	5.65	SLO_FO
DTR-07	530	92.5	93.5	62.29	2.31	0.27	0.067	0.006	7.97	SLO_FO
DTR-07	531	93.5	94.5	62.85	1.79	0.14	0.034	0.004	7.5	SLO_FO
DTR-07	532	94.5	95.5	63.4	1.6	0.16	0.031	0.005	7.47	SLO_FO
DTR-07	533	95.5	96.5	61.88	1.91	0.12	0.015	0.007	9.03	SLO_FO
DTR-07	534	96.5	97.5	62.18	2.11	0.21	0.015	0.006	8.72	SLO_FO
DTR-07	535	97.5	98.5	62	2.2	0.15	0.015	0.009	9	SLO_FO
DTR-07	536	98.5	99.5	61.3	2.26	0.14	0.018	0.007	9.73	SLO_FO
DTR-07	537	99.5	100.5	62.25	2	0.17	0.028	0.005	8.69	SLO_FO
DTR-07	538	100.5	101.5	61.92	2.37	0.22	0.039	0.006	8.7	SLO_FO
DTR-07	539	101.5	102.5	61.8	2.4	0.21	0.033	0.007	8.88	SLO_FO
DTR-07	540	102.5	103.5	61.21	2.67	0.16	0.025	0.006	9.49	SLO_FO
DTR-07	541	103.5	104.5	60.83	2.9	0.2	0.039	0.008	9.78	SLO_FO
DTR-07	542	104.5	105.5	61	2.93	0.29	0.036	0.007	8.95	SLO_FO
DTR-07	543	105.5	106.5	60.5	2.67	0.23	0.049	0.006	9.79	SLO_FO
DTR-07	544	106.5	107.5	62.24	2.07	0.21	0.03	0.005	8.53	SLO_FO
DTR-07	545	107.5	108.5	62.2	2.72	0.23	0.048	0.004	8.12	SLO_FO
DTR-07	546	108.5	109.5	62	3.16	0.27	0.042	0.006	8.01	SLO_FO
DTR-07	547	109.5	110	63.8	2.59	0.18	0.054	0.001	5.38	SLO_FO
DTR-08	548	0	0.9	50.2	4.5	10.3	0.128	0.002	12.31	Laterite
DTR-08	549	0.9	1.9	55.2	1.34	6.84	0.14	0.02	11.12	Lateritic Ore
DTR-08	550	1.9	2.9	53.5	1.52	8.24	0.12	0.021	11.66	Laterite
DTR-08	551	2.9	3.9	62	1.06	2.88	0.1	0.011	5.97	HLO
DTR-08	552	3.9	4.9	62.3	0.9	4.9	0.12	0.012	5	HLO
DTR-08	553	4.9	5.9	66.6	0.62	0.75	0.086	0.01	2.65	HLO
DTR-08	554	5.9	6.9	66.12	0.73	0.53	0.083	0.01	4.14	HLO
DTR-08	555	6.9	7.9	64.2	1.11	1.17	0.082	0.008	5.6	HLO
DTR-08	556	7.9	8.9	63.24	1.11	2.4	0.081	0.009	5.9	HLO
DTR-08	557	8.9	9.9	66.04	0.49	0.5	0.091	0.009	4.16	HLO
DTR-08	558	9.9	10.9	66.6	0.52	0.79	0.106	0.011	3.01	HLO
DTR-08	559	10.9	11.9	67.08	0.6	0.76	0.067	0.015	2.3	HLO
DTR-08	560	11.9	12.9	67.65	0.63	0.39	0.051	0.007	2.15	HLO
DTR-08	561	12.9	13.9	65.41	0.78	1.26	0.074	0.011	4.11	SLO_FO
DTR-08	562	13.9	14.9	65.21	0.71	1.7	0.091	0.01	4.33	SLO_FO
DTR-08	563	14.9	15.9	65	0.7	1.6	0.085	0.009	4.74	SLO_FO
DTR-08	564	15.9	16.9	65.3	0.68	0.81	0.063	0.01	5.05	HLO
DTR-08	565	16.9	17.9	65.2	0.74	0.72	0.036	0.009	4.85	HLO
DTR-08	566	17.9	18.9	65	0.72	0.92	0.04	0.009	5.24	HLO
DTR-08	567	18.9	19.9	64.4	0.64	1	0.048	0.012	6.24	HLO
DTR-08	568	19.9	20.9	62.75	0.91	1.9	0.081	0.011	6.87	HLO
DTR-08	569	20.9	21.9	63.49	0.85	1.46	0.086	0.009	6.11	HLO
DTR-08	570	21.9	22.9	62.82	1.04	0.59	0.104	0.007	6.68	HLO
DTR-08	571	22.9	23.9	63.8	1.08	0.96	0.071	0.009	6.23	SLO_FO
DTR-08	572	23.9	24.9	64.72	1.11	1.38	0.052	0.01	4.87	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-08	573	24.9	25.9	63.18	1.19	1.55	0.066	0.009	6.23	SLO_FO
DTR-08	574	25.9	26.9	61.95	1.51	1.35	0.075	0.008	7.68	SLO_FO
DTR-08	575	26.9	27.9	61.95	1.4	1.3	0.079	0.007	7.54	HLO
DTR-08	576	27.9	28.9	63.25	0.96	0.58	0.069	0.007	6.07	HLO
DTR-08	577	28.9	29.9	63.91	1.17	0.16	0.001	0.007	7.08	HLO
DTR-08	578	29.9	30.9	60.74	0.82	0.22	0.001	0.017	9.56	HLO
DTR-08	579	30.9	31.9	61.1	1.23	0.16	0.001	0.011	9.86	SLO_FO
DTR-08	580	31.9	32.9	59.26	1.2	1.76	0.043	0.012	11.01	SLO_FO
DTR-08	581	32.9	33.9	60.25	1.71	1.5	0.01	0.009	9.96	SLO_FO
DTR-08	582	33.9	34.9	59.82	1.56	2.63	0.075	0.008	9.64	SLO_FO
DTR-08	583	34.9	35.9	61.15	1.56	1.75	0.039	0.008	9.14	SLO_FO
DTR-08	584	35.9	36.9	60.18	1.66	1.75	0.052	0.009	10.17	SLO_FO
DTR-08	585	36.9	37.9	60.64	1.3	1.27	0.058	0.008	9.88	SLO_FO
DTR-08	586	37.9	38.9	61	0.99	1.6	0.054	0.007	9.71	SLO_FO
DTR-08	587	38.9	39.9	63	0.76	1.27	0.05	0.008	7.39	SLO_FO
DTR-08	588	39.9	40.9	59.9	0.72	2.72	0.105	0.014	6.31	SLO_FO
DTR-08	589	40.9	41.9	64.3	0.53	1.22	0.06	0.01	5.68	SLO_FO
DTR-08	590	41.9	42.9	65.4	0.64	0.97	0.06	0.009	4.7	SLO_FO
DTR-08	591	42.9	43.9	65.1	0.6	1.32	0.06	0.01	4.88	SLO_FO
DTR-08	592	43.9	44.9	63.2	0.74	1.32	0.078	0.007	7.5	HLO
DTR-08	593	44.9	45.9	65.5	0.58	0.73	0.035	0.007	4.95	HLO
DTR-08	594	45.9	46.9	63.02	0.76	1.9	0.09	0.01	6.98	SLO_FO
DTR-08	595	46.9	47.9	59.7	0.5	2.05	0.08	0.007	11.4	Limonitic Ore
DTR-08	596	47.9	48.9	59.1	0.52	0.95	0.032	0.007	11.7	Limonitic Ore
DTR-08	597	48.9	49.9	59.3	0.65	1.92	0.112	0.007	11.75	Limonitic Ore
DTR-08	598	49.9	50.9	58.9	0.51	1.55	0.082	0.006	11.51	Limonitic Ore
DTR-08	599	50.9	51.9	60.03	0.61	1.01	0.059	0.006	11.42	SLO_FO
DTR-08	600	51.9	52.9	59.91	0.58	1.4	0.145	0.006	11.23	Limonitic Ore
DTR-08	601	52.9	53.9	57.76	0.56	1.63	0.183	0.006	11.47	Limonitic Ore
DTR-08	602	53.9	54.9	60.41	0.74	1.22	0.187	0.005	11.09	SLO_FO
DTR-08	603	54.9	55.9	60.03	0.81	1.34	0.13	0.005	11.27	SLO_FO
DTR-08	604	55.9	56.9	59.2	0.8	2.25	0.28	0.006	11.53	Limonitic Ore
DTR-08	605	56.9	57.9	59.63	0.52	1.93	0.3	0.006	11.36	Limonitic Ore
DTR-08	606	57.9	58.9	59.55	0.48	2.11	0.32	0.007	11.25	Limonitic Ore
DTR-08	607	58.9	59.9	58.88	0.95	2.8	0.28	0.007	9.86	Limonitic Ore
DTR-08	608	59.9	60.9	57.2	1.07	2.59	0.19	0.007	10.86	Limonitic Ore
DTR-08	609	60.9	61.9	57.6	1.68	3.4	0.16	0.007	10.92	Limonitic Ore
DTR-08	610	61.9	64.9	16.4	33.4	23.15	0.6	0.005	11.66	Feruginous Shale
DTR-08	611	64.9	67.6	20.4	32.3	19.63	0.5	0.004	9.46	Feruginous Shale
DTR-09	612	0	0.8	54.8	4.13	6.59	0.19	0.018	7.14	Laterite
DTR-09	613	0.8	1.8	57.56	1.93	7.16	0.276	0.006	6.78	Lateritic Ore
DTR-09	614	1.8	2.8	50.9	4.05	9.98	0.4	0.011	10.25	Laterite
DTR-09	615	2.8	3.8	46.95	6.71	11.61	0.35	0.2	12.63	Laterite
DTR-09	616	3.8	4.8	49.84	4.45	9.55	0.4	0.014	12.08	Laterite

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-09	617	4.8	5.8	52.06	2.72	8.99	0.3	0.02	11.34	Laterite
DTR-09	618	5.8	6.8	43.8	7.36	14	0.4	0.02	13.22	Laterite
DTR-09	619	6.8	7.8	43.2	7.26	14.78	0.41	0.022	13.86	Laterite
DTR-09	620	7.8	8.8	48.4	3.82	12.68	0.36	0.023	12.04	Laterite
DTR-09	621	8.8	9.8	54	3.02	8.31	0.39	0.019	9.9	Laterite
DTR-09	622	9.8	10.8	54.66	4.6	7.9	0.28	0.009	8.54	Laterite
DTR-09	623	10.8	11.8	56.49	2.97	7.39	0.17	0.008	8.22	Lateritic Ore
DTR-09	624	11.8	12.8	64.24	1.24	2.66	0.15	0.009	3.8	SLO_FO
DTR-09	625	12.8	13.8	65.42	0.84	2.11	0.103	0.008	3.16	SLO_FO
DTR-09	626	13.8	14.8	66.41	0.89	1.09	0.079	0.009	2.52	HLO
DTR-09	627	14.8	15.8	62.3	2.19	2.12	0.05	0.008	4.06	SLO_FO
DTR-09	628	15.8	16.8	63.2	1.77	1.99	0.039	0.007	4.37	SLO_FO
DTR-09	629	16.8	17.8	64.1	1.32	2.1	0.043	0.008	4.09	SLO_FO
DTR-09	630	17.8	18.8	62.1	1.32	1.83	0.052	0.007	4.36	SLO_FO
DTR-09	631	18.8	19.8	62.1	1.32	2.02	0.057	0.007	4.47	SLO_FO
DTR-09	632	19.8	20.8	53.15	1.22	3.49	0.083	0.006	6.5	SLO_FO
DTR-09	633	20.8	21.8	62.43	0.78	1.44	0.048	0.006	4.54	SLO_FO
DTR-09	634	21.8	22.8	66.63	0.65	0.88	0.046	0.007	2.7	SLO_FO
DTR-09	635	22.8	23.8	64.81	0.65	1.4	0.052	0.008	3.74	SLO_FO
DTR-09	636	23.8	24.8	63.48	0.83	1.63	0.16	0.007	5.52	SLO_FO
DTR-09	637	24.8	25.8	65.08	0.68	1.11	0.124	0.009	4.73	SLO_FO
DTR-09	638	25.8	26.8	63.9	0.63	1.35	0.124	0.011	5.16	SLO_FO
DTR-09	639	26.8	27.8	65.53	0.47	0.8	0.082	0.009	4.55	SLO_FO
DTR-09	640	27.8	28.8	64.38	0.61	1.3	0.127	0.012	5.29	SLO_FO
DTR-09	641	28.8	29.8	64.7	0.5	1.18	0.115	0.01	5.45	SLO_FO
DTR-09	642	29.8	30.8	62.1	0.64	1.59	0.18	0.011	6.61	SLO_FO
DTR-09	643	30.8	31.8	63.4	0.48	1.93	0.164	0.008	5.68	SLO_FO
DTR-09	644	31.8	32.8	63.8	0.66	1.82	0.139	0.008	5.5	SLO_FO
DTR-09	645	32.8	33.8	64.68	0.56	1.54	0.099	0.008	4.95	SLO_FO
DTR-09	646	33.8	34.8	64.94	0.51	1.44	0.123	0.008	4.97	SLO_FO
DTR-09	647	34.8	35.8	63.77	0.74	1.03	0.18	0.006	6.44	SLO_FO
DTR-09	648	35.8	36.8	63.41	0.75	1.54	0.187	0.011	6.87	SLO_FO
DTR-09	649	36.8	37.8	64.29	0.59	1.1	0.154	0.007	5.48	SLO_FO
DTR-09	650	37.8	38.8	65.3	0.48	0.9	0.077	0.008	4.06	SLO_FO
DTR-09	651	38.8	39.8	65.6	0.51	0.72	0.066	0.007	4.56	SLO_FO
DTR-09	652	39.8	40.7	65.8	0.65	0.9	0.046	0.01	4.3	SLO_FO
DTR-09	653	40.7	41.5	67.25	0.3	0.57	0.042	0.007	2.7	SLO_FO
DTR-09	654	41.5	41.8	67.25	0.5	0.54	0.049	0.006	2.73	SLO_FO
DTR-09	655	41.8	42.2	66.67	0.48	0.69	0.056	0.007	3.03	SLO_FO
DTR-09	656	42.2	43.2	66.83	0.69	0.71	0.053	0.01	2.97	SLO_FO
DTR-09	657	43.2	43.8	63.51	0.41	1.26	0.074	0.013	7.42	SLO_FO
DTR-09	658	43.8	44.8	63.7	0.32	1.27	0.086	0.008	7.17	SLO_FO
DTR-09	659	44.8	45.8	65.54	0.4	1	0.07	0.009	3.88	SLO_FO
DTR-09	660	45.8	46.8	65.62	0.43	0.79	0.057	0.009	4.31	SLO_FO
DTR-09	661	46.8	47.8	63.4	0.59	1.32	0.064	0.011	7.37	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-09	662	47.8	48.8	63.2	0.51	1.33	0.059	0.012	7.6	SLO_FO
DTR-09	663	48.8	49.8	61.4	0.84	1.75	0.108	0.011	9.13	SLO_FO
DTR-09	664	49.8	50.8	66.2	0.49	0.04	0.039	0.005	4.37	SLO_FO
DTR-09	665	50.8	51.8	61.3	0.83	2.38	0.121	0.011	8.27	SLO_FO
DTR-09	666	51.8	52.8	62.8	0.7	2.03	0.098	0.009	7.24	SLO_FO
DTR-09	667	52.8	53.3	63.4	0.72	1.73	0.093	0.009	6.74	SLO_FO
DTR-09	668	53.3	54.5	63.4	0.84	0.6	0.089	0.007	7.58	SLO_FO
DTR-09	669	54.5	56	65.8	0.51	0.95	0.064	0.008	4.32	SLO_FO
DTR-09	670	56	57	62.4	0.75	1.76	0.081	0.01	8.08	SLO_FO
DTR-10	671	0	0.9	54.45	5.85	5.7	0.095	0.019	8.54	Laterite
DTR-10	672	0.9	1.9	64.45	1.07	0.8	0.079	0.009	5.48	HLO
DTR-10	673	1.9	2.9	64.48	0.91	0.72	0.089	0.009	5.7	HLO
DTR-10	674	2.9	3.9	65.87	0.66	0.59	0.071	0.008	4.25	HLO
DTR-10	675	3.9	4.9	65.4	0.44	1.25	0.085	0.013	4.56	HLO
DTR-10	676	4.9	5.9	66.2	0.52	0.59	0.086	0.008	4.06	HLO
DTR-10	677	5.9	6.9	63.9	0.68	2.56	0.096	0.015	4.94	HLO
DTR-10	678	6.9	7.9	65	0.66	1.63	0.068	0.013	4.38	HLO
DTR-10	679	7.9	8.9	67.2	0.56	0.63	0.035	0.009	2.5	SLO_FO
DTR-10	680	8.9	9.9	59.6	1.42	4.36	0.152	0.02	8.54	SLO_FO
DTR-10	681	9.9	10.9	55.4	2.25	6.38	0.137	0.025	10.46	Limonitic Ore
DTR-10	682	10.9	11.9	52.7	2.22	8.25	0.165	0.026	11.85	Limonite
DTR-10	683	11.9	12.9	62.1	0.87	2.77	0.112	0.012	6.33	SLO_FO
DTR-10	684	12.9	13.9	64.22	0.55	1.02	0.081	0.011	6.52	SLO_FO
DTR-10	685	13.9	14.9	60.58	0.91	3.8	0.1	0.021	7.95	SLO_FO
DTR-10	686	14.9	15.9	59.09	1.44	2.97	0.084	0.014	10.37	Limonitic Ore
DTR-10	687	15.9	16.9	61.8	1.33	2.2	0.074	0.011	7.92	SLO_FO
DTR-10	688	16.9	17.9	63.59	1.19	1.7	0.072	0.013	5.96	SLO_FO
DTR-10	689	17.9	18.9	61.6	2.88	3.13	0.046	0.016	5.14	SLO_FO
DTR-10	690	18.9	19.9	62.2	1.62	2.56	0.058	0.02	5.05	SLO_FO
DTR-10	691	19.9	20.9	62.4	1.42	2.08	0.047	0.018	5.56	SLO_FO
DTR-10	692	20.9	21.9	63.3	1.02	1.65	0.049	0.013	5.03	SLO_FO
DTR-10	693	21.9	22.9	63.11	1.22	1.92	0.067	0.014	5.92	SLO_FO
DTR-10	694	22.9	23.9	64.94	1.21	1.18	0.069	0.009	4.53	SLO_FO
DTR-10	695	23.9	24.9	64.41	1.21	1.06	0.12	0.01	5.2	SLO_FO
DTR-10	696	24.9	25.9	63.12	1.77	0.9	0.08	0.008	6.2	SLO_FO
DTR-10	697	25.9	26.9	61.69	1.59	0.9	0.033	0.009	6.6	SLO_FO
DTR-10	698	26.9	27.9	65.4	1.14	0.7	0.033	0.007	3.76	SLO_FO
DTR-10	699	27.9	28.9	55.2	1.78	1.13	0.03	0.011	9.78	SLO_FO
DTR-10	700	28.9	29.9	58.7	2.08	0.63	0.024	0.008	10.4	SLO_FO
DTR-10	701	29.9	30.9	61.6	1.4	0.7	0.026	0.008	9.26	SLO_FO
DTR-10	702	30.9	31.9	61.2	2.07	0.51	0.034	0.007	9.7	SLO_FO
DTR-10	703	31.9	32.9	61.84	1.9	0.84	0.044	0.009	6.44	SLO_FO
DTR-10	704	32.9	33.9	60.39	1.71	1.56	0.072	0.01	9.87	SLO_FO
DTR-10	705	33.9	34.9	63.93	0.85	1	0.059	0.01	6.39	SLO_FO
DTR-10	706	34.9	35.9	64.99	0.68	0.86	0.064	0.011	5.42	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-10	707	35.9	36.9	64.63	0.94	0.71	0.056	0.09	5.92	SLO_FO
DTR-10	708	36.9	37.9	65.18	0.54	0.66	0.061	0.09	5.46	SLO_FO
DTR-10	709	37.9	38.9	64.69	0.91	0.71	0.057	0.006	5.81	SLO_FO
DTR-10	710	38.9	39.9	65.46	0.86	1.37	0.061	0.009	3.75	SLO_FO
DTR-10	711	39.9	40.9	60.8	1.85	0.66	0.035	0.008	9.47	SLO_FO
DTR-10	712	40.9	41.9	67	0.72	0.68	0.057	0.007	2.61	SLO_FO
DTR-10	713	41.9	42.9	67.6	0.45	0.41	0.054	0.007	1.6	SLO_FO
DTR-10	714	42.9	43.9	67.4	0.54	0.35	0.047	0.007	2.11	SLO_FO
DTR-10	715	43.9	44.9	67.2	0.65	0.41	0.048	0.005	2.54	SLO_FO
DTR-10	716	44.9	45.9	63.8	1.3	0.54	0.141	0.005	6.62	SLO_FO
DTR-10	717	45.9	46.9	61	1.61	0.79	0.175	0.019	8.3	SLO_FO
DTR-10	718	46.9	47.9	64.2	1.25	0.57	0.096	0.008	5.48	SLO_FO
DTR-10	719	47.9	48.9	65.6	1.04	0.45	0.062	0.007	3.45	HLO
DTR-10	720	48.9	49.9	63.1	1.2	0.5	0.141	0.006	6.88	HLO
DTR-10	721	49.9	50.9	66	0.87	0.42	0.093	0.006	4.11	HLO
DTR-10	722	50.9	51.9	64.4	1.03	0.49	0.118	0.008	6	HLO
DTR-10	723	51.9	52.9	65	0.77	0.45	0.031	0.006	5.6	SLO_FO
DTR-10	724	52.9	53.9	65.5	0.75	0.46	0.103	0.008	4.97	SLO_FO
DTR-10	725	53.9	54.9	63.13	1.27	0.57	0.127	0.006	7.42	SLO_FO
DTR-10	726	54.9	55.9	62.66	1.12	0.93	0.15	0.012	7.72	SLO_FO
DTR-10	727	55.9	56.9	62.8	1.26	0.72	0.15	0.009	7.8	SLO_FO
DTR-10	728	56.9	57.9	62.4	1.29	0.6	0.16	0.007	7.6	SLO_FO
DTR-10	729	57.9	58.9	62.8	1.1	0.71	0.16	0.008	8	SLO_FO
DTR-10	730	58.9	59.9	60.6	1.7	0.9	0.2	0.007	10	SLO_FO
DTR-10	731	59.9	60.9	63.8	0.92	0.55	0.108	0.007	7	SLO_FO
DTR-10	732	60.9	61.9	63.8	0.6	0.58	0.17	0.007	7.18	HLO
DTR-10	733	61.9	62.9	63.3	0.77	0.4	0.192	0.005	7.66	HLO
DTR-10	734	62.9	63.9	62.2	0.88	0.48	0.174	0.005	9.09	HLO
DTR-10	735	63.9	64.9	60.9	0.66	0.45	0.182	0.005	10.45	HLO
DTR-10	736	64.9	65.9	60.9	0.71	0.48	0.312	0.005	10.72	HLO
DTR-20	737	65.9	66.9	59.1	0.51	2.52	0.245	0.016	11.28	HLO
DTR-10	738	66.9	67.9	43.3	14.58	12.1	0.153	0.009	9.52	Limonite
DTR-10	739	67.9	68.9	53.8	4.22	6.54	0.156	0.023	8.2	Limonite
DTR-10	740	68.9	69.9	13.4	34.48	27.1	0.067	0.013	13.32	Feruginous Shale
DTR-10	741	69.9	70.9	14.2	35.87	24.6	0.049	0.012	13	Feruginous Shale
DTR-10	742	70.9	71.9	47.7	6.21	11.36	0.093	0.018	10.89	Feruginous Shale
DTR-10	743	71.9	72.9	39.4	13.83	13.21	0.114	0.011	11.04	Feruginous Shale
DTR-10	744	72.9	73.9	41.2	11.13	12.72	0.128	0.01	11.17	Feruginous Shale
DTR-10	745	73.9	74.9	39.4	14.32	12.8	0.126	0.013	10.99	Feruginous Shale
DTR-10	746	74.9	75.9	50.6	7.56	5.68	0.159	0.014	10.81	Feruginous Shale
DTR-10	747	75.9	76.9	39.1	17.59	14.02	0.182	0.009	9.05	Feruginous Shale

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-10	748	76.9	77.9	24.2	31.23	19.2	0.07	0.009	9.67	Feruginous Shale
DTR-10	749	77.9	78.9	28.7	27.35	17.2	0.078	0.009	9.9	Feruginous Shale
DTR-10	750	78.9	79.9	29.1	25.36	18	0.069	0.008	10.2	Feruginous Shale
DTR-10	751	79.9	80.9	26.7	27	23.8	0.079	0.008	10.72	Feruginous Shale
DTR-10	752	80.9	81.9	26.8	26.83	24	0.07	0.008	10.39	Feruginous Shale
DTR-10	753	81.9	82.5	21	34.39	25	0.066	0.007	10.22	Feruginous Shale
DTR-11	754	0	0.7	62	2.41	2.51	0.06	0.011	5.93	HLO
DTR-11	755	0.7	1.7	58	4	2.2	0.04	0.01	10.11	HLO
DTR-11	756	1.7	2.7	58.8	3.44	1.91	0.04	0.01	10.2	HLO
DTR-11	757	2.7	3.7	58.7	2.83	1.9	0.04	0.011	10.64	HLO
DTR-11	758	3.7	4.7	63.2	1.41	0.8	0.06	0.015	6.66	HLO
DTR-11	759	4.7	5.7	63.2	1.68	1.3	0.048	0.015	5.15	HLO
DTR-11	760	5.7	6.7	63.9	1.48	1.18	0.04	0.015	4.1	HLO
DTR-11	761	6.7	7.7	64.4	1.01	0.82	0.035	0.012	4.67	HLO
DTR-11	762	7.7	8.7	63.6	0.66	1.45	0.042	0.013	5.5	HLO
DTR-11	763	8.7	9.7	61.4	1.36	0.68	0.045	0.011	7.64	HLO
DTR-11	764	9.7	10.7	56.8	0.93	0.77	0.048	0.012	8.73	HLO
DTR-11	765	10.7	11.7	62.7	1.53	0.93	0.054	0.014	7.13	HLO
DTR-11	766	11.7	12.7	62.9	1.05	0.84	0.047	0.015	7.83	HLO
DTR-11	767	12.7	13.7	57.4	1.51	0.95	0.02	0.011	7.92	HLO
DTR-11	768	13.7	14.7	58.7	2.87	1.73	0.013	0.013	11.17	HLO
DTR-11	769	14.7	15.7	61.1	2.07	0.7	0.015	0.01	9.06	HLO
DTR-11	770	15.7	16.7	59.7	2.94	1.1	0.02	0.01	9.5	HLO
DTR-11	771	16.7	17.7	56.8	1.39	0.84	0.037	0.013	8.88	HLO
DTR-11	772	17.7	18.7	58.8	2.88	1	0.023	0.009	10.64	HLO
DTR-11	773	18.7	19.7	59.3	2.98	0.76	0.031	0.008	10.34	HLO
DTR-11	774	19.7	20.7	66.8	1.12	0.68	0.025	0.004	2.06	HLO
DTR-11	775	20.7	21.7	46.85	2.15	0.83	0.018	0.007	10.25	Laterite
DTR-11	776	21.7	22.7	47.09	3.22	1.25	0.028	0.001	10.82	Laterite
DTR-11	777	22.7	23.7	60.51	2.69	1.14	0.036	0.011	9.52	HLO
DTR-11	778	23.7	24.7	58.86	3.24	0.89	0.053	0.007	10.85	Limonitic Ore
DTR-11	779	24.7	25.7	61.6	2.21	0.54	0.034	0.008	8.83	SLO_FO
DTR-11	780	25.7	26.7	63.79	1.71	0.59	0.044	0.011	6.21	SLO_FO
DTR-11	781	26.7	27.7	64.23	1.55	0.76	0.04	0.013	5.66	SLO_FO
DTR-11	782	27.7	28.7	65.05	1.45	1.1	0.045	0.017	4.14	SLO_FO
DTR-11	783	28.7	29.7	62.49	2.07	1.06	0.051	0.015	7.19	SLO_FO
DTR-11	784	29.7	30.7	60.24	2.29	1.03	0.07	0.015	10.37	SLO_FO
DTR-11	785	30.7	31.7	59.8	2.24	1.1	0.04	0.012	10.8	Limonitic Ore
DTR-11	786	31.7	32.7	62.2	1.58	0.85	0.04	0.011	8.38	SLO_FO
DTR-11	787	32.7	33.7	62.02	1.44	0.79	0.047	0.013	8.8	SLO_FO
DTR-11	788	33.7	34.7	60.86	1.73	0.74	0.051	0.011	10.2	SLO_FO
DTR-11	789	34.7	35.7	61.2	1.72	0.54	0.051	0.01	10	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-11	790	35.7	36.7	62.4	1.34	0.61	0.048	0.009	8.64	SLO_FO
DTR-11	791	36.7	37.7	61.2	1.58	0.68	0.035	0.01	10	SLO_FO
DTR-11	792	37.7	38.7	61	1.76	0.83	0.054	0.009	10	SLO_FO
DTR-11	793	38.7	39.7	61.3	1.58	0.85	0.054	0.009	9.7	SLO_FO
DTR-11	794	39.7	40.7	62.8	0.95	0.77	0.053	0.009	8.17	SLO_FO
DTR-11	795	40.7	41.7	62.8	0.83	0.48	0.056	0.008	7.98	SLO_FO
DTR-11	796	41.7	42.7	65.2	0.8	0.43	0.043	0.006	5.15	SLO_FO
DTR-11	797	42.7	43.7	62.8	1.08	0.48	0.062	0.007	8.07	SLO_FO
DTR-11	798	43.7	44.7	65.1	1	0.49	0.065	0.006	5.2	SLO_FO
DTR-11	799	44.7	45.7	64.6	1.08	0.36	0.043	0.007	5.9	SLO_FO
DTR-11	800	45.7	46.7	63.8	0.82	0.37	0.034	0.007	7.24	SLO_FO
DTR-11	801	46.7	47.7	63.8	0.94	0.34	0.045	0.008	7.41	SLO_FO
DTR-11	802	47.7	48.7	63.5	0.6	0.36	0.048	0.007	7.24	SLO_FO
DTR-11	803	48.7	49.7	63.27	1.11	0.43	0.051	0.008	7.77	SLO_FO
DTR-11	804	49.7	50.7	63.4	1.14	0.36	0.039	0.008	7.7	SLO_FO
DTR-11	805	50.7	51.7	62.77	1.1	0.42	0.03	0.007	8.23	SLO_FO
DTR-11	806	51.7	52.7	65.47	0.93	0.35	0.055	0.007	4.85	SLO_FO
DTR-11	807	52.7	53.7	66	0.23	0.36	0.065	0.007	4	SLO_FO
DTR-11	808	53.7	54.7	66.1	0.29	0.39	0.076	0.007	4	SLO_FO
DTR-11	809	54.7	55.7	66.6	0.24	0.31	0.068	0.007	3.08	SLO_FO
DTR-11	810	55.7	56.7	66.2	0.27	0.28	0.081	0.006	3.66	SLO_FO
DTR-11	811	56.7	57.7	67.6	0.22	0.25	0.079	0.005	1.86	SLO_FO
DTR-11	812	57.7	58.7	67.7	0.6	0.27	0.056	0.006	2.1	SLO_FO
DTR-11	813	58.7	59.7	66.8	0.56	0.36	0.034	0.007	2.8	SLO_FO
DTR-11	814	59.7	60.7	67	0.61	0.35	0.044	0.006	3	SLO_FO
DTR-11	815	60.7	61.7	66.7	0.9	0.55	0.046	0.007	2.87	SLO_FO
DTR-11	816	61.7	62.7	67.2	0.55	0.29	0.059	0.006	2.21	SLO_FO
DTR-11	817	62.7	63.7	67.3	0.44	0.29	0.052	0.006	2.55	SLO_FO
DTR-11	818	63.7	64.7	67.8	0.27	0.35	0.058	0.006	2.14	SLO_FO
DTR-11	819	64.7	65.7	67.5	0.61	0.33	0.058	0.006	2.19	SLO_FO
DTR-11	820	65.7	66.7	65.6	1.03	0.7	0.06	0.006	3.58	SLO_FO
DTR-11	821	66.7	67.7	67.2	0.51	0.48	0.052	0.005	2	SLO_FO
DTR-11	822	67.7	68.7	66.7	0.7	0.44	0.057	0.007	2.84	SLO_FO
DTR-11	823	68.7	69.7	66.7	0.55	0.35	0.061	0.009	2.68	SLO_FO
DTR-11	824	69.7	70.7	67	0.37	0.37	0.063	0.006	2.45	SLO_FO
DTR-11	825	70.7	71.7	68.1	0.5	0.29	0.039	0.006	1.6	SLO_FO
DTR-11	826	71.7	72.7	68.55	0.49	0.25	0.064	0.004	1	SLO_FO
DTR-11	827	72.7	73.7	68.62	0.43	0.22	0.045	0.004	0.82	SLO_FO
DTR-11	828	73.7	74.7	68.44	0.54	0.29	0.05	0.004	1.1	SLO_FO
DTR-11	829	74.7	75.7	67.67	0.61	0.38	0.03	0.004	2.11	SLO_FO
DTR-11	830	75.7	76.7	66.7	0.7	0.61	0.04	0.004	2.56	SLO_FO
DTR-11	831	76.7	77.7	67.4	0.61	0.49	0.044	0.004	1.84	SLO_FO
DTR-11	832	77.7	78.7	66.3	1.9	1.48	0.051	0.004	1.2	SLO_FO
DTR-11	833	78.7	79.7	36.8	21.2	17.5	0.042	0.006	8.39	Feruginous Shale
DTR-11	834	79.7	80.7	68.6	0.63	0.45	0.039	0.007	0.46	SLO_FO

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-11	835	80.7	81.7	67.4	0.92	0.89	0.064	0.004	1.51	SLO_FO
DTR-11	836	81.7	82.7	66.9	0.82	0.68	0.064	0.005	1.96	SLO_FO
DTR-11	837	82.7	83.7	66.6	1.35	1.36	0.056	0.007	1.58	SLO_FO
DTR-11	838	83.7	84.7	67.8	0.8	0.47	0.047	0.004	0.99	SLO_FO
DTR-11	839	84.7	85.7	68.4	0.63	0.37	0.046	0.003	0.94	SLO_FO
DTR-11	840	85.7	86.7	67.6	1.15	0.3	0.023	0.005	1.5	SLO_FO
DTR-11	841	86.7	87.7	68.53	0.62	0.31	0.038	0.003	0.69	SLO_FO
DTR-11	842	87.7	88.7	67.04	2.21	0.37	0.035	0.006	1.28	SLO_FO
DTR-11	843	88.7	89.7	66.51	1.15	0.55	0.043	0.006	3.04	SLO_FO
DTR-11	844	89.7	90.7	66.6	1.1	0.38	0.013	0.012	2.89	SLO_FO
DTR-11	845	90.7	91.7	67.23	1.07	0.32	0.004	0.005	2.32	SLO_FO
DTR-11	846	91.7	92.7	67.27	0.98	0.47	0.004	0.005	2.23	SLO_FO
DTR-11	847	92.7	93.7	67.72	0.83	0.4	0.001	0.004	1.75	SLO_FO
DTR-11	848	93.7	94.7	67.2	1.25	0.55	0.033	0.005	1.9	SLO_FO
DTR-11	849	94.7	95.7	65.4	0.96	0.31	0.028	0.004	5	SLO_FO
DTR-11	850	95.7	96.7	65.3	0.8	0.24	0.054	0.006	5.45	SLO_FO
DTR-11	851	96.7	97.7	65.65	1.02	0.3	0.068	0.005	4.53	SLO_FO
DTR-11	852	97.7	98.7	66.4	1.03	0.3	0.048	0.005	3.5	SLO_FO
DTR-11	853	98.7	99.7	66.6	1.06	0.64	0.064	0.006	2.8	SLO_FO
DTR-11	854	99.7	100.7	66.4	1.06	0.76	0.06	0.005	2.8	SLO_FO
DTR-11	855	100.7	101.7	65	1.7	0.52	0.044	0.005	4.68	SLO_FO
DTR-11	856	101.7	102.7	66.1	0.74	0.48	0.058	0.004	4.1	SLO_FO
DTR-11	857	102.7	103.7	67.4	0.55	0.29	0.049	0.005	2.31	SLO_FO
DTR-11	858	103.7	104.7	66.8	0.56	0.29	0.052	0.005	2.65	SLO_FO
DTR-11	859	104.7	105.7	67.2	0.66	0.36	0.045	0.004	2.14	SLO_FO
DTR-11	860	105.7	106.7	66.6	0.6	0.37	0.069	0.004	2.73	SLO_FO
DTR-11	861	106.7	107.7	66.8	0.65	0.26	0.049	0.005	3.2	SLO_FO
DTR-11	862	107.7	108	67.2	0.81	0.52	0.047	0.01	2.21	SLO_FO
DTR-12	863	0	1	51.3	3.02	10.45	0.12	0.024	11.51	Limonite
DTR-12	864	1	2	46.6	3.46	12.18	0.17	0.03	14.87	Limonite
DTR-12	865	2	3	44.4	4.02	14.47	0.147	0.029	15.45	Limonite
DTR-12	866	3	4	56.8	1.88	6.08	0.109	0.022	8.32	Limonitic Ore
DTR-12	867	4	5	61.6	1.35	2.57	0.077	0.015	5.02	SLO_FO
DTR-12	868	5	6	62.85	0.09	2.74	0.122	0.016	4.78	SLO_FO
DTR-12	869	6	7	62.81	0.84	2.65	0.103	0.012	6.37	SLO_FO
DTR-12	870	7	8	63.96	0.8	1.92	0.098	0.015	5.35	SLO_FO
DTR-12	871	8	9	65.74	0.68	0.97	0.063	0.013	3.59	HLO
DTR-12	872	9	10	67.1	0.35	0.6	0.067	0.009	2.83	HLO
DTR-12	873	10	11	65.1	0.45	1.9	0.075	0.011	4	SLO_FO
DTR-12	874	11	12	63	0.58	1.94	0.106	0.014	6.41	SLO_FO
DTR-12	875	12	13	65.6	0.47	1.09	0.079	0.01	3.9	SLO_FO
DTR-12	876	13	14	65.3	0.71	1.08	0.081	0.011	4.27	SLO_FO
DTR-12	877	14	15	67.1	0.61	0.58	0.042	0.009	2.42	HLO
DTR-12	878	15	16	64.3	0.86	1.1	0.119	0.01	5.57	SLO_FO
DTR-12	879	16	17	63.8	0.73	1.3	0.127	0.013	5.67	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-12	880	17	18	66.3	0.78	0.5	0.039	0.012	3.07	HLO
DTR-12	881	18	19	64.98	0.91	0.84	0.034	0.012	3.79	HLO
DTR-12	882	19	20	65.06	0.98	1.3	0.038	0.01	4.42	HLO
DTR-12	883	20	21	66.06	0.78	1	0.047	0.011	3.36	HLO
DTR-12	884	21	22	65.21	1.02	1	0.048	0.011	4.27	HLO
DTR-12	885	22	23	65.1	0.94	1.22	0.046	0.01	4.45	HLO
DTR-12	886	23	24	65.5	0.82	1.14	0.01	0.014	2.89	HLO
DTR-12	887	24	25	64.6	0.8	1.01	0.01	0.009	3.11	HLO
DTR-12	888	25	26	66.2	0.75	0.57	0.034	0.007	3.32	HLO
DTR-12	889	26	27	66.5	0.63	0.69	0.01	0.011	2.27	HLO
DTR-12	890	27	28	67.1	0.9	0.5	0.047	0.007	2.51	HLO
DTR-12	891	28	29	66.9	1.09	0.62	0.033	0.008	2.5	HLO
DTR-12	892	29	30	66	0.86	1.02	0.053	0.007	3.25	HLO
DTR-12	893	30	31	63.3	0.8	1.25	0.129	0.005	4.29	HLO
DTR-12	894	31	32	63.77	0.72	0.77	0.076	0.006	2.27	SLO_FO
DTR-12	895	32	33	64.24	1.08	0.84	0.056	0.006	4.47	SLO_FO
DTR-12	896	33	34	63.04	0.87	0.49	0.046	0.006	2.79	SLO_FO
DTR-12	897	34	35	63.7	1.5	0.6	0.052	0.005	5.45	SLO_FO
DTR-12	898	35	36	64.6	1.6	0.8	0.037	0.008	4.16	SLO_FO
DTR-12	899	36	37	65.9	1.37	0.49	0.039	0.008	3.58	SLO_FO
DTR-12	900	37	38	66	1.06	0.49	0.093	0.005	3.85	SLO_FO
DTR-12	901	38	39	65.8	0.9	0.72	0.01	0.006	4.2	SLO_FO
DTR-12	902	39	40	64.7	1.19	0.9	0.066	0.009	5.21	SLO_FO
DTR-12	903	40	41	64.2	1.27	0.49	0.052	0.007	5.22	SLO_FO
DTR-12	904	41	42	65.4	1.2	0.39	0.016	0.008	4.77	SLO_FO
DTR-12	905	42	43	64.3	1.09	0.57	0.01	0.011	5.3	SLO_FO
DTR-12	906	43	44	64.2	1.2	1.12	0.046	0.011	5.57	SLO_FO
DTR-12	907	44	45	64.35	1.25	0.82	0.064	0.011	5	SLO_FO
DTR-12	908	45	46	65.1	1	0.58	0.056	0.008	5.1	SLO_FO
DTR-12	909	46	47	64.49	1.28	0.45	0.01	0.01	5.48	SLO_FO
DTR-12	910	47	48	64.2	1.18	0.88	0.064	0.01	5.8	SLO_FO
DTR-12	911	48	49	63.22	1.24	0.84	0.011	0.01	7.48	SLO_FO
DTR-12	912	49	50	63.9	1.23	1	0.058	0.007	6.21	SLO_FO
DTR-12	913	50	51	63.3	1.14	1.23	0.055	0.009	6.82	SLO_FO
DTR-12	914	51	52	64.5	0.91	1	0.076	0.009	5.51	SLO_FO
DTR-12	915	52	53	65.5	0.77	0.67	0.075	0.009	4.6	SLO_FO
DTR-12	916	53	54	64.2	0.56	2.1	0.078	0.01	5.2	SLO_FO
DTR-12	917	54	55	62.5	0.53	2.1	0.131	0.01	7.51	SLO_FO
DTR-12	918	55	56	62.5	0.45	2.4	0.084	0.01	7.5	SLO_FO
DTR-12	919	56	57	59.2	0.98	1.9	0.109	0.006	11.81	Limonitic Ore
DTR-12	920	57	58	60.4	0.82	2.2	0.103	0.006	10.36	SLO_FO
DTR-12	921	58	59	61	0.73	1.78	0.087	0.006	10	SLO_FO
DTR-12	922	59	60	60.5	0.65	1.33	0.085	0.005	10.77	SLO_FO
DTR-12	923	60	61	59.8	0.67	1.66	0.092	0.005	11.41	Limonitic Ore
DTR-12	924	61	62	61.2	0.08	1.13	0.062	0.004	10.8	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-12	925	62	63	61.3	0.22	0.87	0.058	0.005	10.8	SLO_FO
DTR-12	926	63	64	61	0.08	1.19	0.072	0.006	10.7	SLO_FO
DTR-12	927	64	65	62.6	0.2	1.9	0.084	0.005	8.1	SLO_FO
DTR-12	928	65	66	66	0.08	0.81	0.043	0.004	4.1	SLO_FO
DTR-12	929	66	67	66.4	0.23	0.8	0.035	0.003	3.9	SLO_FO
DTR-12	930	67	68	67.8	0.11	0.58	0.036	0.003	2.1	SLO_FO
DTR-12	931	68	69	66.3	0.21	0.74	0.071	0.004	4	SLO_FO
DTR-12	932	69	70	67.2	0.19	0.62	0.052	0.004	2.92	SLO_FO
DTR-12	933	70	71	67.1	0.34	0.7	0.058	0.004	2.8	SLO_FO
DTR-12	934	71	72	67.2	0.22	0.61	0.063	0.003	2.69	SLO_FO
DTR-12	935	72	73	67	0.27	0.62	0.053	0.003	3	SLO_FO
DTR-12	936	73	74	67.04	0.29	0.59	0.052	0.005	2.83	SLO_FO
DTR-12	937	74	75	67.2	0.41	0.54	0.047	0.003	2.76	SLO_FO
DTR-12	938	75	76	67	0.49	0.45	0.055	0.005	3.1	SLO_FO
DTR-12	939	76	77	67.1	0.54	0.48	0.05	0.005	2.78	SLO_FO
DTR-12	940	77	78	66	0.03	0.53	0.067	0.005	3.93	SLO_FO
DTR-12	941	78	79	67	0.16	0.52	0.046	0.005	3.24	SLO_FO
DTR-12	942	79	80	64.9	0.47	0.62	0.055	0.005	5.5	SLO_FO
DTR-12	943	80	81	63.6	0.61	0.78	0.123	0.006	7.33	SLO_FO
DTR-12	944	81	82	66.4	0.38	0.37	0.045	0.004	4.12	SLO_FO
DTR-12	945	82	83	67.2	0.36	0.35	0.032	0.004	3.08	SLO_FO
DTR-12	946	83	84	67	0.36	0.35	0.031	0.004	3.36	SLO_FO
DTR-12	947	84	85	66.4	0.36	0.06	0.039	0.004	4.02	SLO_FO
DTR-12	948	85	86	67	0.38	0.31	0.022	0.003	3.4	SLO_FO
DTR-12	949	86	87	65.72	0.72	0.28	0.03	0.003	4.67	SLO_FO
DTR-12	950	87	88	66.2	0.58	0.17	0.024	0.004	4.45	SLO_FO
DTR-12	951	88	89	66.2	0.52	0.36	0.023	0.003	4.26	SLO_FO
DTR-12	952	89	90	65.86	0.58	0.27	0.03	0.004	4.77	SLO_FO
DTR-12	953	90	91	64	0.64	0.98	0.036	0.004	6.62	SLO_FO
DTR-12	954	91	92	63.7	0.58	0.88	0.037	0.005	7.09	SLO_FO
DTR-12	955	92	93	63.9	0.38	0.77	0.033	0.007	6.79	SLO_FO
DTR-12	956	93	94	64.4	0.3	1.44	0.025	0.003	5.46	SLO_FO
DTR-12	957	94	95	67.2	0.11	0.41	0.024	0.004	2.96	SLO_FO
DTR-12	958	95	96	67.2	0.11	0.49	0.024	0.004	0.24	SLO_FO
DTR-12	959	96	97	68.2	0.08	0.25	0.018	0.004	1.29	SLO_FO
DTR-12	960	97	98	68.5	0.03	0.23	0.017	0.007	0.87	SLO_FO
DTR-12	961	98	99	67.2	0.12	0.36	0.025	0.005	2.99	SLO_FO
DTR-12	962	99	100	64.4	0.31	0.81	0.036	0.005	5.89	SLO_FO
DTR-12	963	100	101	66.8	0.39	0.55	0.028	0.006	3.46	SLO_FO
DTR-12	964	101	102	67.6	0.32	0.25	0.027	0.005	2.4	SLO_FO
DTR-12	965	102	103	67.1	0.45	0.29	0.025	0.005	3.1	SLO_FO
DTR-12	966	103	104	65.3	0.57	2.24	0.038	0.006	2.46	SLO_FO
DTR-12	967	104	105	66.31	0.5	1.75	0.036	0.004	2.65	SLO_FO
DTR-12	968	105	106	33.24	11.72	24.35	0.048	0.005	13.26	Feruginous Shale
DTR-12	969	106	107	16.7	28.88	30.02	0.046	0.004	13	Feruginous

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR-12	970	107	108	17.12	30.32	28.02	0.04	0.004	12.1	Feruginous Shale
DTR-12	971	108	109	18.45	26.72	30.02	0.053	0.004	13.25	Feruginous Shale
DTR-12	972	109	110	17.5	19.37	34.47	0.058	0.004	14.95	Feruginous Shale
DTR-12	973	110	111	23.1	18	31	0.049	0.005	12.98	Feruginous Shale
DTR-12	974	111	112	21	15.94	33	0.063	0.006	15.16	Feruginous Shale
DTR-12	975	112	113	31.7	4.5	26.2	0.078	0.006	17	Feruginous Shale
DTR-12	976	113	114.6	31.6	4.32	25.8	0.076	0.006	17.34	Feruginous Shale
DTR-13	977	0	0.6	66.2	0.56	0.33	0.056	0.006	4.2	SLO_FO
DTR-13	978	0.6	1.6	65.6	0.48	0.32	0.072	0.005	4.85	SLO_FO
DTR-13	979	1.6	2.6	65.8	0.4	0.79	0.05	0.004	3.8	SLO_FO
DTR-13	980	2.6	3.6	65.2	0.8	0.67	0.066	0.004	4.8	SLO_FO
DTR-13	981	3.6	4.6	65.03	0.76	0.77	0.049	0.005	5.04	SLO_FO
DTR-13	982	4.6	5.6	65.65	0.7	0.89	0.045	0.004	4.38	SLO_FO
DTR-13	983	5.6	6.6	65.9	0.54	0.8	0.069	0.005	4.02	SLO_FO
DTR-13	984	6.6	7.6	66.61	0.76	0.76	0.086	0.007	2.9	SLO_FO
DTR-13	985	7.6	8.6	65.75	0.44	0.7	0.076	0.004	4.26	SLO_FO
DTR-13	986	8.6	9.6	66	0.67	0.76	0.082	0.005	3.8	SLO_FO
DTR-13	987	9.6	10.6	66.3	0.94	1.01	0.075	0.005	2.85	SLO_FO
DTR-13	988	10.6	11.6	66.4	0.98	1.03	0.049	0.006	2.71	SLO_FO
DTR-13	989	11.6	12.6	67.1	0.42	0.7	0.032	0.008	2.75	SLO_FO
DTR-13	990	12.6	13.6	67.7	0.43	0.4	0.038	0.006	2.24	SLO_FO
DTR-13	991	13.6	14.6	65.4	0.84	0.63	0.037	0.006	4.66	SLO_FO
DTR-13	992	14.6	15.6	63.2	1.25	0.52	0.032	0.007	7.71	SLO_FO
DTR-13	993	15.6	16.6	65.7	0.73	0.41	0.035	0.006	4.75	SLO_FO
DTR-13	994	16.6	17.6	66.6	0.59	0.32	0.032	0.005	3.73	SLO_FO
DTR-13	995	17.6	18.6	66.5	0.22	1.02	0.054	0.008	2.84	SLO_FO
DTR-13	996	18.6	19.6	63.5	0.14	0.42	0.025	0.007	5.02	SLO_FO
DTR-13	997	19.6	20.6	64.6	0.12	0.4	0.026	0.009	5.09	SLO_FO
DTR-13	998	20.6	21.6	66	0.12	0.23	0.022	0.008	3.49	SLO_FO
DTR-13	999	21.6	22.6	65	0.54	0.42	0.024	0.006	4.86	SLO_FO
DTR-13	1000	22.6	23.6	65.8	0.55	0.2	0.041	0.006	4.92	SLO_FO
DTR-13	1001	23.6	24.6	65.4	0.5	0.15	0.027	0.004	4.48	SLO_FO
DTR-13	1002	24.6	25.6	65.6	0.46	0.28	0.018	0.005	4.65	SLO_FO
DTR-13	1003	25.6	26.6	64.2	0.2	0.14	0.01	0.003	3.58	SLO_FO
DTR-13	1004	26.6	27.6	66.32	0.56	0.1	0.018	0.004	4.17	SLO_FO
DTR-13	1005	27.6	28.6	67.04	0.28	0.1	0.017	0.004	3.56	SLO_FO
DTR-13	1006	28.6	29.6	64.32	0.64	0.39	0.023	0.006	6.78	SLO_FO
DTR-13	1007	29.6	30.6	66.71	0.3	0.1	0.014	0.007	4.05	SLO_FO
DTR-13	1008	30.6	31.6	61	0.78	2.58	0.018	0.007	9.73	SLO_FO
DTR-13	1009	31.6	32.6	61.6	0.7	2.58	0.071	0.011	8.3	SLO_FO

Borehole Assay & Litho Data

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-13	1010	32.6	33.6	62.5	1.1	1.01	0.02	0.007	8.3	SLO_FO
DTR-13	1011	33.6	34.6	61.7	0.6	2	0.059	0.009	8.9	SLO_FO
DTR-13	1012	34.6	35.6	62.8	0.41	1.25	0.042	0.006	8.02	SLO_FO
DTR-13	1013	35.6	36.6	64.5	0.87	0.3	0.024	0.004	6.49	SLO_FO
DTR-13	1014	36.6	37.6	65.9	0.62	0.4	0.023	0.004	4.6	SLO_FO
DTR-13	1015	37.6	38.6	63.6	0.8	1.3	0.027	0.004	6.7	SLO_FO
DTR-13	1016	38.6	39.6	63.6	0.81	1	0.027	0.005	7	SLO_FO
DTR-13	1017	39.6	40.6	65.4	0.3	0.85	0.051	0.008	4.85	SLO_FO
DTR-13	1018	40.6	41.6	66.8	0.22	0.43	0.038	0.005	3.44	SLO_FO
DTR-13	1019	41.6	42.6	65.4	0.14	0.74	0.051	0.008	4.8	SLO_FO
DTR-13	1020	42.6	43.6	67.6	0.22	0.18	0.034	0.004	2.5	SLO_FO
DTR-13	1021	43.6	44.6	64.4	0.54	0.82	0.069	0.007	5.68	SLO_FO
DTR-13	1022	44.6	45.6	63.4	0.85	0.82	0.064	0.005	7.47	SLO_FO
DTR-13	1023	45.6	46.6	64.6	0.63	0.83	0.061	0.006	5.8	SLO_FO
DTR-13	1024	46.6	47.6	65.8	0.53	0.48	0.044	0.006	4.61	SLO_FO
DTR-13	1025	47.6	48.6	65.9	0.55	0.73	0.055	0.005	4.3	SLO_FO
DTR-13	1026	48.6	49.6	65.2	0.54	0.35	0.094	0.005	5.48	SLO_FO
DTR-13	1027	49.6	50.6	63.3	0.45	0.38	0.08	0.009	7.74	HLO
DTR-13	1028	50.6	51.6	64	0.49	0.34	0.061	0.008	6.84	HLO
DTR-13	1029	51.6	52.6	64.2	0.64	0.36	0.063	0.008	5.95	HLO
DTR-13	1030	52.6	53.6	63.8	0.7	0.39	0.063	0.008	6.03	HLO
DTR-13	1031	53.6	54.6	64.23	1.1	0.23	0.054	0.008	6.63	HLO
DTR-13	1032	54.6	55.6	63.71	0.88	0.32	0.058	0.007	7.22	HLO
DTR-13	1033	55.6	56.6	61.72	1.92	0.36	0.066	0.008	9.11	HLO
DTR-13	1034	56.6	57.6	61.11	1.98	0.22	0.071	0.008	10.14	HLO
DTR-13	1035	57.6	58.6	62.01	1.9	0.35	0.065	0.008	8.37	HLO
DTR-13	1036	58.6	59.6	61.11	0.84	1.34	0.063	0.009	9.49	HLO
DTR-13	1037	59.6	60.6	61.71	1.72	1.4	0.06	0.013	7.99	HLO
DTR-13	1038	60.6	61.6	61.79	1.24	1.23	0.059	0.01	8.18	HLO
DTR-13	1039	61.6	62.6	62.64	0.68	1.3	0.059	0.008	7.66	HLO
DTR-13	1040	62.6	63.6	62.5	0.7	0.3	0.068	0.007	8.86	HLO
DTR-13	1041	63.6	64.6	61.2	0.86	0.16	0.094	0.007	10.66	HLO
DTR-13	1042	64.6	65.6	61	1.22	0.46	0.067	0.007	10.2	HLO
DTR-13	1043	65.6	66.6	60.2	1.65	0.77	0.073	0.008	10.2	HLO
DTR-13	1044	66.6	67.6	60.4	1.85	0.95	0.069	0.01	10.05	HLO
DTR-13	1045	67.6	68.6	60.6	1.4	0.86	0.089	0.007	10.53	HLO
DTR-13	1046	68.6	69.6	60.5	1.8	1.11	0.086	0.011	10.18	HLO
DTR-13	1047	69.6	70.6	61.02	1.03	1.03	0.085	0.007	9.89	HLO
DTR-13	1048	70.6	71.6	60.4	1.62	1.19	0.084	0.013	10.15	HLO
DTR-13	1049	71.6	72.6	60.7	0.85	1.38	0.085	0.012	10.6	HLO
DTR-13	1050	72.6	73.6	60.74	0.89	1.18	0.085	0.008	10.81	HLO
DTR-13	1051	73.6	74.6	61	0.78	1.36	0.093	0.005	10.3	SLO_FO
DTR-13	1052	74.6	75.6	60.7	0.57	1.1	0.119	0.005	11.2	SLO_FO
DTR-13	1053	75.6	76.6	61.6	0.96	1.23	0.111	0.006	8.67	SLO_FO
DTR-13	1054	76.6	77.6	61.51	1.2	0.54	0.139	0.007	9.84	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-13	1055	77.6	78.6	61.58	1.06	0.2	0.162	0.005	9.73	SLO_FO
DTR-13	1056	78.6	79.6	59.87	1.78	0.87	0.17	0.005	10.37	Limonitic Ore
DTR-13	1057	79.6	80.6	58.07	2.24	1.34	0.169	0.006	11.63	Limonitic Ore
DTR-13	1058	80.6	81.6	51.8	4.44	6.27	0.262	0.007	12.55	Limonite
DTR-13	1059	81.6	82.6	52.6	6.12	6.57	0.23	0.005	10.08	Limonite
DTR-13	1060	82.6	83.6	54.3	6.74	6.1	0.077	0.004	7.99	Limonite
DTR-14	1061	0	0.7	58.1	0.88	3.64	0.146	0.015	10.88	Limonitic Ore
DTR-14	1062	0.7	1.7	57.2	0.98	3.97	0.17	0.012	11.74	Limonitic Ore
DTR-14	1063	1.7	2.7	57.24	1.86	4.13	0.16	0.013	11.5	Limonitic Ore
DTR-14	1064	2.7	3.7	57.8	1.38	3.72	0.171	0.011	11.7	Limonitic Ore
DTR-14	1065	3.7	4.7	57.01	1.34	4.45	0.169	0.013	12.05	Limonitic Ore
DTR-14	1066	4.7	5.7	56.77	2.52	4.6	0.157	0.012	11.12	Limonitic Ore
DTR-14	1067	5.7	6.7	58.8	1.38	3.1	0.15	0.009	11	Limonitic Ore
DTR-14	1068	6.7	7.7	62.21	1.52	2.24	0.11	0.009	7	SLO_FO
DTR-14	1069	7.7	8.7	59.7	1.36	2.82	0.17	0.013	10	Limonitic Ore
DTR-14	1070	8.7	9.7	57.01	2.36	4	0.185	0.013	11.5	Limonitic Ore
DTR-14	1071	9.7	10.7	52.82	4	4.8	0.204	0.014	11.84	Limonite
DTR-14	1072	10.7	11.7	60.2	1.84	2.64	0.145	0.01	8.98	SLO_FO
DTR-14	1073	11.7	12.7	55.6	4.88	5.33	0.148	0.013	9.12	Limonitic Ore
DTR-14	1074	12.7	13.7	61.6	1.24	2.44	0.125	0.014	7.54	SLO_FO
DTR-14	1075	13.7	14.7	62	1.68	3.1	0.119	0.012	5.78	SLO_FO
DTR-14	1076	14.7	15.7	61	1.24	2.03	0.141	0.01	8.96	SLO_FO
DTR-14	1077	15.7	16.7	61.4	0.64	2.05	0.082	0.011	9.18	SLO_FO
DTR-14	1078	16.7	17.7	63.7	0.31	1.8	0.062	0.008	6.61	HLO
DTR-14	1079	17.7	18.7	64.6	0.43	1.15	0.074	0.008	5.58	HLO
DTR-14	1080	18.7	19.7	64.6	0.52	1.03	0.093	0.007	5.16	HLO
DTR-14	1081	19.7	20.7	64.8	0.42	0.78	0.087	0.007	5.26	HLO
DTR-14	1082	20.7	21.7	62.7	0.3	1.93	0.13	0.006	7.65	HLO
DTR-14	1083	21.7	22.7	65.02	0.46	0.33	0.119	0.006	5.52	HLO
DTR-14	1084	22.7	23.7	60.6	0.76	2.73	0.214	0.014	8.58	HLO
DTR-14	1085	23.7	24.7	63.59	0.26	0.06	0.143	0.004	7.34	HLO
DTR-14	1086	24.7	25.7	63.79	0.94	0.35	0.126	0.004	6.95	HLO
DTR-14	1087	25.7	26.7	62.78	1.22	0.81	0.19	0.005	7.59	HLO
DTR-14	1088	26.7	27.7	61.66	1.24	1.65	0.175	0.006	8.24	HLO
DTR-14	1089	27.7	28.7	60.14	1.3	1.87	0.187	0.007	9.34	HLO
DTR-14	1090	28.7	29.7	62.33	1.56	0.98	0.145	0.007	7.59	HLO
DTR-14	1091	29.7	30.7	61	0.4	1.2	0.12	0.004	10.5	HLO
DTR-14	1092	30.7	31.7	59.6	0.54	1.93	0.134	0.005	11.26	Limonitic Ore
DTR-14	1093	31.7	32.7	58.5	0.67	2.81	0.176	0.004	11.5	Limonitic Ore
DTR-14	1094	32.7	33.7	15	28.78	24.01	0.056	0.003	13.8	Limonite
DTR-14	1095	33.7	34.7	15.6	28.6	24.75	0.07	0.004	13.78	Feruginous Shale
DTR-14	1096	34.7	35.7	19.8	26.88	22.62	0.075	0.004	13.42	Feruginous Shale
DTR-14	1097	35.7	36.7	43.4	12.98	11.6	0.173	0.005	11.84	Feruginous Shale
DTR-14	1098	36.7	37.7	37.2	16.12	15.37	0.176	0.003	13	Feruginous

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR-14	1099	37.7	38.7	40.2	17.22	12.98	0.05	0.002	8.52	Feruginous Shale
DTR-14	1100	38.7	39.7	39.8	17.16	8.4	0.06	0.008	11.47	Feruginous Shale
DTR-14	1101	39.7	40.7	28.3	23.72	14.54	0.038	0.003	11.07	Feruginous Shale
DTR-14	1102	40.7	41.7	21.3	36.05	12.42	0.054	0.005	12.39	Feruginous Shale
DTR-14	1103	41.7	42.7	35.64	18.91	13.01	0.12	0.002	10.45	Feruginous Shale
DTR-14	1104	42.7	43.7	37.6	17.18	15.25	0.24	0.001	10.06	Feruginous Shale
DTR-14	1105	43.7	44.7	42.84	14.8	10.7	0.2	0.005	8.56	Feruginous Shale
DTR-14	1106	44.7	45.7	34.4	19.51	20.58	0.19	0.007	10.55	Feruginous Shale
DTR-14	1107	45.7	46.7	37.54	9.36	18.8	0.16	0.006	12.12	Feruginous Shale
DTR-14	1108	46.7	47.7	46	12.42	9.34	0.106	0.003	8.16	Feruginous Shale
DTR-14	1109	47.7	48.7	42.8	14.48	10.01	0.065	0.005	8.66	Feruginous Shale
DTR-14	1110	48.7	49.7	43.2	14.03	8.38	0.072	0.006	8.71	Feruginous Shale
DTR-14	1111	49.7	50.7	44	13.04	7.92	0.06	0.004	8.72	Feruginous Shale
DTR-14	1112	50.7	51.7	42.3	14.89	8.77	0.073	0.006	9.2	Feruginous Shale
DTR-14	1113	51.7	52.7	41	14.14	10.88	0.058	0.005	9.75	Feruginous Shale
DTR-14	1114	52.7	53.7	39.3	14.78	8.68	0.001	0.004	9.94	Feruginous Shale
DTR-14	1115	53.7	54.7	40.1	14.68	10.6	0.035	0.005	9.66	Feruginous Shale
DTR-14	1116	54.7	55.7	38.8	16.97	11	0.015	0.006	9.48	Feruginous Shale
DTR-14	1117	55.7	56.7	33.41	20.05	10.88	0.034	0.005	10.82	Feruginous Shale
DTR-14	1118	56.7	57.7	32.44	20.56	15.29	0.031	0.006	10.77	Feruginous Shale
DTR-14	1119	57.7	58.7	26.19	25.04	19.58	0.018	0.006	11.4	Feruginous Shale
DTR-14	1120	58.7	59.7	43.05	14.16	12.66	0.079	0.005	8.76	Feruginous Shale
DTR-14	1121	59.7	60.7	34.6	20.24	16.04	0.081	0.001	10.41	Feruginous Shale
DTR-14	1122	60.7	61.7	34.7	20.3	16.82	0.091	0.002	10.18	Feruginous Shale
DTR-14	1123	61.7	63	30.2	24.36	18.02	0.11	0.003	10.42	Feruginous Shale
DTR-15	1124	0	0.9	51.8	8.06	8.29	0.085	0.003	9.37	SLO_FO
DTR-15	1125	0.9	1.9	51	10.73	7.05	0.081	0.006	7.82	SLO_FO
DTR-15	1126	1.9	2.9	57.29	5.5	6.43	0.033	0.003	4.53	SLO_FO
DTR-15	1127	2.9	3.9	60.21	5.59	3.48	0.033	0.002	3.09	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-15	1128	3.9	4.9	59.12	6.51	5.53	0.074	0.002	3.16	SLO_FO
DTR-15	1129	4.9	5.9	56.93	5.81	7.06	0.094	0.003	3.59	SLO_FO
DTR-15	1130	5.9	6.9	57.69	6.29	5.96	0.074	0.008	2.95	SLO_FO
DTR-15	1131	6.9	7.9	56.95	4.41	5.04	0.002	0.005	3.95	SLO_FO
DTR-15	1132	7.9	8.9	56.22	8.43	4.82	0.006	0.004	4.04	SLO_FO
DTR-15	1133	8.9	9.9	50.57	8.04	5.6	0.025	0.005	9.4	SLO_FO
DTR-15	1134	9.9	10.9	61.59	5.08	2.84	0.01	0.004	2.44	SLO_FO
DTR-15	1135	10.9	11.9	59.4	7.2	3.75	0.01	0.003	3.26	SLO_FO
DTR-15	1136	11.9	12.9	64.5	3.1	1.78	0.012	0.005	1.68	SLO_FO
DTR-15	1137	12.9	13.9	57.8	7.76	5.35	0.028	0.006	3.37	SLO_FO
DTR-15	1138	13.9	14.9	63.3	4	2.4	0.019	0.003	1.98	SLO_FO
DTR-15	1139	14.9	15.9	62.8	4.28	2.5	0.019	0.002	2.14	SLO_FO
DTR-15	1140	15.9	16.9	64	3.45	1.43	0.013	0.002	1.79	SLO_FO
DTR-15	1141	16.9	17.9	66	2.11	0.81	0.01	0.002	1.57	SLO_FO
DTR-15	1142	17.9	18.9	67.5	1.17	0.45	0.005	0.002	0.42	SLO_FO
DTR-15	1143	18.9	19.9	65.6	2.16	0.69	0.005	0.003	1.95	SLO_FO
DTR-15	1144	19.9	20.9	67.8	1.36	0.52	0.021	0.002	0.7	SLO_FO
DTR-15	1145	20.9	21.9	65.2	2.82	1.57	0.014	0.002	1.78	SLO_FO
DTR-15	1146	21.9	22.9	68.6	0.78	0.22	0.018	0.002	0.68	SLO_FO
DTR-15	1147	22.9	23.9	68.4	1.02	0.27	0.022	0.002	0.82	SLO_FO
DTR-15	1148	23.9	24.9	65.6	2.72	1.24	0.002	0.003	1.62	SLO_FO
DTR-15	1149	24.9	25.9	66.1	1.85	0.93	0.002	0.003	1.62	SLO_FO
DTR-15	1150	25.9	26.9	68	0.99	0.45	0.002	0.002	0.87	SLO_FO
DTR-15	1151	26.9	27.9	65.2	2.49	1.37	0.002	0.003	1.38	SLO_FO
DTR-15	1152	27.9	28.9	68	0.71	0.14	0.003	0.002	1.29	SLO_FO
DTR-15	1153	28.9	29.9	67.1	1.27	0.82	0.027	0.002	1.7	SLO_FO
DTR-15	1154	29.9	30.9	68.03	1.04	0.49	0.011	0.002	1.06	SLO_FO
DTR-15	1155	30.9	31.9	65.5	1.02	0.19	0.154	0.003	4.6	SLO_FO
DTR-15	1156	31.9	32.9	67.68	0.98	0.51	0.238	0.003	1.1	SLO_FO
DTR-15	1157	32.9	33.9	67.51	0.88	0.64	0.014	0.003	1.48	SLO_FO
DTR-15	1158	33.9	34.9	66.76	0.91	0.65	0.012	0.003	2.24	SLO_FO
DTR-15	1159	34.9	35.9	65.85	0.7	0.24	0.013	0.002	4.83	SLO_FO
DTR-15	1160	35.9	36.9	67.5	0.71	0.37	0.022	0.002	2.22	SLO_FO
DTR-15	1161	36.9	37.9	63.31	1.08	0.43	0.006	0.004	6.66	SLO_FO
DTR-15	1162	37.9	38.9	66.3	0.9	0.24	0.019	0.003	4	SLO_FO
DTR-15	1163	38.9	39.9	65.1	0.84	1.1	0.035	0.002	4.91	SLO_FO
DTR-15	1164	39.9	40.9	65	1.14	1.12	0.017	0.004	4.16	SLO_FO
DTR-15	1165	40.9	41.9	66.2	0.46	0.15	0.012	0.003	4.26	SLO_FO
DTR-15	1166	41.9	42.9	66.3	0.83	0.05	0.014	0.003	4.17	SLO_FO
DTR-15	1167	42.9	43.9	66.6	0.74	0.03	0.017	0.002	3.91	SLO_FO
DTR-15	1168	43.9	44.9	65.7	0.82	0.18	0.016	0.003	4.32	SLO_FO
DTR-15	1169	44.9	45.9	66	0.74	0.2	0.022	0.003	4.55	SLO_FO
DTR-15	1170	45.9	46.9	65.5	0.8	0.16	0.026	0.002	5.04	SLO_FO
DTR-15	1171	46.9	47.9	65.1	0.79	0.48	0.047	0.003	5.5	SLO_FO
DTR-15	1172	47.9	48.9	65.6	0.62	0.53	0.005	0.002	5	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-15	1173	48.9	49.9	65.9	0.7	0.63	0.016	0.002	4.28	SLO_FO
DTR-15	1174	49.9	50.9	65.5	1.02	0.34	0.035	0.004	4.62	SLO_FO
DTR-15	1175	50.9	51.9	67.6	1.22	0.3	0.032	0.003	1.46	SLO_FO
DTR-15	1176	51.9	52.9	63.8	2.4	0.15	0.021	0.004	6	SLO_FO
DTR-15	1177	52.9	53.9	66	0.86	0.35	0.03	0.004	4.26	SLO_FO
DTR-15	1178	53.9	54.9	66.8	0.66	0.3	0.026	0.005	3.3	SLO_FO
DTR-15	1179	54.9	55.9	66.7	0.67	0.23	0.011	0.003	3.56	SLO_FO
DTR-15	1180	55.9	56.9	65.84	0.7	0.31	0.011	0.003	4.59	SLO_FO
DTR-15	1181	56.9	57.9	65.6	0.72	0.36	0.031	0.003	4.68	SLO_FO
DTR-15	1182	57.9	58.9	68.1	0.48	0.11	0.023	0.002	1.63	SLO_FO
DTR-15	1183	58.9	59.9	65.3	0.69	0.42	0.013	0.002	5.3	SLO_FO
DTR-15	1184	59.9	60.9	66.2	0.47	0.5	0.005	0.002	3.72	SLO_FO
DTR-15	1185	60.9	61.9	67	0.49	0.25	0.005	0.001	3.29	SLO_FO
DTR-15	1186	61.9	62.9	67.1	0.49	0.6	0.049	0.001	2.76	SLO_FO
DTR-15	1187	62.9	63.9	65.5	0.7	0.6	0.046	0.02	4.69	SLO_FO
DTR-15	1188	63.9	64.9	66.67	0.82	0.11	0.023	0.004	3.57	SLO_FO
DTR-15	1189	64.9	65.9	68.3	0.42	0.11	0.045	0.002	1.29	SLO_FO
DTR-15	1190	65.9	66.9	67.98	0.56	0.19	0.045	0.002	1.79	SLO_FO
DTR-15	1191	66.9	67.9	66.79	0.36	0.19	0.051	0.002	3.73	SLO_FO
DTR-15	1192	67.9	68.9	65.8	0.77	0.02	0.052	0.003	3.8	SLO_FO
DTR-15	1193	68.9	69.9	67.8	0.2	0.33	0.075	0.003	2.2	SLO_FO
DTR-15	1194	69.9	70.9	67.9	0.32	0.32	0.033	0.003	1.92	SLO_FO
DTR-15	1195	70.9	71.9	67.7	0.51	0.33	0.061	0.002	1.93	SLO_FO
DTR-15	1196	71.9	72.9	68.2	0.3	0.19	0.042	0.002	1.75	SLO_FO
DTR-15	1197	72.9	73.9	68.3	0.3	0.2	0.037	0.002	1.7	SLO_FO
DTR-15	1198	73.9	74.9	69.1	0.12	0.04	0.028	0.003	0.69	SLO_FO
DTR-15	1199	74.9	75.9	69.2	0.18	0.03	0.021	0.003	0.6	SLO_FO
DTR-15	1200	75.9	76.9	69.2	0.11	0.05	0.033	0.003	0.7	SLO_FO
DTR-15	1201	76.9	77.9	67	0.66	0.28	0.041	0.003	3	SLO_FO
DTR-15	1202	77.9	78.9	66.2	0.9	0.49	0.042	0.003	3.4	SLO_FO
DTR-15	1203	78.9	79.9	66.3	0.88	0.15	0.037	0.004	3.8	SLO_FO
DTR-15	1204	79.9	80.9	65.5	0.86	0.31	0.022	0.003	4.84	SLO_FO
DTR-15	1205	80.9	81.9	65.9	0.82	0.26	0.039	0.003	4.38	SLO_FO
DTR-15	1206	81.9	82.9	67.45	0.64	0.13	0.041	0.003	2.34	SLO_FO
DTR-15	1207	82.9	83.9	66.9	0.84	0.18	0.031	0.002	2.43	SLO_FO
DTR-15	1208	83.9	84.9	65.6	1.01	0.16	0.059	0.002	4.18	SLO_FO
DTR-15	1209	84.9	85.9	67.2	0.7	0.05	0.052	0.001	2.43	SLO_FO
DTR-15	1210	85.9	86.9	66.4	0.66	0.08	0.047	0.001	3.21	SLO_FO
DTR-15	1211	86.9	87.9	66.8	0.84	0.3	0.092	0.002	2.91	SLO_FO
DTR-15	1212	87.9	88.9	66.9	0.77	0.36	0.094	0.002	2.46	SLO_FO
DTR-15	1213	88.9	89.9	66.2	0.98	0.37	0.09	0.003	3.41	SLO_FO
DTR-15	1214	89.9	90.9	66.9	0.61	0.37	0.031	0.003	2.96	SLO_FO
DTR-15	1215	90.9	91.9	67	0.7	0.36	0.015	0.002	3.08	SLO_FO
DTR-15	1216	91.9	92.9	63.4	1.2	3.28	0.02	0.005	4.78	SLO_FO
DTR-15	1217	92.9	93.9	65	1.08	0.35	0.021	0.004	5.4	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-15	1218	93.9	94.9	64.2	1.12	0.3	0.019	0.005	6.68	SLO_FO
DTR-15	1219	94.9	95.9	63.8	1.2	0.3	0.023	0.006	7.2	SLO_FO
DTR-15	1220	95.9	96.9	60.48	1.65	0.4	0.097	0.006	9.8	SLO_FO
DTR-15	1221	96.9	97.9	59.69	0.98	0.34	0.08	0.007	10.18	Limonitic Ore
DTR-15	1222	97.9	98.9	59.8	1.65	0.41	0.025	0.006	9.74	Limonitic Ore
DTR-15	1223	98.9	99.9	64.84	0.8	0.18	0.035	0.005	4.82	SLO_FO
DTR-15	1224	99.9	100.4	60.1	1.3	3	0.035	0.006	9.6	SLO_FO
DTR-16	1225	0	1	54.55	3.43	5	0.085	0.006	9.4	Limonite
DTR-16	1226	1	2	55.34	4.78	4.4	0.025	0.004	8.27	Limonitic Ore
DTR-16	1227	2	3	54.15	5.3	4.6	0.04	0.006	8.28	Limonite
DTR-16	1228	3	4	61.45	1.52	3.9	0.011	0.007	5.75	Lateritic Ore
DTR-16	1229	4	5	57.02	4.51	4.5	0.042	0.007	8.31	SLO_FO
DTR-16	1230	5	6	64.5	0.85	0.39	0.061	0.006	6.36	SLO_FO
DTR-16	1231	6	7	60.15	1.94	4.55	0.035	0.005	7.28	SLO_FO
DTR-16	1232	7	8	60.67	1.19	3.66	0.05	0.004	8	SLO_FO
DTR-16	1233	8	9	57.19	1.81	4.1	0.041	0.006	11.35	Limonitic Ore
DTR-16	1234	9	10	58.59	1.35	3.77	0.052	0.005	10.61	Limonitic Ore
DTR-16	1235	10	11	56.28	1.66	4.33	0.025	0.005	11.76	Limonitic Ore
DTR-16	1236	11	12	60.6	1.3	2	0.02	0.006	9.9	SLO_FO
DTR-16	1237	12	13	57.06	2.61	3.69	0.027	0.006	11.9	Limonitic Ore
DTR-16	1238	13	14	54.4	1.43	6.1	0.082	0.007	11.89	Limonite
DTR-16	1239	14	15	54.5	1.08	3.93	0.085	0.007	10.34	Limonite
DTR-16	1240	15	16	57.4	1.37	4.32	0.092	0.007	10.89	Limonitic Ore
DTR-16	1241	16	17	57.4	0.94	3.97	0.095	0.006	10.5	Limonitic Ore
DTR-16	1242	17	18	62.6	1.75	2.57	0.097	0.004	5.6	SLO_FO
DTR-16	1243	18	19	62	2.97	2.5	0.085	0.004	5.5	SLO_FO
DTR-16	1244	19	20	61	1.5	3	0.08	0.005	8	SLO_FO
DTR-16	1245	20	21	55.8	1.97	4.5	0.052	0.006	12.41	Limonitic Ore
DTR-16	1246	21	22	56.4	1.1	4.38	0.067	0.007	12.63	Limonitic Ore
DTR-16	1247	22	23	57	1.75	4.19	0.067	0.007	12.3	Limonitic Ore
DTR-16	1248	23	24	59	1.7	3.5	0.07	0.004	10.2	Limonitic Ore
DTR-16	1249	24	25	59.2	1.66	3.3	0.055	0.005	10	Limonitic Ore
DTR-16	1250	25	26	58.8	2.05	3.51	0.042	0.006	9.72	Limonitic Ore
DTR-16	1251	26	27	58.7	2.13	3.9	0.062	0.005	9.8	Limonitic Ore
DTR-16	1252	27	28	61.2	1.06	2.51	0.05	0.004	8.26	SLO_FO
DTR-16	1253	28	29	58.5	0.76	2.91	0.071	0.005	11.42	Limonitic Ore
DTR-16	1254	29	30	60	0.34	2.19	0.051	0.006	10.22	SLO_FO
DTR-16	1255	30	31	63.4	0.14	3.36	0.051	0.004	4.6	SLO_FO
DTR-16	1256	31	32	67.1	0.2	0.7	0.035	0.003	2.9	SLO_FO
DTR-16	1257	32	33	62.4	0.14	4.53	0.042	0.003	5.7	SLO_FO
DTR-16	1258	33	34	64	0.32	1.67	0.051	0.003	6.18	SLO_FO
DTR-16	1259	34	35	67.8	0.12	0.83	0.033	0.003	2	SLO_FO
DTR-16	1260	35	36	62	0.96	2.76	0.062	0.004	7.32	SLO_FO
DTR-16	1261	36	37	61	1.62	2.7	0.071	0.003	8.26	SLO_FO
DTR-16	1262	37	38	61.5	1.23	2	0.078	0.005	8.53	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-16	1263	38	39	62.28	0.63	2.77	0.08	0.002	7.3	SLO_FO
DTR-16	1264	39	40	64.9	0.48	1.3	0.079	0.003	4.9	SLO_FO
DTR-16	1265	40	41	53.8	1.75	5.88	0.051	0.003	10.19	Limonite
DTR-16	1266	41	42	59	1.7	2.8	0.063	0.004	6.86	Limonitic Ore
DTR-16	1267	42	43	55.2	0.73	3.77	0.054	0.005	9.65	Limonitic Ore
DTR-16	1268	43	44	53.3	1.15	5.37	0.044	0.005	10.26	Limonite
DTR-16	1269	44	45	57	1.37	4.07	0.057	0.006	8.83	Limonitic Ore
DTR-16	1270	45	46	53.3	1.43	7.24	0.071	0.005	10.97	Limonite
DTR-16	1271	46	47	61.9	0.8	3.2	0.088	0.004	6.2	SLO_FO
DTR-16	1272	47	48	65	0.65	1.4	0.089	0.003	4.44	SLO_FO
DTR-16	1273	48	49	63.9	0.58	0.84	0.081	0.003	6.38	SLO_FO
DTR-16	1274	49	50	54	0.87	6.37	0.065	0.004	9.12	SLO_FO
DTR-16	1275	50	51	63.62	1.08	0.47	0.06	0.002	6.34	SLO_FO
DTR-16	1276	51	52	63.63	1.13	0.52	0.057	0.004	5.96	SLO_FO
DTR-16	1277	52	53	63.41	1.29	0.05	0.039	0.005	7.56	SLO_FO
DTR-16	1278	53	54	64.59	0.74	0.22	0.045	0.003	4.32	SLO_FO
DTR-16	1279	54	55	62	0.88	1.8	0.052	0.003	8.3	SLO_FO
DTR-16	1280	55	56	64.4	0.62	0.9	0.051	0.004	6.2	SLO_FO
DTR-16	1281	56	57	63.8	0.72	0.95	0.036	0.005	6.8	SLO_FO
DTR-16	1282	57	58	65.8	0.48	0.6	0.03	0.004	4.7	SLO_FO
DTR-16	1283	58	59	63.9	0.64	1.73	0.034	0.003	6.12	SLO_FO
DTR-16	1284	59	60	61.2	1.38	1.75	0.071	0.005	9	SLO_FO
DTR-16	1285	60	61	67.1	0.55	0.38	0.041	0.002	2.75	SLO_FO
DTR-16	1286	61	62	66	1.07	1.25	0.023	0.001	3.17	SLO_FO
DTR-16	1287	62	63	68.1	0.4	0.18	0.02	0.002	1.65	SLO_FO
DTR-16	1288	63	64	68.3	0.4	0.34	0.02	0.001	1.5	SLO_FO
DTR-16	1289	64	65	67.5	0.54	0.46	0.033	0.002	2.3	SLO_FO
DTR-16	1290	65	66	67.3	0.51	0.42	0.031	0.001	2.62	SLO_FO
DTR-16	1291	66	67	38.2	16	8.76	0.042	0.005	7.24	Feruginous Shale
DTR-16	1292	67	68	33.6	19.1	8.57	0.037	0.006	8.96	Feruginous Shale
DTR-16	1293	68	69	36.2	11.68	10.87	0.015	0.007	11.32	Feruginous Shale
DTR-16	1294	69	70	34.4	12.66	11.11	0.011	0.006	10.74	Feruginous Shale
DTR-16	1295	70	71	29	24.38	10.25	0.019	0.005	8.74	Feruginous Shale
DTR-16	1296	71	72	32.4	20.78	10.03	0.016	0.004	9.78	Feruginous Shale
DTR-16	1297	72	73	54.3	5.43	4.9	0.027	0.003	7.96	Feruginous Shale
DTR-16	1298	73	74	55.3	5.46	4.87	0.026	0.003	8.14	Feruginous Shale
DTR-16	1299	74	75	35.3	17	9.03	0.022	0.004	10.52	Feruginous Shale
DTR-17	1300	0	1	38.6	0.55	0.69	0.089	0.005	9.8	HLO
DTR-17	1301	1	2	56.8	0.75	0.46	0.088	0.004	7.07	HLO
DTR-17	1302	2	3	47.2	0.7	0.51	0.061	0.005	8.59	HLO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-17	1303	3	4	32.9	0.34	0.6	0.072	0.006	10.13	Limonite
DTR-17	1304	4	5	21.6	0.12	0.74	0.082	0.006	10.81	Limonite
DTR-17	1305	5	6	37.4	0.58	0.65	0.079	0.005	9.98	Limonite
DTR-17	1306	6	7	29.3	0.34	0.54	0.085	0.006	10.47	Limonite
DTR-17	1307	7	8	23.3	0.62	0.49	0.05	0.004	11.49	Limonite
DTR-17	1308	8	9	29.8	0.48	0.32	0.09	0.006	11.92	Limonite
DTR-17	1309	9	10	39.5	0.67	0.78	0.045	0.005	9.6	Limonite
DTR-17	1310	10	11	31.8	0.51	0.73	0.055	0.007	11.34	Limonite
DTR-17	1311	11	12	33.6	0.38	0.75	0.05	0.006	10.27	Limonite
DTR-17	1312	12	13	51.8	1.16	0.72	0.045	0.005	8.86	Limonite
DTR-17	1313	13	14	45	0.63	0.68	0.05	0.004	9.62	Limonite
DTR-17	1314	14	15	45.6	0.77	0.72	0.048	0.003	9.52	Limonite
DTR-17	1315	15	16	46.4	0.66	1.71	0.055	0.004	9	Limonite
DTR-17	1316	16	17	60.2	0.24	0.78	0.04	0.004	7.06	SLO_FO
DTR-17	1317	17	18	42.4	0.4	0.9	0.038	0.005	10.22	Limonite
DTR-17	1318	18	19	41.2	0.54	0.15	0.04	0.004	9.84	Limonite
DTR-17	1319	19	20	32.2	0.36	0.63	0.042	0.005	11.5	Limonite
DTR-17	1320	20	21	62.3	1.19	0.63	0.02	0.003	6.31	SLO_FO
DTR-17	1321	21	22	64.2	1.14	0.57	0.022	0.004	5.19	SLO_FO
DTR-17	1322	22	23	63.2	1	0.7	0.021	0.003	5.46	SLO_FO
DTR-17	1323	23	24	64	1.11	0.53	0.025	0.004	5.73	SLO_FO
DTR-17	1324	24	25	64.2	0.96	0.41	0.023	0.005	5.28	SLO_FO
DTR-17	1325	25	26	62.89	0.98	0.67	0.021	0.006	6.5	SLO_FO
DTR-17	1326	26	27	63.47	1.01	0.74	0.027	0.004	6.86	SLO_FO
DTR-17	1327	27	28	63.06	0.8	0.6	0.023	0.005	7.2	SLO_FO
DTR-17	1328	28	29	62.37	1.05	0.51	0.025	0.004	8.34	SLO_FO
DTR-17	1329	29	30	61.79	1.2	0.65	0.026	0.005	6.11	SLO_FO
DTR-17	1330	30	31	63.9	0.61	1.03	0.035	0.004	6.34	HLO
DTR-17	1331	31	32	64.4	0.37	0.5	0.027	0.005	5.66	HLO
DTR-17	1332	32	33	64	0.58	0.44	0.029	0.003	6	HLO
DTR-17	1333	33	34	65	0.94	0.74	0.041	0.003	4	HLO
DTR-17	1334	34	35	64.8	0.33	0.37	0.039	0.004	5.8	HLO
DTR-17	1335	35	36	61.6	2.59	0.54	0.033	0.003	6.95	SLO_FO
DTR-17	1336	36	37	61.4	3.1	0.6	0.045	0.004	6.46	SLO_FO
DTR-17	1337	37	38	63.7	0.84	0.69	0.051	0.005	5.66	SLO_FO
DTR-17	1338	38	39	63.8	0.93	0.68	0.046	0.003	5.8	SLO_FO
DTR-17	1339	39	40	64.26	0.8	0.49	0.034	0.004	6.32	SLO_FO
DTR-17	1340	40	41	63.3	1.08	0.72	0.053	0.003	6.2	SLO_FO
DTR-17	1341	41	42	63.57	0.92	0.65	0.057	0.004	6.39	SLO_FO
DTR-17	1342	42	43	63.3	1.26	0.72	0.021	0.003	6.17	SLO_FO
DTR-17	1343	43	44	63.35	1.66	0.81	0.02	0.004	6.27	SLO_FO
DTR-17	1344	44	45	63.75	1.29	0.66	0.027	0.003	6.7	SLO_FO
DTR-17	1345	45	46	63.87	1.17	0.71	0.026	0.002	6.43	SLO_FO
DTR-17	1346	46	47	64.36	1.05	0.55	0.033	0.003	5.86	SLO_FO
DTR-17	1347	47	48	64.58	0.99	0.5	0.03	0.004	5.72	SLO_FO

Borehole Assay & Litho Data

Borehole Assay & Litho Data
 Derived from the Project
 2017-12-15

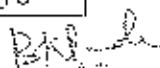
ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-17	1348	48	49	64.8	0.89	0.51	0.037	0.004	5.79	SLO_FO
DTR-17	1349	49	50	63.29	1.23	0.8	0.041	0.003	6.29	SLO_FO
DTR-17	1350	50	51	64.25	0.98	0.53	0.02	0.003	5.82	SLO_FO
DTR-17	1351	51	52	64.37	0.94	0.44	0.019	0.004	6.49	SLO_FO
DTR-17	1352	52	53	64.2	0.9	0.48	0.024	0.003	6.62	SLO_FO
DTR-17	1353	53	54	64	0.86	0.44	0.041	0.004	7	SLO_FO
DTR-17	1354	54	55	63.6	1.22	0.88	0.037	0.003	6.76	SLO_FO
DTR-17	1355	55	56	62.8	1.4	1.03	0.032	0.003	7.6	SLO_FO
DTR-17	1356	56	57	62	1.82	0.67	0.032	0.004	8.66	SLO_FO
DTR-17	1357	57	58	60.8	2.8	1.17	0.023	0.003	8.56	SLO_FO
DTR-17	1358	58	59	61.4	1.9	0.84	0.024	0.04	8.32	SLO_FO
DTR-17	1359	59	60	64.3	0.62	0.35	0.02	0.004	6.2	SLO_FO
DTR-17	1360	60	61	61.8	1	0.58	0.021	0.003	8.76	HLO
DTR-17	1361	61	62	62.6	1.24	0.44	0.019	0.002	8.38	HLO
DTR-17	1362	62	63	62	1.07	0.61	0.02	0.003	9.46	HLO
DTR-17	1363	63	64	62.3	1.36	0.52	0.027	0.002	8.8	HLO
DTR-17	1364	64	65	61.7	1.17	0.52	0.029	0.004	9.42	HLO
DTR-17	1365	65	66	61.4	1.26	0.27	0.032	0.004	9.77	HLO
DTR-17	1366	66	67	61.7	0.62	1.16	0.075	0.004	9.8	HLO
DTR-17	1367	67	68	61.9	0.39	0.91	0.062	0.003	9.86	HLO
DTR-17	1368	68	69	62	0.64	0.97	0.031	0.003	9.5	HLO
DTR-17	1369	69	70	62.4	0.4	0.94	0.03	0.004	9.01	HLO
DTR-17	1370	70	71	64.7	1.16	0.48	0.02	0.004	5.66	HLO
DTR-17	1371	71	72	62.53	1.28	1.04	0.019	0.003	8.05	HLO
DTR-17	1372	72	73	62.98	1.39	0.57	0.017	0.004	7.86	HLO
DTR-17	1373	73	74	62.25	2.24	0.85	0.025	0.003	5.54	HLO
DTR-17	1374	74	75	62.2	2.93	0.95	0.021	0.004	6.5	SLO_FO
DTR-17	1375	75	76	60.8	1.2	0.7	0.031	0.003	10.46	HLO
DTR-17	1376	76	77	62.2	0.74	0.34	0.033	0.005	9.08	HLO
DTR-17	1377	77	78	61.2	1.38	0.65	0.031	0.006	10.26	HLO
DTR-17	1378	78	79	61.2	1.58	0.69	0.034	0.003	10.1	HLO
DTR-17	1379	79	80	64.6	1.02	0.54	0.029	0.004	5.9	HLO
DTR-17	1380	80	81	60.49	1.18	0.94	0.021	0.003	10.69	HLO
DTR-17	1381	81	82	60.14	1.52	0.84	0.029	0.005	11.03	HLO
DTR-17	1382	82	83	60.45	1.02	1.18	0.034	0.006	10.9	HLO
DTR-17	1383	83	84	60.11	1.2	0.94	0.03	0.005	10.92	HLO
DTR-17	1384	84	85	60.42	1.33	0.94	0.045	0.006	9.5	HLO
DTR-17	1385	85	86	60.91	1.33	0.55	0.082	0.004	9.92	HLO
DTR-17	1386	86	87	60.47	1.17	0.46	0.101	0.003	10.08	HLO
DTR-17	1387	87	88	61.15	1.1	0.34	0.09	0.004	9.58	HLO
DTR-17	1388	88	89	60.7	1.52	0.5	0.125	0.003	9.83	HLO
DTR-17	1389	89	90	62.2	1	0.54	0.031	0.004	9.02	HLO
DTR-17	1390	90	91	62.8	0.68	0.19	0.042	0.003	8.52	HLO
DTR-17	1391	91	92	62.3	0.6	0.81	0.062	0.003	9.18	HLO
DTR-17	1392	92	93	62.5	0.42	1.04	0.1	0.005	8.8	HLO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-17	1393	93	94	61.2	0.72	0.72	0.09	0.005	10.08	HLO
DTR-17	1394	94	95	62.1	0.32	0.79	0.12	0.004	9.72	HLO
DTR-17	1395	95	96	62.3	0.5	0.61	0.075	0.004	9.09	HLO
DTR-17	1396	96	97	57.4	2.6	4.36	0.029	0.003	9.38	HLO
DTR-17	1397	97	98	59	2.12	3.22	0.028	0.004	9.21	HLO
DTR-17	1398	98	99	58.5	1.83	3.09	0.092	0.003	9.1	Limonitic Ore
DTR-17	1399	99	100	61	1.16	0.89	0.075	0.004	9.16	SLO_FO
DTR-17	1400	100	101	59.4	0.74	2.27	0.055	0.003	11.14	Limonitic Ore
DTR-17	1401	101	102	58.2	0.52	3.71	0.05	0.004	11.94	Limonitic Ore
DTR-17	1402	102	103	52.2	8.24	5.84	0.032	0.005	7.88	Limonite
DTR-18	1403	0	0.2	56.4	6.26	5.38	0.031	0.004	7.1	Lateritic Ore
DTR-18	1404	0.2	1.2	58.7	4.27	3.89	0.029	0.003	6.7	Lateritic Ore
DTR-18	1405	1.2	2.2	63.3	2.08	2.3	0.02	0.002	4.96	HLO
DTR-18	1406	2.2	3.2	57.8	4.92	4.67	0.021	0.002	6.46	Lateritic Ore
DTR-18	1407	3.2	4.2	60.7	0.74	1.4	0.03	0.002	10.8	HLO
DTR-18	1408	4.2	5.2	58.2	4.42	4.38	0.035	0.003	7.22	Lateritic Ore
DTR-18	1409	5.2	6.2	57.4	5.34	4.82	0.025	0.004	7.68	Lateritic Ore
DTR-18	1410	6.2	7.2	56.6	6.18	3.75	0.024	0.003	7.28	Lateritic Ore
DTR-18	1411	7.2	8.2	57.2	4.98	3	0.02	0.003	8.06	Lateritic Ore
DTR-18	1412	8.2	9.2	53.4	12.9	3	0.02	0.003	7.6	Lateritic Ore
DTR-18	1413	9.2	10.2	57.9	3.7	1.8	0.023	0.002	9.4	Lateritic Ore
DTR-18	1414	10.2	11.2	57.4	3.9	1.16	0.022	0.005	10.02	Limonitic Ore
DTR-18	1415	11.2	12.2	58.4	3.79	0.99	0.021	0.004	8.98	Limonitic Ore
DTR-18	1416	12.2	13.2	53.4	5.52	5.09	0.032	0.003	11.37	Limonite
DTR-18	1417	13.2	14.2	52.3	6	5.14	0.022	0.002	11.72	Limonite
DTR-18	1418	14.2	15.2	49.5	9.13	6.71	0.021	0.006	10.4	Limonite
DTR-18	1419	15.2	16.2	55.15	5.08	4.85	0.024	0.005	9.45	Limonitic Ore
DTR-18	1420	16.2	17.2	59.1	2.84	3.29	0.032	0.004	8.15	Limonitic Ore
DTR-18	1421	17.2	18.2	58.9	3.2	1.5	0.023	0.006	9.28	Limonite
DTR-18	1422	18.2	19.2	62.4	1.7	0.5	0.02	0.005	7.34	SLO_FO
DTR-18	1423	19.2	20.2	64.2	0.54	0.43	0.051	0.003	6.52	SLO_FO
DTR-18	1424	20.2	21.2	64.9	0.22	0.23	0.032	0.004	5.92	SLO_FO
DTR-18	1425	21.2	22.2	60.8	0.28	2.28	0.061	0.002	10.2	SLO_FO
DTR-18	1426	22.2	23.2	59.4	0.9	2.27	0.082	0.003	11.46	Limonitic Ore
DTR-18	1427	23.2	24.2	59	0.76	2.92	0.052	0.004	11.48	Limonitic Ore
DTR-18	1428	24.2	25.2	60	1.08	2.66	0.053	0.005	10.18	SLO_FO
DTR-18	1429	25.2	26.2	58.4	1.54	3.32	0.061	0.004	11.42	Limonitic Ore
DTR-18	1430	26.2	27.2	59.5	1.28	2.7	0.063	0.004	10.5	Limonitic Ore
DTR-18	1431	27.2	28.2	59.5	1.13	2.55	0.031	0.003	10.9	Limonitic Ore
DTR-18	1432	28.2	29.2	60.5	1.1	2.57	0.03	0.005	9.1	SLO_FO
DTR-18	1433	29.2	30.2	60.2	0.87	1.83	0.04	0.004	11.08	SLO_FO
DTR-18	1434	30.2	31.2	61.6	0.76	1.76	0.035	0.005	9.3	SLO_FO
DTR-18	1435	31.2	32.2	57.8	6.06	5.18	0.015	0.006	5.7	Limonitic Ore
DTR-18	1436	32.2	33.2	58	1.5	3.44	0.02	0.005	11.42	SLO_FO
DTR-18	1437	33.2	34.2	60.5	0.54	2.66	0.017	0.005	9.84	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-18	1438	34.2	35.2	59.5	0.52	2.56	0.019	0.004	11.2	Limonitic Ore
DTR-18	1439	35.2	36.2	60.4	0.61	2.33	0.016	0.003	10.48	SLO_FO
DTR-18	1440	36.2	37.2	59.3	0.72	2.61	0.025	0.004	11.37	Limonitic Ore
DTR-18	1441	37.2	38.2	59.9	0.8	2.24	0.022	0.005	11.1	Limonitic Ore
DTR-18	1442	38.2	39.2	59.5	0.74	2.85	0.019	0.005	11.12	Limonitic Ore
DTR-18	1443	39.2	40.2	61.2	1.32	2.85	0.02	0.003	8.16	SLO_FO
DTR-18	1444	40.2	41.2	59.8	0.62	2.64	0.022	0.003	10.64	Limonitic Ore
DTR-18	1445	41.2	42.2	58.6	0.24	3.64	0.022	0.005	11.18	Limonitic Ore
DTR-18	1446	42.2	43.2	56.4	0.52	5.21	0.011	0.005	8.4	Limonitic Ore
DTR-18	1447	43.2	44.2	62.4	0.22	1.75	0.027	0.006	8.22	SLO_FO
DTR-18	1448	44.2	45.2	63.4	0.28	1.3	0.034	0.006	7.06	SLO_FO
DTR-18	1449	45.2	46.2	62.9	0.31	1.75	0.035	0.004	7.59	SLO_FO
DTR-18	1450	46.2	47.2	61.8	1.15	1.35	0.037	0.004	7.97	SLO_FO
DTR-18	1451	47.2	48.2	58.4	0.48	2.41	0.038	0.005	9.31	Limonitic Ore
DTR-18	1452	48.2	49.2	59.7	0.18	1.82	0.045	0.004	11.65	Limonitic Ore
DTR-18	1453	49.2	50.2	66.3	0.24	0.37	0.019	0.003	4.5	SLO_FO
DTR-18	1454	50.2	51.2	67	0.22	0.32	0.019	0.003	3.13	SLO_FO
DTR-18	1455	51.2	52.2	66.6	0.39	0.57	0.011	0.02	3.38	SLO_FO
DTR-18	1456	52.2	53.2	63.6	0.87	0.83	0.021	0.004	7.18	SLO_FO
DTR-18	1457	53.2	54.2	59.6	0.66	2	0.032	0.005	10.68	SLO_FO
DTR-18	1458	54.2	55.2	61.8	0.4	0.8	0.06	0.004	9.14	SLO_FO
DTR-18	1459	55.2	56.2	56.06	4.61	5.39	0.121	0.014	8.34	SLO_FO
DTR-18	1460	56.2	57.2	61.38	0.5	1.89	0.11	0.012	8.84	SLO_FO
DTR-18	1461	57.2	58.2	60.94	0.7	2.01	0.109	0.013	9.05	SLO_FO
DTR-18	1462	58.2	59.2	61.16	0.39	2.14	0.108	0.012	8.92	SLO_FO
DTR-18	1463	59.2	60.2	63.15	0.22	1.72	0.101	0.01	6.86	SLO_FO
DTR-18	1464	60.2	61.2	65.26	0.16	1.17	0.09	0.008	4.6	SLO_FO
DTR-18	1465	61.2	62.2	63.15	0.43	1.89	0.096	0.012	6.58	SLO_FO
DTR-18	1466	62.2	63.2	64.71	0.22	1.4	0.087	0.009	5.05	SLO_FO
DTR-18	1467	63.2	64.2	64.26	0.3	1.51	0.09	0.008	5.5	SLO_FO
DTR-18	1468	64.2	65.2	63.93	0.24	1.62	0.102	0.009	5.93	SLO_FO
DTR-18	1469	65.2	66.2	64.93	0.31	1.3	0.097	0.008	4.8	SLO_FO
DTR-18	1470	66.2	67.2	60.25	0.62	3.78	0.11	0.012	8.2	SLO_FO
DTR-18	1471	67.2	68.2	62.49	0.55	2.09	0.102	0.01	7	SLO_FO
DTR-18	1472	68.2	69.2	66.7	0.27	0.88	0.074	0.005	2.87	SLO_FO
DTR-18	1473	69.2	70.2	66.92	0.21	0.8	0.077	0.004	2.75	SLO_FO
DTR-18	1474	70.2	71.2	66.48	0.25	1.04	0.075	0.005	3.05	SLO_FO
DTR-18	1475	71.2	72.2	66.37	0.59	0.97	0.078	0.006	2.94	SLO_FO
DTR-18	1476	72.2	73.2	66.92	0.22	0.72	0.069	0.004	2.82	SLO_FO
DTR-18	1477	73.2	74.2	66.7	0.31	0.9	0.07	0.004	2.91	SLO_FO
DTR-18	1478	74.2	75.2	67.36	0.25	0.69	0.067	0.003	2.23	SLO_FO
DTR-18	1479	75.2	76.2	67.59	0.2	0.7	0.069	0.004	2	SLO_FO
DTR-18	1480	76.2	77.2	67.29	0.38	0.9	0.071	0.006	1.95	SLO_FO
DTR-18	1481	77.2	78.2	67.03	0.3	1.02	0.082	0.005	2.31	SLO_FO
DTR-18	1482	78.2	79.2	66.26	0.28	0.96	0.085	0.008	3.46	SLO_FO


 Approved: _____
 Date: _____

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-18	1483	79.2	80.2	65.92	0.26	0.92	0.086	0.008	4	SLO_FO
DTR-18	1484	80.2	81.2	66.03	0.55	1.05	0.077	0.006	3.34	SLO_FO
DTR-18	1485	81.2	82.2	66.48	0.35	0.93	0.08	0.005	3.16	SLO_FO
DTR-18	1486	82.2	83.2	67.36	0.24	0.72	0.073	0.005	2.22	SLO_FO
DTR-18	1487	83.2	84.2	67.73	0.2	0.76	0.065	0.003	1.74	SLO_FO
DTR-18	1488	84.2	85.2	67.8	0.18	0.77	0.068	0.004	1.6	SLO_FO
DTR-18	1489	85.2	86.2	68.03	0.16	0.6	0.069	0.004	1.51	SLO_FO
DTR-18	1490	86.2	87.2	67.84	0.24	0.6	0.064	0.005	1.68	SLO_FO
DTR-18	1491	87.2	88.2	67.25	0.4	0.54	0.065	0.007	2.45	SLO_FO
DTR-18	1492	88.2	89.2	67.14	0.25	0.64	0.07	0.006	2.55	SLO_FO
DTR-18	1493	89.2	90.2	67.14	0.4	0.66	0.072	0.005	2.38	SLO_FO
DTR-18	1494	90.2	91.2	68.03	0.23	0.52	0.067	0.004	1.39	SLO_FO
DTR-18	1495	91.2	92.2	65.81	0.35	0.85	0.089	0.008	4.1	SLO_FO
DTR-18	1496	92.2	93.2	63.38	0.36	1.29	0.108	0.01	7.02	SLO_FO
DTR-18	1497	93.2	94.2	66.03	0.6	1.1	0.086	0.007	3.33	SLO_FO
DTR-18	1498	94.2	95.2	66.26	0.4	0.8	0.08	0.006	3.52	SLO_FO
DTR-18	1499	95.2	96.2	67.25	0.3	0.6	0.074	0.004	2.44	SLO_FO
DTR-18	1500	96.2	97.2	67.19	0.26	0.51	0.072	0.004	2.65	SLO_FO
DTR-18	1501	97.2	98.2	67.81	0.2	0.64	0.07	0.003	1.7	SLO_FO
DTR-18	1502	98.2	99.2	67.7	0.25	0.57	0.073	0.005	1.77	SLO_FO
DTR-18	1503	99.2	100.2	62.49	0.37	2.17	0.112	0.009	7.44	SLO_FO
DTR-18	1504	100.2	101.2	66.92	0.34	0.62	0.076	0.007	2.8	SLO_FO
DTR-18	1505	101.2	102.2	67.7	0.29	0.7	0.078	0.004	1.71	SLO_FO
DTR-18	1506	102.2	103.2	63.93	0.47	1.58	0.107	0.011	6	SLO_FO
DTR-18	1507	103.2	104.2	66.48	0.45	0.87	0.08	0.007	3.02	SLO_FO
DTR-18	1508	104.2	105.2	59.83	4.4	2.18	0.14	0.014	6.87	SLO_FO
DTR-18	1509	105.2	106.2	62.49	0.4	2.2	0.11	0.01	7.3	SLO_FO
DTR-18	1510	106.2	107.2	65.15	0.46	1.3	0.085	0.009	4.38	SLO_FO
DTR-18	1511	107.2	108.2	67.03	0.4	0.87	0.068	0.005	2.38	SLO_FO
DTR-18	1512	108.2	109.2	64.26	0.42	1.54	0.089	0.009	5.4	SLO_FO
DTR-18	1513	109.2	110.2	66.26	0.32	0.97	0.075	0.008	3.36	SLO_FO
DTR-18	1514	110.2	111.2	66.7	0.48	0.75	0.07	0.006	2.89	SLO_FO
DTR-18	1515	111.2	112.2	67.59	0.25	0.68	0.072	0.005	1.9	SLO_FO
DTR-18	1516	112.2	113.2	67.14	0.55	0.56	0.076	0.006	2.4	SLO_FO
DTR-18	1517	113.2	114.2	67.36	0.4	0.78	0.068	0.004	2	SLO_FO
DTR-18	1518	114.2	115.2	67.36	0.29	0.8	0.072	0.004	2.09	SLO_FO
DTR-18	1519	115.2	116.2	67.25	0.35	1.02	0.067	0.006	1.97	SLO_FO
DTR-18	1520	116.2	117	63.93	0.55	1.36	0.098	0.009	6.13	SLO_FO
DTR-19	1521	0	0.2	50.97	5.6	11.51	0.13	0.015	8.51	Limonite
DTR-19	1522	0.2	1.2	61.38	0.75	2.48	0.13	0.012	8.02	SLO_FO
DTR-19	1523	1.2	2.2	60.16	2.88	4.8	0.122	0.014	5	SLO_FO
DTR-19	1524	2.2	3.2	62.27	2.6	2.25	0.11	0.011	5.31	SLO_FO
DTR-19	1525	3.2	4.2	62.05	2.45	2.47	0.098	0.012	5.35	SLO_FO
DTR-19	1526	4.2	5.2	62.49	2.28	2.16	0.107	0.011	5.2	SLO_FO
DTR-19	1527	5.2	6.2	60.94	3.72	2.54	0.13	0.013	5.6	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-19	1528	6.2	7.2	61.05	3.52	3.47	0.121	0.012	4.61	SLO_FO
DTR-19	1529	7.2	8.2	63.82	2.02	2.18	0.09	0.01	3.54	HLO
DTR-19	1530	8.2	9.2	60.27	3.16	3.82	0.114	0.014	5.7	SLO_FO
DTR-19	1531	9.2	10.2	60.27	1.2	3.28	0.115	0.014	8.24	SLO_FO
DTR-19	1532	10.2	11.2	59.16	1.1	3.09	0.127	0.016	9.92	Limonitic Ore
DTR-19	1533	11.2	12.2	60.94	1	2.26	0.109	0.011	8.6	SLO_FO
DTR-19	1534	12.2	13.2	62.93	0.95	1.67	0.097	0.01	6.6	SLO_FO
DTR-19	1535	13.2	14.2	60.61	1.2	2.35	0.11	0.012	8.78	SLO_FO
DTR-19	1536	14.2	15.2	60.27	1	2.62	0.121	0.012	9.2	SLO_FO
DTR-19	1537	15.2	16.2	60.05	1.08	2.95	0.132	0.013	9.1	SLO_FO
DTR-19	1538	16.2	17.2	60.16	1.15	3.23	0.127	0.011	8.5	SLO_FO
DTR-19	1539	17.2	18.2	59.61	0.8	2.76	0.124	0.014	10	Limonitic Ore
DTR-19	1540	18.2	19.2	59.83	0.7	2.64	0.13	0.013	9.88	Limonitic Ore
DTR-19	1541	19.2	20.2	59.83	0.61	2.22	0.013	0.015	10.32	Limonitic Ore
DTR-19	1542	20.2	21.2	61.82	1.02	1.54	0.099	0.01	8.04	SLO_FO
DTR-19	1543	21.2	22.2	60.49	2.5	3.15	0.098	0.012	6.65	HLO
DTR-19	1544	22.2	23.2	62.05	0.58	1.65	0.103	0.011	8.04	SLO_FO
DTR-19	1545	23.2	24.2	61.6	0.65	2.07	0.108	0.01	8.2	SLO_FO
DTR-19	1546	24.2	25.2	61.16	0.43	1.92	0.125	0.012	9.3	SLO_FO
DTR-19	1547	25.2	26.2	61.6	0.55	2.1	0.109	0.011	8.17	SLO_FO
DTR-19	1548	26.2	27.2	61.49	0.38	2.74	0.12	0.012	7.85	HLO
DTR-19	1549	27.2	28.2	62.93	0.26	1.68	0.095	0.01	7.08	HLO
DTR-19	1550	28.2	29.2	62.05	0.38	2.13	0.098	0.011	7.76	SLO_FO
DTR-19	1551	29.2	30.2	60.72	0.4	2.18	0.112	0.012	9.4	SLO_FO
DTR-19	1552	30.2	31.2	60.49	0.48	2.42	0.122	0.014	9.34	SLO_FO
DTR-19	1553	31.2	32.2	62.05	0.37	1.98	0.11	0.012	7.92	SLO_FO
DTR-19	1554	32.2	33.2	62.49	0.45	1.81	0.108	0.011	7.38	SLO_FO
DTR-19	1555	33.2	34.2	62.82	0.3	1.77	0.101	0.009	7.3	SLO_FO
DTR-19	1556	34.2	35.2	62.38	0.26	1.64	0.1	0.011	7.9	SLO_FO
DTR-19	1557	35.2	36.2	62.49	0.3	1.54	0.097	0.012	8	SLO_FO
DTR-19	1558	36.2	37.2	62.27	0.28	1.48	0.095	0.01	8.3	SLO_FO
DTR-19	1559	37.2	38.2	62.49	0.44	1.48	0.098	0.011	7.82	SLO_FO
DTR-19	1560	38.2	39.2	62.6	0.55	1.98	0.107	0.014	8.39	SLO_FO
DTR-19	1561	39.2	40.2	63.38	0.45	1.62	0.09	0.009	6.4	SLO_FO
DTR-19	1562	40.2	41.2	54.29	0.85	8.22	0.172	0.015	11.7	Limonite
DTR-19	1563	41.2	42.2	60.94	0.45	2.31	0.119	0.012	9.1	SLO_FO
DTR-19	1564	42.2	43.2	62.05	0.38	2.05	0.151	0.009	7.84	SLO_FO
DTR-19	1565	43.2	44.2	61.93	0.26	1.72	0.12	0.01	8.47	HLO
DTR-19	1566	44.2	45.2	62.49	0.25	1.6	0.098	0.008	8	HLO
DTR-19	1567	45.2	46.2	62.49	0.35	1.49	0.096	0.01	7.8	HLO
DTR-19	1568	46.2	47.2	62.93	0.3	1.57	0.098	0.008	7.35	HLO
DTR-19	1569	47.2	48.2	63.15	0.36	1.16	0.09	0.009	7.38	HLO
DTR-19	1570	48.2	49.2	62.71	0.4	1.33	0.102	0.008	7.8	HLO
DTR-19	1571	49.2	50.2	63.71	0.28	1.57	0.087	0.008	6.25	HLO
DTR-19	1572	50.2	51.2	62.93	0.35	1.24	0.094	0.011	7.43	HLO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-19	1573	51.2	52.2	62.83	0.52	1.21	0.093	0.012	7.54	HLO
DTR-19	1574	52.2	53.2	62.71	0.7	1.42	0.091	0.01	7.31	HLO
DTR-19	1575	53.2	54.2	61.82	0.4	1.78	0.098	0.011	8.44	HLO
DTR-19	1576	54.2	55.2	61.38	0.46	2.3	0.112	0.013	8.47	HLO
DTR-19	1577	55.2	56.2	61.38	0.6	1.93	0.108	0.012	8.7	HLO
DTR-19	1578	56.2	57.2	61.16	0.55	2.01	0.098	0.014	9	HLO
DTR-19	1579	57.2	58.2	61.82	0.53	1.69	0.093	0.009	8.41	HLO
DTR-19	1580	58.2	59.2	60.49	0.3	2.2	0.123	0.01	9	HLO
DTR-19	1581	59.2	60.2	61.6	1.2	1.52	0.131	0.011	8.2	HLO
DTR-19	1582	60.2	61.2	61.16	1.1	1.75	0.111	0.012	8.7	HLO
DTR-19	1583	61.2	62.2	61.05	1.2	2	0.131	0.012	8.5	HLO
DTR-19	1584	62.2	63.2	60.94	0.7	1.88	0.128	0.014	9.48	HLO
DTR-19	1585	63.2	64.2	61.6	0.7	1.67	0.11	0.012	8.55	HLO
DTR-19	1586	64.2	65.2	61.6	0.55	1.88	0.107	0.01	8.49	HLO
DTR-19	1587	65.2	66.2	62.6	0.6	1.58	0.098	0.011	7.41	HLO
DTR-19	1588	66.2	67.2	61.16	0.45	1.6	0.102	0.012	9.5	HLO
DTR-19	1589	67.2	68.2	61.38	0.58	1.55	0.097	0.012	9.1	HLO
DTR-19	1590	68.2	69.2	62.16	0.4	1.72	0.095	0.01	8	HLO
DTR-19	1591	69.2	70.2	61.38	0.8	1.63	0.124	0.013	8.8	HLO
DTR-19	1592	70.2	71.2	62.15	0.6	1.62	0.093	0.009	7.94	HLO
DTR-19	1593	71.2	72.2	62.27	0.44	1.7	0.096	0.008	7.82	HLO
DTR-19	1594	72.2	73.2	62.05	0.49	2.18	0.11	0.01	7.6	HLO
DTR-19	1595	73.2	74.2	61.38	0.6	1.48	0.13	0.012	9.25	HLO
DTR-19	1596	74.2	75.2	61.38	1.01	1.32	0.119	0.01	8.9	HLO
DTR-19	1597	75.2	76.2	60.94	0.45	2.06	0.13	0.012	9.35	HLO
DTR-19	1598	76.2	77.2	60.72	0.71	2.14	0.128	0.011	9.37	HLO
DTR-19	1599	77.2	78.2	61.38	0.8	1.43	0.112	0.01	9	HLO
DTR-19	1600	78.2	79.2	61.16	0.5	1.65	0.118	0.012	9.4	HLO
DTR-19	1601	79.2	80.2	60.49	0.6	2.08	0.129	0.013	9.82	HLO
DTR-19	1602	80.2	81.2	60.94	0.35	1.73	0.131	0.011	9.78	HLO
DTR-19	1603	81.2	82.2	60.72	0.6	2.2	0.128	0.01	9.38	HLO
DTR-19	1604	82.2	83.2	60.72	0.5	2.15	0.117	0.012	9.53	HLO
DTR-19	1605	83.2	84.2	61.16	0.45	1.7	0.106	0.009	9.44	HLO
DTR-19	1606	84.2	85.2	60.72	0.66	2.09	0.102	0.01	9.43	HLO
DTR-19	1607	85.2	86.2	61.16	0.45	1.75	0.121	0.011	9.35	HLO
DTR-19	1608	86.2	87.2	61.6	0.69	1.71	0.115	0.009	9.52	HLO
DTR-19	1609	87.2	88.2	61.16	0.36	1.76	0.109	0.012	9.43	HLO
DTR-19	1610	88.2	89.2	61.6	0.65	1.8	0.097	0.009	9.49	HLO
DTR-19	1611	89.2	90.2	61.16	0.6	1.67	0.109	0.011	9.28	HLO
DTR-19	1612	90.2	91.2	61.05	0.8	1.56	0.114	0.011	9.34	HLO
DTR-19	1613	91.2	92.2	60.94	0.86	1.6	0.132	0.014	9.4	HLO
DTR-19	1614	92.2	93.2	61.38	0.45	1.5	0.108	0.012	9.37	HLO
DTR-19	1615	93.2	94.2	61.38	0.4	1.43	0.11	0.01	9.5	HLO
DTR-19	1616	94.2	95.2	62.05	0.36	2.17	0.101	0.014	7.8	HLO
DTR-19	1617	95.2	96.2	62.05	0.28	2.09	0.108	0.012	7.9	HLO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-19	1618	96.2	97.2	60.83	0.45	2.15	0.12	0.015	9.42	HLO
DTR-19	1619	97.2	98.2	60.49	0.87	1.93	0.127	0.013	9.7	HLO
DTR-19	1620	98.2	99.2	61.6	0.56	1.86	0.116	0.011	8.5	HLO
DTR-19	1621	99.2	100.2	61.93	0.85	1.48	0.106	0.01	8.12	BD_PO
DTR-19	1622	100.2	101.2	62.49	0.97	1.47	0.105	0.009	7.3	BD_PO
DTR-19	1623	101.2	102.2	61.82	0.49	2.04	0.1	0.01	8.07	BD_PO
DTR-19	1624	102.2	103	61.16	1.4	2.05	0.112	0.012	8.1	BD_PO
DTR-20	1625	0	1	50.97	4.5	11.43	0.151	0.014	9.59	Laterite
DTR-20	1626	1	2	46.87	11.2	10.08	0.119	0.012	9.7	Laterite
DTR-20	1627	2	3	43.76	14.93	10.21	0.121	0.016	9.99	Laterite
DTR-20	1628	3	4	55.07	3.3	8.2	0.14	0.014	8.55	Lateritic Ore
DTR-20	1629	4	5	60.05	2.7	2.33	0.122	0.012	7.8	SLO_PO
DTR-20	1630	5	6	65.59	0.52	0.94	0.089	0.008	4.15	SLO_PO
DTR-20	1631	6	7	61.6	2.15	3.02	0.13	0.011	5.75	SLO_PO
DTR-20	1632	7	8	53.62	4.5	8.94	0.152	0.013	8.29	Laterite
DTR-20	1633	8	9	54.29	3.36	9.41	0.147	0.015	8.1	Laterite
DTR-20	1634	9	10	52.96	4.2	8.17	0.15	0.016	10.2	Laterite
DTR-20	1635	10	11	58.94	2.8	3.22	0.129	0.012	8.4	Lateritic Ore
DTR-20	1636	11	12	55.4	5.1	7.28	0.161	0.012	6.7	Lateritic Ore
DTR-20	1637	12	13	56.73	3.48	5.5	0.137	0.01	8.4	Lateritic Ore
DTR-20	1638	13	14	63.38	1.1	1.53	0.092	0.009	5.84	HLO
DTR-20	1639	14	15	61.16	2.38	2.27	0.108	0.01	6.9	HLO
DTR-20	1640	15	16	64.71	0.86	1.21	0.09	0.008	4.6	HLO
DTR-20	1641	16	17	60.27	2.65	2.17	0.124	0.01	7.9	HLO
DTR-20	1642	17	18	55.18	3.2	7.8	0.138	0.013	8.8	Limonitic Ore
DTR-20	1643	18	19	48.08	5.59	13.06	0.144	0.015	10.6	Limonite
DTR-20	1644	19	20	56.95	3.2	5.69	0.172	0.012	8.18	Limonitic Ore
DTR-20	1645	20	21	60.49	1.92	1.79	0.121	0.012	8.79	Limonitic Ore
DTR-20	1646	21	22	58.06	1.8	4.65	0.135	0.014	9.23	Limonitic Ore
DTR-20	1647	22	23	62.27	0.86	1.67	0.096	0.009	7.41	SLO_PO
DTR-20	1648	23	24	61.38	1	2.23	0.112	0.012	8	SLO_PO
DTR-20	1649	24	25	60.72	0.95	2.21	0.123	0.014	9.02	SLO_PO
DTR-20	1650	25	26	60.72	0.8	2.18	0.117	0.012	9.2	SLO_PO
DTR-20	1651	26	27	62.93	0.4	1.7	0.108	0.01	6.92	SLO_PO
DTR-20	1652	27	28	64.26	0.55	1.46	0.09	0.008	5.3	SLO_PO
DTR-20	1653	28	29	64.71	0.44	1.38	0.088	0.008	4.85	SLO_PO
DTR-20	1654	29	30	63.15	0.6	1.65	0.093	0.009	6.55	SLO_PO
DTR-20	1655	30	31	64.26	0.65	1.43	0.091	0.007	5.23	SLO_PO
DTR-20	1656	31	32	65.26	0.4	1.11	0.084	0.007	4.42	SLO_PO
DTR-20	1657	32	33	65.81	0.25	1	0.082	0.008	3.94	SLO_PO
DTR-20	1658	33	34	65.59	0.35	1.06	0.08	0.006	4.1	SLO_PO
DTR-20	1659	34	35	62.71	0.4	1.68	0.109	0.009	7.25	SLO_PO
DTR-20	1660	35	36	64.26	0.5	1.5	0.092	0.008	5.31	SLO_PO
DTR-20	1661	36	37	63.82	0.4	1.59	0.097	0.009	5.75	SLO_PO
DTR-20	1662	37	38	63.15	0.5	1.6	0.095	0.01	6.6	SLO_PO

PKS-2
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BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-20	1663	38	39	64.59	0.4	1.2	0.091	0.008	5.24	SLO_FO
DTR-20	1664	39	40	64.26	0.35	1.51	0.09	0.007	5.45	SLO_FO
DTR-20	1665	40	41	56.28	0.95	6.17	0.122	0.014	10.9	Limonitic Ore
DTR-20	1666	41	42	59.83	0.7	2.77	0.134	0.012	9.68	Limonitic Ore
DTR-20	1667	42	43	64.26	0.5	1.41	0.09	0.009	5.4	SLO_FO
DTR-20	1668	43	44	65.15	0.22	1.02	0.084	0.006	4.8	SLO_FO
DTR-20	1669	44	45	64.48	0.25	1.23	0.088	0.008	5.42	SLO_FO
DTR-20	1670	45	46	60.72	0.75	2.12	0.11	0.012	9.31	SLO_FO
DTR-20	1671	46	47	64.71	0.26	1.41	0.081	0.009	4.9	SLO_FO
DTR-20	1672	47	48	62.49	0.32	1.72	0.104	0.01	7.6	SLO_FO
DTR-20	1673	48	49	63.82	0.28	1.71	0.095	0.009	5.65	SLO_FO
DTR-20	1674	49	50	62.27	0.72	1.64	0.098	0.013	7.56	SLO_FO
DTR-20	1675	50	51	60.27	1.22	2.32	0.12	0.012	9.08	SLO_FO
DTR-20	1676	51	52	63.15	0.7	1.52	0.101	0.01	6.48	SLO_FO
DTR-20	1677	52	53	62.05	0.86	2.51	0.117	0.011	7.6	SLO_FO
DTR-20	1678	53	54	61.49	0.7	1.73	0.13	0.013	8.64	SLO_FO
DTR-20	1679	54	55	62.27	0.6	1.84	0.115	0.01	7.52	SLO_FO
DTR-20	1680	55	56	64.48	0.45	1.25	0.091	0.01	5.3	SLO_FO
DTR-20	1681	56	57	64.26	0.36	1.3	0.09	0.009	5.55	SLO_FO
DTR-20	1682	57	58	63.6	0.4	1.25	0.098	0.011	6.41	HLO
DTR-20	1683	58	59	62.71	0.68	1.35	0.107	0.013	7.5	SLO_FO
DTR-20	1684	59	60	34.57	10.2	26.72	0.105	0.015	11.4	HLO
DTR-20	1685	60	61	57.39	1.72	4.59	0.124	0.014	10.33	HLO
DTR-20	1686	61	62	64.59	0.21	0.93	0.088	0.008	5.7	SLO_FO
DTR-20	1687	62	63	62.05	0.75	1.6	0.102	0.011	8.1	SLO_FO
DTR-20	1688	63	64	62.6	1	1.34	0.099	0.01	7.15	SLO_FO
DTR-20	1689	64	65	61.38	0.85	1.78	0.114	0.012	8.6	SLO_FO
DTR-20	1690	65	66	60.49	1.35	2.16	0.131	0.013	9.09	SLO_FO
DTR-20	1691	66	67	62.05	1.3	1.57	0.12	0.01	7.5	SLO_FO
DTR-20	1692	67	68	62.49	1.06	2.23	0.117	0.009	6.35	SLO_FO
DTR-20	1693	68	69	64.04	1.09	1.5	0.091	0.008	5.04	SLO_FO
DTR-20	1694	69	70	57.61	2.55	3.33	0.151	0.014	10.44	SLO_FO
DTR-20	1695	70	71	60.94	1.56	1.77	0.127	0.012	8.65	SLO_FO
DTR-20	1696	71	72	59.83	1.9	2.05	0.148	0.014	9.3	SLO_FO
DTR-20	1697	72	73	64.82	0.6	0.71	0.087	0.008	5.3	SLO_FO
DTR-20	1698	73	74	64.48	0.8	1.1	0.096	0.009	5.1	SLO_FO
DTR-20	1699	74	75	63.6	0.95	1.11	0.121	0.01	6.2	SLO_FO
DTR-20	1700	75	76	61.6	0.8	2.12	0.132	0.012	8	SLO_FO
DTR-20	1701	76	77	63.26	1.1	1.38	0.106	0.009	6.06	SLO_FO
DTR-20	1702	77	78	59.61	1	2.9	0.13	0.013	9.86	SLO_FO
DTR-20	1703	78	78.8	58.5	2.05	4.5	0.123	0.015	8.5	SLO_FO
DTR-21	1704	0	1	60.61	1.9	2.53	0.119	0.01	7.9	SLO_FO
DTR-21	1705	1	2	58.06	1.39	4.79	0.128	0.012	9.3	Lateritic Ore
DTR-21	1706	2	3	57.39	0.82	4.32	0.137	0.012	11.2	Lateritic Ore
DTR-21	1707	3	4	54.51	1.58	8.39	0.12	0.014	10.39	Laterite

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-21	1708	4	5	55.51	1.39	7.95	0.131	0.013	9.79	Lateritic Ore
DTR-21	1709	5	6	57.28	1.1	4.29	0.129	0.014	11.1	Lateritic Ore
DTR-21	1710	6	7	52.52	1.38	11.57	0.112	0.015	10.15	Laterite
DTR-21	1711	7	8	54.51	1.45	7.39	0.134	0.014	11.62	Laterite
DTR-21	1712	8	9	61.71	0.9	2.05	0.109	0.012	7.81	HLO
DTR-21	1713	9	10	58.72	1.85	4.44	0.142	0.021	8.25	Lateritic Ore
DTR-21	1714	10	11	62.71	0.58	1.6	0.106	0.011	7.15	HLO
DTR-21	1715	11	12	59.83	0.37	2.48	0.13	0.014	10.4	Limonitic Ore
DTR-21	1716	12	13	61.16	0.3	1.91	0.125	0.013	9.34	SLO_FO
DTR-21	1717	13	14	61.82	0.64	1.59	0.117	0.012	8.37	SLO_FO
DTR-21	1718	14	15	59.05	1.62	2.54	0.151	0.015	10.2	Limonitic Ore
DTR-21	1719	15	16	62.05	0.8	1.61	0.102	0.011	7.86	SLO_FO
DTR-21	1720	16	17	62.71	1.5	2.15	0.098	0.011	5.68	SLO_FO
DTR-21	1721	17	18	60.72	1.98	3.4	0.115	0.013	6.8	SLO_FO
DTR-21	1722	18	19	62.27	2	2.26	0.129	0.012	5.7	SLO_FO
DTR-21	1723	19	20	61.49	0.55	1.75	0.109	0.012	8.77	SLO_FO
DTR-21	1724	20	21	61.01	0.71	2.9	0.127	0.012	7.95	SLO_FO
DTR-21	1725	21	22	61.68	0.8	1.9	0.114	0.011	8.1	SLO_FO
DTR-21	1726	22	23	62.68	0.65	1.62	0.106	0.01	7.1	SLO_FO
DTR-21	1727	23	24	60.46	2.6	4.5	0.14	0.013	5.2	SLO_FO
DTR-21	1728	24	25	60.79	2.5	3.88	0.121	0.016	5.5	SLO_FO
DTR-21	1729	25	26	63.91	1.1	1.47	0.094	0.009	4.94	SLO_FO
DTR-21	1730	26	27	61.57	0.9	2.44	0.102	0.013	7.44	SLO_FO
DTR-21	1731	27	28	59.45	0.85	2.57	0.133	0.017	10.47	Limonitic Ore
DTR-21	1732	28	29	60.12	0.7	3.33	0.125	0.014	9	SLO_FO
DTR-21	1733	29	30	61.01	0.8	3	0.11	0.012	7.86	SLO_FO
DTR-21	1734	30	31	60.57	0.65	2.27	0.122	0.014	9.47	SLO_FO
DTR-21	1735	31	32	61.23	0.4	2.15	0.114	0.012	8.9	SLO_FO
DTR-21	1736	32	33	61.01	0.6	3.2	0.12	0.013	7.96	SLO_FO
DTR-21	1737	33	34	61.46	0.35	2.47	0.115	0.012	8.3	SLO_FO
DTR-21	1738	34	35	60.34	0.28	3.31	0.107	0.014	8.95	SLO_FO
DTR-21	1739	35	36	61.35	0.3	2.21	0.101	0.013	8.56	SLO_FO
DTR-21	1740	36	37	63.24	0.26	0.91	0.096	0.01	7.4	SLO_FO
DTR-21	1741	37	38	65.47	0.22	1.11	0.084	0.008	4.25	SLO_FO
DTR-21	1742	38	39	64.58	0.3	1.16	0.088	0.009	5.3	SLO_FO
DTR-21	1743	39	40	48.99	1.05	16.34	0.171	0.016	10.56	Limonite
DTR-21	1744	40	41	48.76	0.63	16.5	0.118	0.015	11.15	Limonite
DTR-21	1745	41	42	62.57	0.35	1.62	0.107	0.011	8.56	SLO_FO
DTR-21	1746	42	43	49.21	0.58	15.93	0.131	0.016	11.12	Limonite
DTR-21	1747	43	44	49.43	0.45	15.95	0.128	0.013	10.92	Limonite
DTR-21	1748	44	45	50.1	0.36	14.45	0.13	0.014	11.55	Limonite
DTR-21	1749	45	46	50.43	0.4	14.15	0.125	0.014	11.34	Limonite
DTR-21	1750	46	47	50.99	0.32	14.36	0.141	0.013	10.71	Limonite
DTR-21	1751	47	48	52.1	0.47	15.2	0.17	0.014	8.63	Limonite
DTR-21	1752	48	49	55	0.3	6.2	0.164	0.015	13.35	Lateritic Ore

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-21	1753	49	50	67.29	0.2	0.88	0.068	0.006	2.15	SLO_FO
DTR-21	1754	50	51	67.19	0.3	0.81	0.065	0.004	2.21	SLO_FO
DTR-21	1755	51	52	67.25	0.45	0.77	0.07	0.005	2.02	SLO_FO
DTR-21	1756	52	53	62.79	0.25	1.49	0.122	0.012	7.47	SLO_FO
DTR-21	1757	53	54	62.35	0.49	1.25	0.119	0.012	8.1	SLO_FO
DTR-21	1758	54	55	49.43	2.05	14.95	0.181	0.013	10.32	Limonite
DTR-21	1759	55	56	65.91	0.2	0.9	0.074	0.008	4	SLO_FO
DTR-21	1760	56	57	30.17	7.75	34.13	0.097	0.02	12.48	Feruginous Shale
DTR-21	1761	57	58	47.21	3.4	15.14	0.16	0.021	11.65	Feruginous Shale
DTR-21	1762	58	59	55.66	1.8	5.09	0.201	0.015	12.02	Limonitic Ore
DTR-21	1763	59	60	56.34	1.42	4.97	0.19	0.016	11.45	Limonitic Ore
DTR-21	1764	60	61	61.23	0.92	2	0.135	0.013	8.53	SLO_FO
DTR-21	1765	61	62	61.01	0.6	2.51	0.127	0.014	8.75	SLO_FO
DTR-21	1766	62	63	62.46	0.3	1.39	0.105	0.01	8	SLO_FO
DTR-21	1767	63	64	64.35	0.65	1.28	0.087	0.009	5.25	SLO_FO
DTR-21	1768	64	65	64.58	0.6	1.09	0.089	0.008	4.97	SLO_FO
DTR-21	1769	65	66	67.14	0.44	0.75	0.064	0.005	2.2	SLO_FO
DTR-21	1770	66	67	67.02	0.19	0.97	0.066	0.005	2.41	SLO_FO
DTR-21	1771	67	68	67.14	0.32	0.81	0.063	0.004	2.26	SLO_FO
DTR-21	1772	68	69	67.53	0.58	0.6	0.061	0.004	1.81	SLO_FO
DTR-21	1773	69	70	67.62	0.21	0.55	0.062	0.003	1.06	SLO_FO
DTR-21	1774	70	71	67.74	0.2	0.64	0.06	0.003	1.8	SLO_FO
DTR-21	1775	71	72	68.25	0.19	0.51	0.061	0.003	1.48	SLO_FO
DTR-21	1776	72	73	67.47	0.27	0.7	0.067	0.004	2	SLO_FO
DTR-21	1777	73	74	68.05	0.2	0.45	0.07	0.003	1.45	SLO_FO
DTR-21	1778	74	75	67.36	0.25	0.73	0.071	0.004	2.1	SLO_FO
DTR-21	1779	75	76	67.62	0.48	0.45	0.065	0.005	1.76	SLO_FO
DTR-21	1780	76	77	67.47	0.54	0.5	0.062	0.005	1.83	SLO_FO
DTR-21	1781	77	78	66.02	1.3	1.01	0.072	0.008	2.49	SLO_FO
DTR-21	1782	78	79	64.8	1.45	1.29	0.09	0.009	3.8	SLO_FO
DTR-21	1783	79	80	63.13	1.34	1.61	0.093	0.01	5.78	SLO_FO
DTR-21	1784	80	81	68.17	0.18	0.47	0.06	0.003	1.35	SLO_FO
DTR-21	1785	81	82	67.47	0.4	0.8	0.068	0.005	1.7	SLO_FO
DTR-21	1786	82	83	66.8	0.32	0.78	0.077	0.007	2.73	SLO_FO
DTR-21	1787	83	84	67.69	0.4	0.61	0.064	0.005	1.6	SLO_FO
DTR-21	1788	84	85	68.06	0.33	0.45	0.058	0.004	1.4	SLO_FO
DTR-21	1789	85	86	67.74	0.5	0.51	0.059	0.005	1.65	SLO_FO
DTR-21	1790	86	87	67.62	0.61	0.57	0.062	0.004	1.58	SLO_FO
DTR-21	1791	87	88	68.13	0.2	0.42	0.06	0.003	1.45	SLO_FO
DTR-21	1792	88	89	68.29	0.26	0.34	0.057	0.003	1.25	SLO_FO
DTR-21	1793	89	90	67.92	0.65	0.38	0.07	0.006	1.3	SLO_FO
DTR-21	1794	90	91	67.84	0.24	0.68	0.067	0.003	1.52	SLO_FO
DTR-21	1795	91	92	67.14	0.55	0.54	0.063	0.004	2.4	SLO_FO
DTR-21	1796	92	93	68.21	0.32	0.34	0.058	0.003	1.3	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-21	1797	93	94	67.02	0.55	0.85	0.065	0.005	2.22	SLO_FO
DTR-21	1798	94	95	68.32	0.2	0.31	0.058	0.004	1.4	SLO_FO
DTR-21	1799	95	96	68.26	0.2	0.32	0.057	0.003	1.37	SLO_FO
DTR-21	1800	96	97	68.06	0.34	0.44	0.06	0.004	1.4	SLO_FO
DTR-21	1801	97	98	68.18	0.18	0.23	0.062	0.003	1.6	SLO_FO
DTR-21	1802	98	99	68.03	0.24	0.33	0.56	0.003	1.65	SLO_FO
DTR-21	1803	99	100	67.17	0.45	0.6	0.068	0.006	2.3	SLO_FO
DTR-21	1804	100	101	67.47	0.4	0.37	0.07	0.004	2.2	SLO_FO
DTR-21	1805	101	102	67.25	0.38	0.91	0.068	0.005	1.95	SLO_FO
DTR-21	1806	102	103	67.39	0.54	0.9	0.064	0.004	1.6	SLO_FO
DTR-21	1807	103	104	66.8	0.71	0.64	0.071	0.005	2.53	SLO_FO
DTR-21	1808	104	105	67.02	0.45	0.77	0.068	0.004	2.35	SLO_FO
DTR-21	1809	105	106	66.91	0.64	0.72	0.073	0.006	2.41	SLO_FO
DTR-21	1810	106	107	67.25	0.7	0.84	0.062	0.004	1.7	SLO_FO
DTR-21	1811	107	107.5	67.25	0.85	0.72	0.065	0.05	1.67	SLO_FO
DTR-22	1812	0	1	61.23	1.2	3.8	0.112	0.012	6.25	HLO
DTR-22	1813	1	2	58.12	3.45	3.24	0.151	0.014	8.9	Lateritic Ore
DTR-22	1814	2	3	64.46	1.05	1.18	0.091	0.009	4.8	HLO
DTR-22	1815	3	4	62.79	0.6	1.4	0.109	0.012	7.22	HLO
DTR-22	1816	4	5	59.79	1.21	4.2	0.134	0.014	7.8	Lateritic Ore
DTR-22	1817	5	6	65.35	0.9	1.15	0.081	0.007	3.7	SLO_FO
DTR-22	1818	6	7	65.02	0.6	1.43	0.082	0.007	4.2	SLO_FO
DTR-22	1819	7	8	63.02	0.58	1.96	0.097	0.01	6.35	SLO_FO
DTR-22	1820	8	9	65.02	0.35	1.58	0.084	0.006	4.3	SLO_FO
DTR-22	1821	9	10	61.23	2	4.05	0.119	0.011	5.2	SLO_FO
DTR-22	1822	10	11	59.45	1.8	3.94	0.132	0.014	8.05	SLO_FO
DTR-22	1823	11	12	66.69	0.6	0.96	0.074	0.005	2.38	SLO_FO
DTR-22	1824	12	13	66.7	0.82	0.97	0.079	0.007	2.2	SLO_FO
DTR-22	1825	13	14	58.9	3.12	2.86	0.132	0.014	8.3	SLO_FO
DTR-22	1826	14	15	65.58	0.28	1.25	0.084	0.008	3.9	SLO_FO
DTR-22	1827	15	16	66.47	0.25	1.44	0.08	0.006	2.47	SLO_FO
DTR-22	1828	16	17	66.47	0.32	1.29	0.077	0.007	2.59	HLO
DTR-22	1829	17	18	60.46	0.85	1.87	0.122	0.012	9.83	HLO
DTR-22	1830	18	19	65.58	0.4	1.24	0.081	0.007	3.79	SLO_FO
DTR-22	1831	19	20	60.12	0.95	3.22	0.12	0.015	8.86	SLO_FO
DTR-22	1832	20	21	63.24	0.5	2.34	0.102	0.011	5.73	SLO_FO
DTR-22	1833	21	22	57.78	1.25	5.2	0.144	0.016	9.45	SLO_FO
DTR-22	1834	22	23	59.98	0.56	3.42	0.117	0.013	9.05	SLO_FO
DTR-22	1835	23	24	60.54	0.38	2.2	0.11	0.012	9.75	SLO_FO
DTR-22	1836	24	25	60.65	0.3	2.25	0.128	0.011	9.63	SLO_FO
DTR-22	1837	25	26	60.21	1.2	2	0.109	0.014	9.7	SLO_FO
DTR-22	1838	26	27	60.54	0.26	2.28	0.107	0.011	9.67	SLO_FO
DTR-22	1839	27	28	60.15	0.6	2.84	0.131	0.014	9.35	SLO_FO
DTR-22	1840	28	29	60.99	0.44	2	0.119	0.013	9.4	SLO_FO
DTR-22	1841	29	30	61.1	0.32	2.11	0.11	0.011	9.3	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-22	1842	30	31	62.33	0.74	1.73	0.097	0.01	7.5	SLO_FO
DTR-22	1843	31	32	61.66	0.35	1.69	0.108	0.012	8.79	SLO_FO
DTR-22	1844	32	33	56.07	0.52	8.54	0.14	0.016	9.26	SLO_FO
DTR-22	1845	33	34	61.44	0.3	2.15	0.105	0.013	8.5	SLO_FO
DTR-22	1846	34	35	61.66	0.25	2.22	0.109	0.011	8.16	SLO_FO
DTR-22	1847	35	36	65.9	0.19	1.25	0.078	0.007	3.48	SLO_FO
DTR-22	1848	36	37	64.34	0.29	1.81	0.09	0.009	5	SLO_FO
DTR-22	1849	37	38	64.45	0.2	1.56	0.087	0.008	5.28	SLO_FO
DTR-22	1850	38	39	64.34	0.3	1.7	0.086	0.007	5.1	SLO_FO
DTR-22	1851	39	40	61.21	0.42	1.95	0.112	0.014	9.1	SLO_FO
DTR-22	1852	40	41	57.86	0.76	7.35	0.127	0.015	8.67	SLO_FO
DTR-22	1853	41	42	61.88	0.46	2.06	0.106	0.011	8	SLO_FO
DTR-22	1854	42	43	62.33	0.46	2.63	0.098	0.012	6.78	SLO_FO
DTR-22	1855	43	44	59.65	0.58	3.72	0.121	0.014	9.11	SLO_FO
DTR-22	1856	44	45	58.31	0.48	5.87	0.127	0.013	8.77	SLO_FO
DTR-22	1857	45	46	59.2	0.38	4.07	0.133	0.015	9.4	SLO_FO
DTR-22	1858	46	47	61.21	0.32	1.88	0.115	0.013	9.27	SLO_FO
DTR-22	1859	47	48	60.32	0.42	2.58	0.12	0.014	9.55	SLO_FO
DTR-22	1860	48	49	61.21	0.26	2.06	0.11	0.012	9.15	SLO_FO
DTR-22	1861	49	50	60.77	0.25	1.85	0.131	0.013	10	SLO_FO
DTR-22	1862	50	51	60.88	0.25	1.87	0.12	0.015	9.83	SLO_FO
DTR-22	1863	51	52	61.21	0.35	2	0.132	0.012	9.12	SLO_FO
DTR-22	1864	52	53	61.21	0.24	1.93	0.127	0.014	9.3	SLO_FO
DTR-22	1865	53	54	60.32	0.36	2.82	0.133	0.015	9.57	SLO_FO
DTR-22	1866	54	55	39.32	1.08	29.05	0.11	0.018	10.65	Limonite
DTR-22	1867	55	56	52.83	0.9	13.14	0.144	0.016	7.92	Limonite
DTR-22	1868	56	57	61.21	0.3	2.1	0.109	0.013	9.07	SLO_FO
DTR-22	1869	57	58	57.53	0.8	6.68	0.135	0.015	8.76	Limonitic Ore
DTR-22	1870	58	59	59.65	0.28	3.58	0.139	0.014	9.56	SLO_FO
DTR-22	1871	59	60	62.22	0.27	2.36	0.097	0.01	7.4	SLO_FO
DTR-22	1872	60	61	62.33	0.4	2.19	0.101	0.01	7.28	SLO_FO
DTR-22	1873	61	62	62.33	0.35	2.11	0.096	0.012	7.41	SLO_FO
DTR-22	1874	62	63	62.44	0.22	1.85	0.102	0.012	7.65	SLO_FO
DTR-22	1875	63	64	61.77	0.34	2.25	0.118	0.014	8.08	SLO_FO
DTR-22	1876	64	65	60.77	0.4	1.97	0.12	0.013	9.73	SLO_FO
DTR-22	1877	65	66	62.78	0.28	1.35	0.098	0.012	7.6	SLO_FO
DTR-22	1878	66	67	62.55	0.24	1.32	0.119	0.011	8	SLO_FO
DTR-22	1879	67	68	61.44	0.3	2.75	0.131	0.015	8.1	HLO
DTR-22	1880	68	69	60.77	0.75	1.88	0.124	0.012	9.47	HLO
DTR-22	1881	69	70	61.21	0.25	2.02	0.131	0.014	9.2	HLO
DTR-22	1882	70	71	61.21	0.4	2.07	0.12	0.013	9	HLO
DTR-22	1883	71	72	60.88	0.35	2	0.116	0.016	9.6	HLO
DTR-22	1884	72	73	60.65	0.48	2.1	0.123	0.014	9.7	HLO
DTR-22	1885	73	74	61.44	0.4	2.51	0.125	0.012	8.24	HLO
DTR-22	1886	74	75	61.21	0.42	2	0.117	0.014	9.05	HLO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-22	1887	75	76	59.98	0.45	3.08	0.133	0.016	9.4	Lateritic Ore
DTR-22	1888	76	77	60.54	0.35	2.33	0.126	0.013	9.75	SLO_FO
DTR-22	1889	77	78	59.65	0.42	3.41	0.135	0.015	9.88	SLO_FO
DTR-22	1890	78	79	59.87	0.4	3.36	0.13	0.013	9.63	SLO_FO
DTR-22	1891	79	80	60.88	0.37	1.98	0.127	0.011	9.49	SLO_FO
DTR-22	1892	80	81	61.55	0.25	2.74	0.105	0.014	8	SLO_FO
DTR-22	1893	81	82	61.77	0.29	2.23	0.103	0.011	8.15	SLO_FO
DTR-22	1894	82	83	61.55	0.36	2.53	0.12	0.012	8.1	SLO_FO
DTR-22	1895	83	84	62.66	0.25	1.31	0.097	0.01	7.84	SLO_FO
DTR-22	1896	84	85	63	0.45	2.46	0.095	0.01	6	SLO_FO
DTR-22	1897	85	86	62.22	0.3	1.98	0.11	0.013	7.75	SLO_FO
DTR-22	1898	86	87	62.78	0.35	1.88	0.105	0.01	7	SLO_FO
DTR-22	1899	87	88	67.63	0.2	0.52	0.065	0.005	2.01	SLO_FO
DTR-22	1900	88	89	62.11	0.19	1.81	0.124	0.014	8.19	SLO_FO
DTR-22	1901	89	90	62.22	0.28	2.08	0.12	0.013	7.67	SLO_FO
DTR-22	1902	90	91	63.89	0.24	2.3	0.098	0.01	5.1	SLO_FO
DTR-22	1903	91	92	62.78	0.46	1.83	0.109	0.012	6.94	SLO_FO
DTR-22	1904	92	93	64.79	0.18	1.33	0.086	0.008	5.05	SLO_FO
DTR-22	1905	93	94	63.22	0.45	2.05	0.099	0.009	6.1	SLO_FO
DTR-22	1906	94	95	62.33	0.5	1.83	0.111	0.014	7.64	SLO_FO
DTR-22	1907	95	96	62.55	0.4	1.25	0.117	0.012	7.91	SLO_FO
DTR-22	1908	96	97	63.45	0.33	1.74	0.1	0.01	6.2	SLO_FO
DTR-22	1909	97	98	62.89	0.53	1.69	0.108	0.013	6.85	SLO_FO
DTR-22	1910	98	99	61.77	0.6	2.07	0.131	0.014	8	SLO_FO
DTR-22	1911	99	100	61.66	0.38	2.05	0.125	0.013	8.4	SLO_FO
DTR-22	1912	100	101	61.88	1.15	1.79	0.122	0.015	7.58	SLO_FO
DTR-22	1913	101	102	63.22	0.48	1.91	0.096	0.01	6.21	SLO_FO
DTR-22	1914	102	103	63.89	0.36	2.06	0.093	0.009	5.22	SLO_FO
DTR-22	1915	103	104	62.55	0.52	1.34	0.116	0.012	7.7	SLO_FO
DTR-22	1916	104	105	61.88	0.34	2.15	0.12	0.013	8.03	SLO_FO
DTR-22	1917	105	106	61.21	0.4	1.97	0.125	0.014	9.1	SLO_FO
DTR-22	1918	106	107	60.77	0.29	2.01	0.118	0.014	9.8	SLO_FO
DTR-22	1919	107	108	31.9	0.88	4.09	0.181	0.017	9.92	Limonite
DTR-22	1920	108	109	59.65	0.7	3.11	0.109	0.012	9.9	Limonitic Ore
DTR-22	1921	109	110	61.55	0.6	2.59	0.117	0.012	7.8	SLO_FO
DTR-22	1922	110	111	61.99	0.4	2.05	0.109	0.011	7.95	SLO_FO
DTR-22	1923	111	112	56.74	3.62	3.97	0.14	0.017	9.78	Limonitic Ore
DTR-22	1924	112	113	59.54	1.15	3.03	0.127	0.013	9.38	Limonitic Ore
DTR-22	1925	113	114	60.88	0.86	1.79	0.111	0.012	9.3	SLO_FO
DTR-22	1926	114	115	60.09	0.9	3.03	0.125	0.014	9.05	SLO_FO
DTR-23	1927	0	0.7	52.05	6.66	7.21	0.138	0.016	10	Laterite
DTR-23	1928	0.7	1.7	57.41	3.41	2.99	0.123	0.015	10.11	Lateritic Ore
DTR-23	1929	1.7	2.7	54.06	5.81	4.39	0.144	0.016	11	Limonite
DTR-23	1930	2.7	3.7	54.51	2.8	6.9	0.135	0.015	10.86	Limonite
DTR-23	1931	3.7	4.7	52.28	3.7	9.47	0.13	0.017	10.37	Limonite

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-23	1932	4.7	5.7	51.27	7.84	5.75	0.15	0.018	11.1	Limonite
DTR-23	1933	5.7	6.7	53.06	3.25	7.19	0.128	0.015	11.71	Limonite
DTR-23	1934	6.7	7.7	53.5	5.23	4.95	0.133	0.017	11.52	Limonite
DTR-23	1935	7.7	8.7	49.15	10.5	7.31	0.129	0.015	9.91	Limonite
DTR-23	1936	8.7	9.7	54.29	2.3	7.64	0.131	0.014	10.93	Limonite
DTR-23	1937	9.7	10.7	31.83	22.76	17.81	0.161	0.017	10.4	Limonite
DTR-23	1938	10.7	11.7	14.52	33.98	29.86	0.122	0.019	12.1	Limonite
DTR-23	1939	11.7	12.7	15.41	23.86	39.21	0.13	0.02	10.9	Limonite
DTR-23	1940	12.7	13.7	32.84	22.98	16.46	0.155	0.016	10.1	Limonite
DTR-23	1941	13.7	14.7	26.36	33.38	17.08	0.13	0.016	8.35	Limonite
DTR-23	1942	14.7	15.7	59.87	0.95	2.36	0.117	0.012	9.78	Limonitic Ore
DTR-23	1943	15.7	16.7	56.74	2.6	4.87	0.114	0.014	9.9	Limonitic Ore
DTR-23	1944	16.7	17.7	60.32	1.12	2.63	0.108	0.013	9	SLO_FO
DTR-23	1945	17.7	18.7	56.07	2.8	5.32	0.121	0.015	10.2	Limonitic Ore
DTR-23	1946	18.7	19.7	62.33	1.08	1.79	0.105	0.01	7	SLO_FO
DTR-23	1947	19.7	20.7	47.58	4.77	14.95	0.14	0.018	10.45	Limonite
DTR-23	1948	20.7	21.7	46.02	6.26	14.84	0.134	0.017	11.1	Limonite
DTR-23	1949	21.7	22.7	61.56	1.5	1.65	0.117	0.014	7.82	HLO
DTR-23	1950	22.7	23.7	58.93	2.2	2.85	0.14	0.015	9.49	Limonitic Ore
DTR-23	1951	23.7	24.7	13.07	24.4	39.74	0.12	0.02	12.17	Tuff
DTR-23	1952	24.7	25.7	26.47	23.52	23.83	0.126	0.015	11.3	Tuff
DTR-23	1953	25.7	26.7	56.74	3.16	4.21	0.133	0.016	10.2	Limonitic Ore
DTR-23	1954	26.7	27.7	60.24	0.8	3.15	0.122	0.014	8.91	SLO_FO
DTR-23	1955	27.7	28.7	60.24	0.9	2.73	0.119	0.013	9.23	SLO_FO
DTR-23	1956	28.7	29.7	61.12	0.5	1.92	0.112	0.014	9.18	SLO_FO
DTR-23	1957	29.7	30.7	61.56	0.8	2.17	0.12	0.012	8	SLO_FO
DTR-23	1958	30.7	31.7	53.45	6.64	7.48	0.137	0.015	7.95	Limonite
DTR-23	1959	31.7	32.7	63.97	0.38	1.41	0.103	0.01	5.8	SLO_FO
DTR-23	1960	32.7	33.7	64.19	0.25	1.79	0.087	0.009	5.27	SLO_FO
DTR-23	1961	33.7	34.7	56.3	2.8	4.98	0.144	0.015	10.42	Limonitic Ore
DTR-23	1962	34.7	35.7	48.09	8.06	10.78	0.129	0.016	10.4	Limonite
DTR-23	1963	35.7	36.7	59.7	1.2	2.8	0.13	0.013	9.43	Limonitic Ore
DTR-23	1964	36.7	37.7	61.78	0.5	1.91	0.121	0.011	8.25	SLO_FO
DTR-23	1965	37.7	38.7	60.9	0.7	1.97	0.118	0.012	9.25	SLO_FO
DTR-23	1966	38.7	39.7	61.56	0.42	1.7	0.123	0.011	8.85	SLO_FO
DTR-23	1967	39.7	40.7	61.56	0.36	1.68	0.115	0.014	8.93	HLO
DTR-23	1968	40.7	41.7	61.45	0.3	1.78	0.122	0.013	9.05	SLO_FO
DTR-23	1969	41.7	42.7	62	0.28	1.74	0.102	0.011	8.32	SLO_FO
DTR-23	1970	42.7	43.7	62.22	0.44	1.77	0.108	0.01	7.82	SLO_FO
DTR-23	1971	43.7	44.7	61.34	0.32	1.97	0.121	0.012	9	SLO_FO
DTR-23	1972	44.7	45.7	61.34	0.38	2.11	0.124	0.013	8.8	SLO_FO
DTR-23	1973	45.7	46.7	61.78	0.3	2.05	0.11	0.01	8.31	SLO_FO
DTR-23	1974	46.7	47.7	61.56	0.25	1.62	0.109	0.011	9.1	SLO_FO
DTR-23	1975	47.7	48.7	61.78	0.24	2.22	0.107	0.012	8.2	SLO_FO
DTR-23	1976	48.7	49.7	63.97	0.62	1.46	0.093	0.009	5.45	HLO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-23	1977	49.7	50.7	64.96	0.35	1.59	0.086	0.008	4.37	SLO_FO
DTR-23	1978	50.7	51.7	64.19	0.8	1.71	0.088	0.007	4.9	SLO_FO
DTR-23	1979	51.7	52.7	64.85	0.36	1.61	0.083	0.007	4.5	SLO_FO
DTR-23	1980	52.7	53.7	64.52	0.25	1.69	0.08	0.008	5	SLO_FO
DTR-23	1981	53.7	54.7	65.17	0.21	1.12	0.078	0.006	4.68	SLO_FO
DTR-23	1982	54.7	55.7	65.17	0.26	1.04	0.076	0.007	4.71	SLO_FO
DTR-23	1983	55.7	56.7	66.82	0.18	1.05	0.068	0.005	2.42	SLO_FO
DTR-23	1984	56.7	57.7	66.82	0.2	1.12	0.065	0.004	2.33	SLO_FO
DTR-23	1985	57.7	58.7	66.05	0.44	1.11	0.066	0.005	3.2	SLO_FO
DTR-23	1986	58.7	59.7	65.06	0.3	1.07	0.072	0.007	4.8	SLO_FO
DTR-23	1987	59.7	60.7	65.5	0.35	1.21	0.073	0.007	3.98	SLO_FO
DTR-23	1988	60.7	61.7	64.83	0.28	1.49	0.085	0.009	4.6	SLO_FO
DTR-23	1989	61.7	62.7	64.08	0.4	2.02	0.087	0.007	5.15	SLO_FO
DTR-23	1990	62.7	63.7	64.08	0.56	1.81	0.087	0.008	5.2	SLO_FO
DTR-23	1991	63.7	64.7	62.55	0.38	2.08	0.098	0.01	7.1	SLO_FO
DTR-23	1992	64.7	65.7	63.31	0.3	1.87	0.094	0.009	6.3	SLO_FO
DTR-23	1993	65.7	66.7	62.22	0.46	2.12	0.101	0.011	7.45	SLO_FO
DTR-23	1994	66.7	67.7	63.86	0.38	1.71	0.095	0.009	5.6	SLO_FO
DTR-23	1995	67.7	68.7	61.56	0.5	1.77	0.11	0.013	8.7	SLO_FO
DTR-23	1996	68.7	69.7	61.34	1.34	1.45	0.119	0.014	8.6	SLO_FO
DTR-23	1997	69.7	70.7	61.56	0.6	1.65	0.103	0.012	8.72	SLO_FO
DTR-23	1998	70.7	71.7	65.17	0.3	1.15	0.077	0.008	4.56	SLO_FO
DTR-23	1999	71.7	72.7	66.16	0.48	1.12	0.07	0.006	3	SLO_FO
DTR-23	2000	72.7	73.7	64.41	0.34	1.92	0.09	0.008	4.79	SLO_FO
DTR-23	2001	73.7	74.7	62.98	0.45	1.59	0.099	0.01	6.9	SLO_FO
DTR-23	2002	74.7	75.7	62.11	0.32	2.27	0.107	0.011	7.6	SLO_FO
DTR-23	2003	75.7	76.7	61.67	0.27	1.97	0.12	0.013	8.6	SLO_FO
DTR-23	2004	76.7	77.7	62.44	0.42	1.94	0.109	0.01	7.36	SLO_FO
DTR-23	2005	77.7	78.7	61.34	0.38	2.16	0.126	0.014	8.75	SLO_FO
DTR-23	2006	78.7	79.7	60.79	0.8	1.92	0.129	0.015	9.36	SLO_FO
DTR-23	2007	79.7	80.7	57.11	0.98	7.22	0.151	0.017	8.24	Limonitic Ore
DTR-23	2008	80.7	81.7	60.06	0.65	3.24	0.112	0.013	9.03	SLO_FO
DTR-23	2009	81.7	82.7	60.06	2.04	1.71	0.109	0.012	9.37	SLO_FO
DTR-23	2010	82.7	83.7	61.59	0.74	2.84	0.107	0.01	7.15	SLO_FO
DTR-23	2011	83.7	84.7	60.28	0.35	3.18	0.11	0.014	9.07	SLO_FO
DTR-23	2012	84.7	85.7	59.41	1.4	4.11	0.128	0.015	7.84	Limonitic Ore
DTR-23	2013	85.7	86.7	57.88	2	4.96	0.14	0.017	8.48	Limonitic Ore
DTR-23	2014	86.7	87.7	58.97	2.8	3.28	0.134	0.014	8.4	Limonitic Ore
DTR-23	2015	87.7	88.7	59.63	1.5	2.6	0.12	0.013	8.93	Limonitic Ore
DTR-23	2016	88.7	89.7	60.61	0.9	4.02	0.112	0.012	7.21	SLO_FO
DTR-23	2017	89.7	90.7	57.55	1.55	6.57	0.139	0.016	8.28	SLO_FO
DTR-23	2018	90.7	91.7	58.75	2.5	3.78	0.127	0.015	8.21	SLO_FO
DTR-23	2019	91.7	92.7	63.12	0.55	1.29	0.105	0.01	6.9	SLO_FO
DTR-23	2020	92.7	93.7	64.87	0.4	1.59	0.083	0.008	4.45	SLO_FO
DTR-23	2021	93.7	94.7	61.16	3.2	1.65	0.113	0.014	6.7	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-23	2022	94.7	95.7	59.84	1.8	3.04	0.126	0.016	8.3	SLO_FO
DTR-23	2023	95.7	96.7	58.53	1.5	4.73	0.131	0.013	8.58	SLO_FO
DTR-23	2024	96.7	97.7	56.35	6.5	2.5	0.135	0.016	9.3	SLO_FO
DTR-23	2025	97.7	98.7	60.5	2.2	2.16	0.117	0.012	7.83	SLO_FO
DTR-23	2026	98.7	99.7	60.33	2.7	1.96	0.103	0.011	8.07	SLO_FO
DTR-23	2027	99.7	100.7	56.79	6.9	2.07	0.141	0.015	8.53	SLO_FO
DTR-23	2028	100.7	101.7	53.73	8	5.13	0.13	0.016	8.54	SLO_FO
DTR-23	2029	101.7	102.7	49.8	8.8	7.82	0.127	0.014	10.17	Feruginous Shale
DTR-23	2030	102.7	104	38.22	7.2	24.4	0.158	0.021	11.25	Feruginous Shale
DTR-24	2031	0	1	67.86	0.35	0.55	0.067	0.005	1.5	HLO
DTR-24	2032	1	2	65.09	0.6	1.38	0.071	0.006	4.25	HLO
DTR-24	2033	2	3	63.23	0.65	1.34	0.097	0.01	6.65	HLO
DTR-24	2034	3	4	61.81	1.23	2.21	0.119	0.013	7.08	HLO
DTR-24	2035	4	5	64.76	0.76	1.09	0.088	0.008	4.75	HLO
DTR-24	2036	5	6	66.18	0.5	0.8	0.065	0.007	3.37	HLO
DTR-24	2037	6	7	65.41	0.41	0.85	0.075	0.006	4.51	HLO
DTR-24	2038	7	8	63.99	0.38	0.99	0.09	0.009	6.33	HLO
DTR-24	2039	8	9	64.32	0.35	1.08	0.083	0.008	5.9	HLO
DTR-24	2040	9	10	63.34	0.44	1.37	0.092	0.009	6.72	SLO_FO
DTR-24	2041	10	11	67.08	0.36	0.53	0.067	0.004	2.69	SLO_FO
DTR-24	2042	11	12	65.96	0.25	0.63	0.072	0.007	4	HLO
DTR-24	2043	12	13	65.2	0.38	0.94	0.077	0.007	4.55	SLO_FO
DTR-24	2044	13	14	63.56	0.35	1.16	0.096	0.01	6.8	SLO_FO
DTR-24	2045	14	15	62.47	0.6	1.51	0.101	0.011	7.56	SLO_FO
DTR-24	2046	15	16	63.56	0.4	1.11	0.098	0.009	6.7	SLO_FO
DTR-24	2047	16	17	61.16	0.35	2.36	0.11	0.013	8.64	SLO_FO
DTR-24	2048	17	18	62.14	0.3	1.84	0.109	0.011	8	SLO_FO
DTR-24	2049	18	19	63.78	0.5	1.39	0.094	0.009	5.91	HLO
DTR-24	2050	19	20	63.99	0.29	1.2	0.091	0.007	6.31	HLO
DTR-24	2051	20	21	63.78	0.35	1.45	0.097	0.01	6	HLO
DTR-24	2052	21	22	63.78	0.45	1.25	0.095	0.009	6.3	HLO
DTR-24	2053	22	23	63.56	0.3	1.31	0.092	0.008	6.6	HLO
DTR-24	2054	23	24	62.9	0.66	1.99	0.099	0.011	6.41	HLO
DTR-24	2055	24	25	63.56	0.26	1.26	0.09	0.009	6.65	HLO
DTR-24	2056	25	26	65.96	0.46	1.12	0.069	0.004	3.3	HLO
DTR-24	2057	26	27	65.85	0.35	1.04	0.066	0.005	3.65	HLO
DTR-24	2058	27	28	66.4	0.34	0.86	0.064	0.007	3.2	HLO
DTR-24	2059	28	29	62.52	0.6	0.98	0.073	0.006	4.1	HLO
DTR-24	2060	29	30	65.41	0.65	0.79	0.07	0.008	4.38	HLO
DTR-24	2061	30	31	65.31	0.55	1.03	0.077	0.006	4.23	HLO
DTR-24	2062	31	32	65.31	0.3	0.76	0.074	0.005	4.74	HLO
DTR-24	2063	32	33	65.52	0.25	1.09	0.073	0.006	4.27	HLO
DTR-24	2064	33	34	65.2	0.4	1.17	0.07	0.007	4.5	HLO
DTR-24	2065	34	35	62.03	0.68	2.49	0.115	0.013	6.93	HLO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-24	2066	35	36	63.34	0.32	1.33	0.096	0.01	6.78	HLO
DTR-24	2067	36	37	61.16	0.48	2.17	0.13	0.014	8.7	HLO
DTR-24	2068	37	38	38.66	5.2	25.32	0.147	0.022	11.2	Limonite
DTR-24	2069	38	39	54.82	1.7	8.23	0.135	0.015	10.18	Limonite
DTR-24	2070	39	40	56.13	1.6	6.74	0.14	0.016	9.9	Limonitic Ore
DTR-24	2071	40	41	6.5	0.8	1.77	0.114	0.012	9.62	Limonite
DTR-24	2072	41	42	60.28	1	1.86	0.12	0.011	9.5	SLO_FO
DTR-24	2073	42	43	60.61	0.95	1.48	0.123	0.014	9.6	SLO_FO
DTR-24	2074	43	44	61.92	0.65	1.31	0.118	0.011	9.3	SLO_FO
DTR-24	2075	44	45	62.14	0.45	1.89	0.104	0.01	7.8	SLO_FO
DTR-24	2076	45	46	62.68	0.3	1.62	0.097	0.009	7.45	HLO
DTR-24	2077	46	47	64.43	0.5	1.82	0.079	0.008	4.75	HLO
DTR-24	2078	47	48	62.68	0.4	1.67	0.103	0.009	7.3	HLO
DTR-24	2079	48	49	64.21	0.5	1.93	0.082	0.007	4.95	HLO
DTR-24	2080	49	50	63.12	0.6	1.29	0.096	0.009	6.85	HLO
DTR-24	2081	50	51	64.54	0.4	1.71	0.09	0.009	4.8	HLO
DTR-24	2082	51	52	65.31	0.55	1.01	0.071	0.008	4.4	HLO
DTR-24	2083	52	53	60.94	1	1.26	0.108	0.013	9.3	HLO
DTR-24	2084	53	54	63.56	0.45	1.01	0.096	0.01	6.65	HLO
DTR-24	2085	54	55	45.21	10.64	12.41	0.131	0.021	9.5	Laterite
DTR-24	2086	55	56	30.36	19.84	25.4	0.153	0.02	8.55	Laterite
DTR-24	2087	56	57	33.85	21.8	21.14	0.142	0.018	5.86	Laterite
DTR-24	2088	57	58	44.34	18.84	9.06	0.128	0.016	6.2	Laterite
DTR-24	2089	58	59	40.08	11.2	23.26	0.15	0.019	5.73	Feruginous Shale
DTR-24	2090	59	60	21.46	17.94	38.65	0.137	0.022	8.83	Feruginous Shale
DTR-24	2091	60	61	45.32	11.9	13.3	1.134	0.018	7.2	Feruginous Shale
DTR-24	2092	61	62	52.42	10.2	9.69	0.148	0.015	3.35	Feruginous Shale
DTR-24	2093	62	63	49.8	8.65	7.77	0.13	0.017	10.37	Feruginous Shale
DTR-24	2094	63	64	53.73	8.6	9.92	0.127	0.016	2.85	Tuff
DTR-24	2095	64	65	62.36	0.9	1.13	0.102	0.011	7.8	SLO_FO
DTR-24	2096	65	66	33.63	19.9	22.41	0.141	0.02	6.8	Feruginous Shale
DTR-24	2097	66	67	51.65	10.3	10.56	0.153	0.016	3.49	Feruginous Shale
DTR-24	2098	67	68	49.58	12.2	10.94	0.125	0.015	3.97	Feruginous Shale
DTR-24	2099	68	69	33.69	16.28	26.65	0.159	0.02	6.1	Tuff
DTR-24	2100	69	70	49.6	8.8	7.86	0.147	0.018	10.42	Feruginous Shale
DTR-24	2101	70	71	48.72	9	8.9	0.14	0.017	10.44	Feruginous Shale
DTR-24	2102	71	72	50.48	9.8	11.02	0.126	0.015	5.2	Feruginous Shale
DTR-24	2103	72	73	53.44	11.4	8.29	0.144	0.014	2.1	Feruginous Shale

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-24	2104	73	74	53.99	8.7	8.8	0.132	0.015	3.5	Feruginous Shale
DTR-24	2105	74	75	52.23	8.9	10.77	0.137	0.017	3.85	Feruginous Shale
DTR-24	2106	75	76	51.79	13.1	8.3	0.147	0.019	2.85	Feruginous Shale
DTR-24	2107	76	77	51.24	11.7	9.93	0.134	0.017	3.3	Feruginous Shale
DTR-24	2108	77	78	52.01	10.5	9.88	0.131	0.015	3.45	Feruginous Shale
DTR-24	2109	78	79	48.83	12.02	12.87	0.12	0.014	2.79	Feruginous Shale
DTR-24	2110	79	80	59.25	5.28	6.41	0.118	0.012	2.39	Lateritic Ore
DTR-25	2111	0	1	54.21	4.8	11.26	0.145	0.016	4.62	Limonite
DTR-25	2112	1	2	55.52	4.5	8.61	0.129	0.014	5.7	Limonitic Ore
DTR-25	2113	2	3	53.55	4.7	7.23	0.144	0.016	9.7	Limonite
DTR-25	2114	3	4	53.77	4.3	7.54	0.133	0.014	9.47	Limonite
DTR-25	2115	4	5	54.97	1.3	8.15	0.148	0.017	10.15	Limonite
DTR-25	2116	5	6	53.55	2.7	8.3	0.155	0.015	10.63	Limonite
DTR-25	2117	6	7	53.22	5.14	6.95	0.14	0.014	10.01	Limonite
DTR-25	2118	7	8	56.18	2.5	7.79	0.13	0.016	7.88	Limonitic Ore
DTR-25	2119	8	9	53.44	2.8	8.45	0.151	0.018	10.54	Limonite
DTR-25	2120	9	10	62	0.7	1.49	0.105	0.011	8.15	SLO_FO
DTR-25	2121	10	11	56.62	2.7	7.7	0.132	0.015	7.14	Limonitic Ore
DTR-25	2122	11	12	56.18	2.66	4.86	0.143	0.017	10.65	Limonitic Ore
DTR-25	2123	12	13	60.35	1	2.03	0.11	0.013	9.67	SLO_FO
DTR-25	2124	13	14	58.6	1.8	3.86	0.122	0.016	9.25	HLO
DTR-25	2125	14	15	63.21	0.7	1.13	0.102	0.01	6.78	SLO_FO
DTR-25	2126	15	16	61.01	0.6	1.81	0.117	0.012	9.15	HLO
DTR-25	2127	16	17	58.6	1.88	3.4	0.129	0.017	9.73	Limonitic Ore
DTR-25	2128	17	18	61.01	0.45	1.83	0.121	0.016	9.48	SLO_FO
DTR-25	2129	18	19	59.69	1.1	2.21	0.135	0.014	10.04	Limonitic Ore
DTR-25	2130	19	20	61.01	0.4	1.98	0.116	0.015	9.38	SLO_FO
DTR-25	2131	20	21	63.64	0.25	1.48	0.098	0.009	6.27	HLO
DTR-25	2132	21	22	60.79	0.3	1.92	0.109	0.011	9.86	HLO
DTR-25	2133	22	23	61.45	0.2	1.17	0.12	0.014	9.76	SLO_FO
DTR-25	2134	23	24	63.64	0.2	1.23	0.097	0.01	6.57	SLO_FO
DTR-25	2135	24	25	65.29	0.38	1.97	0.072	0.007	3.49	SLO_FO
DTR-25	2136	25	26	64.74	0.25	1.48	0.086	0.008	4.9	SLO_FO
DTR-25	2137	26	27	63.75	0.35	3.1	0.093	0.009	4.39	SLO_FO
DTR-25	2138	27	28	64.52	0.25	1.93	0.082	0.009	4.76	SLO_FO
DTR-25	2139	28	29	62.33	0.85	2.52	0.11	0.011	6.5	SLO_FO
DTR-25	2140	29	30	63.75	0.4	1.64	0.097	0.009	5.8	SLO_FO
DTR-25	2141	30	31	63.42	0.25	1.96	0.104	0.01	6.1	SLO_FO
DTR-25	2142	31	32	63.31	0.32	1.91	0.102	0.011	6.24	SLO_FO
DTR-25	2143	32	33	62.44	0.42	2.07	0.112	0.012	7.23	SLO_FO
DTR-25	2144	33	34	61.67	0.27	2.19	0.115	0.011	8.06	SLO_FO
DTR-25	2145	34	35	60.57	0.4	3.28	0.13	0.014	8.41	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-25	2146	35	36	60.9	0.37	2.58	0.122	0.013	8.65	SLO_FO
DTR-25	2147	36	37	63.53	0.25	1.76	0.101	0.012	6.15	SLO_FO
DTR-25	2148	37	38	62.22	0.39	2.77	0.124	0.013	6.67	SLO_FO
DTR-25	2149	38	39	64.3	0.26	1.66	0.09	0.008	5.34	SLO_FO
DTR-25	2150	39	40	60.13	0.48	3.74	0.115	0.014	8.5	SLO_FO
DTR-25	2151	40	41	62.88	0.4	2.01	0.109	0.012	6.68	SLO_FO
DTR-25	2152	41	42	60.13	0.35	3.66	0.118	0.014	8.71	SLO_FO
DTR-25	2153	42	43	55.52	3.5	5.55	0.141	0.02	9.86	Limonitic Ore
DTR-25	2154	43	44	58.05	2.28	4.95	0.131	0.016	8.16	Limonitic Ore
DTR-25	2155	44	45	59.47	1.7	2.86	0.14	0.015	9.1	Limonitic Ore
DTR-25	2156	45	46	62.77	0.76	2.26	0.113	0.013	6.12	SLO_FO
DTR-25	2157	46	47	60.57	0.59	2.93	0.108	0.012	8.57	SLO_FO
DTR-25	2158	47	48	61.23	0.45	2.27	0.114	0.013	8.53	SLO_FO
DTR-25	2159	48	49	60.9	1.06	2.53	0.125	0.015	8.03	SLO_FO
DTR-25	2160	49	50	61.12	0.8	1.9	0.12	0.014	8.7	SLO_FO
DTR-25	2161	50	51	61.23	0.35	2.49	0.141	0.015	8.41	SLO_FO
DTR-25	2162	51	52	61.12	0.27	2.08	0.132	0.014	9.05	SLO_FO
DTR-25	2163	52	53	61.01	0.46	1.82	0.139	0.016	9.28	SLO_FO
DTR-25	2164	53	54	61.67	0.37	1.72	0.119	0.014	8.63	SLO_FO
DTR-25	2165	54	55	62.08	0.65	2.3	0.113	0.012	7.08	SLO_FO
DTR-25	2166	55	56	60.02	0.53	3.02	0.135	0.016	9.33	SLO_FO
DTR-25	2167	56	57	61.01	0.44	1.77	0.106	0.013	9.35	SLO_FO
DTR-25	2168	57	58	61.12	0.32	2.11	0.115	0.012	8.97	SLO_FO
DTR-25	2169	58	59	61.34	0.29	2.25	0.123	0.014	8.55	SLO_FO
DTR-25	2170	59	60	60.13	0.48	3.24	0.137	0.017	9	SLO_FO
DTR-25	2171	60	61	36.87	1.56	33.98	0.139	0.022	8.24	Limonite
DTR-25	2172	61	62	46.96	1.19	18.71	0.142	0.019	10.25	SLO_FO
DTR-25	2173	62	63	53.44	1.07	11.28	0.15	0.016	9.25	SLO_FO
DTR-25	2174	63	64	62.22	0.45	1.56	0.103	0.01	8.02	SLO_FO
DTR-25	2175	64	65	61.23	0.6	2.8	0.121	0.011	8.05	SLO_FO
DTR-25	2176	65	66	60.35	0.7	2.44	0.136	0.015	9.26	SLO_FO
DTR-25	2177	66	67	61.67	0.5	2.39	0.124	0.013	7.73	SLO_FO
DTR-25	2178	67	68	62.11	0.4	1.68	0.114	0.012	8.11	SLO_FO
DTR-25	2179	68	69	61.01	0.35	2.29	0.125	0.015	9.02	SLO_FO
DTR-25	2180	69	70	61.45	0.28	1.72	0.117	0.014	9.13	SLO_FO
DTR-25	2181	70	71	60.57	0.35	2.65	0.14	0.014	9.19	SLO_FO
DTR-25	2182	71	72	61.01	0.32	1.89	0.13	0.015	9.55	SLO_FO
DTR-25	2183	72	73	62.55	0.27	1.29	0.109	0.011	8	SLO_FO
DTR-25	2184	73	74	61.01	0.3	2.23	0.112	0.013	9.23	SLO_FO
DTR-25	2185	74	75	60.79	0.45	2.11	0.122	0.012	9.32	SLO_FO
DTR-25	2186	75	76	60.35	0.38	2.8	0.131	0.015	9.34	SLO_FO
DTR-25	2187	76	77	61.23	0.46	2.49	0.137	0.013	8.3	SLO_FO
DTR-25	2188	77	78	60.79	0.24	2.3	0.126	0.015	9.34	SLO_FO
DTR-25	2189	78	79	61.89	0.25	2.56	0.113	0.013	7.59	SLO_FO
DTR-25	2190	79	80	61.89	0.3	2.47	0.108	0.011	7.63	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-25	2191	80	81	61.45	0.25	1.67	0.125	0.013	9.21	SLO_FO
DTR-25	2192	81	82	62.47	0.22	1.38	0.108	0.01	7.95	SLO_FO
DTR-25	2193	82	83	62	0.3	1.77	0.103	0.011	8.17	SLO_FO
DTR-25	2194	83	84	63.42	0.2	1.06	0.096	0.009	7.05	SLO_FO
DTR-25	2195	84	85	61.67	0.32	2.38	0.124	0.012	8.02	SLO_FO
DTR-25	2196	85	86	61.89	0.2	2.46	0.116	0.011	7.74	SLO_FO
DTR-25	2197	86	87	62.27	0.35	1.46	0.102	0.01	8.15	SLO_FO
DTR-25	2198	87	88	62.55	0.3	1.29	0.098	0.011	7.97	SLO_FO
DTR-25	2199	88	89	62.44	0.22	1.39	0.095	0.01	8.11	SLO_FO
DTR-25	2200	89	90	59.91	0.7	4.29	0.123	0.015	8.04	Limonic Ore
DTR-26	2201	0	12	61.01	0.43	1.74	0.12	0.013	9.39	BHJ_BHQ_BMO
DTR-27	2202	0	1	64.4	0.16	1.15	0.086	0.009	5.9	HLO
DTR-27	2203	1	2	61.07	0.6	2.57	0.13	0.015	8.5	HLO
DTR-27	2204	2	3	62.89	1.5	0.77	0.106	0.01	7	HLO
DTR-27	2205	3	4	62.68	1.65	1.06	0.111	0.014	6.86	HLO
DTR-27	2206	4	5	61.18	1.8	1.58	0.127	0.012	8.14	HLO
DTR-27	2207	5	6	63.86	0.96	1.55	0.095	0.008	5.28	HLO
DTR-27	2208	6	7	62.46	0.5	1.69	0.108	0.017	7.7	HLO
DTR-27	2209	7	8	61.39	1.68	2.28	0.124	0.009	7.26	HLO
DTR-27	2210	8	9	63.54	0.98	1.16	0.098	0.01	6.1	HLO
DTR-27	2211	9	10	65.25	0.76	1.06	0.078	0.07	4.18	SLO_FO
DTR-27	2212	10	11	65.79	0.38	0.55	0.076	0.008	4.3	HLO
DTR-27	2213	11	12	65.36	0.47	0.69	0.077	0.009	4.88	HLO
DTR-27	2214	12	13	66.11	0.34	1.23	0.075	0.005	3.4	HLO
DTR-27	2215	13	14	65.47	0.62	0.82	0.077	0.008	4.24	HLO
DTR-27	2216	14	15	64.83	0.85	1.27	0.08	0.007	4.48	HLO
DTR-27	2217	15	16	66.44	0.26	0.96	0.071	0.004	3.28	HLO
DTR-27	2218	16	17	64.83	0.78	0.4	0.079	0.008	5.52	HLO
DTR-27	2219	17	18	65.25	0.86	0.94	0.079	0.008	4.2	HLO
DTR-27	2220	18	19	65.36	0.37	1.42	0.078	0.007	4.05	SLO_FO
DTR-27	2221	19	20	63.54	0.9	1.14	0.097	0.011	6.2	SLO_FO
DTR-27	2222	20	21	62.36	0.54	1.87	0.109	0.018	7.62	SLO_FO
DTR-27	2223	21	22	64.18	0.24	1.31	0.089	0.008	5.98	SLO_FO
DTR-27	2224	22	23	63.54	0.84	1.28	0.098	0.012	6.12	SLO_FO
DTR-27	2225	23	24	59.57	4.62	1.5	0.137	0.016	7.7	SLO_FO
DTR-27	2226	24	25	41.21	12.3	15.41	0.145	0.027	10.86	SLO_FO
DTR-27	2227	25	26	63.32	1.03	1.53	0.095	0.009	6	SLO_FO
DTR-27	2228	26	27	64.93	0.7	0.88	0.078	0.008	4.88	SLO_FO
DTR-27	2229	27	28	63.97	0.8	1.27	0.09	0.007	5.56	SLO_FO
DTR-27	2230	28	29	47.65	10.8	9.41	0.139	0.024	9.65	HLO
DTR-27	2231	29	30	63.97	0.3	1.32	0.098	0.011	6.1	SLO_FO
DTR-27	2232	30	31	64.18	0.2	1.42	0.087	0.009	5.9	SLO_FO
DTR-27	2233	31	32	63.86	0.26	1.58	0.096	0.01	6.05	SLO_FO
DTR-27	2234	32	33	63.54	0.18	2.35	0.092	0.012	5.8	HLO
DTR-27	2235	33	34	64.72	0.1	1.68	0.088	0.009	4.98	HLO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-27	2236	34	35	64.07	0.6	1.95	0.09	0.007	5.12	HLO
DTR-27	2237	35	36	65.04	0.4	0.8	0.074	0.008	5.1	HLO
DTR-27	2238	36	37	62.68	0.72	2.68	0.109	0.016	5.95	HLO
DTR-27	2239	37	38	63.11	0.35	2.4	0.089	0.008	6.2	HLO
DTR-27	2240	38	39	62.89	0.45	2.26	0.108	0.015	6.35	HLO
DTR-27	2241	39	40	63.54	0.25	2.18	0.093	0.012	5.9	HLO
DTR-27	2242	40	41	63.11	0.5	2.27	0.088	0.009	6.28	HLO
DTR-27	2243	41	42	63.86	1	0.88	0.097	0.011	6	HLO
DTR-27	2244	42	43	64.61	0.4	1.44	0.086	0.009	5.04	HLO
DTR-27	2245	43	44	64.4	0.45	1.88	0.085	0.008	4.88	HLO
DTR-27	2246	44	45	61.61	0.38	2.82	0.118	0.019	7.7	HLO
DTR-27	2247	45	46	60.75	0.85	3.74	0.124	0.013	7.54	HLO
DTR-27	2248	46	47	63.54	0.65	1.48	0.107	0.012	6.26	HLO
DTR-27	2249	47	48	60.85	0.9	3.04	0.118	0.013	8.05	HLO
DTR-27	2250	48	49	61.39	0.6	2.62	0.127	0.012	8	HLO
DTR-27	2251	49	50	62.14	0.92	1.24	0.128	0.014	8.08	SLO_FO
DTR-27	2252	50	51	62.03	0.46	2.15	0.114	0.016	7.9	SLO_FO
DTR-27	2253	51	52	61.39	0.8	1.58	0.121	0.015	8.94	SLO_FO
DTR-27	2254	52	53	63	0.3	0.84	0.096	0.011	8	SLO_FO
DTR-27	2255	53	54	62.57	0.4	1.78	0.11	0.013	7.55	SLO_FO
DTR-27	2256	54	55	60.85	0.95	2.54	0.117	0.014	8.5	SLO_FO
DTR-27	2257	55	56	61.71	0.5	1.28	0.116	0.018	9	SLO_FO
DTR-27	2258	56	57	61.61	0.75	0.85	0.118	0.017	9.1	SLO_FO
DTR-27	2259	57	58	61.18	0.95	1.42	0.13	0.011	9.25	SLO_FO
DTR-27	2260	58	59	54.31	0.8	9.05	0.148	0.021	10.48	Limonite
DTR-27	2261	59	60	53.34	9.4	3.83	0.152	0.022	8.5	Limonite
DTR-27	2262	60	61	47.01	15.24	5.04	0.143	0.026	10.3	Limonite
DTR-27	2263	61	62	59.78	1.4	4.01	0.134	0.012	7	Limonitic Ore
DTR-27	2264	62	63	60.53	0.9	2.38	0.128	0.015	8.18	SLO_FO
DTR-27	2265	63	64	47.65	12.6	7.58	0.142	0.026	9.18	Limonite
DTR-27	2266	64	65	40.03	23.5	8.12	0.151	0.032	8.65	Limonite
DTR-27	2267	65	66	41	20.26	9.92	0.146	0.028	8.8	Limonite
DTR-27	2268	66	67	46.58	13.18	7.66	0.148	0.03	10.56	Limonite
DTR-27	2269	67	68	58.06	3.9	2.04	0.141	0.014	9.05	Limonite
DTR-27	2270	68	69	45.4	13.7	10.02	0.144	0.027	9.25	Limonite
DTR-27	2271	69	70	51.84	5.75	9.12	0.153	0.024	9	Limonite
DTR-27	2272	70	71	57.31	2.86	4.22	0.145	0.018	8.95	Limonite
DTR-27	2273	71	72	61.93	0.84	1.18	0.116	0.015	8.44	SLO_FO
DTR-27	2274	72	73	62.03	0.75	0.8	0.109	0.012	8.9	SLO_FO
DTR-28	2275	0	1	62.03	0.5	1.56	0.105	0.016	8.44	HLO
DTR-28	2276	1	2	60.32	2.1	1.97	0.129	0.017	8.68	HLO
DTR-28	2277	2	3	61.16	2.25	1.29	0.117	0.018	7.36	HLO
DTR-28	2278	3	4	56.35	3.8	6.18	0.148	0.02	8.14	Limonitic Ore
DTR-28	2279	4	5	56.78	3.75	5.74	0.147	0.019	8.02	Limonitic Ore
DTR-28	2280	5	6	59.46	3.5	1.26	0.14	0.013	8.92	Limonitic Ore

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-28	2281	6	7	55.7	4.95	4.86	0.149	0.022	8.64	SLO_FO
DTR-28	2282	7	8	47.54	10.8	11.26	0.143	0.023	7.96	Limonite
DTR-28	2283	8	9	23.61	48.46	10.16	0.201	0.021	4.62	Limonite
DTR-28	2284	9	10	21.03	49.05	11.94	0.204	0.022	5.94	Limonite
DTR-28	2285	10	11	18.46	62.1	6.49	0.203	0.02	2.72	Limonite
DTR-28	2286	11	12	18.89	61.6	6.58	0.202	0.021	2.51	Limonite
DTR-28	2287	12	13	21.46	48.76	12.41	0.203	0.021	5.15	Limonite
DTR-28	2288	13	14	17.17	66.62	2.71	0.213	0.026	3.82	Limonite
DTR-28	2289	14	15	19.1	58.64	9.37	0.144	0.014	2.38	Limonite
DTR-28	2290	15	16	21.25	43.85	14.83	0.205	0.024	7.94	Limonite
DTR-28	2291	16	17	25.76	26.88	23.59	0.196	0.018	9.7	Limonite
DTR-28	2292	17	18	18.67	44.9	17.41	0.204	0.023	8.7	Tuff
DTR-28	2293	18	19	25.97	24.44	27.43	0.194	0.017	8	Tuff
DTR-28	2294	19	20	28.33	22.76	25.13	0.195	0.015	8.6	Tuff
DTR-28	2295	20	21	37.24	17.6	16.17	0.191	0.022	9.48	Limonite
DTR-28	2296	21	22	45.29	15.28	10.14	0.154	0.024	7.82	Limonite
DTR-28	2297	22	23	41.21	16.64	13.67	0.147	0.027	8.26	Limonite
DTR-28	2298	23	24	50.44	10.7	5.6	0.143	0.019	9.08	Limonite
DTR-28	2299	24	25	24.04	31.6	21.73	0.2	0.019	9.3	Limonite
DTR-28	2300	25	26	26.51	24.48	24.9	0.195	0.017	9.7	Limonite
DTR-28	2301	26	27	41.43	18.95	11.35	0.148	0.028	7.95	Limonite
DTR-28	2302	27	28	33.91	22.45	17.57	0.201	0.019	8.68	Limonite
DTR-28	2303	28	29	27.04	23.9	27.3	0.194	0.016	7.1	Limonite
DTR-28	2304	29	30	17.38	25.84	31.86	0.214	0.025	14.24	Tuff
DTR-28	2305	30	31	42.28	17.3	10.55	0.146	0.026	8.7	Tuff
DTR-28	2306	31	32	56.67	2.95	3.21	0.147	0.018	10.3	Limonitic Ore
DTR-28	2307	32	33	54.09	3.05	6.4	0.15	0.024	10.7	Limonite
DTR-28	2308	33	34	56.88	2.8	3.18	0.148	0.017	10.3	Limonitic Ore
DTR-28	2309	34	35	58.39	4.05	3.68	0.142	0.015	6.78	Limonitic Ore
DTR-28	2310	35	36	55.59	3.4	4.85	0.149	0.023	10.26	Limonitic Ore
DTR-28	2311	36	37	57.1	2.8	4.35	0.146	0.019	9.2	Limonitic Ore
DTR-28	2312	37	38	50.44	3.2	10.8	0.144	0.018	11.38	Limonite
DTR-28	2313	38	39	41.21	14.12	15.15	0.147	0.029	9.3	Limonite
DTR-28	2314	39	40	26.83	23.7	25.96	0.196	0.016	8.48	Limonite
DTR-28	2315	40	41	22.32	29.54	25.37	0.202	0.02	9.68	Limonite
DTR-28	2316	41	42	44.65	12.66	11.94	0.155	0.026	9.06	Limonite
DTR-28	2317	42	43	43.36	13.08	12.16	0.157	0.028	9.26	Limonite
DTR-28	2318	43	44	53.88	3.64	6.5	0.152	0.025	10.82	Limonite
DTR-28	2319	44	45	53.66	3.8	6.35	0.153	0.027	11.12	Tuff
DTR-28	2320	45	46	29.08	22.95	26.83	0.192	0.014	5.14	Limonite
DTR-28	2321	46	47	13.09	34.66	30.33	0.238	0.029	12.8	Limonite
DTR-28	2322	47	48	24.68	30.06	20.61	0.198	0.02	10.54	Limonite
DTR-28	2323	48	49	28.76	26.58	19.06	0.193	0.015	9.74	Limonite
DTR-28	2324	49	50	21.03	44.8	12.95	0.204	0.022	8.68	Limonite
DTR-28	2325	50	51	13.73	67.48	6.55	0.237	0.021	2.84	Limonite

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-28	2326	51	52	31.44	25.66	16.93	0.203	0.021	8.96	Limonite
DTR-28	2327	52	53	16.1	60.82	8.42	0.214	0.027	4.24	Limonite
DTR-28	2328	53	54	6.76	75.7	2.76	0.228	0.04	9.38	Limonite
DTR-28	2329	54	55	9.66	73.6	7.67	0.222	0.036	1.42	Limonite
DTR-28	2330	55	56	10.51	79	2	0.22	0.034	1.58	Limonite
DTR-28	2331	56	57	9.01	74.22	7.6	0.228	0.038	1.8	Limonite
DTR-28	2332	57	58	39.06	24.76	10.09	0.19	0.018	6.8	Limonite
DTR-28	2333	58	59	38.21	28.4	7.06	0.191	0.021	7.4	Limonite
DTR-28	2334	59	60	18.89	60.9	5.75	0.203	0.024	2.84	Limonite
DTR-28	2335	60	61	19.96	57.54	8.22	0.202	0.023	2.2	Limonite
DTR-28	2336	61	62	9.12	70.68	4.88	0.223	0.037	7.9	Limonite
DTR-28	2337	62	63	11.8	68.7	8.43	0.218	0.032	2.5	Limonite
DTR-28	2338	63	64	5.9	42.22	17.15	0.03	0.042	28.7	Limonite
DTR-28	2339	64	65	10.41	64.86	7.02	0.221	0.035	9.74	Limonite
DTR-28	2340	65	66	6.86	56.78	9.8	0.029	0.041	20.12	Limonite
DTR-28	2341	66	67	19.32	64.3	3	0.201	0.022	2.58	Limonite
DTR-28	2342	67	68	12.02	65.8	10.62	0.217	0.03	2.9	Limonite
DTR-28	2343	68	69	55.59	6.2	8.46	0.148	0.023	3.85	Limonitic Ore
DTR-28	2344	69	70	13.09	74.32	3.27	0.215	0.028	1.7	Limonite
DTR-28	2345	70	71	20.28	48.94	13.56	0.206	0.024	5	Limonite
DTR-28	2346	71	72	22.96	45.7	13.32	0.203	0.021	4.65	Tuff
DTR-28	2347	72	73	5.58	45.88	15.02	0.033	0.045	27.63	Tuff
DTR-28	2348	73	74	4.5	78.4	9.37	0.038	0.048	2.3	Tuff
DTR-28	2349	74	75	8.58	74.28	7.96	0.227	0.043	2	Tuff
DTR-28	2350	75	76	14.81	54.28	18.95	0.213	0.026	2.1	Tuff
DTR-28	2351	76	77	25.33	40.52	13.06	0.195	0.027	6.7	Tuff
DTR-28	2352	77	78	25.75	38.06	14.41	0.196	0.026	7.2	Tuff
DTR-28	2353	78	79	25	30.36	20.44	0.197	0.028	9.95	Tuff
DTR-28	2354	79	80	20.17	49.26	11.44	0.207	0.026	6.96	Tuff
DTR-28	2355	80	81	9.66	68.75	11.88	0.221	0.038	2.06	Tuff
DTR-28	2356	81	82	9.01	69.1	12.42	0.222	0.036	2.1	Feruginous Shale
DTR-28	2357	82	83	12.66	63.72	12.88	0.218	0.032	2.1	Feruginous Shale
DTR-28	2358	83	84	16.1	65.9	5.88	0.215	0.028	2	Feruginous Shale
DTR-28	2359	84	85	13.52	67.9	8.24	0.216	0.029	3.3	Feruginous Shale
DTR-28	2360	85	86	15.02	67.8	4.15	0.212	0.024	3.38	Feruginous Shale
DTR-28	2361	86	87	16.74	62.64	7.13	0.216	0.027	3.1	Feruginous Shale
DTR-28	2362	87	87.6	20.17	43.9	15.1	0.208	0.028	8.96	Feruginous Shale
DTR-29	2363	0	1	55.81	11.5	2.65	0.149	0.022	4.05	HLO
DTR-29	2364	1	2	56.67	6.05	2.72	0.147	0.021	8.2	HLO
DTR-29	2365	2	3	56.02	7	5.5	0.146	0.023	5.25	HLO
DTR-29	2366	3	4	64.29	1.2	1.07	0.087	0.009	5	HLO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-29	2367	4	5	61.71	2	3.26	0.113	0.012	5.6	HLO
DTR-29	2368	5	6	62.03	1.7	2.02	0.104	0.015	6.8	HLO
DTR-29	2369	6	7	59.03	3	6.59	0.135	0.017	4	HLO
DTR-29	2370	7	8	54.31	6.84	7.88	0.146	0.017	5.12	HLO
DTR-29	2371	8	9	57.31	4.6	3.47	0.145	0.016	7.98	HLO
DTR-29	2372	9	10	58.17	2.7	6.14	0.143	0.015	6.28	HLO
DTR-29	2373	10	11	58.28	3	6.62	0.144	0.016	5.34	HLO
DTR-29	2374	11	12	60.1	2.32	3.8	0.117	0.013	6.64	HLO
DTR-29	2375	12	13	59.46	3.5	5.5	0.119	0.014	4.28	HLO
DTR-29	2376	13	14	60.32	2.7	3.09	0.116	0.015	6.66	HLO
DTR-29	2377	14	15	61.07	1.1	2.7	0.113	0.014	7.68	HLO
DTR-29	2378	15	16	64.83	0.6	1.66	0.088	0.009	4.24	SLO_FO
DTR-29	2379	16	17	63.97	0.65	1.18	0.096	0.007	5.7	SLO_FO
DTR-29	2380	17	18	63.95	0.85	1.03	0.106	0.011	5.96	SLO_FO
DTR-29	2381	18	19	64.83	0.65	1.55	0.087	0.008	4.3	SLO_FO
DTR-29	2382	19	20	65.25	0.4	0.84	0.077	0.007	4.66	SLO_FO
DTR-29	2383	20	21	66.54	0.26	1.09	0.072	0.005	2.8	SLO_FO
DTR-29	2384	21	22	63.86	0.38	1.17	0.105	0.01	6.14	SLO_FO
DTR-29	2385	22	23	64.07	0.45	1.08	0.093	0.009	6.05	SLO_FO
DTR-29	2386	23	24	64.61	0.28	1.73	0.92	0.008	4.8	SLO_FO
DTR-29	2387	24	25	65.68	0.25	0.63	0.076	0.07	4.4	SLO_FO
DTR-29	2388	25	26	66.33	0.3	0.69	0.07	0.009	3.46	SLO_FO
DTR-29	2389	26	27	63.54	0.36	1.08	0.106	0.011	6.7	SLO_FO
DTR-29	2390	27	28	66.54	0.2	0.87	0.073	0.006	3.08	SLO_FO
DTR-29	2391	28	29	63.11	0.65	1.71	0.108	0.014	6.4	HLO
DTR-29	2392	29	30	65.68	0.3	0.72	0.077	0.006	4.26	HLO
DTR-29	2393	30	31	65.15	0.44	0.92	0.078	0.007	4.78	SLO_FO
DTR-29	2394	31	32	62.25	0.65	1.84	0.107	0.014	7.5	SLO_FO
DTR-29	2395	32	33	62.89	0.7	1.31	0.106	0.013	7.06	SLO_FO
DTR-29	2396	33	34	64.4	0.3	1.85	0.091	0.008	4.96	SLO_FO
DTR-29	2397	34	35	64.61	0.22	1.71	0.09	0.007	4.88	SLO_FO
DTR-29	2398	35	36	63.97	0.5	1.33	0.101	0.009	5.7	SLO_FO
DTR-29	2399	36	37	65.58	0.24	0.59	0.078	0.007	4.6	SLO_FO
DTR-29	2400	37	38	65.68	0.2	0.76	0.077	0.08	4.32	SLO_FO
DTR-29	2401	38	39	64.83	0.7	1.71	0.091	0.008	4.09	SLO_FO
DTR-29	2402	39	40	64.18	0.35	1.88	0.092	0.008	5.2	SLO_FO
DTR-29	2403	40	41	63.43	0.6	1.06	0.107	0.013	6.64	SLO_FO
DTR-29	2404	41	42	63.11	0.55	1.81	0.109	0.015	6.4	SLO_FO
DTR-29	2405	42	43	63.22	0.53	1.77	0.093	0.013	6.3	SLO_FO
DTR-29	2406	43	44	63.11	0.6	1.78	0.109	0.015	6.38	SLO_FO
DTR-29	2407	44	45	61.61	0.45	3.17	0.117	0.02	7.28	SLO_FO
DTR-29	2408	45	46	61.5	0.65	2.35	0.118	0.022	8.06	SLO_FO
DTR-29	2409	46	47	60.96	0.85	2.94	0.116	0.015	8.04	SLO_FO
DTR-29	2410	47	48	60.85	0.9	2.97	0.118	0.013	8.12	SLO_FO
DTR-29	2411	48	49	61.18	0.7	2.62	0.129	0.012	8.2	SLO_FO

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-29	2412	49	50	59.89	1.02	3.99	0.131	0.011	8.35	Limonitic Ore
DTR-29	2413	50	51	60.1	0.7	2.36	0.13	0.016	10	SLO_FO
DTR-29	2414	51	52	59.24	1.06	4.83	0.135	0.013	8.4	Limonitic Ore
DTR-29	2415	52	53	58.39	1.34	5.07	0.14	0.019	9	Limonitic Ore
DTR-29	2416	53	54	60.21	0.3	2.76	0.118	0.015	9.84	SLO_FO
DTR-29	2417	54	55	61.18	0.5	2.15	0.13	0.011	8.87	SLO_FO
DTR-29	2418	55	56	61.82	0.4	1.06	0.115	0.017	9.14	SLO_FO
DTR-29	2419	56	57	61.61	0.7	1.48	0.117	0.021	8.72	SLO_FO
DTR-29	2420	57	58	61.61	0.48	1.82	0.118	0.022	8.6	SLO_FO
DTR-29	2421	58	59	60.53	0.82	2.43	0.117	0.014	9.2	SLO_FO
DTR-29	2422	59	60	61.39	0.52	2.2	0.128	0.011	8.5	SLO_FO
DTR-29	2423	60	61	60.1	1.08	2.34	0.131	0.017	9.64	SLO_FO
DTR-29	2424	61	62	61.18	0.8	1.86	0.128	0.013	8.86	SLO_FO
DTR-29	2425	62	63	60.96	1.8	1.78	0.126	0.014	8.25	SLO_FO
DTR-29	2426	63	64	57.96	5.9	3.08	0.142	0.02	6.14	Limonitic Ore
DTR-29	2427	64	65	58.81	2.84	1.97	0.141	0.018	9.4	Limonitic Ore
DTR-29	2428	65	66	61.39	1.02	2.5	0.127	0.012	7.7	SLO_FO
DTR-29	2429	66	67	57.96	1.72	3.6	0.141	0.022	10.1	Limonitic Ore
DTR-29	2430	67	68	44.86	14.1	9.48	0.154	0.025	9.28	Feruginous Shale
DTR-29	2431	68	69	43.14	14.9	12.21	0.157	0.027	8.2	Feruginous Shale
DTR-29	2432	69	70	58.71	2.82	2.03	0.142	0.017	9.5	Lateritic Ore
DTR-29	2433	70	71	60.42	0.88	1.36	0.129	0.016	10.36	SLO_FO
DTR-29	2434	71	72	59.03	1.05	5.02	0.136	0.014	8.52	Limonitic Ore
DTR-29	2435	72	73	56.24	1.8	6.21	0.144	0.025	9.87	Limonitic Ore
DTR-29	2436	73	74	56.99	2.34	6.83	0.141	0.021	7.64	Limonitic Ore
DTR-29	2437	74	75	56.88	2.42	6.65	0.142	0.022	7.9	Limonitic Ore
DTR-29	2438	75	76	55.27	2.9	7.13	0.148	0.023	9.14	Limonitic Ore
DTR-29	2439	76	77	53.45	3.28	8.23	0.153	0.026	10.06	Feruginous Shale
DTR-29	2440	77	78	41	17.8	13.67	0.15	0.031	6.9	Feruginous Shale
DTR-29	2441	78	79	34.45	21.56	17.38	0.198	0.017	8.8	Feruginous Shale
DTR-29	2442	79	80	6.87	73.84	6.94	0.228	0.044	5.9	Feruginous Shale
DTR-29	2443	80	81	13.63	67.58	5.97	0.215	0.028	3.46	Feruginous Shale
DTR-29	2444	81	82	37.56	18.1	17.49	0.192	0.023	7.2	Feruginous Shale
DTR-29	2445	82	83	16.74	51.7	15.27	0.217	0.026	5.6	Feruginous Shale
DTR-29	2446	83	84	19.53	48.62	15.86	0.202	0.021	4.1	Feruginous Shale
DTR-29	2447	84	85	10.94	71.8	6.96	0.22	0.034	2.1	Feruginous Shale
DTR-29	2448	85	86	5.79	77.38	8.45	0.031	0.043	2.4	Feruginous Shale
DTR-29	2449	86	87	2.57	88.46	3.33	0.04	0.051	1.04	Feruginous Shale

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-29	2450	87	88	1.71	93.58	1.18	0.045	0.054	0.8	Feruginous Shale
DTR-29	2451	88	89	2.14	88.68	5.14	0.041	0.053	1.12	Feruginous Shale
DTR-29	2452	89	90	5.58	78.12	9.11	0.032	0.044	2.3	Feruginous Shale
DTR-29	2453	90	91	6.86	70.58	11.56	0.03	0.04	5.06	Feruginous Shale
DTR-29	2454	91	92	5.58	77.9	8.63	0.033	0.045	2.5	Feruginous Shale
DTR-29	2455	92	93	4.5	71.3	15.65	0.037	0.049	3.12	Feruginous Shale
DTR-29	2456	93	94	3.43	74.65	12.79	0.039	0.05	4.16	Feruginous Shale
DTR-29	2457	94	95	2.57	75.8	12.05	0.041	0.052	4.98	Feruginous Shale
DTR-29	2458	95	95.5	3.22	74.86	14.14	0.04	0.051	2.4	Feruginous Shale
DTR-30	2459	0	1	45.59	10.72	11.05	0.131	0.021	10.04	HLO
DTR-30	2460	1	2	49.69	5.74	11.01	0.142	0.018	10.7	HLO
DTR-30	2461	2	3	53.08	2.68	8.02	0.128	0.017	11.4	Limonite
DTR-30	2462	3	4	54.81	2	7.2	0.135	0.017	11.13	Limonite
DTR-30	2463	4	5	57.32	1.38	5.11	0.126	0.015	10.05	Limonitic Ore
DTR-30	2464	5	6	54.3	2.54	7.93	0.129	0.019	10.59	Limonite
DTR-30	2465	6	7	58.16	1.14	4.2	0.14	0.016	10	Limonitic Ore
DTR-30	2466	7	8	53.13	2.55	8.98	0.137	0.02	11	Limonite
DTR-30	2467	8	9	42.71	10.87	15.81	0.123	0.023	8.75	Limonite
DTR-30	2468	9	10	49.69	3.8	10.24	0.132	0.018	12.41	Limonite
DTR-30	2469	10	11	46.42	6.98	11.62	0.124	0.022	11.52	Limonite
DTR-30	2470	11	12	48.03	5.77	10.14	0.129	0.09	12.41	Limonite
DTR-30	2471	12	13	45.5	6.6	10.23	0.135	0.02	14.61	Limonite
DTR-30	2472	13	14	51.36	0.93	10.58	0.122	0.016	13.55	Limonite
DTR-30	2473	14	15	54.34	2.18	6.84	0.128	0.018	11.98	Limonite
DTR-30	2474	15	16	52.29	1.24	9.08	0.132	0.016	12.41	Limonite
DTR-30	2475	16	17	50.62	1.3	12.13	0.12	0.017	11.69	Limonite
DTR-30	2476	17	18	52.39	1.42	9.69	0.131	0.018	11.48	Limonite
DTR-30	2477	18	19	52.97	8.9	15.59	0.126	0.021	10.77	Limonite
DTR-30	2478	19	20	30.15	15.92	25.45	0.119	0.024	11.52	Limonite
DTR-30	2479	20	21	45.5	9.58	9.46	0.138	0.019	12.9	Feruginous Shale
DTR-30	2480	21	22	42.34	9.35	16.25	0.134	0.022	10.56	Feruginous Shale
DTR-30	2481	22	23	16	43.7	17.87	0.112	0.027	11.55	Feruginous Shale
DTR-30	2482	23	24	25.68	18.6	29.11	0.11	0.025	11.57	Feruginous Shale
DTR-30	2483	24	25	44.24	8.36	14.77	0.129	0.018	10.11	Feruginous Shale
DTR-30	2484	25	26	50.79	1.25	12.83	0.134	0.015	11.6	Feruginous Shale
DTR-30	2485	26	27	47.64	11.58	8.98	0.14	0.02	9.82	Feruginous Shale

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-30	2486	27	28	28.04	17.57	29.78	0.124	0.026	8.56	Feruginous Shale
DTR-30	2487	28	29	38.62	8.08	22.36	0.13	0.022	10.84	Feruginous Shale
DTR-30	2488	29	30	27.92	14.19	28.3	0.121	0.028	13.59	Feruginous Shale
DTR-30	2489	30	31	34.13	12.46	25.62	0.133	0.024	9.62	Feruginous Shale
DTR-30	2490	31	32	39.36	8.37	22.95	0.12	0.023	8.9	Feruginous Shale
DTR-30	2491	32	33	42.62	8.98	13.64	0.132	0.021	13.14	Feruginous Shale
DTR-30	2492	33	34	26.24	20.88	29.09	0.119	0.028	7.51	Feruginous Shale
DTR-30	2493	34	35	22.75	35.66	21.56	0.109	0.026	6.25	Feruginous Shale
DTR-30	2494	35	36	34.93	11.85	26.23	0.116	0.023	8.48	Feruginous Shale
DTR-30	2495	36	37	45.41	8.84	8.75	0.133	0.02	13.98	Feruginous Shale
DTR-30	2496	37	38	31.64	12.78	30.99	0.12	0.025	7.49	Feruginous Shale
DTR-30	2497	38	39	19.53	38.5	22.6	0.115	0.03	6.98	Feruginous Shale
DTR-30	2498	39	40	37.11	13.44	22.94	0.127	0.022	7.06	Feruginous Shale
DTR-30	2499	40	41	55.27	2.28	10.05	0.136	0.017	7.34	Lateritic Ore
DTR-30	2500	41	42	49.52	9.8	11	0.144	0.021	6.89	Feruginous Shale
DTR-30	2501	42	43	48.29	8.2	11.24	0.132	0.019	9.51	Feruginous Shale
DTR-30	2502	43	44	56.3	0.98	7.22	0.125	0.018	10	Limonitic Ore
DTR-30	2503	44	45	55.5	1.07	8.01	0.129	0.016	10.26	Limonitic Ore
DTR-30	2504	45	46	53.89	3.86	7.97	0.12	0.023	9.61	Limonite
DTR-30	2505	46	47	55.09	1.28	8.66	0.133	0.018	9.99	Limonitic Ore
DTR-30	2506	47	48	42.43	10.88	17.16	0.124	0.021	8.29	Feruginous Shale
DTR-30	2507	48	49	52.51	2.15	11.08	0.142	0.018	10.19	Feruginous Shale
DTR-30	2508	49	50	52.48	2.73	12.13	0.136	0.016	8.6	Feruginous Shale
DTR-30	2509	50	51	21.59	37.78	21.78	0.11	0.024	4.57	Feruginous Shale
DTR-30	2510	51	52	21.21	34.09	22.81	0.107	0.026	7.77	Feruginous Shale
DTR-30	2511	52	53	28.1	22.67	27.3	0.118	0.025	5.35	Feruginous Shale
DTR-30	2512	53	54	48.11	9.76	10.96	0.121	0.019	7.99	Feruginous Shale
DTR-30	2513	54	55.5	50.25	4.76	13.5	0.13	0.016	7.9	Feruginous Shale
DTR-31	2514	0	1	40.38	9.28	17.09	0.123	0.021	12.79	HLO
DTR-31	2515	1	2	44.47	7.6	12.93	0.12	0.02	13.68	HLO
DTR-31	2516	2	3	39.41	10.74	16.66	0.135	0.024	12.95	Laterite

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-31	2517	3	4	51.93	2.27	9.75	0.139	0.016	11.73	Laterite
DTR-31	2518	4	5	60.32	0.66	3.69	0.115	0.014	8.1	SLO_FO
DTR-31	2519	5	6	57.88	0.74	4.24	0.124	0.017	10.96	Limonic Ore
DTR-31	2520	6	7	58.71	0.63	4.02	0.13	0.018	10.3	Limonic Ore
DTR-31	2521	7	8	57.6	0.8	4.58	0.133	0.016	10.96	Lateritic Ore
DTR-31	2522	8	9	59.75	0.74	3.34	0.141	0.018	9.18	Lateritic Ore
DTR-31	2523	9	10	59.63	0.5	3.37	0.137	0.017	9.66	Lateritic Ore
DTR-31	2524	10	11	59.98	0.42	3.3	0.145	0.017	9.21	Lateritic Ore
DTR-31	2525	11	12	54.46	1.38	7.78	0.127	0.019	11.47	Laterite
DTR-31	2526	12	13	51.36	1.02	11.28	0.131	0.021	12.46	Laterite
DTR-31	2527	13	14	52.39	1.6	9.44	0.14	0.017	22.45	Laterite
DTR-31	2528	14	15	51.64	0.97	11.54	0.124	0.02	11.85	Laterite
DTR-31	2529	15	16	59.98	0.88	3.68	0.135	0.017	8.37	Lateritic Ore
DTR-31	2530	16	17	51.25	1.28	12.05	0.14	0.016	11.19	Laterite
DTR-31	2531	17	18	45.69	6.17	14.42	0.119	0.023	11.58	Laterite
DTR-31	2532	18	19	43.92	9.15	11.8	0.114	0.027	13.25	Feruginous Shale
DTR-31	2533	19	20	50.15	0.86	13.05	0.125	0.016	12.88	Feruginous Shale
DTR-31	2534	20	21	47.45	5.63	11.74	0.131	0.02	12.28	Feruginous Shale
DTR-31	2535	21	22	38.84	17.7	15.64	0.126	0.021	7.82	Feruginous Shale
DTR-31	2536	22	23	39.53	10.86	17.53	0.132	0.023	11.59	Feruginous Shale
DTR-31	2537	23	24	30.68	18.66	23.27	0.122	0.022	9.9	Feruginous Shale
DTR-31	2538	24	25	44.11	8.89	13.01	0.128	0.019	12.53	Feruginous Shale
DTR-31	2539	25	26	46.71	8.3	11.91	0.121	0.021	10	Feruginous Shale
DTR-31	2540	26	27	41.22	10.64	16.08	0.118	0.024	11.34	Feruginous Shale
DTR-31	2541	27	28	36.85	7.67	22.5	0.113	0.026	13.64	Feruginous Shale
DTR-31	2542	28	29	45.41	10.86	11.34	0.124	0.018	9.87	Feruginous Shale
DTR-31	2543	29	30	49.41	4.7	10.17	0.131	0.017	11.98	Feruginous Shale
DTR-31	2544	30	31	51.93	1.87	11.94	0.134	0.017	9.44	Feruginous Shale
DTR-31	2545	31	32	47.18	7.96	12.06	0.126	0.022	9.52	Feruginous Shale
DTR-31	2546	32	33	47.73	6.8	12.19	0.132	0.019	10.26	Feruginous Shale
DTR-31	2547	33	34	47.68	10.88	8.76	0.128	0.022	9.88	Feruginous Shale
DTR-31	2548	34	35	46.43	8.1	12.3	0.135	0.02	10.71	Feruginous Shale
DTR-31	2549	35	36.5	46.65	6.37	12.15	0.125	0.021	12.28	Feruginous Shale
DTA-01	2550	0	1	57.22	5	4.78	0.145	0.017	6.6	Limonic Ore

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-01	2551	1	2	55.37	5.52	6.31	0.162	0.021	7.7	Limonitic Ore
DTA-01	2552	2	3	53.29	6.7	6.98	0.151	0.023	8.62	Limonitic Ore
DTA-01	2553	3	4	55.8	4	6.57	0.149	0.018	8.34	Limonitic Ore
DTA-01	2554	4	5	60.5	4.2	1.67	0.128	0.014	6.42	SLO_FO
DTA-01	2555	5	6	60.28	3.12	1.62	0.123	0.015	7.86	SLO_FO
DTA-01	2556	6	7	60.61	2.74	2.01	0.13	0.014	7.48	SLO_FO
DTA-01	2557	7	8	60.06	3.46	1.96	0.121	0.016	7.5	SLO_FO
DTA-01	2558	8	9	61.59	2.05	2.53	0.112	0.012	6.15	SLO_FO
DTA-01	2559	9	10	62.14	1.7	1.54	0.108	0.011	6.9	SLO_FO
DTA-01	2560	10	11	60.06	2.25	2.73	0.126	0.015	7.94	SLO_FO
DTA-01	2561	11	12	61.16	2.86	1.39	0.12	0.01	7.3	SLO_FO
DTA-01	2562	12	13	63.78	1.02	1.1	0.105	0.012	5.78	SLO_FO
DTA-01	2563	13	14	61.26	1.46	1.5	0.13	0.014	8.44	SLO_FO
DTA-01	2564	14	15	64.21	0.95	1.17	0.09	0.008	5.36	SLO_FO
DTA-01	2565	15	16	64.32	0.9	1.23	0.086	0.008	5.2	SLO_FO
DTA-01	2566	16	17	48.92	12.6	7.05	0.15	0.022	8.4	SLO_FO
DTA-01	2567	17	18	61.81	2.45	1.99	0.117	0.017	6.18	SLO_FO
DTA-01	2568	18	19	65.31	0.55	0.74	0.079	0.007	4.62	SLO_FO
DTA-01	2569	19	20	65.09	0.76	0.85	0.081	0.007	4.58	SLO_FO
DTA-01	2570	20	21	63.78	0.98	1.26	0.107	0.01	5.76	SLO_FO
DTA-01	2571	21	22	62.36	1.5	1.93	0.12	0.013	6.4	SLO_FO
DTA-01	2572	22	23	63.99	0.9	1.18	0.098	0.009	5.62	SLO_FO
DTA-01	2573	23	24	64.65	0.68	1.06	0.093	0.008	5.12	SLO_FO
DTA-01	2574	24	25	65.31	0.58	0.87	0.78	0.007	4.46	SLO_FO
DTA-01	2575	25	26	64.65	0.7	1.16	0.089	0.09	5	SLO_FO
DTA-01	2576	26	27	63.34	1.06	1.77	0.102	0.01	5.8	SLO_FO
DTA-01	2577	27	28	63.99	0.85	1.37	0.095	0.008	5.48	SLO_FO
DTA-01	2578	28	29	65.31	0.54	1.31	0.077	0.006	3.96	SLO_FO
DTA-01	2579	29	30	64.87	0.55	1.01	0.087	0.008	4.98	SLO_FO
DTA-01	2580	30	31	65.96	0.4	0.7	0.083	0.06	3.88	SLO_FO
DTA-01	2581	31	32	66.62	0.2	0.82	0.071	0.005	3.02	SLO_FO
DTA-01	2582	32	33	66.29	0.3	0.71	0.073	0.007	3.5	SLO_FO
DTA-01	2583	33	34	66.4	0.15	0.84	0.07	0.008	3.36	SLO_FO
DTA-01	2584	34	35	66.94	0.1	0.7	0.068	0.005	2.78	SLO_FO
DTA-01	2585	35	36	67.05	0.18	1.08	0.066	0.005	2.26	SLO_FO
DTA-01	2586	36	37	66.83	0.25	1.19	0.073	0.007	2.4	SLO_FO
DTA-01	2587	37	38	67.05	0.36	1.16	0.068	0.006	2	SLO_FO
DTA-01	2588	38	39	67.71	0.3	0.78	0.065	0.005	1.6	SLO_FO
DTA-01	2589	39	40	66.73	0.45	1.25	0.072	0.007	2.28	SLO_FO
DTA-01	2590	40	41	67.65	0.2	0.71	0.064	0.004	1.86	SLO_FO
DTA-01	2591	41	42	67.21	0.15	1.28	0.069	0.006	1.96	SLO_FO
DTA-01	2592	42	43	68.2	0.1	0.52	0.063	0.004	1.36	SLO_FO
DTA-01	2593	43	44	67.65	0.12	0.91	0.062	0.07	1.74	SLO_FO
DTA-01	2594	44	45	67.76	0.1	0.83	0.066	0.005	1.68	SLO_FO
DTA-01	2595	45	46	67.57	0.11	0.93	0.061	0.006	1.8	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-01	2596	46	47	67.55	0.15	0.92	0.063	0.005	1.84	SLO_FO
DTA-01	2597	47	48	67.01	0.17	0.97	0.067	0.007	2.54	SLO_FO
DTA-01	2598	48	49	67.57	0.12	0.86	0.06	0.005	1.9	SLO_FO
DTA-01	2599	49	50	67.12	0.24	1.22	0.064	0.006	2.06	SLO_FO
DTA-01	2600	50	51	67.57	0.16	0.74	0.061	0.004	1.98	SLO_FO
DTA-01	2601	51	52	67.48	0.28	0.68	0.06	0.004	2.05	SLO_FO
DTA-01	2602	52	53	67.57	0.15	0.77	0.062	0.005	1.96	SLO_FO
DTA-01	2603	53	54	66.69	0.38	0.96	0.068	0.007	2.8	SLO_FO
DTA-01	2604	54	55	67.87	0.1	0.89	0.064	0.005	1.46	SLO_FO
DTA-01	2605	55	56	66.69	0.26	1	0.07	0.007	2.88	SLO_FO
DTA-01	2606	56	57	67.67	0.18	0.92	0.065	0.004	1.64	SLO_FO
DTA-01	2607	57	58	67.76	0.14	0.77	0.067	0.008	1.7	SLO_FO
DTA-01	2608	58	59	67.01	0.22	0.8	0.069	0.008	2.66	SLO_FO
DTA-01	2609	59	60	63.86	0.96	1.13	0.097	0.01	5.8	SLO_FO
DTA-01	2610	60	61	63	1.02	1.19	0.102	0.011	6.7	SLO_FO
DTA-01	2611	61	62	66.33	0.3	1.02	0.071	0.007	3.12	SLO_FO
DTA-01	2612	62	63	64.4	0.25	1.26	0.083	0.008	5.6	SLO_FO
DTA-01	2613	63	64	67.08	0.2	1.1	0.064	0.005	2.28	SLO_FO
DTA-01	2614	64	65	67.4	0.3	0.64	0.062	0.006	2.08	SLO_FO
DTA-01	2615	65	66	56.99	6	6.63	0.135	0.018	4.08	SLO_FO
DTA-01	2616	66	67	60.1	4.8	1.84	0.113	0.012	6.22	SLO_FO
DTA-01	2617	67	68	48.08	13.5	4.96	0.137	0.022	10.78	SLO_FO
DTA-01	2618	68	69	64.4	0.45	1.74	0.085	0.009	5.03	HLO
DTA-01	2619	69	70	66.11	0.4	1.19	0.072	0.006	3.28	HLO
DTA-01	2620	70	71	64.93	0.35	0.52	0.088	0.008	5.5	HLO
DTA-01	2621	71	72	66.01	0.25	1.52	0.068	0.006	3.14	HLO
DTA-01	2622	72	73	65.04	0.7	0.95	0.073	0.007	4.64	HLO
DTA-01	2623	73	74	65.68	0.6	0.78	0.07	0.08	4	HLO
DTA-01	2624	74	75	57.85	6.4	2.26	0.128	0.018	6.68	HLO
DTA-01	2625	75	76	66.44	0.3	0.94	0.067	0.007	3.05	HLO
DTA-01	2626	76	77	63.32	1.05	1.14	0.101	0.01	5.78	HLO
DTA-01	2627	77	78	64.61	0.22	1.11	0.085	0.009	5.48	SLO_FO
DTA-01	2628	78	79	65.25	0.34	0.96	0.073	0.008	4.7	SLO_FO
DTA-01	2629	79	80	64.83	0.28	1.06	0.09	0.007	5.16	SLO_FO
DTA-01	2630	80	81	65.25	0.42	0.92	0.07	0.08	4.66	SLO_FO
DTA-01	2631	81	82	64.93	0.3	1.2	0.084	0.006	4.96	SLO_FO
DTA-01	2632	82	83	65.9	0.5	0.71	0.066	0.005	3.86	SLO_FO
DTA-01	2633	83	84	66.01	0.35	1.04	0.062	0.005	3.52	SLO_FO
DTA-01	2634	84	85	66.22	0.25	0.96	0.065	0.006	3.4	SLO_FO
DTA-01	2635	85	86	66.33	0.2	0.93	0.07	0.008	3.32	SLO_FO
DTA-01	2636	86	87	66.54	0.18	0.77	0.067	0.005	3.2	SLO_FO
DTA-01	2637	87	88	64.4	0.6	1.61	0.084	0.008	5	SLO_FO
DTA-01	2638	88	89	64.5	0.28	1.81	0.082	0.007	4.98	SLO_FO
DTA-01	2639	89	90	63.97	0.92	1.21	0.093	0.009	5.6	SLO_FO
DTA-01	2640	90	91	62.89	0.82	1.25	0.108	0.014	7	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-01	2641	91	92	64.4	0.65	1.59	0.086	0.008	5.07	SLO_FO
DTA-01	2642	92	93	64.93	0.3	1.52	0.07	0.007	4.64	SLO_FO
DTA-01	2643	93	94	62.25	1.58	1.41	0.121	0.015	7	SLO_FO
DTA-01	2644	94	95	62.46	1.32	1.51	0.115	0.013	6.86	SLO_FO
DTA-01	2645	95	96	64.83	0.51	1.15	0.087	0.008	4.94	SLO_FO
DTA-01	2646	96	97	63.64	0.95	1.41	0.091	0.01	5.84	SLO_FO
DTA-01	2647	97	98	63	1.16	2.03	0.095	0.011	5.82	SLO_FO
DTA-01	2648	98	99	62.46	1.3	1.47	0.112	0.015	6.92	SLO_FO
DTA-01	2649	99	100	62.03	1.2	1.92	0.116	0.016	7.24	SLO_FO
DTA-01	2650	100	101	65.04	0.66	0.94	0.078	0.006	4.7	SLO_FO
DTA-01	2651	101	102	63.32	1	1.76	0.097	0.012	5.9	SLO_FO
DTA-01	2652	102	103	63.97	0.78	1.25	0.094	0.008	5.7	HLO
DTA-01	2653	103	104	63.64	0.88	1.42	0.097	0.009	5.9	SLO_FO
DTA-01	2654	104	105	62.46	1.25	1.4	0.114	0.015	7.02	HLO
DTA-01	2655	105	106	63.32	1.05	1.75	0.102	0.011	5.85	HLO
DTA-01	2656	106	107	62.36	1.4	1.57	0.112	0.019	7.06	HLO
DTA-01	2657	107	108	61.39	2.3	2.81	0.12	0.021	6.1	SLO_FO
DTA-01	2658	108	109	37.13	20.85	15.79	0.148	0.024	8.26	Tuff
DTA-01	2659	109	110	37.03	21.3	16.78	0.15	0.023	6.96	Tuff
DTA-01	2660	110	111	38.85	18.95	15.88	0.147	0.022	7.62	Tuff
DTA-01	2661	111	112	58.71	6.2	1.2	0.14	0.018	6.66	Lateritic Ore
DTA-01	2662	112	113	61.94	0.7	2.43	0.118	0.014	7.1	SLO_FO
DTA-01	2663	113	114	64.29	0.6	1.39	0.101	0.01	5.08	SLO_FO
DTA-01	2664	114	115	43.93	11.42	16.57	0.135	0.023	7.2	SLO_FO
DTA-01	2665	115	116	66.97	0.5	0.72	0.072	0.007	2.37	SLO_FO
DTA-01	2666	116	117	6.22	0.32	0.89	0.077	0.006	3.4	SLO_FO
DTA-01	2667	117	118	65.58	0.3	0.93	0.081	0.008	4.2	SLO_FO
DTA-01	2668	118	119	64.51	0.5	1.46	0.093	0.01	4.8	SLO_FO
DTA-01	2669	119	120	64.62	0.42	1.5	0.099	0.009	4.68	SLO_FO
DTA-01	2670	120	121	62.79	0.64	1.78	0.11	0.013	6.8	SLO_FO
DTA-01	2671	121	122	51.86	8.72	9.83	0.132	0.02	6	Limonite
DTA-01	2672	122	123	62.79	0.68	2.64	0.121	0.011	5.9	SLO_FO
DTA-01	2673	123	124	63.22	0.45	1.61	0.098	0.009	6.54	SLO_FO
DTA-01	2674	124	125	64.51	0.55	1.31	0.09	0.008	5.1	SLO_FO
DTA-01	2675	125	126	62.79	0.84	1.89	0.108	0.013	6.49	SLO_FO
DTA-01	2676	126	127	65.26	0.4	0.68	0.083	0.007	4.8	SLO_FO
DTA-01	2677	127	128	64.94	0.28	1.06	0.088	0.009	5	SLO_FO
DTA-01	2678	128	129	66.87	0.36	0.75	0.071	0.006	2.62	SLO_FO
DTA-01	2679	129	130	64.62	0.48	1.49	0.086	0.008	4.83	SLO_FO
DTA-01	2680	130	131	65.58	0.32	0.88	0.079	0.06	4.23	SLO_FO
DTA-01	2681	131	132	65.04	0.38	0.96	0.082	0.007	4.96	SLO_FO
DTA-01	2682	132	133	65.58	0.3	0.83	0.078	0.008	4.4	SLO_FO
DTA-01	2683	133	134	64.19	0.46	1.88	0.091	0.01	5.07	SLO_FO
DTA-01	2684	134	135	64.94	0.54	0.85	0.083	0.008	5	SLO_FO
DTA-01	2685	135	136	65.37	0.4	1.18	0.077	0.006	4.25	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-01	2686	136	137	66.01	0.22	1.05	0.07	0.007	3.64	SLO_FO
DTA-01	2687	137	138	66.22	0.28	0.97	0.073	0.007	3.36	SLO_FO
DTA-01	2688	138	139	64.83	0.44	0.96	0.087	0.009	5.15	SLO_FO
DTA-01	2689	139	140	65.26	0.56	0.92	0.078	0.006	4.4	SLO_FO
DTA-01	2690	140	141	66.92	0.3	0.76	0.069	0.005	2.6	SLO_FO
DTA-01	2691	141	142	65.59	0.36	0.77	0.071	0.007	4.38	SLO_FO
DTA-01	2692	142	143	63.6	0.82	1.22	0.097	0.011	6.12	SLO_FO
DTA-01	2693	143	144	66.81	0.4	0.88	0.068	0.005	2.54	SLO_FO
DTA-01	2694	144	145	67.14	0.28	0.76	0.066	0.004	2.3	SLO_FO
DTA-01	2695	145	146	67.36	0.2	0.43	0.068	0.005	2.4	SLO_FO
DTA-01	2696	146	147	67.92	0.12	0.46	0.065	0.004	1.7	SLO_FO
DTA-01	2697	147	148	65.7	0.38	1.07	0.074	0.007	3.9	SLO_FO
DTA-01	2698	148	149	66.15	0.32	0.94	0.072	0.006	3.5	SLO_FO
DTA-01	2699	149	150	67.81	0.2	0.42	0.063	0.004	1.77	SLO_FO
DTA-01	2700	150	151	67.25	0.34	0.49	0.065	0.005	2.31	SLO_FO
DTA-01	2701	151	152	67.59	0.2	0.41	0.067	0.006	2.09	SLO_FO
DTA-01	2702	152	153	66.26	0.45	0.78	0.073	0.008	3.32	SLO_FO
DTA-01	2703	153	154	67.59	0.26	0.44	0.068	0.006	2	SLO_FO
DTA-01	2704	154	155	67.69	0.21	0.47	0.066	0.005	1.93	SLO_FO
DTA-01	2705	155	156	67.25	0.32	0.42	0.067	0.006	2.4	SLO_FO
DTA-01	2706	156	157	67.36	0.3	0.48	0.064	0.007	2.25	SLO_FO
DTA-01	2707	157	158	66.92	0.22	0.53	0.072	0.007	2.91	SLO_FO
DTA-01	2708	158	159	64.04	0.52	1.39	0.095	0.008	5.6	SLO_FO
DTA-01	2709	159	160	65.37	0.36	1.02	0.081	0.007	4.3	SLO_FO
DTA-01	2710	160	161	67.81	0.18	0.43	0.064	0.004	1.83	SLO_FO
DTA-01	2711	161	162	66.92	0.3	0.57	0.074	0.006	2.79	SLO_FO
DTA-01	2712	162	163	65.81	0.5	0.9	0.078	0.008	3.8	SLO_FO
DTA-01	2713	163	164	64.48	0.62	1.68	0.092	0.009	4.6	SLO_FO
DTA-01	2714	164	165	63.6	0.8	1.26	0.105	0.01	6	SLO_FO
DTA-01	2715	165	166	65.37	0.46	1.29	0.083	0.008	3.98	SLO_FO
DTA-01	2716	166	167	66.26	0.24	0.66	0.077	0.006	3.6	SLO_FO
DTA-01	2717	167	168	64.93	0.56	1.48	0.093	0.009	4.32	SLO_FO
DTA-01	2718	168	169	65.37	0.34	1.23	0.077	0.008	4.16	SLO_FO
DTA-01	2719	169	170	65.15	0.6	0.89	0.08	0.006	4.55	SLO_FO
DTA-01	2720	170	171	67.81	0.25	0.41	0.061	0.004	1.78	SLO_FO
DTA-01	2721	171	172	67.14	0.3	0.49	0.063	0.005	2.5	SLO_FO
DTA-01	2722	172	173	63.26	0.68	1.46	0.098	0.011	6.4	SLO_FO
DTA-01	2723	173	174	66.03	0.42	0.99	0.076	0.008	3.37	SLO_FO
DTA-01	2724	174	175	62.93	0.68	1.26	0.11	0.012	7.08	SLO_FO
DTA-01	2725	175	176	65.37	0.4	1.25	0.079	0.008	4.08	SLO_FO
DTA-01	2726	176	177	65.92	0.28	1.1	0.07	0.006	3.56	SLO_FO
DTA-01	2727	177	178	66.03	0.3	1.03	0.072	0.007	3.45	SLO_FO
DTA-01	2728	178	179	67.14	0.22	0.64	0.067	0.005	2.43	SLO_FO
DTA-01	2729	179	180	67.36	0.26	0.62	0.064	0.004	2.15	SLO_FO
DTA-01	2730	180	181	65.37	0.3	1.3	0.081	0.008	4.13	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-01	2731	181	182	62.49	1.2	1.38	0.12	0.014	7.06	SLO_FO
DTA-01	2732	182	183	64.93	0.38	1.58	0.082	0.009	4.4	SLO_FO
DTA-01	2733	183	184	63.38	0.42	2.29	0.105	0.01	5.85	SLO_FO
DTA-01	2734	184	185	65.37	0.48	1.26	0.08	0.007	3.98	SLO_FO
DTA-01	2735	185	186	65.7	0.5	0.74	0.083	0.006	4	SLO_FO
DTA-01	2736	186	187	65.37	0.52	0.53	0.079	0.007	4.2	SLO_FO
DTA-01	2737	187	188	65.92	0.46	0.89	0.077	0.006	3.58	SLO_FO
DTA-01	2738	188	189	66.26	0.26	0.88	0.07	0.008	3.4	SLO_FO
DTA-01	2739	189	190	63.93	0.5	1.08	0.094	0.009	6	SLO_FO
DTA-01	2740	190	191	65.15	0.48	1	0.084	0.007	4.35	SLO_FO
DTA-01	2741	191	192	65.59	0.42	0.73	0.076	0.008	4.25	SLO_FO
DTA-01	2742	192	193	67.77	0.22	0.47	0.063	0.004	1.69	SLO_FO
DTA-01	2743	193	194	64.93	0.36	1.21	0.078	0.009	4.68	SLO_FO
DTA-01	2744	194	195	61.38	0.5	3.82	0.112	0.014	6.9	SLO_FO
DTA-01	2745	195	196	63.49	0.8	1.3	0.109	0.01	6.1	SLO_FO
DTA-01	2746	196	197	67.65	0.3	0.36	0.067	0.005	2	SLO_FO
DTA-01	2747	197	198	67.14	0.26	0.98	0.065	0.007	2.14	SLO_FO
DTA-01	2748	198	199	66.48	0.4	0.63	0.074	0.008	3.3	SLO_FO
DTA-01	2749	199	200	64.71	0.34	1.87	0.093	0.009	4.66	SLO_FO
DTA-01	2750	200	201	67.59	0.36	0.53	0.067	0.005	1.85	SLO_FO
DTA-01	2751	201	202	65.15	0.44	1.35	0.082	0.008	4.34	SLO_FO
DTA-01	2752	202	203	64.93	0.7	1.03	0.096	0.009	4.62	SLO_FO
DTA-01	2753	203	204	65.81	0.38	0.76	0.077	0.006	4.05	SLO_FO
DTA-01	2754	204	205	64.93	0.48	1.15	0.089	0.008	4.73	SLO_FO
DTA-01	2755	205	206	67.77	0.28	0.64	0.063	0.004	1.56	SLO_FO
DTA-01	2756	206	206.55	66.48	0.32	0.95	0.073	0.006	3.06	SLO_FO
DTA-02	2757	0	1	60.37	0.9	3.28	0.124	0.013	8.1	SLO_FO
DTA-02	2758	1	2	60.81	0.85	3.5	0.13	0.011	7.4	HLO
DTA-02	2759	2	3	66.25	0.45	0.76	0.074	0.007	3.26	HLO
DTA-02	2760	3	4	64.14	0.34	1.27	0.093	0.01	5.82	HLO
DTA-02	2761	4	5	64.58	0.46	1.23	0.09	0.009	5.07	HLO
DTA-02	2762	5	6	63.03	0.94	2.49	0.109	0.012	5.44	HLO
DTA-02	2763	6	7	66.86	0.32	0.57	0.069	0.005	2.71	HLO
DTA-02	2764	7	8	60.25	1.1	3.61	0.112	0.014	7.64	HLO
DTA-02	2765	8	9	66.58	0.36	0.54	0.071	0.006	3.2	SLO_FO
DTA-02	2766	9	10	56.04	3.32	6.87	0.141	0.018	7.88	SLO_FO
DTA-02	2767	10	11	67.13	0.26	0.86	0.064	0.004	2.24	HLO
DTA-02	2768	11	12	67.67	0.15	0.63	0.061	0.003	1.86	HLO
DTA-02	2769	12	13	65.47	0.4	0.92	0.08	0.008	4.26	HLO
DTA-02	2770	13	14	66.69	0.32	1.11	0.072	0.007	2.41	HLO
DTA-02	2771	14	15	67.25	0.16	0.78	0.067	0.004	2.25	HLO
DTA-02	2772	15	16	65.69	0.35	1.02	0.081	0.008	3.9	HLO
DTA-02	2773	16	17	67.25	0.2	0.81	0.062	0.006	2.18	HLO
DTA-02	2774	17	18	67.47	0.18	0.52	0.064	0.005	2.22	HLO
DTA-02	2775	18	19	67.69	0.14	0.74	0.06	0.003	1.73	HLO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-02	2776	19	20	67.02	0.28	0.65	0.062	0.006	2.59	HLO
DTA-02	2777	20	21	45.43	10.5	11.7	0.127	0.02	10.34	Laterite
DTA-02	2778	21	22	40.55	8.78	19.34	0.134	0.019	10.9	Laterite
DTA-02	2779	22	23	50.97	1.42	13.9	0.126	0.017	9.8	SLO_FO
DTA-02	2780	23	24	51.19	1.86	10.96	0.131	0.015	11.48	SLO_FO
DTA-02	2781	24	25	54.51	1.66	10.2	0.124	0.018	8.7	SLO_FO
DTA-02	2782	25	26	66.92	0.42	0.64	0.067	0.005	2.6	SLO_FO
DTA-02	2783	26	27	67.14	0.26	0.5	0.064	0.004	2.58	SLO_FO
DTA-02	2784	27	28	66.12	0.34	0.73	0.07	0.007	3.68	HLO
DTA-02	2785	28	29	66.56	0.22	0.8	0.071	0.006	3.1	HLO
DTA-02	2786	29	30	66.12	0.28	0.71	0.076	0.007	3.76	HLO
DTA-02	2787	30	31	67.47	0.25	0.6	0.065	0.004	2.02	HLO
DTA-02	2788	31	32	66.8	0.4	1	0.071	0.007	2.48	HLO
DTA-02	2789	32	33	66.91	0.3	0.71	0.073	0.006	2.56	HLO
DTA-02	2790	33	34	66.03	0.36	1.04	0.078	0.008	3.38	HLO
DTA-02	2791	34	35	66.36	0.28	0.8	0.068	0.007	3.33	HLO
DTA-02	2792	35	36	67.13	0.18	0.56	0.063	0.005	2.62	HLO
DTA-02	2793	36	37	66.8	0.25	0.69	0.07	0.006	2.84	HLO
DTA-02	2794	37	38	66.25	0.28	0.89	0.077	0.007	3.4	HLO
DTA-02	2795	38	39	67.36	0.32	0.51	0.067	0.004	2.15	HLO
DTA-02	2796	39	40	65.47	0.46	0.82	0.083	0.008	4.3	HLO
DTA-02	2797	40	41	64.93	0.35	1.31	0.087	0.008	4.65	HLO
DTA-02	2798	41	42	65.59	0.48	0.96	0.081	0.007	3.97	HLO
DTA-02	2799	42	43	66.03	0.52	0.58	0.07	0.006	3.68	HLO
DTA-02	2800	43	44	59.83	1.22	4.49	0.125	0.014	7.44	SLO_FO
DTA-02	2801	44	45	63.15	0.98	1.82	0.102	0.011	5.9	SLO_FO
DTA-02	2802	45	46	60.49	0.95	3.75	0.117	0.015	7.3	SLO_FO
DTA-02	2803	46	47	61.82	0.65	2.95	0.112	0.014	6.7	SLO_FO
DTA-02	2804	47	48	63.15	0.6	2	0.109	0.011	5.96	SLO_FO
DTA-02	2805	48	49	65.59	0.44	0.7	0.08	0.007	4.27	HLO
DTA-02	2806	49	50	66.48	0.3	0.67	0.073	0.006	3.27	HLO
DTA-02	2807	50	51	66.7	0.32	0.79	0.071	0.005	2.86	HLO
DTA-02	2808	51	52	66.81	0.26	0.86	0.074	0.005	2.7	HLO
DTA-02	2809	52	53	65.37	0.62	0.83	0.083	0.007	4.28	HLO
DTA-02	2810	53	54	64.26	0.68	1.55	0.09	0.09	4.98	HLO
DTA-02	2811	54	55	66.92	0.24	0.78	0.069	0.006	2.64	HLO
DTA-02	2812	55	56	66.81	0.29	0.87	0.067	0.05	2.66	HLO
DTA-02	2813	56	57	66.7	0.22	0.8	0.065	0.006	2.9	HLO
DTA-02	2814	57	58	66.59	0.36	0.66	0.07	0.008	3.06	HLO
DTA-02	2815	58	59	66.92	0.19	0.75	0.067	0.006	2.72	SLO_FO
DTA-02	2816	59	60	66.59	0.34	0.54	0.07	0.007	3.2	SLO_FO
DTA-02	2817	60	61	63.69	0.58	1.55	0.097	0.012	5.8	SLO_FO
DTA-02	2818	61	62	65.47	0.45	0.95	0.079	0.008	4.18	SLO_FO
DTA-02	2819	62	63	66.91	0.32	0.92	0.07	0.006	2.38	SLO_FO
DTA-02	2820	63	64	66.36	0.4	0.91	0.074	0.007	3.2	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-02	2821	64	65	66.75	0.31	0.98	0.072	0.06	2.46	SLO_FO
DTA-02	2822	65	66	67.56	0.28	0.45	0.063	0.004	2.11	SLO_FO
DTA-02	2823	66	67	67.25	0.3	0.56	0.065	0.005	2.28	SLO_FO
DTA-02	2824	67	68	66.8	0.38	0.66	0.073	0.007	2.79	SLO_FO
DTA-02	2825	68	69	67.11	0.22	0.64	0.066	0.005	2.53	SLO_FO
DTA-02	2826	69	70	67.25	0.2	0.75	0.062	0.06	2.24	SLO_FO
DTA-02	2827	70	71	67.36	0.24	0.49	0.065	0.007	2.35	SLO_FO
DTA-02	2828	71	72	67.59	0.16	0.64	0.061	0.004	1.95	SLO_FO
DTA-02	2829	72	73	67.21	0.26	0.68	0.064	0.05	2.3	SLO_FO
DTA-02	2830	73	74	67.48	0.26	0.48	0.063	0.004	2.1	SLO_FO
DTA-02	2831	74	75	66.92	0.34	0.77	0.069	0.007	2.55	SLO_FO
DTA-02	2832	75	76	66.26	0.4	0.81	0.073	0.006	3.34	SLO_FO
DTA-02	2833	76	77	66.15	0.28	0.72	0.072	0.007	3.71	SLO_FO
DTA-02	2834	77	78	65.81	0.36	0.86	0.081	0.008	3.88	SLO_FO
DTA-02	2835	78	79	66.48	0.26	0.8	0.074	0.007	3.18	SLO_FO
DTA-02	2836	79	80	66.92	0.16	0.67	0.068	0.005	2.83	SLO_FO
DTA-02	2837	80	81	67.36	0.2	0.63	0.065	0.004	2.2	SLO_FO
DTA-02	2838	81	82	66.7	0.25	0.92	0.071	0.006	2.6	SLO_FO
DTA-02	2839	82	83	67.55	0.18	0.63	0.063	0.004	1.9	SLO_FO
DTA-02	2840	83	84	67.08	0.3	0.54	0.063	0.004	2.54	SLO_FO
DTA-02	2841	84	85	66.92	0.28	0.51	0.067	0.06	2.87	SLO_FO
DTA-02	2842	85	86	67.36	0.24	0.55	0.062	0.005	2.19	SLO_FO
DTA-02	2843	86	87	67.14	0.3	0.59	0.068	0.005	2.45	SLO_FO
DTA-02	2844	87	88	67.03	0.34	0.62	0.066	0.006	2.49	SLO_FO
DTA-02	2845	88	89	67.59	0.23	0.47	0.061	0.003	2	SLO_FO
DTA-02	2846	89	90	67.55	0.3	0.52	0.06	0.004	1.94	SLO_FO
DTA-02	2847	90	91	66.88	0.4	0.57	0.074	0.006	2.7	SLO_FO
DTA-02	2848	91	92	67.13	0.28	0.7	0.065	0.005	2.38	SLO_FO
DTA-02	2849	92	93	66.8	0.24	0.69	0.072	0.007	2.85	SLO_FO
DTA-02	2850	93	94	67.02	0.38	0.75	0.068	0.005	2.34	SLO_FO
DTA-02	2851	94	95	66.14	0.29	1.28	0.075	0.007	3.1	SLO_FO
DTA-02	2852	95	96	67.13	0.2	0.47	0.064	0.005	2.64	SLO_FO
DTA-02	2853	96	97	66.8	0.38	0.58	0.075	0.007	2.82	SLO_FO
DTA-02	2854	97	98	66.69	0.32	0.86	0.077	0.006	2.76	SLO_FO
DTA-02	2855	98	99	67.13	0.26	0.42	0.065	0.004	2.63	SLO_FO
DTA-02	2856	99	100	67.02	0.38	0.71	0.067	0.006	2.38	SLO_FO
DTA-02	2857	100	101	67.13	0.3	0.49	0.069	0.005	2.52	SLO_FO
DTA-02	2858	101	102	67.47	0.26	0.46	0.061	0.004	2.2	SLO_FO
DTA-02	2859	102	103	64.36	1.2	1.07	0.091	0.01	4.9	SLO_FO
DTA-02	2860	103	104	64.92	0.5	1.31	0.087	0.009	4.56	SLO_FO
DTA-02	2861	104	105	67.47	0.26	0.42	0.066	0.005	2.19	SLO_FO
DTA-02	2862	105	106	67.78	0.18	0.42	0.06	0.004	1.88	SLO_FO
DTA-02	2863	106	107	67.02	0.46	0.56	0.069	0.007	2.45	SLO_FO
DTA-02	2864	107	108	66.91	0.48	0.59	0.07	0.006	2.6	SLO_FO
DTA-02	2865	108	109	65.47	0.84	0.79	0.079	0.008	4	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-02	2866	109	110	61.7	2.2	2.97	0.128	0.014	5.3	SLO_FO
DTA-02	2867	110	111	64.82	0.45	1.29	0.085	0.008	4.8	SLO_FO
DTA-02	2868	111	112	67.04	0.48	1.99	0.09	0.009	5.16	SLO_FO
DTA-02	2869	112	113	64.82	0.36	1.36	0.087	0.008	4.89	SLO_FO
DTA-02	2870	113	114	67.25	0.2	0.51	0.063	0.005	2.48	SLO_FO
DTA-02	2871	114	115	64.48	1.2	1.22	0.087	0.009	4.68	SLO_FO
DTA-02	2872	115	116	66.48	0.22	0.77	0.072	0.007	3.3	SLO_FO
DTA-02	2873	116	117	66.81	0.34	0.85	0.07	0.005	2.58	SLO_FO
DTA-02	2874	117	118	66.15	0.39	1.01	0.074	0.006	3.26	SLO_FO
DTA-02	2875	118	119	65.37	0.8	0.98	0.079	0.007	4.05	SLO_FO
DTA-02	2876	119	120	66.03	0.25	0.89	0.074	0.008	3.64	SLO_FO
DTA-02	2877	120	121	67.01	0.3	0.73	0.067	0.006	2.45	SLO_FO
DTA-02	2878	121	122	62.82	0.74	2.43	0.109	0.012	6	SLO_FO
DTA-02	2879	122	123	64.48	1.16	1.13	0.091	0.01	4.71	SLO_FO
DTA-02	2880	123	124	65.59	0.2	0.93	0.087	8	4.28	SLO_FO
DTA-02	2881	124	125	65.81	0.22	0.88	0.083	0.007	4.1	SLO_FO
DTA-02	2882	125	126	67.55	0.18	0.65	0.061	0.003	1.93	SLO_FO
DTA-02	2883	126	127	67.14	0.28	0.59	0.068	0.005	2.5	SLO_FO
DTA-02	2884	127	128	67.36	0.26	0.57	0.064	0.004	2.15	SLO_FO
DTA-02	2885	128	129	66.7	0.33	0.53	0.072	0.007	3.04	SLO_FO
DTA-02	2886	129	130	61.71	2.2	2.46	0.133	0.014	5.8	SLO_FO
DTA-02	2887	130	131	63.93	0.45	1.27	0.091	0.009	5.87	SLO_FO
DTA-02	2888	131	132	57.84	8.08	2.21	0.145	0.017	6	SLO_FO
DTA-02	2889	132	133	55.84	6.08	7.37	0.135	0.015	5.4	SLO_FO
DTA-02	2890	133	134	34.79	14.16	25.4	0.131	0.021	8.2	SLO_FO
DTA-02	2891	134	135	66.26	0.4	0.7	0.069	0.006	3.35	SLO_FO
DTA-02	2892	135	136	64.71	0.65	1.91	0.088	0.009	4.11	SLO_FO
DTA-02	2893	136	137	64.26	0.5	2.01	0.09	0.01	4.62	SLO_FO
DTA-02	2894	137	138	16.62	20.88	40.66	0.143	0.024	11.2	Feruginous Shale
DTA-02	2895	138	139	17.02	19.98	41.75	0.146	0.022	10.38	Feruginous Shale
DTA-02	2896	139	140	49.41	7.98	9.67	0.135	0.016	10.2	Feruginous Shale
DTA-02	2897	140	141	30.24	13.72	29.94	0.15	0.021	10.1	Feruginous Shale
DTA-02	2898	141	142	19.28	28.4	30.13	0.144	0.025	10.4	Feruginous Shale
DTA-02	2899	142	143.3	22.27	8.7	46.86	0.128	0.02	9.3	Feruginous Shale
DTA-03	2900	0	1	62.14	0.95	1.99	0.12	0.011	6.9	SLO_FO
DTA-03	2901	1	2	63.25	0.7	1.71	0.097	0.01	6.15	SLO_FO
DTA-03	2902	2	3	64.36	0.65	1.55	0.092	0.009	4.92	SLO_FO
DTA-03	2903	3	4	63.03	0.7	1.97	0.107	0.012	6.2	SLO_FO
DTA-03	2904	4	5	63.47	0.74	1.32	0.102	0.01	6.18	SLO_FO
DTA-03	2905	5	6	61.81	1.5	2.18	0.124	0.014	6.94	SLO_FO
DTA-03	2906	6	7	60.59	0.8	3.62	0.13	0.015	7.64	SLO_FO
DTA-03	2907	7	8	61.48	2.16	2.79	0.121	0.013	5.94	SLO_FO

BKD
Manager
Datta Iron
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Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample Id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-03	2908	8	9	57.81	8.94	2.2	0.145	0.017	5.2	SLO_FO
DTA-03	2909	9	10	63.92	0.64	1.21	0.093	0.009	5.9	SLO_FO
DTA-03	2910	10	11	65.47	0.4	1.1	0.081	0.008	4.08	HLO
DTA-03	2911	11	12	64.36	0.32	1.82	0.087	0.009	4.98	HLO
DTA-03	2912	12	13	64.14	0.3	2.32	0.09	0.008	4.86	HLO
DTA-03	2913	13	14	65.03	0.46	1.45	0.083	0.008	4.26	HLO
DTA-03	2914	14	15	63.69	0.4	1.39	0.098	0.011	6.14	SLO_FO
DTA-03	2915	15	16	61.92	0.56	2.68	0.127	0.014	7.02	SLO_FO
DTA-03	2916	16	17	63.47	0.38	1.11	0.079	0.007	4.29	SLO_FO
DTA-03	2917	17	18	63.47	0.5	1.64	0.101	0.01	6.1	SLO_FO
DTA-03	2918	18	19	63.36	0.52	1.72	0.103	0.011	6.16	SLO_FO
DTA-03	2919	19	20	59.92	6.3	2.72	0.139	0.015	4.1	Limonitic Ore
DTA-03	2920	20	21	60.59	0.44	3.82	0.12	0.012	7.8	SLO_FO
DTA-03	2921	21	22	62.36	0.4	2.07	0.112	0.013	7.26	SLO_FO
DTA-03	2922	22	23	61.7	0.54	2.71	0.131	0.012	7.22	SLO_FO
DTA-03	2923	23	24	64.69	0.36	1.25	0.095	0.009	5.1	SLO_FO
DTA-03	2924	24	25	65.47	0.33	1	0.078	0.008	4.25	SLO_FO
DTA-03	2925	25	26	61.03	0.62	3.03	0.122	0.015	7.88	SLO_FO
DTA-03	2926	26	27	61.81	0.74	2.62	0.117	0.013	7.16	SLO_FO
DTA-03	2927	27	28	64.14	0.44	1.96	0.093	0.01	4.88	SLO_FO
DTA-03	2928	28	29	66.58	0.24	0.75	0.073	0.006	3.11	SLO_FO
DTA-03	2929	29	30	66.36	0.28	0.69	0.071	0.007	3.44	SLO_FO
DTA-03	2930	30	31	67.58	0.22	0.56	0.062	0.004	1.94	SLO_FO
DTA-03	2931	31	32	67.69	0.18	0.59	0.06	0.003	1.82	SLO_FO
DTA-03	2932	32	33	66.69	0.4	0.52	0.069	0.005	3.02	SLO_FO
DTA-03	2933	33	34	60.25	4.8	3.45	0.135	0.014	4.3	SLO_FO
DTA-03	2934	34	35	54.47	9.14	4.33	0.141	0.018	7.14	SLO_FO
DTA-03	2935	35	36	49.69	9.5	7.55	0.138	0.015	9.9	SLO_FO
DTA-03	2936	36	37	35.57	13.64	21.56	0.128	0.021	10.44	Limonite
DTA-03	2937	37	38	56.69	2.3	7.96	0.125	0.016	7.18	SLO_FO
DTA-03	2938	38	39	67.14	0.42	0.66	0.065	0.005	2.26	SLO_FO
DTA-03	2939	39	40	65.14	0.34	1.21	0.078	0.008	4.5	SLO_FO
DTA-03	2940	40	41	62.69	0.44	2.52	0.113	0.012	6.2	SLO_FO
DTA-03	2941	41	42	67.63	0.18	0.7	0.067	0.004	1.76	SLO_FO
DTA-03	2942	42	43	66.03	0.36	1.02	0.074	0.008	3.4	SLO_FO
DTA-03	2943	43	44	67.81	0.21	0.48	0.061	0.003	1.7	SLO_FO
DTA-03	2944	44	45	67.14	0.29	0.6	0.069	0.005	2.4	SLO_FO
DTA-03	2945	45	46	67.81	0.2	0.54	0.06	0.004	1.7	SLO_FO
DTA-03	2946	46	47	67.69	0.25	0.58	0.063	0.004	1.78	SLO_FO
DTA-03	2947	47	48	67.14	0.28	0.61	0.065	0.006	2.4	SLO_FO
DTA-03	2948	48	49	65.36	0.36	1.18	0.08	0.007	4.2	SLO_FO
DTA-03	2949	49	50	66.03	0.2	1.03	0.075	0.006	3.65	SLO_FO
DTA-03	2950	50	51	64.03	0.32	1.92	0.092	0.009	5.2	SLO_FO
DTA-03	2951	51	52	67.58	0.16	0.58	0.063	0.003	1.98	SLO_FO
DTA-03	2952	52	53	67.47	0.18	0.67	0.062	0.004	2.02	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-03	2953	53	54	66.69	0.26	1.15	0.074	0.005	2.58	SLO_FO
DTA-03	2954	54	55	67.36	0.28	0.65	0.065	0.004	2.1	SLO_FO
DTA-03	2955	55	56	67.53	0.14	0.06	0.061	0.003	2.05	SLO_FO
DTA-03	2956	56	57	67.64	0.22	0.58	0.062	0.004	1.88	SLO_FO
DTA-03	2957	57	58	66.92	0.26	0.78	0.069	0.006	2.62	SLO_FO
DTA-03	2958	58	59	66.69	0.34	1.17	0.07	0.007	2.48	SLO_FO
DTA-03	2959	59	60	67.14	0.19	0.7	0.067	0.005	2.45	SLO_FO
DTA-03	2960	60	61	67.25	0.35	0.48	0.069	0.006	2.31	SLO_FO
DTA-03	2961	61	62	67.36	0.26	0.54	0.063	0.005	2.18	SLO_FO
DTA-03	2962	62	63	67.47	0.45	0.47	0.064	0.005	1.9	SLO_FO
DTA-03	2963	63	64	66.92	0.3	0.59	0.072	0.007	2.72	SLO_FO
DTA-03	2964	64	65	67.03	0.4	0.45	0.068	0.008	2.6	SLO_FO
DTA-03	2965	65	66	56.47	0.56	7.71	0.145	0.019	9.48	Limonitic Ore
DTA-03	2966	66	67	63.69	0.4	1.54	0.105	0.01	6.09	SLO_FO
DTA-03	2967	67	68	67.14	0.35	0.54	0.066	0.008	2.4	SLO_FO
DTA-03	2968	68	69	67.58	0.23	0.66	0.06	0.004	1.83	SLO_FO
DTA-03	2969	69	70	67.03	0.48	0.49	0.067	0.007	2.48	SLO_FO
DTA-03	2970	70	71	66.69	0.45	0.95	0.073	0.006	2.44	SLO_FO
DTA-03	2971	71	72	67.58	0.3	0.62	0.061	0.004	1.8	SLO_FO
DTA-03	2972	72	73	67.14	0.32	0.67	0.066	0.008	2.3	SLO_FO
DTA-03	2973	73	74	66.92	0.4	0.47	0.071	0.007	2.74	SLO_FO
DTA-03	2974	74	75	67.03	0.46	0.6	0.068	0.006	2.34	SLO_FO
DTA-03	2975	75	76	67.69	0.35	0.49	0.06	0.004	1.72	SLO_FO
DTA-03	2976	76	77	66.47	0.42	0.5	0.074	0.007	3.28	SLO_FO
DTA-03	2977	77	78	66.58	0.35	1.09	0.072	0.007	2.76	SLO_FO
DTA-03	2978	78	79	66.8	0.4	0.96	0.07	0.006	2.52	SLO_FO
DTA-03	2979	79	80	66.69	0.42	0.77	0.074	0.007	2.8	SLO_FO
DTA-03	2980	80	81	67.02	0.3	0.83	0.067	0.005	2.54	SLO_FO
DTA-03	2981	81	82	66.91	0.54	0.76	0.07	0.005	2.42	SLO_FO
DTA-03	2982	82	83	65.47	0.44	1.24	0.082	0.008	4.1	SLO_FO
DTA-03	2983	83	84	67.25	0.26	0.61	0.065	0.006	2.32	SLO_FO
DTA-03	2984	84	85	67.36	0.2	0.82	0.067	0.005	2.16	SLO_FO
DTA-03	2985	85	86	67.02	0.34	0.73	0.07	0.007	2.4	SLO_FO
DTA-03	2986	86	87	67.47	0.24	0.43	0.063	0.004	2.2	SLO_FO
DTA-03	2987	87	88	67.25	0.28	0.67	0.068	0.006	2.24	SLO_FO
DTA-03	2988	88	89	66.8	0.38	0.7	0.073	0.007	2.7	SLO_FO
DTA-03	2989	89	90	64.58	0.48	1.54	0.093	0.008	4.84	SLO_FO
DTA-03	2990	90	91	66.8	0.42	0.6	0.071	0.006	2.76	SLO_FO
DTA-03	2991	91	92	66.69	0.5	0.61	0.075	0.007	2.83	SLO_FO
DTA-03	2992	92	93	66.47	0.46	0.94	0.072	0.006	2.9	SLO_FO
DTA-03	2993	93	94	65.69	0.44	1.15	0.083	0.008	3.78	SLO_FO
DTA-03	2994	94	95	67.25	0.4	0.59	0.061	0.005	2.4	SLO_FO
DTA-03	2995	95	96	66.36	0.62	0.71	0.071	0.007	3.08	SLO_FO
DTA-03	2996	96	97	64.58	0.8	1.43	0.093	0.009	4.68	SLO_FO
DTA-03	2997	97	98	66.36	0.56	0.89	0.077	0.008	2.91	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-03	2998	98	99	67.52	0.3	0.45	0.064	0.004	2.1	SLO_FO
DTA-03	2999	99	100	67.69	0.24	0.5	0.062	0.005	1.92	SLO_FO
DTA-03	3000	100	101	66.13	0.34	0.88	0.074	0.006	3.52	SLO_FO
DTA-03	3001	101	102	66.13	0.38	0.76	0.076	0.007	3.6	SLO_FO
DTA-03	3002	102	103	67.47	0.22	0.81	0.065	0.004	1.84	SLO_FO
DTA-03	3003	103	104	67.58	0.2	0.62	0.06	0.004	2	SLO_FO
DTA-03	3004	104	105	67.25	0.6	0.54	0.066	0.007	2.2	SLO_FO
DTA-03	3005	105	106	67.02	0.32	0.58	0.07	0.006	2.62	SLO_FO
DTA-03	3006	106	107	66.8	0.28	0.8	0.069	0.005	2.7	SLO_FO
DTA-03	3007	107	108	67.02	0.28	0.78	0.069	0.005	2.46	SLO_FO
DTA-03	3008	108	109	67.25	0.18	0.61	0.071	0.006	2.5	SLO_FO
DTA-03	3009	109	110	67.36	0.14	0.79	0.063	0.004	2.1	SLO_FO
DTA-03	3010	110	111	67.25	0.36	0.62	0.064	0.005	2.3	SLO_FO
DTA-03	3011	111	112	67.42	0.34	0.63	0.061	0.004	2.02	SLO_FO
DTA-03	3012	112	113	67.14	0.4	0.64	0.067	0.007	2.3	SLO_FO
DTA-03	3013	113	114	67.25	0.3	0.68	0.064	0.006	2.21	SLO_FO
DTA-03	3014	114	115	67.92	0.18	0.57	0.06	0.004	1.58	SLO_FO
DTA-03	3015	115	116	67.69	0.26	0.61	0.063	0.004	1.74	SLO_FO
DTA-03	3016	116	117	67.8	0.2	0.64	0.061	0.005	1.66	SLO_FO
DTA-03	3017	117	118	67.62	0.3	0.6	0.065	0.004	1.8	SLO_FO
DTA-03	3018	118	119	67.47	0.36	0.68	0.07	0.006	1.88	SLO_FO
DTA-03	3019	119	120	67.36	0.42	0.62	0.068	0.007	2.04	SLO_FO
DTA-03	3020	120	121	67.58	0.22	0.6	0.065	0.006	2	SLO_FO
DTA-03	3021	121	122	67.47	0.42	0.57	0.069	0.006	1.98	SLO_FO
DTA-03	3022	122	123	67.8	0.16	0.62	0.062	0.004	1.7	SLO_FO
DTA-03	3023	123	124	67.14	0.44	0.61	0.067	0.007	2.34	SLO_FO
DTA-03	3024	124	125	66.8	0.6	0.73	0.072	0.008	2.5	SLO_FO
DTA-03	3025	125	126	67.58	0.28	0.58	0.064	0.005	1.96	SLO_FO
DTA-03	3026	126	127	67.25	0.4	0.63	0.068	0.007	2.16	SLO_FO
DTA-03	3027	127	128	67.69	0.24	0.62	0.06	0.006	1.8	SLO_FO
DTA-03	3028	128	129	67.47	0.32	0.59	0.063	0.005	1.96	SLO_FO
DTA-03	3029	129	130	67.8	0.18	0.6	0.06	0.004	1.72	SLO_FO
DTA-03	3030	130	131	67.02	0.4	0.56	0.07	0.007	2.46	SLO_FO
DTA-03	3031	131	132	67.86	0.28	0.5	0.061	0.004	1.64	SLO_FO
DTA-03	3032	132	133	65.35	0.44	1.13	0.084	0.008	4.18	SLO_FO
DTA-03	3033	133	134	64.35	0.7	1.46	0.091	0.009	5.02	SLO_FO
DTA-03	3034	134	135	44.09	19.36	9.92	0.121	0.017	5.68	SLO_FO
DTA-03	3035	135	136	36.07	15.8	22.2	0.125	0.02	6.92	SLO_FO
DTA-03	3036	136	137	60.57	1.14	3.59	0.118	0.011	7.5	SLO_FO
DTA-03	3037	137	138	67.02	0.22	0.6	0.065	0.006	2.6	SLO_FO
DTA-03	3038	138	139	60.79	0.86	3.62	0.128	0.012	7.4	SLO_FO
DTA-03	3039	139	140	62.68	0.9	2.78	0.115	0.01	6.92	SLO_FO
DTA-03	3040	140	141	63.91	0.48	1.53	0.103	0.009	5.6	SLO_FO
DTA-03	3041	141	142	67.47	0.3	0.59	0.062	0.005	1.93	SLO_FO
DTA-03	3042	142	143	66.8	0.26	0.94	0.071	0.007	2.58	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-03	3043	143	144	28.5	17.6	29.21	0.14	0.024	8.94	Tuff
DTA-03	3044	144	145	18.37	28.08	31.26	0.134	0.028	10.4	Tuff
DTA-03	3045	145	146	39.19	9.68	22.82	0.128	0.02	7.46	Limonite
DTA-03	3046	146	147	46.98	12.56	11.84	0.131	0.018	5.92	Limonite
DTA-03	3047	147	148	63.24	0.4	2	0.097	0.009	6.17	SLO_FO
DTA-03	3048	148	149	65.47	0.36	1.14	0.082	0.008	4.08	SLO_FO
DTA-03	3049	149	150	65.13	0.6	1.01	0.085	0.008	4.46	SLO_FO
DTA-03	3050	150	151	66.58	0.42	0.74	0.071	0.009	2.94	SLO_FO
DTA-03	3051	151	152	64.35	0.72	1.82	0.096	0.01	4.6	SLO_FO
DTA-03	3052	152	153	63.02	0.85	1.72	0.102	0.012	6.32	SLO_FO
DTA-03	3053	153	154	62.9	0.9	1.76	0.109	0.012	6.4	SLO_FO
DTA-03	3054	154	155	64.91	0.56	1.12	0.092	0.009	4.7	SLO_FO
DTA-03	3055	155	156	66.13	0.34	1.18	0.074	0.007	3.12	SLO_FO
DTA-03	3056	156	157	67.25	0.26	0.69	0.063	0.008	2.24	SLO_FO
DTA-03	3057	157	158	60.34	8.04	1.92	0.111	0.012	2.76	SLO_FO
DTA-03	3058	158	159	42.31	24.14	8.84	0.14	0.02	4.02	SLO_FO
DTA-03	3059	159	160	41.53	30.2	5.18	0.138	0.022	2.74	SLO_FO
DTA-03	3060	160	161	57.34	4.84	5.97	0.127	0.018	5.5	SLO_FO
DTA-03	3061	161	162	66.58	0.38	0.79	0.073	0.008	2.98	SLO_FO
DTA-03	3062	162	163	65.69	0.62	0.79	0.085	0.009	3.94	SLO_FO
DTA-03	3063	163	164	59.23	4.34	5.33	0.128	0.013	4.14	SLO_FO
DTA-03	3064	164	165	67.25	0.3	0.74	0.062	0.006	2.2	SLO_FO
DTA-03	3065	165	166	29.17	30.04	17.85	0.152	0.026	6.9	Tuff
DTA-03	3066	166	167	41.86	29.75	5.1	0.135	0.019	3	Tuff
DTA-03	3067	167	168	41.75	30.4	4.2	0.14	0.018	3.3	Tuff
DTA-03	3068	168	169	40.97	31	5	0.129	0.016	2.92	Tuff
DTA-03	3069	169	170	39.19	32.8	4.86	0.133	0.02	3.3	Tuff
DTA-03	3070	170	171	40.75	31.61	4.67	0.141	0.021	2.95	Tuff
DTA-03	3071	171	172	56.34	7.46	5.72	0.137	0.016	4.56	SLO_FO
DTA-03	3072	172	173	64.8	0.42	1.29	0.094	0.009	4.88	SLO_FO
DTA-03	3073	173	174	65.47	0.52	1.11	0.083	0.008	4	SLO_FO
DTA-03	3074	174	175	61.46	0.9	2.74	0.127	0.013	7.18	SLO_FO
DTA-03	3075	175	176	64.35	0.64	1.58	0.093	0.009	4.96	SLO_FO
DTA-03	3076	176	177	64.8	0.58	1.21	0.091	0.009	4.8	SLO_FO
DTA-03	3077	177	178	64.58	0.68	1.38	0.094	0.008	4.9	SLO_FO
DTA-03	3078	178	179	49.65	14.46	11.45	0.13	0.022	6.52	Limonite
DTA-03	3079	179	180	54.55	2.8	9.7	0.145	0.019	8	Limonite
DTA-03	3080	180	181	52.55	3.18	11.28	0.138	0.018	7.9	Limonite
DTA-03	3081	181	182	49.65	3.8	12.85	0.126	0.019	9.66	Limonite
DTA-03	3082	182	183	58.79	1.36	3.37	0.135	0.016	10.21	Limonitic Ore
DTA-03	3083	183	184	58.56	1.2	3.26	0.13	0.015	10.8	Limonitic Ore
DTA-03	3084	184	185	58.67	1.14	3.57	0.128	0.017	10.4	Limonitic Ore
DTA-03	3085	185	186	59.01	0.96	3.92	0.139	0.016	9.24	Limonitic Ore
DTA-03	3086	186	187	58.45	1.08	4.08	0.124	0.023	9.96	Limonitic Ore
DTA-03	3087	187	188	48.76	9.2	7.78	0.145	0.025	10.3	Limonite

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BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-03	3088	188	189	36.07	20	14.82	0.142	0.022	10.1	Limonite
DTA-03	3089	189	190	38.3	18.64	15.1	0.136	0.024	8.5	Feruginous Shale
DTA-03	3090	190	191	30.5	19.55	24.68	0.124	0.021	8.46	Feruginous Shale
DTA-03	3091	191	192	37.18	18.78	15.34	0.13	0.022	9.42	Feruginous Shale
DTA-03	3092	192	193	37.74	18.15	15.71	0.127	0.018	8.8	Feruginous Shale
DTA-03	3093	193	194	51.44	3.7	10.15	0.133	0.023	10.1	Feruginous Shale
DTA-03	3094	194	195	42.31	12.9	13.9	0.139	0.022	9.7	Feruginous Shale
DTA-03	3095	195	196	38.74	17.8	13.91	0.142	0.02	9.9	Feruginous Shale
DTA-03	3096	196	197	41.19	15.3	14.1	0.129	0.021	8.7	Feruginous Shale
DTA-03	3097	197	198	40.3	12.1	17.68	0.135	0.022	9.1	Feruginous Shale
DTA-03	3098	198	199	41.75	14.2	13.6	0.13	0.018	9.5	Feruginous Shale
DTA-03	3099	199	200	46.31	13.35	10.83	0.125	0.012	6.9	Feruginous Shale
DTA-04	3100	0	1	60.34	1.06	2.42	0.112	0.012	8.94	SLO_FO
DTA-04	3101	1	2	64.35	0.72	1.4	0.097	0.009	4.86	SLO_FO
DTA-04	3102	2	3	62.57	0.8	1.99	0.108	0.019	6.74	HLO
DTA-04	3103	3	4	62.35	0.66	2.32	0.111	0.012	6.86	HLO
DTA-04	3104	4	5	62.13	0.54	2.62	0.12	0.014	7	HLO
DTA-04	3105	5	6	63.91	0.48	1.55	0.102	0.01	5.68	HLO
DTA-04	3106	6	7	62.57	0.98	1.89	0.114	0.013	6.66	HLO
DTA-04	3107	7	8	66.8	0.32	0.87	0.075	0.006	2.64	HLO
DTA-04	3108	8	9	63.13	0.6	2.01	0.098	0.01	6.12	HLO
DTA-04	3109	9	10	63.68	0.51	1.7	0.097	0.009	5.9	HLO
DTA-04	3110	10	11	64.13	0.4	2.13	0.096	0.008	4.92	HLO
DTA-04	3111	11	12	63.35	0.7	1.67	0.105	0.011	6.04	HLO
DTA-04	3112	12	13	64.35	0.52	1.84	0.094	0.009	4.82	HLO
DTA-04	3113	13	14	65.02	0.42	1.26	0.087	0.008	4.6	HLO
DTA-04	3114	14	15	66.13	0.34	1.05	0.077	0.007	3.3	HLO
DTA-04	3115	15	16	67.58	0.26	0.64	0.063	0.006	1.92	SLO_FO
DTA-04	3116	16	17	67.69	0.2	0.62	0.061	0.006	1.84	SLO_FO
DTA-04	3117	17	18	65.02	0.44	1.11	0.081	0.008	4.68	SLO_FO
DTA-04	3118	18	19	65.91	0.36	1.09	0.08	0.006	3.6	SLO_FO
DTA-04	3119	19	20	66.13	0.25	1.25	0.071	0.007	3.24	SLO_FO
DTA-04	3120	20	21	65.47	0.3	1.21	0.083	0.008	4.02	SLO_FO
DTA-04	3121	21	22	62.79	0.8	1.74	0.111	0.011	6.68	SLO_FO
DTA-04	3122	22	23	65.47	0.42	0.96	0.085	0.007	4.2	SLO_FO
DTA-04	3123	23	24	65.24	0.38	1.37	0.082	0.008	4.16	SLO_FO
DTA-04	3124	24	25	67.02	0.24	0.78	0.064	0.005	2.5	SLO_FO
DTA-04	3125	25	26	66.13	0.32	1.32	0.072	0.007	3	SLO_FO
DTA-04	3126	26	27	66.36	0.2	1.19	0.075	0.007	2.92	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-04	3127	27	28	65.02	0.36	1.13	0.084	0.008	4.74	SLO_FO
DTA-04	3128	28	29	66.36	0.26	1.14	0.07	0.006	2.96	SLO_FO
DTA-04	3129	29	30	66.13	0.38	1.28	0.077	0.008	3.08	SLO_FO
DTA-04	3130	30	31	66.02	0.3	1.2	0.076	0.007	3.3	SLO_FO
DTA-04	3131	31	32	67.36	0.18	0.77	0.063	0.005	2.18	SLO_FO
DTA-04	3132	32	33	65.91	0.46	0.99	0.079	0.008	3.6	SLO_FO
DTA-04	3133	33	34	66.13	0.38	1.33	0.075	0.007	2.98	SLO_FO
DTA-04	3134	34	35	66.8	0.2	0.98	0.07	0.005	2.6	SLO_FO
DTA-04	3135	35	36	67.47	0.16	0.67	0.061	0.004	2.04	SLO_FO
DTA-04	3136	36	37	66.13	0.4	1.39	0.076	0.008	2.9	SLO_FO
DTA-04	3137	37	38	67.02	0.3	0.75	0.068	0.006	2.42	SLO_FO
DTA-04	3138	38	39	62.79	0.48	1.94	0.113	0.012	6.8	SLO_FO
DTA-04	3139	39	40	64.58	0.28	1.39	0.096	0.009	5.14	SLO_FO
DTA-04	3140	40	41	63.24	0.32	1.34	0.083	0.008	4.2	SLO_FO
DTA-04	3141	41	42	67.47	0.2	0.6	0.06	0.004	2.07	SLO_FO
DTA-04	3142	42	43	67.14	0.26	0.66	0.067	0.005	2.37	SLO_FO
DTA-04	3143	43	44	62.79	0.58	1.74	0.11	0.012	6.9	SLO_FO
DTA-04	3144	44	45	65.47	0.42	1.28	0.082	0.008	3.88	SLO_FO
DTA-04	3145	45	46	64.46	0.56	1.45	0.093	0.009	5.02	SLO_FO
DTA-04	3146	46	47	65.13	0.48	1.08	0.086	0.007	4.56	SLO_FO
DTA-04	3147	47	48	63.68	0.62	1.52	0.102	0.01	5.8	SLO_FO
DTA-04	3148	48	49	67.14	0.4	0.76	0.066	0.006	2.18	SLO_FO
DTA-04	3149	49	50	67.62	0.26	0.65	0.06	0.004	1.8	SLO_FO
DTA-04	3150	50	51	63.46	0.36	1.86	0.098	0.011	6.04	SLO_FO
DTA-04	3151	51	52	65.24	0.24	1.28	0.083	0.007	4.44	SLO_FO
DTA-04	3152	52	53	65.02	0.46	1.03	0.082	0.009	4.74	SLO_FO
DTA-04	3153	53	54	63.02	0.55	1.82	0.105	0.012	6.52	SLO_FO
DTA-04	3154	54	55	63.35	0.68	1.53	0.098	0.011	6.2	SLO_FO
DTA-04	3155	55	56	64.58	0.46	1.9	0.093	0.009	4.4	SLO_FO
DTA-04	3156	56	57	63.68	0.6	1.34	0.097	0.01	6	SLO_FO
DTA-04	3157	57	58	63.8	0.52	1.37	0.095	0.01	5.88	SLO_FO
DTA-04	3158	58	59	63.46	0.72	1.26	0.107	0.011	6.28	SLO_FO
DTA-04	3159	59	60	62.57	0.88	1.85	0.118	0.013	6.8	SLO_FO
DTA-04	3160	60	61	63.02	0.7	1.55	0.11	0.012	6.65	SLO_FO
DTA-04	3161	61	62	62.79	0.9	1.4	0.108	0.011	6.92	SLO_FO
DTA-04	3162	62	63	63.24	0.76	1.47	0.096	0.01	6.34	SLO_FO
DTA-04	3163	63	64	62.68	0.8	1.57	0.107	0.012	7	SLO_FO
DTA-04	3164	64	65	63.02	0.66	1.77	0.111	0.011	6.46	SLO_FO
DTA-04	3165	65	66	63.91	0.54	1.45	0.095	0.009	5.72	SLO_FO
DTA-04	3166	66	67	64.13	0.46	2.08	0.093	0.008	4.86	SLO_FO
DTA-04	3167	67	68	64.35	0.5	1.98	0.096	0.009	4.6	SLO_FO
DTA-04	3168	68	69	63.13	0.62	1.93	0.109	0.011	6.18	SLO_FO
DTA-04	3169	69	70	62.79	0.74	2.1	0.112	0.013	6.38	SLO_FO
DTA-04	3170	70	71	65.69	0.32	1.01	0.087	0.007	3.94	SLO_FO
DTA-04	3171	71	72	62.79	0.48	2.3	0.105	0.011	6.44	SLO_FO

Borehole Assay & Litho Data

Borehole Assay
 Manager (11/1/2011)
 Date: 11/1/2011

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-04	3172	72	73	62.13	0.72	2.34	0.12	0.012	7	SLO_FO
DTA-04	3173	73	74	61.9	0.84	2.27	0.131	0.014	7.18	SLO_FO
DTA-04	3174	74	75	62.23	0.96	2.63	0.128	0.012	7.66	SLO_FO
DTA-04	3175	75	76	62.13	0.8	2.32	0.115	0.015	6.94	SLO_FO
DTA-04	3176	76	77	62.24	0.66	2.44	0.112	0.014	6.8	SLO_FO
DTA-04	3177	77	78	62.35	0.58	2.58	0.108	0.013	6.68	SLO_FO
DTA-04	3178	78	79	62.68	0.54	2.43	0.11	0.011	6.4	SLO_FO
DTA-04	3179	79	80	62.35	0.62	2.52	0.115	0.012	6.7	SLO_FO
DTA-04	3180	80	81	63.91	0.5	1.41	0.097	0.009	5.8	SLO_FO
DTA-04	3181	81	82	65.69	0.42	0.99	0.083	0.007	3.86	SLO_FO
DTA-04	3182	82	83	66.8	0.3	0.8	0.072	0.006	2.58	SLO_FO
DTA-04	3183	83	84	67.69	0.22	0.79	0.06	0.004	1.7	SLO_FO
DTA-04	3184	84	85	65.02	0.56	0.97	0.085	0.008	4.7	SLO_FO
DTA-04	3185	85	86	65.47	0.54	1.02	0.081	0.007	4.02	SLO_FO
DTA-04	3186	86	87	66.58	0.4	0.94	0.07	0.006	2.86	SLO_FO
DTA-04	3187	87	88	64.35	0.5	1.91	0.093	0.009	4.82	SLO_FO
DTA-04	3188	88	89	64.85	0.44	1.52	0.09	0.008	4.56	SLO_FO
DTA-04	3189	89	90	65.02	0.4	1.43	0.083	0.007	4.4	SLO_FO
DTA-04	3190	90	91	64.8	0.34	1.7	0.094	0.008	4.5	SLO_FO
DTA-04	3191	91	92	67.8	0.24	0.65	0.059	0.03	1.66	SLO_FO
DTA-04	3192	92	93	63.65	0.52	1.51	0.113	0.01	5.96	SLO_FO
DTA-04	3193	93	94	65.91	0.32	1.19	0.077	0.007	3.54	SLO_FO
DTA-04	3194	94	95	65.8	0.38	1.11	0.075	0.006	3.62	SLO_FO
DTA-04	3195	95	96	64.8	0.36	1.62	0.09	0.009	4.56	SLO_FO
DTA-04	3196	96	97	66.8	0.46	1	0.076	0.005	2.32	SLO_FO
DTA-04	3197	97	98	62.68	0.68	1.75	0.122	0.012	6.84	SLO_FO
DTA-04	3198	98	99	62.57	1.7	1.03	0.128	0.013	6.8	SLO_FO
DTA-04	3199	99	100	63.91	0.78	1.21	0.104	0.01	5.72	SLO_FO
DTA-04	3200	100	101	61.9	1.02	2.43	0.119	0.014	6.84	SLO_FO
DTA-04	3201	101	102	61.46	1.09	2.69	0.123	0.013	7.14	SLO_FO
DTA-04	3202	102	103	63.02	0.7	1.79	0.102	0.01	6.4	SLO_FO
DTA-04	3203	103	104	62.79	0.5	1.96	0.11	0.011	6.76	SLO_FO
DTA-04	3204	104	105	63.24	0.4	1.89	0.098	0.01	6.28	SLO_FO
DTA-04	3205	105	106	62.79	0.58	1.94	0.127	0.012	6.7	SLO_FO
DTA-04	3206	106	107	62.68	0.66	1.93	0.116	0.011	6.78	SLO_FO
DTA-04	3207	107	108	63.91	0.42	1.37	0.096	0.009	5.92	SLO_FO
DTA-04	3208	108	109	65.91	0.5	0.77	0.078	0.007	3.68	SLO_FO
DTA-04	3209	109	110	66.36	0.34	0.97	0.073	0.006	3	SLO_FO
DTA-04	3210	110	111	66.8	0.3	0.64	0.071	0.005	2.84	SLO_FO
DTA-04	3211	111	112	64.58	0.34	1.7	0.094	0.009	4.72	SLO_FO
DTA-04	3212	112	113	63.91	0.52	1.35	0.101	0.009	5.84	SLO_FO
DTA-04	3213	113	114	62.35	0.5	2.3	0.124	0.011	7.04	SLO_FO
DTA-04	3214	114	115	64.13	0.38	2.08	0.093	0.009	4.94	SLO_FO
DTA-04	3215	115	116	64.58	0.56	1.38	0.096	0.008	4.82	SLO_FO
DTA-04	3216	116	117	62.35	0.68	2	0.127	0.012	7.16	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-04	3217	117	118	64.8	0.58	1.26	0.093	0.008	4.6	SLO_FO
DTA-04	3218	118	119	65.91	0.66	0.77	0.078	0.007	3.62	SLO_FO
DTA-04	3219	119	120	65.13	0.76	0.91	0.083	0.008	4.4	SLO_FO
DTA-04	3220	120	121	64.24	0.8	1.54	0.097	0.009	4.9	SLO_FO
DTA-04	3221	121	122	66.8	0.4	0.58	0.072	0.005	2.8	SLO_FO
DTA-04	3222	122	123	64.02	0.6	1.76	0.093	0.09	5.25	SLO_FO
DTA-04	3223	123	124	62.79	0.76	1.96	0.115	0.011	6.5	SLO_FO
DTA-04	3224	124	125	64.35	0.46	1.86	0.096	0.008	4.86	SLO_FO
DTA-04	3225	125	126	62.79	0.72	1.86	0.11	0.012	6.64	SLO_FO
DTA-04	3226	126	127	65.91	0.34	1.17	0.082	0.006	3.54	SLO_FO
DTA-04	3227	127	128	67.25	0.4	0.65	0.061	0.005	2.24	SLO_FO
DTA-04	3228	128	129	65.69	0.5	1.07	0.084	0.007	3.8	SLO_FO
DTA-04	3229	129	130	62.57	0.74	1.93	0.109	0.01	6.86	SLO_FO
DTA-04	3230	130	131	61.23	0.9	2.61	0.124	0.014	7.64	SLO_FO
DTA-04	3231	131	132	62.13	0.54	2.46	0.119	0.011	7.16	SLO_FO
DTA-04	3232	132	133	66.8	0.34	1.06	0.076	0.07	2.58	SLO_FO
DTA-04	3233	133	134	54.78	3.9	8.01	0.134	0.018	7.76	SLO_FO
DTA-04	3234	134	135	60.12	0.88	3.95	0.117	0.012	8	SLO_FO
DTA-04	3235	135	136	64.35	0.55	1.71	0.097	0.009	4.82	SLO_FO
DTA-04	3236	136	137	56.78	2.9	4.75	0.135	0.02	9.16	SLO_FO
DTA-04	3237	137	138	54.78	3.96	7.87	0.14	0.021	7.84	SLO_FO
DTA-04	3238	138	139	62.57	1.04	1.77	0.123	0.011	6.72	SLO_FO
DTA-04	3239	139	140	64.13	0.6	1.9	0.094	0.009	4.9	SLO_FO
DTA-04	3240	140	141	61.9	1.16	2.05	0.121	0.012	7.08	SLO_FO
DTA-04	3241	141	142	65.69	0.58	0.99	0.088	0.006	3.7	SLO_FO
DTA-04	3242	142	143	64.58	0.6	1.88	0.094	0.009	4.28	SLO_FO
DTA-04	3243	143	144	66.8	0.4	0.78	0.072	0.005	2.6	SLO_FO
DTA-04	3244	144	145	61.9	0.94	2.45	0.13	0.012	6.9	SLO_FO
DTA-04	3245	145	146	61.23	1.26	2.49	0.126	0.011	7.5	SLO_FO
DTA-04	3246	146	147	59.23	2.08	3.79	0.138	0.018	8.34	Limonitic Ore
DTA-04	3247	147	148	57.89	2.2	4.12	0.135	0.016	8.9	Limonitic Ore
DTA-04	3248	148	149	55	2.3	6.85	0.141	0.02	10.2	SLO_FO
DTA-04	3249	149	150	55.1	2.4	6.91	0.134	0.019	9.9	SLO_FO
DTA-04	3250	150	151	62.56	0.6	1.66	0.117	0.013	7.28	SLO_FO
DTA-04	3251	151	152	61.4	0.73	3.12	0.122	0.014	7.2	SLO_FO
DTA-04	3252	152	153	60.7	0.8	3.5	0.125	0.014	7.8	SLO_FO
DTA-04	3253	153	154	63.11	0.44	1.85	0.102	0.01	6.47	SLO_FO
DTA-04	3254	154	155	62	0.68	2.7	0.116	0.012	6.86	SLO_FO
DTA-04	3255	155	156	60.88	0.75	3.47	0.124	0.013	7.63	SLO_FO
DTA-04	3256	156	157	63.11	0.5	1.72	0.106	0.011	6.54	SLO_FO
DTA-04	3257	157	158	62.93	0.4	1.95	0.11	0.012	6.67	SLO_FO
DTA-04	3258	158	159	63.3	0.48	1.71	0.103	0.01	6.3	SLO_FO
DTA-04	3259	159	160	40.77	11.56	18.14	0.137	0.019	9.5	SLO_FO
DTA-04	3260	160	161	64.14	0.3	1.3	0.091	0.009	5.68	SLO_FO
DTA-04	3261	161	162	62.37	0.58	1.84	0.109	0.014	7.4	SLO_FO

Borehole Assay & Litho Data

RXP
Manager (Drilling)
Department of Geology
G. S. S. S. S.

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-04	3262	162	163	62.74	0.47	1.66	0.105	0.013	7.16	SLO_FO
DTA-04	3263	163	164	57.44	1.86	5.48	0.128	0.017	8.73	SLO_FO
DTA-04	3264	164	165	62.65	0.52	1.96	0.111	0.014	6.94	SLO_FO
DTA-04	3265	165	166	62.37	0.63	1.86	0.108	0.013	7.33	SLO_FO
DTA-04	3266	166	167	62	0.71	2.11	0.112	0.015	7.42	SLO_FO
DTA-04	3267	167	168	58.83	1.32	4.46	0.131	0.016	8.4	SLO_FO
DTA-04	3268	168	169	59.58	1.06	3.83	0.133	0.014	8.32	Limonitic Ore
DTA-04	3269	169	170	55.57	1.67	6.74	0.14	0.018	10.13	Limonitic Ore
DTA-04	3270	170	171	53.85	1.24	6.24	0.134	0.019	10.66	Limonitic Ore
DTA-04	3271	171	172	58.65	1	4.97	0.123	0.015	8.47	Limonitic Ore
DTA-04	3272	172	173	58.83	1.12	4.56	0.12	0.016	8.6	Limonitic Ore
DTA-04	3273	173	174	59.03	1.15	4.59	0.127	0.015	8.55	Limonitic Ore
DTA-04	3274	174	175	62	0.74	2.8	0.119	0.014	6.7	SLO_FO
DTA-04	3275	175	176	62.21	0.61	3.09	0.113	0.013	6.34	SLO_FO
DTA-04	3276	176	177	59.95	0.95	4.35	0.126	0.016	7.88	Limonitic Ore
DTA-04	3277	177	178	57.9	1.25	5.86	0.13	0.018	8.3	SLO_FO
DTA-04	3278	178	179	57.72	1.4	5.81	0.125	0.017	8.56	SLO_FO
DTA-04	3279	179	180	61.25	0.82	3.1	0.12	0.014	7.5	SLO_FO
DTA-04	3280	180	181	61.45	0.73	3.04	0.115	0.013	7.36	SLO_FO
DTA-04	3281	181	182	59.4	1.18	4.33	0.126	0.016	8.45	Limonitic Ore
DTA-04	3282	182	183	59.21	1.3	4.23	0.121	0.017	8.6	Limonitic Ore
DTA-04	3283	183	184	61.45	0.88	3.17	0.112	0.012	7.08	SLO_FO
DTA-04	3284	184	185	59.96	0.97	4.15	0.128	0.015	7.94	Limonitic Ore
DTA-04	3285	185	186	60.14	0.8	4.1	0.13	0.015	8.1	SLO_FO
DTA-04	3286	186	187	60.31	0.67	4.25	0.127	0.013	7.84	SLO_FO
DTA-04	3287	187	188	59.77	1.06	3.99	0.129	0.017	8.36	Limonitic Ore
DTA-04	3288	188	189	57.91	1.2	5.62	0.132	0.019	8.67	Limonitic Ore
DTA-04	3289	189	190	57.72	1.34	5.48	0.136	0.018	8.85	Limonitic Ore
DTA-04	3290	190	191	58.75	1.07	4.22	0.129	0.016	9	Limonitic Ore
DTA-04	3291	191	192	59.21	1.27	4.66	0.124	0.015	8.3	Limonitic Ore
DTA-04	3292	192	193	51.39	2.06	12.34	0.136	0.017	10.12	Limonite
DTA-04	3293	193	194	50.46	2.28	13.87	0.139	0.018	9.7	Limonite
DTA-04	3294	194	195	50.57	1.9	13.74	0.141	0.017	10.05	Limonite
DTA-04	3295	195	196	59.21	1.3	4.77	0.133	0.016	8.16	Limonitic Ore
DTA-04	3296	196	197	57.91	1.26	5.53	0.13	0.018	8.7	Limonitic Ore
DTA-04	3297	197	198	57.54	1.5	5.32	0.125	0.017	9.2	Limonitic Ore
DTA-04	3298	198	199	58.37	1.18	4.72	0.122	0.015	9.14	Limonitic Ore
DTA-04	3299	199	200	54.93	4.7	8.66	0.14	0.02	6.1	Limonite
DTA-04	3300	200	201	49.53	5.8	12.38	0.127	0.021	8.7	Limonite
DTA-04	3301	201	202	50.09	2.3	13.62	0.131	0.019	10.16	Limonite
DTA-04	3302	202	203	48.88	5.1	13.61	0.133	0.023	8.9	Limonite
DTA-04	3303	203	204	48.97	6.25	12.83	0.129	0.022	8.4	Limonite
DTA-04	3304	204	205.25	42.83	11.65	14.93	0.137	0.021	9.18	Limonite
DTA-05	3305	0	1	60.88	0.79	3.21	0.129	0.014	7.64	HLO
DTA-05	3306	1	2	57.71	2.05	4.92	0.135	0.017	8.8	HLO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-05	3307	2	3	54.36	3	8.18	0.142	0.021	9.1	Limonite
DTA-05	3308	3	4	55.85	2	8.15	0.13	0.018	8.48	Limonitic Ore
DTA-05	3309	4	5	58.09	1.26	5.68	0.144	0.016	8.7	Limonitic Ore
DTA-05	3310	5	6	60.32	0.7	3.89	0.116	0.013	7.86	SLO_FO
DTA-05	3311	6	7	63.49	0.6	1.55	0.103	0.011	6.05	HLO
DTA-05	3312	7	8	63.58	0.56	1.6	0.098	0.009	5.93	HLO
DTA-05	3313	8	9	61.44	0.65	2.45	0.125	0.015	7.85	HLO
DTA-05	3314	9	10	63.11	0.58	2.2	0.101	0.01	5.98	HLO
DTA-05	3315	10	11	61.44	0.61	2.54	0.122	0.016	7.9	HLO
DTA-05	3316	11	12	60.69	0.74	3.31	0.127	0.015	7.87	HLO
DTA-05	3317	12	13	62.37	0.68	2.04	0.118	0.012	7	HLO
DTA-05	3318	13	14	63.49	0.52	1.57	0.107	0.01	6.12	HLO
DTA-05	3319	14	15	62.65	0.5	1.94	0.13	0.014	6.88	SLO_FO
DTA-05	3320	15	16	62.93	0.48	1.67	0.115	0.011	6.77	SLO_FO
DTA-05	3321	16	17	62.18	0.63	2.18	0.121	0.013	7.08	BD_PO
DTA-05	3322	17	18	62.56	0.54	2	0.13	0.016	6.9	BD_PO
DTA-05	3323	18	19	63.3	0.6	1.88	0.112	0.01	6	SLO_FO
DTA-05	3324	19	20	62.37	0.53	2.4	0.133	0.015	6.89	SLO_FO
DTA-05	3325	20	21	63.49	0.46	1.95	0.105	0.011	5.9	SLO_FO
DTA-05	3326	21	22	62.56	0.63	1.69	0.125	0.014	7.02	SLO_FO
DTA-05	3327	22	23	63.3	0.51	2.02	0.102	0.012	6.05	SLO_FO
DTA-05	3328	23	24	61.07	0.74	2.71	0.138	0.018	8.02	SLO_FO
DTA-05	3329	24	25	62.18	0.44	2.63	0.124	0.016	6.91	SLO_FO
DTA-05	3330	25	26	61.25	0.68	2.68	0.135	0.018	7.85	SLO_FO
DTA-05	3331	26	27	63.11	0.49	1.86	0.108	0.01	6.4	HLO
DTA-05	3332	27	28	61.63	0.55	2.6	0.132	0.017	7.62	HLO
DTA-05	3333	28	29	61.25	0.58	2.9	0.141	0.015	7.73	HLO
DTA-05	3334	29	30	61.44	0.46	2.92	0.131	0.018	7.56	HLO
DTA-05	3335	30	31	63.11	0.53	1.71	0.1	0.011	6.52	HLO
DTA-05	3336	31	32	64.79	0.42	1.32	0.091	0.009	4.71	HLO
DTA-05	3337	32	33	64.6	0.48	1.35	0.094	0.008	7.9	HLO
DTA-05	3338	33	34	64.23	0.56	2.08	0.096	0.009	4.64	HLO
DTA-05	3339	34	35	64.05	0.65	1.84	0.093	0.01	5.02	HLO
DTA-05	3340	35	36	62.56	0.7	1.96	0.118	0.016	6.88	HLO
DTA-05	3341	36	37	62	0.79	2.45	0.129	0.014	6.9	HLO
DTA-05	3342	37	38	64.42	0.42	1.98	0.093	0.008	4.68	SLO_FO
DTA-05	3343	38	39	63.3	0.68	1.71	0.102	0.011	6.1	HLO
DTA-05	3344	39	40	65.35	0.38	1.44	0.078	0.008	3.93	HLO
DTA-05	3345	40	41	64.6	0.54	1.81	0.088	0.008	4.48	SLO_FO
DTA-05	3346	41	42	64.79	0.47	1.78	0.09	0.007	4.31	HLO
DTA-05	3347	42	43	63.67	0.4	1.91	0.098	0.009	5.75	HLO
DTA-05	3348	43	44	65.16	0.37	1.58	0.083	0.007	4.08	HLO
DTA-05	3349	44	45	65.54	0.33	1.25	0.081	0.008	3.9	HLO
DTA-05	3350	45	46	64.98	0.46	1.61	0.094	0.009	4.21	HLO
DTA-05	3351	46	47	63.67	0.54	1.67	0.105	0.01	5.85	HLO

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-05	3352	47	48	64.23	0.48	2.16	0.092	0.009	4.72	HLO
DTA-05	3353	48	49	64.6	0.5	1.75	0.095	0.008	4.58	HLO
DTA-05	3354	49	50	63.3	0.72	1.67	0.109	0.011	6.2	HLO
DTA-05	3355	50	51	54.55	3.16	9.86	0.134	0.02	6.9	BD_PO
DTA-05	3356	51	52	61.16	0.64	3.61	0.117	0.014	7.3	BD_PO
DTA-05	3357	52	53	60.32	0.76	4.09	0.121	0.016	7.9	BD_PO
DTA-05	3358	53	54	57.16	2.54	4.77	0.14	0.018	8.96	BD_PO
DTA-05	3359	54	55	60.32	0.66	4.28	0.122	0.015	7.81	BD_PO
DTA-05	3360	55	56	58.09	1.3	4.82	0.137	0.018	8.82	BD_PO
DTA-05	3361	56	57	60.14	0.82	4.13	0.116	0.014	8.04	BD_PO
DTA-05	3362	57	58	63.67	0.58	1.58	0.105	0.01	5.9	HLO
DTA-05	3363	58	59	63.3	0.65	1.83	0.101	0.011	6.1	HLO
DTA-05	3364	59	60	63.86	0.46	1.38	0.098	0.01	5.95	HLO
DTA-05	3365	60	61	59.39	1.02	4.76	0.133	0.017	8.2	SLO_PO
DTA-05	3366	61	62	59.92	0.9	4.18	0.13	0.016	8.14	BD_PO
DTA-05	3367	62	63	59.01	1.16	4.92	0.125	0.018	8.44	BD_PO
DTA-05	3368	63	64	56.78	2.2	6.54	0.132	0.02	8.27	BD_PO
DTA-05	3369	64	65	59.39	1	4.67	0.131	0.017	8.31	BD_PO
DTA-05	3370	65	66	59.01	1.1	4.92	0.138	0.016	8.5	BD_PO
DTA-05	3371	66	67	64.88	0.37	1.86	0.09	0.009	4.2	BD_PO
DTA-05	3372	67	68	58.46	1.21	4.68	0.125	0.018	8.52	HLO
DTA-05	3373	68	69	57.72	2.04	4.97	0.138	0.017	8.46	HLO
DTA-05	3374	69	70	58.46	1.31	5	0.13	0.016	8.4	BD_PO
DTA-05	3375	70	71	57.16	2	5.41	0.126	0.019	8.86	Limonitic Ore
DTA-05	3376	71	72	59.02	1.12	4.83	0.128	0.016	8.56	Limonitic Ore
DTA-05	3377	72	73	58.83	0.97	4.81	0.123	0.017	8.1	Limonitic Ore
DTA-05	3378	73	74	55.68	2.1	7.24	0.142	0.023	8.54	BD_PO
DTA-05	3379	74	75	60.32	0.7	4.25	0.112	0.014	7.8	BD_PO
DTA-05	3380	75	76	53.8	3.74	10.55	0.141	0.024	6.48	BD_PO
DTA-05	3381	76	77	56.23	2.34	6.86	0.127	0.019	8.4	SLO_PO
DTA-05	3382	77	78	62.18	0.78	2.13	0.117	0.013	7.18	SLO_PO
DTA-05	3383	78	79	62.56	0.62	1.94	0.111	0.014	7	SLO_PO
DTA-05	3384	79	80	63.02	0.7	1.93	0.104	0.011	6.36	SLO_PO
DTA-05	3385	80	81	61.44	0.5	3.36	0.119	0.014	7.08	SLO_PO
DTA-05	3386	81	82	49.9	2.52	12.03	0.127	0.02	11.6	SLO_PO
DTA-05	3387	82	83	46.17	8.3	12.46	0.125	0.022	10.22	SLO_PO
DTA-05	3388	83	84	50.27	2.08	12.8	0.12	0.018	10.9	SLO_PO
DTA-05	3389	84	85	57.72	2	5.11	0.129	0.017	8.36	SLO_PO
DTA-05	3390	85	86	56.6	1.04	8.63	0.139	0.018	8	SLO_PO
DTA-05	3391	86	87	58.09	1.34	6.76	0.13	0.016	7.54	Limonitic Ore
DTA-05	3392	87	88	52.87	3.9	11.32	0.141	0.022	7.18	Limonite
DTA-05	3393	88	89	50.64	1.86	13.48	0.14	0.022	10.05	BD_PO
DTA-05	3394	89	90	52.6	4.11	11.54	0.129	0.021	7.34	SLO_PO
DTA-05	3395	90	91	51.57	1.74	13.06	0.135	0.023	9.56	Limonite
DTA-05	3396	91	92	57.72	1.46	5.91	0.128	0.019	8.8	SLO_PO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-05	3397	92	93	55.1	1.6	9.11	0.14	0.024	9	Limonitic Ore
DTA-05	3398	93	94	56.41	1.06	8.62	0.136	0.018	8.26	Limonitic Ore
DTA-05	3399	94	95	57.72	1.4	5.88	0.124	0.016	8.89	Limonitic Ore
DTA-05	3400	95	96	59.95	1	4.38	0.122	0.015	7.9	Limonitic Ore
DTA-05	3401	96	97	56.23	2.14	8.06	0.133	0.017	8	Limonitic Ore
DTA-05	3402	97	98	56.98	1.88	6.08	0.137	0.018	9.06	Limonitic Ore
DTA-05	3403	98	99	55.85	1.07	6.85	0.144	0.022	10.72	Limonitic Ore
DTA-05	3404	99	100	53.99	3.54	10.1	0.131	0.024	7.16	Limonite
DTA-05	3405	100	101	54.18	2.88	7.97	0.127	0.021	9.38	SLO_FO
DTA-05	3406	101	102	51.76	1.56	12.77	0.143	0.025	9.66	SLO_FO
DTA-05	3407	102	103	55.1	1.52	8.91	0.136	0.023	9.28	Limonitic Ore
DTA-05	3408	103	104	57.72	1.34	5.99	0.126	0.018	8.94	Limonitic Ore
DTA-05	3409	104	105	57.53	2.3	5.56	0.13	0.017	8.58	Limonitic Ore
DTA-05	3410	105	106	55.67	1.18	6.98	0.141	0.02	10.74	Limonitic Ore
DTA-05	3411	106	107	54.74	2.08	8.8	0.132	0.021	9.05	Limonite
DTA-05	3412	107	108	43.57	10.87	11.01	0.131	0.024	12.72	Limonite
DTA-05	3413	108	109	51.39	1.83	12.89	0.14	0.02	9.7	Limonite
DTA-05	3414	109	110	55.39	1.3	8.75	0.128	0.017	9.25	Limonitic Ore
DTA-05	3415	110	111	55.85	1.02	7.02	0.124	0.016	10.8	Limonitic Ore
DTA-05	3416	111	112	57.9	1.04	6.31	0.123	0.018	8.56	Limonitic Ore
DTA-05	3417	112	113	58.27	1.1	6.72	0.134	0.019	7.46	Limonitic Ore
DTA-05	3418	113	114	58.65	1.03	6.12	0.128	0.018	7.69	Limonitic Ore
DTA-05	3419	114	115	61.15	0.66	3.43	0.115	0.014	7.36	SLO_FO
DTA-05	3420	115	116	58.27	1.06	6.32	0.127	0.018	8	Limonitic Ore
DTA-05	3421	116	117	59.2	1.38	4.41	0.121	0.017	8.26	Limonitic Ore
DTA-05	3422	117	118	58.83	0.97	5.56	0.13	0.019	7.85	Limonitic Ore
DTA-05	3423	118	119	57.34	2.2	5.87	0.132	0.02	8.64	Limonitic Ore
DTA-05	3424	119	120	57.9	1.3	5.51	0.128	0.019	9.1	Limonitic Ore
DTA-05	3425	120	121	61.44	0.5	3.59	0.114	0.013	7.06	SLO_FO
DTA-05	3426	121	122	61.06	0.66	3.79	0.112	0.014	7.24	SLO_FO
DTA-05	3427	122	123	52.5	3.86	12.09	0.129	0.023	6.98	Limonite
DTA-05	3428	123	124	57.16	2.22	5.91	0.13	0.019	8.84	Limonitic Ore
DTA-05	3429	124	125	52.13	4.06	12.02	0.138	0.22	7.38	Limonite
DTA-05	3430	125	126	53.25	3.7	10.78	0.141	0.023	7.58	Limonite
DTA-05	3431	126	127	56.97	1.78	6.5	0.128	0.02	8.96	Limonitic Ore
DTA-05	3432	127	128	60.88	0.87	3.42	0.121	0.016	7.66	SLO_FO
DTA-05	3433	128	129	57.9	1.12	5.39	0.133	0.018	9.4	SLO_FO
DTA-05	3434	129	130	46.08	12.76	11.6	0.13	0.025	7.25	Limonite
DTA-05	3435	130	131	56.97	1.6	6.59	0.134	0.018	9.05	SLO_FO
DTA-05	3436	131	132	56.97	1.44	6.52	0.14	0.016	9.28	SLO_FO
DTA-05	3437	132	133	56.78	1.87	6.94	0.134	0.017	8.7	SLO_FO
DTA-05	3438	133	134	56.78	2.14	6.93	0.131	0.016	8.44	SLO_FO
DTA-05	3439	134	135	57.34	1.96	5.6	0.136	0.015	9.15	SLO_FO
DTA-05	3440	135	136	58.09	1.08	5.62	0.122	0.018	8.94	SLO_FO
DTA-05	3441	136	137	62.18	0.7	2.05	0.108	0.013	7.34	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-05	3442	137	138	51.01	2.11	13.07	0.143	0.024	9.88	SLO_FO
DTA-05	3443	138	139	58.03	9.58	8.47	0.135	0.026	10.77	SLO_FO
DTA-05	3444	139	140	50.45	2.39	13.55	0.127	0.019	9.92	SLO_FO
DTA-05	3445	140	141	55.1	1.4	8.55	0.123	0.018	9.76	SLO_FO
DTA-05	3446	141	142	59.58	1.17	4.22	0.118	0.016	8.4	SLO_FO
DTA-05	3447	142	143	60.88	0.77	3.38	0.115	0.014	7.8	SLO_FO
DTA-05	3448	143	144	62.74	0.55	1.56	0.105	0.013	7.18	SLO_FO
DTA-05	3449	144	145	62.93	0.4	1.75	0.103	0.014	6.87	SLO_FO
DTA-05	3450	145	146	59.76	1.09	4.18	0.121	0.016	8.18	SLO_FO
DTA-05	3451	146	147	53.06	3.92	10.52	0.136	0.022	7.89	Limonite
DTA-05	3452	147	148	60.23	0.9	4.03	0.11	0.015	7.95	SLO_FO
DTA-05	3453	148	149	54.92	1.66	8.81	0.129	0.021	9.2	Feruginous Shale
DTA-05	3454	149	150	58.46	1	5.74	0.124	0.018	8.37	Limonitic Ore
DTA-05	3455	150	151	56.97	1.66	6.2	0.127	0.016	9.18	Limonitic Ore
DTA-05	3456	151	152	55.85	1.48	7.86	0.132	0.018	9.3	Limonitic Ore
DTA-05	3457	152	153	54.66	1.89	9.28	0.136	0.019	8.97	Limonite
DTA-05	3458	153	154	44.68	10.07	10.91	0.121	0.02	12.43	Tuff
DTA-05	3459	154	155	55.3	1.87	6.99	0.119	0.018	9.46	Lateritic Ore
DTA-05	3460	155	156	49.99	2.48	13.16	0.125	0.022	10.27	Limonite
DTA-05	3461	155	157	54.92	1.6	8.98	0.132	0.019	8.38	Limonite
DTA-05	3462	157	158	56.41	2.3	5.84	0.127	0.016	8.7	Limonitic Ore
DTA-05	3463	158	159	58.46	1.26	4.78	0.124	0.015	7.97	Limonitic Ore
DTA-05	3464	159	160	56.97	1.55	5.23	0.129	0.017	9.26	SLO_FO
DTA-05	3465	160	161	58.83	1.08	4.76	0.135	0.016	7.74	SLO_FO
DTA-05	3466	161	162	58.46	1.3	4.62	0.132	0.015	8.14	SLO_FO
DTA-05	3467	162	163	56.22	2.4	5.78	0.138	0.019	8.93	Limonitic Ore
DTA-05	3468	163	164	56.41	2.05	5.72	0.13	0.018	9.12	Limonitic Ore
DTA-05	3469	164	165	56.6	1.88	5.37	0.123	0.016	9.27	Limonitic Ore
DTA-05	3470	165	166	58.65	1.17	4.57	0.136	0.015	7.9	Limonitic Ore
DTA-05	3471	166	167	60.23	0.97	2.63	0.117	0.014	7.88	SLO_FO
DTA-05	3472	167	168	61.07	0.68	2.58	0.112	0.014	7.41	SLO_FO
DTA-05	3473	168	169	56.6	1.28	5.82	0.121	0.015	9.77	Lateritic Ore
DTA-05	3474	169	170	59.01	1.14	3.63	0.12	0.017	8.3	Lateritic Ore
DTA-05	3475	170	171	49.06	2.7	14.02	0.131	0.019	10.48	Feruginous Shale
DTA-05	3476	171	172	45.24	9.8	10.82	0.125	0.023	12.09	Feruginous Shale
DTA-05	3477	172	173	46.08	9.36	10.28	0.121	0.024	11.88	Feruginous Shale
DTA-05	3478	173	174	56.41	2.5	6.2	0.139	0.018	8.44	Lateritic Ore
DTA-05	3479	174	175	57.53	1.48	4.78	0.124	0.016	9.48	Limonitic Ore
DTA-05	3480	175	176	56.78	1.7	5.64	0.131	0.017	9.37	Limonitic Ore
DTA-05	3481	176	177	48.41	2.13	15.32	0.126	0.021	10.83	Limonite
DTA-05	3482	177	178	19.64	39.87	22.75	0.113	0.027	5.8	Tuff
DTA-05	3483	178	179	17.13	51.94	15.42	0.111	0.029	4.65	Tuff
DTA-05	3484	179	180	25.32	22.77	27.88	0.122	0.023	9.65	Tuff

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTA-05	3485	180	181	30.9	17.67	26.59	0.133	0.021	8.06	Tuff
DTA-05	3486	181	182	37.42	16.68	18.21	0.128	0.02	8.1	Tuff
DTA-05	3487	182	183	40.21	11.9	17.76	0.138	0.018	9.84	Tuff
DTA-05	3488	183	184	53.15	3.77	10.09	0.124	0.016	7.64	Limonite
DTA-05	3489	184	185	57.16	1.68	5.19	0.127	0.015	9.7	Limonitic Ore
DTA-05	3490	185	186	38.73	18.16	15.34	0.129	0.022	8.62	Limonite
DTA-05	3491	186	187	40.4	11.77	18.32	0.13	0.02	9.64	Limonite
DTA-05	3492	187	188	51.76	2.74	10.85	0.128	0.021	9.9	Limonite
DTA-05	3493	188	189	41.52	13.55	15.89	0.132	0.024	8.89	Limonite
DTA-05	3494	189	190	31.84	14.47	25.94	0.124	0.026	10.56	Limonite
DTA-05	3495	190	191	57.25	1.4	5.83	0.121	0.017	9.31	Limonitic Ore
DTA-05	3496	191	192	40.59	11.38	18.08	0.135	0.02	9.5	Limonite
DTA-05	3497	192	193	40.94	10.7	18.63	0.13	0.022	9.13	Limonite
DTA-05	3498	193	194	38.73	15.8	16.85	0.12	0.05	8.47	Limonite
DTA-05	3499	194	195.5	39.13	12.67	19.04	0.122	0.024	8.84	Limonite
DTR-60	3500	0	0.5	61.53	0	0	0	0	0	HLO
DTR-60	3501	0.5	1.2	61.25	0	0	0	0	0	HLO
DTR-60	3502	1.2	2	60.55	0	0	0	0	0	HLO
DTR-60	3503	2	3	62.84	0	0	0	0	0	HLO
DTR-60	3504	3	4	62.08	0	0	0	0	0	HLO
DTR-60	3505	4	5	62.62	0	0	0	0	0	HLO
DTR-60	3506	5	6	63.38	0	0	0	0	0	HLO
DTR-60	3507	6	6.9	62.73	0	0	0	0	0	HLO
DTR-60	3508	6.9	7.7	62.64	0	0	0	0	0	HLO
DTR-60	3509	7.7	9	64.21	0	0	0	0	0	HLO
DTR-60	3510	9	10	60.65	0	0	0	0	0	HLO
DTR-60	3511	10	11.2	60.89	0	0	0	0	0	HLO
DTR-60	3512	11.2	12	61.53	0	0	0	0	0	HLO
DTR-60	3513	12	13	60.99	0	0	0	0	0	HLO
DTR-60	3514	13	14	61.21	0	0	0	0	0	HLO
DTR-60	3515	14	15	60.01	0	0	0	0	0	HLO
DTR-60	3516	15	16	66.22	0	0	0	0	0	HLO
DTR-60	3517	16	17	65.78	0	0	0	0	0	HLO
DTR-60	3518	17	18	66	0	0	0	0	0	HLO
DTR-60	3519	18	19	66.22	0	0	0	0	0	HLO
DTR-60	3520	19	20	64.96	0	0	0	0	0	HLO
DTR-60	3521	20	21	65.34	0	0	0	0	0	HLO
DTR-60	3522	21	22.2	67.24	0	0	0	0	0	HLO
DTR-60	3523	22.2	23	65.89	0	0	0	0	0	HLO
DTR-60	3524	23	23.7	64.25	0	0	0	0	0	HLO
DTR-60	3525	23.7	25	65.51	0	0	0	0	0	HLO
DTR-60	3526	25	25.6	65.34	0	0	0	0	0	HLO
DTR-60	3527	25.6	26.4	66.09	0	0	0	0	0	HLO
DTR-60	3528	26.4	27	66.65	0	0	0	0	0	HLO
DTR-60	3529	27	27.8	65.34	0	0	0	0	0	HLO

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-60	3530	27.8	28.6	65.38	0	0	0	0	0	HLO
DTR-60	3531	28.6	29.4	65.48	0	0	0	0	0	HLO
DTR-60	3532	29.4	30	64.97	0	0	0	0	0	HLO
DTR-60	3533	30	31.2	66.56	0	0	0	0	0	HLO
DTR-60	3534	31.2	32	63.99	0	0	0	0	0	HLO
DTR-60	3535	32	33	66.65	0	0	0	0	0	HLO
DTR-60	3536	33	33.9	64.47	0	0	0	0	0	HLO
DTR-60	3537	33.9	34.8	62.73	0	0	0	0	0	HLO
DTR-60	3538	34.8	35.5	63.6	0	0	0	0	0	HLO
DTR-60	3539	35.5	36.3	63.76	0	0	0	0	0	HLO
DTR-60	3540	36.3	36.6	64.04	0	0	0	0	0	HLO
DTR-60	3541	36.6	37	64.04	0	0	0	0	0	HLO
DTR-60	3542	37	38	65.78	0	0	0	0	0	HLO
DTR-60	3543	38	39	64.91	0	0	0	0	0	HLO
DTR-60	3544	39	40	66.05	0	0	0	0	0	HLO
DTR-60	3545	40	41.2	66.15	0	0	0	0	0	HLO
DTR-60	3546	41.2	42	62.95	0	0	0	0	0	HLO
DTR-60	3547	42	43	64.47	0	0	0	0	0	HLO
DTR-60	3548	43	44	64.47	0	0	0	0	0	HLO
DTR-60	3549	44	45	65.56	0	0	0	0	0	HLO
DTR-60	3550	45	46.2	63.92	0	0	0	0	0	HLO
DTR-60	3551	46.2	46.3	55.76	0	0	0	0	0	HLO
DTR-60	3552	46.3	47.2	55.76	0	0	0	0	0	HLO
DTR-60	3553	47.2	48	55.76	0	0	0	0	0	HLO
DTR-60	3554	48	49	63.6	0	0	0	0	0	HLO
DTR-60	3555	49	49.3	60.99	0	0	0	0	0	HLO
DTR-60	3556	49.3	50	60.99	0	0	0	0	0	HLO
DTR-60	3557	50	50.7	60.99	0	0	0	0	0	HLO
DTR-60	3558	50.7	51.5	65.56	0	0	0	0	0	HLO
DTR-60	3559	51.5	52.5	65.56	0	0	0	0	0	HLO
DTR-60	3560	52.5	53	65.89	0	0	0	0	0	HLO
DTR-60	3561	53	54.2	65.95	0	0	0	0	0	HLO
DTR-60	3562	54.2	55	66	0	0	0	0	0	HLO
DTR-60	3563	55	55.9	56.73	0	0	0	0	0	Limonitic Ore
DTR-60	3564	55.9	57	56.73	0	0	0	0	0	Limonitic Ore
DTR-60	3565	57	57.7	55.87	0	0	0	0	0	Limonitic Ore
DTR-60	3566	57.7	58.7	55.87	0	0	0	0	0	Limonitic Ore
DTR-60	3567	58.7	60	50.86	0	0	0	0	0	Limonite
DTR-60	3568	60	61	58.64	0	0	0	0	0	Limonitic Ore
DTR-60	3569	61	62	66.43	0	0	0	0	0	SLO_FO
DTR-60	3570	62	63	65.82	0	0	0	0	0	SLO_FO
DTR-60	3571	63	64	65.78	0	0	0	0	0	SLO_FO
DTR-60	3572	64	65	65.78	0	0	0	0	0	SLO_FO
DTR-60	3573	65	66	65.78	0	0	0	0	0	SLO_FO
DTR-60	3574	66	67	65.82	0	0	0	0	0	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-60	3575	67	68	65.89	0	0	0	0	0	SLO_FO
DTR-60	3576	68	69	66.04	0	0	0	0	0	SLO_FO
DTR-60	3577	69	70	66.22	0	0	0	0	0	SLO_FO
DTR-71	3578	0	1	64.23	0	0	0	0	0	HLO
DTR-71	3579	1	2	64.51	0	0	0	0	0	HLO
DTR-71	3580	2	3	64.09	0	0	0	0	0	HLO
DTR-71	3581	3	4	66.32	0	0	0	0	0	HLO
DTR-71	3582	4	5	66.18	0	0	0	0	0	HLO
DTR-71	3583	5	6	67.44	0	0	0	0	0	HLO
DTR-71	3584	6	7.5	67.18	0	0	0	0	0	HLO
DTR-71	3585	7.5	9	67.58	0	0	0	0	0	HLO
DTR-71	3586	9	10	66.88	0	0	0	0	0	HLO
DTR-71	3587	10	11	66.04	0	0	0	0	0	SLO_FO
DTR-71	3588	11	12	67.02	0	0	0	0	0	SLO_FO
DTR-71	3589	12	13	66.88	0	0	0	0	0	SLO_FO
DTR-71	3590	13	14	67.16	0	0	0	0	0	SLO_FO
DTR-71	3591	14	15	66.32	0	0	0	0	0	SLO_FO
DTR-71	3592	15	16	66.46	0	0	0	0	0	SLO_FO
DTR-71	3593	16	17	66.04	0	0	0	0	0	SLO_FO
DTR-71	3594	17	18	67.16	0	0	0	0	0	SLO_FO
DTR-71	3595	18	19	67.72	0	0	0	0	0	SLO_FO
DTR-71	3596	19	20	65.9	0	0	0	0	0	SLO_FO
DTR-71	3597	20	21	61.99	0	0	0	0	0	SLO_FO
DTR-71	3598	21	22	51.94	0	0	0	0	0	Feruginous Shale
DTR-71	3599	22	23	52.64	0	0	0	0	0	Feruginous Shale
DTR-71	3600	23	24	53.62	0	0	0	0	0	Feruginous Shale
DTR-71	3601	24	25	54.45	0	0	0	0	0	Feruginous Shale
DTR-71	3602	25	26	58.5	0	0	0	0	0	Lateritic Ore
DTR-71	3603	26	27	64.79	0	0	0	0	0	HLO
DTR-71	3604	27	28	65.07	0	0	0	0	0	HLO
DTR-71	3605	28	29	64.51	0	0	0	0	0	HLO
DTR-71	3606	29	30	64.23	0	0	0	0	0	HLO
DTR-71	3607	30	31	65.9	0	0	0	0	0	HLO
DTR-71	3608	31	32	65.49	0	0	0	0	0	HLO
DTR-71	3609	32	33	65.62	0	0	0	0	0	HLO
DTR-71	3610	33	34	64.93	0	0	0	0	0	HLO
DTR-71	3611	34	35	66.32	0	0	0	0	0	HLO
DTR-71	3612	35	36	66.04	0	0	0	0	0	HLO
DTR-71	3613	36	37	65.62	0	0	0	0	0	HLO
DTR-71	3614	37	38	64.51	0	0	0	0	0	HLO
DTR-71	3615	38	39	61.72	0	0	0	0	0	HLO
DTR-71	3616	39	40	62.28	0	0	0	0	0	HLO
DTR-71	3617	40	41	64.93	0	0	0	0	0	HLO

BKF Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-71	3618	41	42	65.49	0	0	0	0	0	HLO
DTR-71	3619	42	43	63.53	0	0	0	0	0	HLO
DTR-71	3620	43	44	63.95	0	0	0	0	0	HLO
DTR-71	3621	44	45	65.9	0	0	0	0	0	HLO
DTR-71	3622	45	46	59.06	0	0	0	0	0	HLO
DTR-71	3623	46	47	60.04	0	0	0	0	0	HLO
DTR-71	3624	47	48	64.51	0	0	0	0	0	HLO
DTR-71	3625	48	49	64.79	0	0	0	0	0	HLO
DTR-71	3626	49	50	64.65	0	0	0	0	0	HLO
DTR-71	3627	50	51	63.81	0	0	0	0	0	HLO
DTR-71	3628	51	52	65.21	0	0	0	0	0	HLO
DTR-71	3629	52	53	63.53	0	0	0	0	0	HLO
DTR-71	3630	53	54	64.23	0	0	0	0	0	HLO
DTR-71	3631	54	55	62.27	0	0	0	0	0	HLO
DTR-71	3632	55	56	63.53	0	0	0	0	0	HLO
DTR-71	3633	56	57	63.11	0	0	0	0	0	HLO
DTR-71	3634	57	58	64.23	0	0	0	0	0	HLO
DTR-71	3635	58	59	64.37	0	0	0	0	0	HLO
DTR-71	3636	59	60	63.95	0	0	0	0	0	HLO
DTR-71	3637	60	62	63.25	0	0	0	0	0	HLO
DTR-71	3638	62	63	63.53	0	0	0	0	0	HLO
DTR-71	3639	63	64.5	63.39	0	0	0	0	0	HLO
DTR-71	3640	64.5	66	63.11	0	0	0	0	0	HLO
DTR-71	3641	66	67.5	62.83	0	0	0	0	0	HLO
DTR-71	3642	67.5	68.5	63.11	0	0	0	0	0	HLO
DTR-71	3643	68.5	69.5	63.39	0	0	0	0	0	HLO
DTR-71	3644	69.5	70.5	64.23	0	0	0	0	0	HLO
DTR-71	3645	70.5	72	63.81	0	0	0	0	0	HLO
DTR-71	3646	72	74	63.67	0	0	0	0	0	HLO
DTR-71	3647	74	75.5	65.62	0	0	0	0	0	HLO
DTR-71	3648	75.5	77	65.9	0	0	0	0	0	HLO
DTR-71	3649	77	79	66.74	0	0	0	0	0	SLO_FO
DTR-71	3650	79	81	66.6	0	0	0	0	0	SLO_FO
DTR-71	3651	81	82.5	62.83	0	0	0	0	0	SLO_FO
DTR-71	3652	82.5	83.5	63.39	0	0	0	0	0	SLO_FO
DTR-71	3653	83.5	85	63.67	0	0	0	0	0	SLO_FO
DTR-71	3654	85	86.5	62.97	0	0	0	0	0	SLO_FO
DTR-71	3655	86.5	88	63.39	0	0	0	0	0	SLO_FO
DTR-71	3656	88	90	61.71	0	0	0	0	0	SLO_FO
DTR-71	3657	90	92	61.99	0	0	0	0	0	SLO_FO
DTR-71	3658	92	94	61.43	0	0	0	0	0	SLO_FO
DTR-71	3659	94	96	62.13	0	0	0	0	0	SLO_FO
DTR-71	3660	96	98	62.13	0	0	0	0	0	SLO_FO
DTR-71	3661	98	100	61.85	0	0	0	0	0	SLO_FO
DTR-71	3662	100	102	63.95	0	0	0	0	0	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-71	3663	102	104	63.67	0	0	0	0	0	SLO_FO
DTR-71	3664	104	105	55.15	0	0	0	0	0	SLO_FO
DTR-71	3665	105	106	65.49	0	0	0	0	0	SLO_FO
DTR-71	3666	106	107	64.79	0	0	0	0	0	SLO_FO
DTR-71	3667	107	108.5	54.04	0	0	0	0	0	SLO_FO
DTR-71	3668	108.5	110.5	64.37	0	0	0	0	0	SLO_FO
DTR-71	3669	110.5	112	64.93	0	0	0	0	0	SLO_FO
DTR-71	3670	112	113	64.65	0	0	0	0	0	SLO_FO
DTR-71	3671	113	114	60.18	0	0	0	0	0	SLO_FO
DTR-71	3672	114	115	67.02	0	0	0	0	0	SLO_FO
DTR-71	3673	115	116	65.21	0	0	0	0	0	SLO_FO
DTR-71	3674	116	118	64.09	0	0	0	0	0	SLO_FO
DTR-71	3675	118	120	65.62	0	0	0	0	0	SLO_FO
DTR-71	3676	120	122	65.07	0	0	0	0	0	SLO_FO
DTR-71	3677	122	124	65.62	0	0	0	0	0	SLO_FO
DTR-71	3678	124	126	64.51	0	0	0	0	0	SLO_FO
DTR-71	3679	126	127.5	66.04	0	0	0	0	0	SLO_FO
DTR-71	3680	127.5	128.5	65.49	0	0	0	0	0	SLO_FO
DTR-71	3681	128.5	130	63.67	0	0	0	0	0	SLO_FO
DTR-71	3682	130	131.5	63.81	0	0	0	0	0	SLO_FO
DTR-71	3683	131.5	133	64.23	0	0	0	0	0	SLO_FO
DTR-71	3684	133	135	62	0	0	0	0	0	SLO_FO
DTR-71	3685	135	137	62.69	0	0	0	0	0	SLO_FO
DTR-71	3686	137	138.5	62.83	0	0	0	0	0	SLO_FO
DTR-71	3687	138.5	140	64.43	0	0	0	0	0	SLO_FO
DTR-71	3688	140	141.5	64.23	0	0	0	0	0	SLO_FO
DTR-71	3689	141.5	142.5	59.9	0	0	0	0	0	SLO_FO
DTR-71	3690	142.5	144	60.32	0	0	0	0	0	SLO_FO
DTR-71	3691	144	145	58.36	0	0	0	0	0	SLO_FO
DTR-71	3692	145	146.5	61.3	0	0	0	0	0	SLO_FO
DTR-71	3693	146.5	148	61.86	0	0	0	0	0	SLO_FO
DTR-71	3694	148	150	60.04	0	0	0	0	0	SLO_FO
DTR-71	3695	150	151.5	59.48	0	0	0	0	0	SLO_FO
DTR-71	3696	151.5	153	59.76	0	0	0	0	0	SLO_FO
DTR-71	3697	153	154	65.07	0	0	0	0	0	SLO_FO
DTR-71	3698	154	156	64.65	0	0	0	0	0	SLO_FO
DTR-71	3699	156	158	63.25	0	0	0	0	0	SLO_FO
DTR-71	3700	158	159.5	64.93	0	0	0	0	0	SLO_FO
DTR-71	3701	159.5	161	63.53	0	0	0	0	0	SLO_FO
DTR-71	3702	161	162.5	64.37	0	0	0	0	0	SLO_FO
DTR-71	3703	162.5	164	65.21	0	0	0	0	0	SLO_FO
DTR-71	3704	164	165.5	60.74	0	0	0	0	0	SLO_FO
DTR-71	3705	165.5	167	61.99	0	0	0	0	0	SLO_FO
DTR-71	3706	167	168.5	60.46	0	0	0	0	0	SLO_FO
DTR-71	3707	168.5	169.5	62.27	0	0	0	0	0	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-71	3708	169.5	171	61.71	0	0	0	0	0	SLO_FO
DTR-71	3709	171	172.5	62.41	0	0	0	0	0	SLO_FO
DTR-71	3710	172.5	173.5	61.85	0	0	0	0	0	SLO_FO
DTR-71	3711	173.5	174.5	62.13	0	0	0	0	0	SLO_FO
DTR-71	3712	174.5	175.2	64.37	0	0	0	0	0	SLO_FO
DTR-71	3713	175.2	176.5	64.93	0	0	0	0	0	SLO_FO
DTR-71	3714	176.5	178	57.94	0	0	0	0	0	SLO_FO
DTR-71	3715	178	179	60.32	0	0	0	0	0	SLO_FO
DTR-71	3716	179	181	58.08	0	0	0	0	0	SLO_FO
DTR-71	3717	181	182.5	60.74	0	0	0	0	0	SLO_FO
DTR-71	3718	182.5	184	60.32	0	0	0	0	0	SLO_FO
DTR-71	3719	184	186	60.74	0	0	0	0	0	SLO_FO
DTR-71	3720	186	188	62.55	0	0	0	0	0	SLO_FO
DTR-71	3721	188	190	60.74	0	0	0	0	0	SLO_FO
DTR-71	3722	190	192	60.46	0	0	0	0	0	SLO_FO
DTR-71	3723	192	194.4	60.74	0	0	0	0	0	SLO_FO
DTR-71	3724	194.4	196	56.83	0	0	0	0	0	SLO_FO
DTR-71	3725	196	197	57.94	0	0	0	0	0	SLO_FO
DTR-71	3726	197	198	57.66	0	0	0	0	0	SLO_FO
DTR-71	3727	198	199	64.23	0	0	0	0	0	SLO_FO
DTR-71	3728	199	200	62.29	0	0	0	0	0	SLO_FO
DTR-71	3729	200	201	62.83	0	0	0	0	0	SLO_FO
DTR-71	3730	201	202	59.34	0	0	0	0	0	SLO_FO
DTR-71	3731	202	203	52.32	0	0	0	0	0	SLO_FO
DTR-71	3732	211.5	213.5	52.36	0	0	0	0	0	Laterite
DTR-71	3733	213.5	215.5	45.1	0	0	0	0	0	Laterite
DTR-71	3734	215.5	218.5	43.42	0	0	0	0	0	Laterite
DTR-73	3735	0	1	65.35	0	0	0	0	0	SLO_FO
DTR-73	3736	1	2	65.21	0	0	0	0	0	SLO_FO
DTR-73	3737	2	3	66.18	0	0	0	0	0	SLO_FO
DTR-73	3738	3	4	66.32	0	0	0	0	0	SLO_FO
DTR-73	3739	4	5	65.9	0	0	0	0	0	SLO_FO
DTR-73	3740	5	6	66.18	0	0	0	0	0	SLO_FO
DTR-73	3741	6	7	66.32	0	0	0	0	0	SLO_FO
DTR-73	3742	7	8	66.32	0	0	0	0	0	SLO_FO
DTR-73	3743	8	9	66.04	0	0	0	0	0	SLO_FO
DTR-73	3744	9	10	65.76	0	0	0	0	0	SLO_FO
DTR-73	3745	10	11	64.93	0	0	0	0	0	SLO_FO
DTR-73	3746	11	12	64.79	0	0	0	0	0	SLO_FO
DTR-73	3747	12	13	64.93	0	0	0	0	0	SLO_FO
DTR-73	3748	13	14	64.65	0	0	0	0	0	SLO_FO
DTR-73	3749	14	15	64.79	0	0	0	0	0	SLO_FO
DTR-73	3750	15	16	65.9	0	0	0	0	0	SLO_FO
DTR-73	3751	16	17	66.18	0	0	0	0	0	SLO_FO
DTR-73	3752	17	18	67.72	0	0	0	0	0	SLO_FO

S

BKD-12

Manager (Geology)
Daitari Iron Ore Project
C. M. C. Ltd.

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-73	3753	18	19	66.88	0	0	0	0	0	HLO
DTR-73	3754	19	20	66.6	0	0	0	0	0	HLO
DTR-73	3755	20	21	67.02	0	0	0	0	0	HLO
DTR-73	3756	21	23	65.62	0	0	0	0	0	HLO
DTR-73	3757	23	25	66.18	0	0	0	0	0	HLO
DTR-73	3758	25	27	64.79	0	0	0	0	0	HLO
DTR-73	3759	27	29	65.49	0	0	0	0	0	HLO
DTR-73	3760	29	30	65.21	0	0	0	0	0	HLO
DTR-73	3761	30	31	66.18	0	0	0	0	0	HLO
DTR-73	3762	31	32.5	64.51	0	0	0	0	0	SLO_FO
DTR-73	3763	32.5	34.5	64.93	0	0	0	0	0	SLO_FO
DTR-73	3764	34.5	35.5	64.23	0	0	0	0	0	SLO_FO
DTR-73	3765	35.5	36.5	63.81	0	0	0	0	0	SLO_FO
DTR-73	3766	36.5	38	64.65	0	0	0	0	0	SLO_FO
DTR-73	3767	38	40	61.72	0	0	0	0	0	HLO
DTR-73	3768	40	42	61.43	0	0	0	0	0	HLO
DTR-73	3769	42	43	61.16	0	0	0	0	0	HLO
DTR-73	3770	43	45	64.23	0	0	0	0	0	HLO
DTR-73	3771	45	46	63.25	0	0	0	0	0	HLO
DTR-73	3772	46	48	63.81	0	0	0	0	0	HLO
DTR-73	3773	48	50	62.97	0	0	0	0	0	HLO
DTR-73	3774	50	52	63.11	0	0	0	0	0	HLO
DTR-73	3775	52	54	62.69	0	0	0	0	0	HLO
DTR-73	3776	54	55	63.53	0	0	0	0	0	HLO
DTR-73	3777	55	56	64.09	0	0	0	0	0	HLO
DTR-73	3778	56	57	63.39	0	0	0	0	0	HLO
DTR-73	3779	57	58	63.53	0	0	0	0	0	HLO
DTR-73	3780	58	60	64.23	0	0	0	0	0	HLO
DTR-73	3781	60	62	64.51	0	0	0	0	0	HLO
DTR-73	3782	62	64	63.25	0	0	0	0	0	HLO
DTR-73	3783	64	65	62.97	0	0	0	0	0	HLO
DTR-73	3784	65	67	63.25	0	0	0	0	0	HLO
DTR-73	3785	67	68	63.11	0	0	0	0	0	HLO
DTR-73	3786	68	69	63.39	0	0	0	0	0	HLO
DTR-73	3787	69	70	63.67	0	0	0	0	0	HLO
DTR-73	3788	70	72	63.39	0	0	0	0	0	HLO
DTR-73	3789	72	73	65.21	0	0	0	0	0	HLO
DTR-73	3790	73	75	64.79	0	0	0	0	0	HLO
DTR-73	3791	75	76	63.25	0	0	0	0	0	HLO
DTR-73	3792	76	77	64.23	0	0	0	0	0	HLO
DTR-73	3793	77	78.5	63.25	0	0	0	0	0	HLO
DTR-73	3794	78.5	79.5	63.53	0	0	0	0	0	HLO
DTR-73	3795	79.5	81	64.51	0	0	0	0	0	HLO
DTR-73	3796	81	83	64.23	0	0	0	0	0	HLO
DTR-73	3797	83	85	64.37	0	0	0	0	0	HLO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-73	3798	85	86	63.25	0	0	0	0	0	HLO
DTR-73	3799	86	87	64.09	0	0	0	0	0	HLO
DTR-73	3800	87	89	65.21	0	0	0	0	0	SLO_FO
DTR-73	3801	89	91	63.95	0	0	0	0	0	SLO_FO
DTR-73	3802	91	93.5	63.11	0	0	0	0	0	SLO_FO
DTR-73	3803	93.5	94.5	62.83	0	0	0	0	0	SLO_FO
DTR-73	3804	94.5	96.5	63.81	0	0	0	0	0	SLO_FO
DTR-73	3805	96.5	98.5	64.09	0	0	0	0	0	SLO_FO
DTR-73	3806	98.5	102.5	62.69	0	0	0	0	0	SLO_FO
DTR-73	3807	102.5	104.5	61.44	0	0	0	0	0	SLO_FO
DTR-73	3808	104.5	106.5	61.72	0	0	0	0	0	SLO_FO
DTR-73	3809	106.5	108.5	61.3	0	0	0	0	0	SLO_FO
DTR-73	3810	108.5	110.5	62.14	0	0	0	0	0	SLO_FO
DTR-73	3811	110.5	112.5	62.69	0	0	0	0	0	SLO_FO
DTR-73	3812	112.5	113.5	62.83	0	0	0	0	0	SLO_FO
DTR-73	3813	113.5	115	66.18	0	0	0	0	0	SLO_FO
DTR-73	3814	115	117	62.83	0	0	0	0	0	SLO_FO
DTR-73	3815	117	119	63.53	0	0	0	0	0	SLO_FO
DTR-73	3816	119	120	62.56	0	0	0	0	0	SLO_FO
DTR-73	3817	120	121	60.6	0	0	0	0	0	SLO_FO
DTR-73	3818	121	123	61.3	0	0	0	0	0	SLO_FO
DTR-73	3819	123	125	63.67	0	0	0	0	0	SLO_FO
DTR-73	3820	125	127	62.97	0	0	0	0	0	SLO_FO
DTR-73	3821	127	129	64.23	0	0	0	0	0	SLO_FO
DTR-73	3822	129	131	62.83	0	0	0	0	0	SLO_FO
DTR-73	3823	131	133	63.53	0	0	0	0	0	SLO_FO
DTR-73	3824	133	134	63.39	0	0	0	0	0	SLO_FO
DTR-73	3825	134	135.5	63.81	0	0	0	0	0	SLO_FO
DTR-73	3826	135.5	137	64.93	0	0	0	0	0	SLO_FO
DTR-73	3827	137	139	64.23	0	0	0	0	0	SLO_FO
DTR-73	3828	139	140	63.95	0	0	0	0	0	SLO_FO
DTR-73	3829	140	143.5	64.79	0	0	0	0	0	SLO_FO
DTR-73	3830	143.5	145.5	65.62	0	0	0	0	0	SLO_FO
DTR-73	3831	145.5	147.5	63.11	0	0	0	0	0	SLO_FO
DTR-73	3832	147.5	149.5	64.79	0	0	0	0	0	SLO_FO
DTR-73	3833	149.5	151.5	64.23	0	0	0	0	0	SLO_FO
DTR-73	3834	151.5	152.5	63.81	0	0	0	0	0	SLO_FO
DTR-73	3835	152.5	154.5	63.95	0	0	0	0	0	SLO_FO
DTR-73	3836	154.5	156.5	62.28	0	0	0	0	0	SLO_FO
DTR-73	3837	156.5	157.5	63.67	0	0	0	0	0	SLO_FO
DTR-73	3838	157.5	159	63.39	0	0	0	0	0	SLO_FO
DTR-73	3839	159	161	62.69	0	0	0	0	0	SLO_FO
DTR-73	3840	161	163	62.69	0	0	0	0	0	SLO_FO
DTR-73	3841	163	165	62.83	0	0	0	0	0	SLO_FO
DTR-73	3842	165	167	62.97	0	0	0	0	0	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-73	3843	167	169	61.86	0	0	0	0	0	SLO_FO
DTR-73	3844	169	170.5	62.83	0	0	0	0	0	SLO_FO
DTR-73	3845	170.5	172.5	62.97	0	0	0	0	0	SLO_FO
DTR-73	3846	172.5	174.5	62.97	0	0	0	0	0	SLO_FO
DTR-73	3847	174.5	176	62.83	0	0	0	0	0	SLO_FO
DTR-73	3848	176	178	64.23	0	0	0	0	0	SLO_FO
DTR-73	3849	178	180	65.07	0	0	0	0	0	SLO_FO
DTR-73	3850	180	182	65.62	0	0	0	0	0	SLO_FO
DTR-73	3851	182	184	65.62	0	0	0	0	0	SLO_FO
DTR-73	3852	184	185	63.11	0	0	0	0	0	SLO_FO
DTR-73	3853	185	188	61.43	0	0	0	0	0	SLO_FO
DTR-73	3854	188	190	61.3	0	0	0	0	0	SLO_FO
DTR-73	3855	190	193.5	33.5	0	0	0	0	0	Feruginous Shale
DTR-73	3856	196	199.5	9.49	0	0	0	0	0	Feruginous Shale
DTR-73	3857	220.5	221	6.98	0	0	0	0	0	Feruginous Shale
DTR-73	3858	221	222	6.98	0	0	0	0	0	Feruginous Shale
DTR-78	3859	0	1	62.13	0	0	0	0	0	SLO_FO
DTR-78	3860	1	2	61.57	0	0	0	0	0	SLO_FO
DTR-78	3861	2	3	61.85	0	0	0	0	0	SLO_FO
DTR-78	3862	3	4	62.13	0	0	0	0	0	SLO_FO
DTR-78	3863	4	5	61.3	0	0	0	0	0	SLO_FO
DTR-78	3864	5	6	63.25	0	0	0	0	0	HLO
DTR-78	3865	6	7	62.83	0	0	0	0	0	HLO
DTR-78	3866	7	8	62.83	0	0	0	0	0	HLO
DTR-78	3867	8	9	62.55	0	0	0	0	0	HLO
DTR-78	3868	9	10	62.83	0	0	0	0	0	HLO
DTR-78	3869	10	11	61.85	0	0	0	0	0	HLO
DTR-78	3870	11	12	61.3	0	0	0	0	0	HLO
DTR-78	3871	12	13	60.46	0	0	0	0	0	HLO
DTR-78	3872	13	14	61.16	0	0	0	0	0	HLO
DTR-78	3873	14	15	60.74	0	0	0	0	0	HLO
DTR-78	3874	15	16	63.95	0	0	0	0	0	HLO
DTR-78	3875	16	17	63.53	0	0	0	0	0	HLO
DTR-78	3876	17	18	63.81	0	0	0	0	0	HLO
DTR-78	3877	18	19	64.93	0	0	0	0	0	HLO
DTR-78	3878	19	20	64.65	0	0	0	0	0	HLO
DTR-78	3879	20	21	65.21	0	0	0	0	0	HLO
DTR-78	3880	21	22	63.53	0	0	0	0	0	HLO
DTR-78	3881	22	23	63.81	0	0	0	0	0	HLO
DTR-78	3882	23	24	63.67	0	0	0	0	0	HLO
DTR-78	3883	24	25	63.39	0	0	0	0	0	HLO
DTR-78	3884	25	26	62.27	0	0	0	0	0	HLO
DTR-78	3885	26	27	63.53	0	0	0	0	0	HLO

Borehole Assay & Litho Data

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-78	3886	27	28	63.25	0	0	0	0	0	HLO
DTR-78	3887	28	29	63.67	0	0	0	0	0	HLO
DTR-78	3888	29	30	60.46	0	0	0	0	0	HLO
DTR-78	3889	30	31	61	0	0	0	0	0	HLO
DTR-78	3890	31	32	63.11	0	0	0	0	0	HLO
DTR-78	3891	32	33	63.11	0	0	0	0	0	HLO
DTR-78	3892	33	34	62.97	0	0	0	0	0	HLO
DTR-78	3893	34	35	62.83	0	0	0	0	0	HLO
DTR-78	3894	35	36	60.04	0	0	0	0	0	HLO
DTR-78	3895	36	37	59.48	0	0	0	0	0	Lateritic Ore
DTR-78	3896	37	38	61.99	0	0	0	0	0	SLO_FO
DTR-78	3897	38	39	62.55	0	0	0	0	0	SLO_FO
DTR-78	3898	39	40	62.83	0	0	0	0	0	SLO_FO
DTR-78	3899	40	41	62.97	0	0	0	0	0	SLO_FO
DTR-78	3900	41	42.5	62.97	0	0	0	0	0	SLO_FO
DTR-78	3901	42.5	43.5	62.55	0	0	0	0	0	SLO_FO
DTR-78	3902	43.5	45	61.3	0	0	0	0	0	SLO_FO
DTR-78	3903	45	46.5	60.88	0	0	0	0	0	SLO_FO
DTR-78	3904	46.5	47.5	60.74	0	0	0	0	0	SLO_FO
DTR-78	3905	47.5	48.5	59.62	0	0	0	0	0	Lateritic Ore
DTR-78	3906	48.5	49.5	60.04	0	0	0	0	0	SLO_FO
DTR-78	3907	49.5	50.5	60.88	0	0	0	0	0	SLO_FO
DTR-78	3908	50.5	52	61.57	0	0	0	0	0	SLO_FO
DTR-78	3909	52	53	60.74	0	0	0	0	0	SLO_FO
DTR-78	3910	53	54	60.88	0	0	0	0	0	SLO_FO
DTR-78	3911	54	55	61.43	0	0	0	0	0	SLO_FO
DTR-78	3912	55	56	60.74	0	0	0	0	0	SLO_FO
DTR-78	3913	56	57	63.95	0	0	0	0	0	SLO_FO
DTR-78	3914	57	58	64.23	0	0	0	0	0	SLO_FO
DTR-78	3915	58	59	65.62	0	0	0	0	0	SLO_FO
DTR-78	3916	59	60	64.37	0	0	0	0	0	SLO_FO
DTR-78	3917	60	61	64.23	0	0	0	0	0	SLO_FO
DTR-78	3918	61	62	62.83	0	0	0	0	0	SLO_FO
DTR-78	3919	62	64	63.25	0	0	0	0	0	SLO_FO
DTR-78	3920	64	65.5	64.23	0	0	0	0	0	SLO_FO
DTR-78	3921	65.5	67	63.53	0	0	0	0	0	SLO_FO
DTR-78	3922	67	68	63.39	0	0	0	0	0	HLO
DTR-78	3923	68	69.5	63.53	0	0	0	0	0	HLO
DTR-78	3924	69.5	71	63.25	0	0	0	0	0	HLO
DTR-78	3925	71	72.5	63.11	0	0	0	0	0	HLO
DTR-78	3926	72.5	74.5	62.97	0	0	0	0	0	HLO
DTR-78	3927	74.5	76	62.58	0	0	0	0	0	SLO_FO
DTR-78	3928	76	77.5	62.27	0	0	0	0	0	SLO_FO
DTR-78	3929	77.5	78.5	63.95	0	0	0	0	0	SLO_FO
DTR-78	3930	78.5	80	63.67	0	0	0	0	0	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-78	3931	80	81.5	61.71	0	0	0	0	0	SLO_FO
DTR-78	3932	81.5	82.5	62.13	0	0	0	0	0	SLO_FO
DTR-78	3933	82.5	83.5	61.3	0	0	0	0	0	SLO_FO
DTR-78	3934	83.5	84.5	61.16	0	0	0	0	0	SLO_FO
DTR-78	3935	84.5	85.5	63.95	0	0	0	0	0	SLO_FO
DTR-78	3936	85.5	87	63.53	0	0	0	0	0	SLO_FO
DTR-78	3937	87	89	63.25	0	0	0	0	0	SLO_FO
DTR-78	3938	89	91	61.71	0	0	0	0	0	SLO_FO
DTR-78	3939	91	92.5	62.13	0	0	0	0	0	SLO_FO
DTR-78	3940	92.5	94	61.57	0	0	0	0	0	SLO_FO
DTR-78	3941	94	95.5	58.78	0	0	0	0	0	Limonitic Ore
DTR-78	3942	95.5	97	59.06	0	0	0	0	0	Limonitic Ore
DTR-78	3943	97	99	60.88	0	0	0	0	0	SLO_FO
DTR-78	3944	99	100	49.53	0	0	0	0	0	Limonite
DTR-78	3945	100	101.5	61.02	0	0	0	0	0	SLO_FO
DTR-78	3946	101.5	103	60.74	0	0	0	0	0	SLO_FO
DTR-78	3947	103	104.5	63.11	0	0	0	0	0	SLO_FO
DTR-78	3948	104.5	106.5	57.24	0	0	0	0	0	Limonitic Ore
DTR-78	3949	106.5	108.5	58.78	0	0	0	0	0	Limonitic Ore
DTR-78	3950	108.5	110.5	61.16	0	0	0	0	0	SLO_FO
DTR-78	3951	110.5	112.5	59.34	0	0	0	0	0	Limonitic Ore
DTR-78	3952	112.5	114.5	59.76	0	0	0	0	0	Limonitic Ore
DTR-78	3953	114.5	116.5	59.34	0	0	0	0	0	Limonitic Ore
DTR-78	3954	116.5	118.5	59.62	0	0	0	0	0	Limonitic Ore
DTR-78	3955	118.5	120	59.06	0	0	0	0	0	Limonitic Ore
DTR-78	3956	120	121.5	59.34	0	0	0	0	0	Limonitic Ore
DTR-78	3957	121.5	123	61.3	0	0	0	0	0	SLO_FO
DTR-78	3958	123	124.5	61.02	0	0	0	0	0	SLO_FO
DTR-78	3959	124.5	126	60.04	0	0	0	0	0	SLO_FO
DTR-78	3960	126	128	60.04	0	0	0	0	0	SLO_FO
DTR-78	3961	128	130	61.16	0	0	0	0	0	SLO_FO
DTR-78	3962	130	132	60.46	0	0	0	0	0	SLO_FO
DTR-78	3963	132	134	60.18	0	0	0	0	0	SLO_FO
DTR-78	3964	134	136	63.25	0	0	0	0	0	SLO_FO
DTR-78	3965	136	138	63.95	0	0	0	0	0	SLO_FO
DTR-78	3966	138	139.5	61.85	0	0	0	0	0	SLO_FO
DTR-78	3967	139.5	140.5	61.85	0	0	0	0	0	SLO_FO
DTR-78	3968	140.5	142	61.02	0	0	0	0	0	SLO_FO
DTR-78	3969	142	143.5	61.3	0	0	0	0	0	SLO_FO
DTR-78	3970	143.5	145.5	62.83	0	0	0	0	0	SLO_FO
DTR-78	3971	145.5	147	63.11	0	0	0	0	0	SLO_FO
DTR-78	3972	147	149	63.81	0	0	0	0	0	SLO_FO
DTR-78	3973	149	151	63.25	0	0	0	0	0	SLO_FO
DTR-78	3974	151	152.5	63.53	0	0	0	0	0	SLO_FO
DTR-78	3975	152.5	154	62.41	0	0	0	0	0	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-78	3976	154	155	61.85	0	0	0	0	0	SLO_FO
DTR-78	3977	155	157	62.27	0	0	0	0	0	SLO_FO
DTR-78	3978	157	159	60.04	0	0	0	0	0	SLO_FO
DTR-78	3979	159	161	62.55	0	0	0	0	0	SLO_FO
DTR-78	3980	161	163	50.96	0	0	0	0	0	SLO_FO
DTR-78	3981	163	165	51.24	0	0	0	0	0	SLO_FO
DTR-78	3982	165	167	54.59	0	0	0	0	0	SLO_FO
DTR-78	3983	167	169	54.32	0	0	0	0	0	SLO_FO
DTR-78	3984	169	171	55.15	0	0	0	0	0	SLO_FO
DTR-78	3985	171	173.5	54.18	0	0	0	0	0	SLO_FO
DTR-78	3986	173.5	176	56.55	0	0	0	0	0	SLO_FO
DTR-78	3987	180	181	58.5	0	0	0	0	0	Limonitic Ore
DTR-78	3988	181	182.5	61.43	0	0	0	0	0	SLO_FO
DTR-78	3989	182.5	184	61.85	0	0	0	0	0	SLO_FO
DTR-78	3990	184	186	63.11	0	0	0	0	0	SLO_FO
DTR-78	3991	186	188	59.9	0	0	0	0	0	Limonitic Ore
DTR-78	3992	188	190	59.34	0	0	0	0	0	Limonitic Ore
DTR-78	3993	190	191	58.78	0	0	0	0	0	Limonitic Ore
DTR-78	3994	191	193	48.17	0	0	0	0	0	Limonite
DTR-78	3995	193	195	34.9	0	0	0	0	0	Limonite
DTR-78	3996	195	197	41.89	0	0	0	0	0	Limonite
DTR-78	3997	197	200	43.28	0	0	0	0	0	Limonite
DTR-78	3998	200	202	58.78	0	0	0	0	0	Limonitic Ore
DTR-78	3999	202	204	59.34	0	0	0	0	0	Limonitic Ore
DTR-78	4000	204	206	57.94	0	0	0	0	0	Limonitic Ore
DTR-78	4001	206	208	60.13	0	0	0	0	0	SLO_FO
DTR-78	4002	208	210	49.71	0	0	0	0	0	Limonite
DTR-78	4003	210	212.5	53.06	0	0	0	0	0	Limonite
DTR-78	4004	212.5	214.5	60.6	0	0	0	0	0	SLO_FO
DTR-78	4005	214.5	216.5	58.64	0	0	0	0	0	Limonitic Ore
DTR-78	4006	216.5	219	60.46	0	0	0	0	0	SLO_FO
DTR-78	4007	219	221	60.74	0	0	0	0	0	SLO_FO
DTR-78	4008	221	223	60.32	0	0	0	0	0	SLO_FO
DTR-78	4009	223	225	57.9	0	0	0	0	0	Limonitic Ore
DTR-78	4010	225	227	56.41	0	0	0	0	0	Limonitic Ore
DTR-78	4011	227	229	60.46	0	0	0	0	0	SLO_FO
DTR-78	4012	229	232	54.73	0	0	0	0	0	Limonite
DTR-78	4013	232	234	61.71	0	0	0	0	0	SLO_FO
DTR-78	4014	234	236	56.27	0	0	0	0	0	Limonitic Ore
DTR-78	4015	236	237.5	62.13	0	0	0	0	0	SLO_FO
DTR-78	4016	237.5	239	56.55	0	0	0	0	0	Limonitic Ore
DTR-78	4017	239	240.5	59.9	0	0	0	0	0	Limonitic Ore
DTR-78	4018	240.5	242	59.06	0	0	0	0	0	Limonitic Ore
DTR-78	4019	242	243.5	60.04	0	0	0	0	0	SLO_FO
DTR-78	4020	243.5	245	60.74	0	0	0	0	0	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR-78	4021	245	246.5	60.18	0	0	0	0	0	SLO_FO
DTR-78	4022	246.5	249	60.88	0	0	0	0	0	SLO_FO
DTR-78	4023	249	250.5	62.97	0	0	0	0	0	SLO_FO
DTR-78	4024	250.5	252	63.25	0	0	0	0	0	SLO_FO
DTR-78	4025	252	254	58.78	0	0	0	0	0	Limonitic Ore
DTR-78	4026	254	256	59.62	0	0	0	0	0	Limonitic Ore
DTR-78	4027	256	257	59.06	0	0	0	0	0	Limonitic Ore
DTR-78	4028	257	258	58.78	0	0	0	0	0	Limonitic Ore
DTR-78	4029	258	259	59.76	0	0	0	0	0	Limonitic Ore
DTR-78	4030	259	260	58.64	0	0	0	0	0	Limonitic Ore
DTR-78	4031	260	262	59.34	0	0	0	0	0	Limonitic Ore
DTR-78	4032	262	263	59.62	0	0	0	0	0	Limonitic Ore
BH-03	4033	0	0.3	43.42	0	0	0	0	0	Laterite
BH-03	4034	0.3	1.5	60.74	0	0	0	0	0	SLO_FO
BH-03	4035	1.5	3.5	63.1	0	0	0	0	0	SLO_FO
BH-03	4036	3.5	6	63.65	0	0	0	0	0	SLO_FO
BH-03	4037	6	6.3	61.04	0	0	0	0	0	SLO_FO
BH-03	4038	6.3	7.2	58.76	0	0	0	0	0	Lateritic Ore
BH-03	4039	7.2	7.5	61.98	0	0	0	0	0	SLO_FO
BH-03	4040	7.5	10	57.4	0	0	0	0	0	Lateritic Ore
BH-03	4041	10	11	61.32	0	0	0	0	0	HLO
BH-03	4042	11	12	62.82	0	0	0	0	0	SLO_FO
BH-03	4043	12	13	62.82	0	0	0	0	0	HLO
BH-03	4044	13	14.3	63.8	0	0	0	0	0	SLO_FO
BH-03	4045	14.3	16.2	62.53	0	0	0	0	0	HLO
BH-03	4046	16.2	17	64.91	0	0	0	0	0	SLO_FO
BH-03	4047	17	17.5	59.92	0	0	0	0	0	Lateritic Ore
BH-03	4048	17.5	20	62.2	0	0	0	0	0	HLO
BH-04	4049	0	1	60.2	0	0	0	0	0	SLO_FO
BH-04	4050	1	2.1	62.66	0	0	0	0	0	SLO_FO
BH-04	4051	2.1	6.5	61.95	0	0	0	0	0	SLO_FO
BH-04	4052	6.5	7	62.23	0	0	0	0	0	SLO_FO
BH-04	4053	7	7.5	64.73	0	0	0	0	0	HLO
BH-04	4054	7.5	9	65.03	0	0	0	0	0	HLO
BH-04	4055	9	9.5	63.07	0	0	0	0	0	SLO_FO
BH-04	4056	9.5	10.5	64.73	0	0	0	0	0	SLO_FO
BH-04	4057	10.5	12.5	65.03	0	0	0	0	0	SLO_FO
BH-04	4058	12.5	15.5	64.47	0	0	0	0	0	HLO
BH-04	4059	15.5	16	65.31	0	0	0	0	0	HLO
BH-04	4060	16	19	61.41	0	0	0	0	0	SLO_FO
BH-04	4061	19	22	62.25	0	0	0	0	0	HLO
BH-04	4062	22	26	64.04	0	0	0	0	0	SLO_FO
BH-04	4063	26	30	63.37	0	0	0	0	0	HLO
BH-05	4064	0	1.3	60.3	0	0	0	0	0	SLO_FO
BH-05	4065	1.3	1.5	64.46	0	0	0	0	0	HLO

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BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-05	4066	1.5	3	64.77	0	0	0	0	0	SLO_FO
BH-05	4067	3	4	64.62	0	0	0	0	0	HLO
BH-05	4068	4	5.5	63.95	0	0	0	0	0	SLO_FO
BH-05	4069	5.5	6	65.82	0	0	0	0	0	HLO
BH-05	4070	6	7.5	65.18	0	0	0	0	0	SLO_FO
BH-05	4071	7.5	9	65.93	0	0	0	0	0	SLO_FO
BH-05	4072	9	9.5	65.32	0	0	0	0	0	HLO
BH-05	4073	9.5	10.5	64.32	0	0	0	0	0	SLO_FO
BH-05	4074	10.5	10.8	63.93	0	0	0	0	0	HLO
BH-05	4075	10.8	11.5	64.2	0	0	0	0	0	SLO_FO
BH-05	4076	11.5	12	63.75	0	0	0	0	0	SLO_FO
BH-05	4077	12	12.8	62.79	0	0	0	0	0	HLO
BH-05	4078	12.8	13	61.67	0	0	0	0	0	HLO
BH-05	4079	13	13.3	63.63	0	0	0	0	0	HLO
BH-05	4080	13.3	21	64.97	0	0	0	0	0	SLO_FO
BH-05	4081	21	22.25	63.35	0	0	0	0	0	HLO
BH-05	4082	22.25	23.75	63.25	0	0	0	0	0	SLO_FO
BH-05	4083	23.75	25.75	63.07	0	0	0	0	0	HLO
BH-05	4084	25.75	28	62.51	0	0	0	0	0	SLO_FO
BH-05	4085	28	29.5	64.75	0	0	0	0	0	HLO
BH-05	4086	29.5	30.2	60.35	0	0	0	0	0	SLO_FO
BH-06	4087	0	0.5	67.01	0	0	0	0	0	HLO
BH-06	4088	0.5	2	65.63	0	0	0	0	0	HLO
BH-06	4089	2	3.5	66.16	0	0	0	0	0	HLO
BH-06	4090	3.5	5	65.39	0	0	0	0	0	HLO
BH-06	4091	5	6.6	65.39	0	0	0	0	0	HLO
BH-06	4092	6.6	6.8	63.37	0	0	0	0	0	HLO
BH-06	4093	6.8	8	65.33	0	0	0	0	0	HLO
BH-06	4094	8	8.7	64.21	0	0	0	0	0	HLO
BH-06	4095	8.7	9	64.77	0	0	0	0	0	HLO
BH-06	4096	9	10	64.24	0	0	0	0	0	SLO_FO
BH-06	4097	10	12	65.07	0	0	0	0	0	HLO
BH-06	4098	12	13	64.51	0	0	0	0	0	SLO_FO
BH-06	4099	13	15	63.96	0	0	0	0	0	HLO
BH-06	4100	15	16.5	63.96	0	0	0	0	0	HLO
BH-06	4101	16.5	18	62.02	0	0	0	0	0	HLO
BH-06	4102	18	21	63.68	0	0	0	0	0	HLO
BH-06	4103	21	24	64.94	0	0	0	0	0	SLO_FO
BH-06	4104	24	26	62.85	0	0	0	0	0	HLO
BH-06	4105	26	27	61.75	0	0	0	0	0	HLO
BH-06	4106	27	30	63.4	0	0	0	0	0	SLO_FO
BH-07	4107	0	1.5	65.63	0	0	0	0	0	SLO_FO
BH-07	4108	1.5	2	63.96	0	0	0	0	0	HLO
BH-07	4109	2	4.5	65.77	0	0	0	0	0	HLO
BH-07	4110	4.5	4.9	63.45	0	0	0	0	0	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-07	4111	4.9	6	64.24	0	0	0	0	0	HLO
BH-07	4112	6	9	63.17	0	0	0	0	0	HLO
BH-07	4113	9	10	63.73	0	0	0	0	0	HLO
BH-07	4114	10	10.5	62.08	0	0	0	0	0	HLO
BH-07	4115	10.5	11.75	62.9	0	0	0	0	0	SLO_FO
BH-07	4116	11.75	13.5	60.22	0	0	0	0	0	SLO_FO
BH-07	4117	13.5	15	59.33	0	0	0	0	0	Lateritic Ore
BH-07	4118	15	16.5	60.22	0	0	0	0	0	SLO_FO
BH-07	4119	16.5	17.6	61.67	0	0	0	0	0	SLO_FO
BH-07	4120	17.6	18	62.35	0	0	0	0	0	HLO
BH-07	4121	18	20.5	64.51	0	0	0	0	0	SLO_FO
BH-07	4122	20.5	21.5	62.67	0	0	0	0	0	HLO
BH-07	4123	21.5	24	64	0	0	0	0	0	SLO_FO
BH-07	4124	24	24.5	62.58	0	0	0	0	0	HLO
BH-07	4125	24.5	27	60.36	0	0	0	0	0	HLO
BH-07	4126	27	27.6	61.32	0	0	0	0	0	HLO
BH-07	4127	27.6	30	61.17	0	0	0	0	0	SLO_FO
BH-08	4128	0	0.5	62.55	0	0	0	0	0	HLO
BH-08	4129	0.5	1	62.39	0	0	0	0	0	SLO_FO
BH-08	4130	1	1.2	42.67	0	0	0	0	0	HLO
BH-08	4131	1.2	2.7	51.39	0	0	0	0	0	HLO
BH-08	4132	2.7	4	60.55	0	0	0	0	0	HLO
BH-08	4133	4	4.5	62.13	0	0	0	0	0	HLO
BH-08	4134	4.5	5.5	62.28	0	0	0	0	0	HLO
BH-08	4135	5.5	6	63.38	0	0	0	0	0	HLO
BH-08	4136	6	7	63.24	0	0	0	0	0	SLO_FO
BH-08	4137	7	9	64.35	0	0	0	0	0	HLO
BH-08	4138	9	10	63.52	0	0	0	0	0	HLO
BH-08	4139	10	12	62.55	0	0	0	0	0	HLO
BH-08	4140	12	13.3	61.9	0	0	0	0	0	SLO_FO
BH-08	4141	13.3	15.25	61.1	0	0	0	0	0	HLO
BH-08	4142	15.25	17	57.4	0	0	0	0	0	Lateritic Ore
BH-08	4143	17	17.4	59.73	0	0	0	0	0	Lateritic Ore
BH-08	4144	17.4	19	63.2	0	0	0	0	0	SLO_FO
BH-08	4145	19	20.5	63.8	0	0	0	0	0	HLO
BH-08	4146	20.5	21.5	62.4	0	0	0	0	0	HLO
BH-08	4147	21.5	22.5	62.53	0	0	0	0	0	HLO
BH-08	4148	22.5	30.1	60.87	0	0	0	0	0	SLO_FO
BH-09	4149	0	2	60.52	0	0	0	0	0	SLO_FO
BH-09	4150	2	3	61.2	0	0	0	0	0	HLO
BH-09	4151	3	3.2	60.56	0	0	0	0	0	SLO_FO
BH-09	4152	3.2	5.7	63.75	0	0	0	0	0	HLO
BH-09	4153	5.7	8	61.9	0	0	0	0	0	HLO
BH-09	4154	8	9	62.8	0	0	0	0	0	SLO_FO
BH-09	4155	9	11	62.8	0	0	0	0	0	HLO

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BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-09	4156	11	13	60.98	0	0	0	0	0	HLO
BH-09	4157	13	13.95	62.23	0	0	0	0	0	SLO_FO
BH-09	4158	13.95	15.45	63.77	0	0	0	0	0	HLO
BH-09	4159	15.45	16.3	64.75	0	0	0	0	0	SLO_FO
BH-09	4160	16.3	17.6	60.68	0	0	0	0	0	HLO
BH-09	4161	17.6	18.7	63.25	0	0	0	0	0	SLO_FO
BH-09	4162	18.7	19	61.48	0	0	0	0	0	SLO_FO
BH-09	4163	19	22.5	61.4	0	0	0	0	0	SLO_FO
BH-09	4164	22.5	24	62.26	0	0	0	0	0	HLO
BH-09	4165	24	25.6	62.5	0	0	0	0	0	HLO
BH-09	4166	25.6	27	62.96	0	0	0	0	0	HLO
BH-09	4167	27	30	60.81	0	0	0	0	0	HLO
BH-11	4168	0	4	60.47	0	0	0	0	0	SLO_FO
BH-11	4169	4	4.4	64.98	0	0	0	0	0	HLO
BH-11	4170	4.4	7	63.89	0	0	0	0	0	HLO
BH-11	4171	7	8.5	64.7	0	0	0	0	0	HLO
BH-11	4172	8.5	10.5	63.48	0	0	0	0	0	HLO
BH-11	4173	10.5	12	63.2	0	0	0	0	0	HLO
BH-11	4174	12	14	58.14	0	0	0	0	0	Lateritic Ore
BH-11	4175	14	15	63.15	0	0	0	0	0	HLO
BH-11	4176	15	18	63.15	0	0	0	0	0	HLO
BH-11	4177	18	18.5	62.65	0	0	0	0	0	HLO
BH-11	4178	18.5	19.5	63.18	0	0	0	0	0	SLO_FO
BH-11	4179	19.5	21	63.89	0	0	0	0	0	SLO_FO
BH-11	4180	21	22	64.54	0	0	0	0	0	SLO_FO
BH-11	4181	22	22.5	66.41	0	0	0	0	0	SLO_FO
BH-11	4182	22.5	23.5	63.99	0	0	0	0	0	SLO_FO
BH-11	4183	23.5	27	63.44	0	0	0	0	0	SLO_FO
BH-11	4184	27	30	64.14	0	0	0	0	0	SLO_FO
BH-11	4185	30	33	64.56	0	0	0	0	0	SLO_FO
BH-11	4186	33	36	63.16	0	0	0	0	0	SLO_FO
BH-11	4187	36	38.5	63.89	0	0	0	0	0	SLO_FO
BH-11	4188	38.5	40	63.86	0	0	0	0	0	SLO_FO
BH-12	4189	0	2.75	56.89	0	0	0	0	0	Lateritic Ore
BH-12	4190	2.75	4.5	55.88	0	0	0	0	0	Lateritic Ore
BH-12	4191	4.5	6	57.88	0	0	0	0	0	Lateritic Ore
BH-12	4192	6	7.75	57.86	0	0	0	0	0	Lateritic Ore
BH-12	4193	7.75	8.5	57.17	0	0	0	0	0	Lateritic Ore
BH-12	4194	8.5	9.5	63.87	0	0	0	0	0	HLO
BH-12	4195	9.5	10	60.85	0	0	0	0	0	HLO
BH-12	4196	10	12	57.28	0	0	0	0	0	Lateritic Ore
BH-12	4197	12	13	60.98	0	0	0	0	0	SLO_FO
BH-12	4198	13	15	62.36	0	0	0	0	0	SLO_FO
BH-12	4199	15	16	63.75	0	0	0	0	0	SLO_FO
BH-12	4200	16	18	63.13	0	0	0	0	0	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-12	4201	18	20.5	62.36	0	0	0	0	0	SLO_FO
BH-12	4202	20.5	22.5	63.7	0	0	0	0	0	SLO_FO
BH-12	4203	22.5	24	61.9	0	0	0	0	0	HLO
BH-12	4204	24	25	62.23	0	0	0	0	0	SLO_FO
BH-12	4205	25	27	62.24	0	0	0	0	0	SLO_FO
BH-12	4206	27	30	62.03	0	0	0	0	0	HLO
BH-12	4207	30	31	62.44	0	0	0	0	0	HLO
BH-12	4208	31	32.5	60.23	0	0	0	0	0	SLO_FO
BH-12	4209	32.5	34	62.38	0	0	0	0	0	HLO
BH-12	4210	34	37	61.74	0	0	0	0	0	SLO_FO
BH-12	4211	37	38.8	62.15	0	0	0	0	0	SLO_FO
BH-12	4212	38.8	40	61.83	0	0	0	0	0	SLO_FO
BH-13	4213	0	3	59.06	0	0	0	0	0	Lateritic Ore
BH-13	4214	3	6	62.56	0	0	0	0	0	HLO
BH-13	4215	6	7.5	63.53	0	0	0	0	0	HLO
BH-13	4216	7.5	8	61.02	0	0	0	0	0	SLO_FO
BH-13	4217	8	9	63.95	0	0	0	0	0	HLO
BH-13	4218	9	10.5	53.63	0	0	0	0	0	Laterite
BH-13	4219	10.5	12	58.37	0	0	0	0	0	Lateritic Ore
BH-13	4220	12	16	62.02	0	0	0	0	0	HLO
BH-13	4221	16	19	59.29	0	0	0	0	0	Lateritic Ore
BH-13	4222	19	19.5	61.09	0	0	0	0	0	HLO
BH-13	4223	19.5	24	61.86	0	0	0	0	0	SLO_FO
BH-13	4224	24	25	63	0	0	0	0	0	HLO
BH-13	4225	25	27.5	64.05	0	0	0	0	0	SLO_FO
BH-13	4226	27.5	30	63.95	0	0	0	0	0	HLO
BH-13	4227	30	32	63.94	0	0	0	0	0	SLO_FO
BH-13	4228	32	33	64.18	0	0	0	0	0	HLO
BH-13	4229	33	33.75	64.04	0	0	0	0	0	SLO_FO
BH-13	4230	33.75	35	62.27	0	0	0	0	0	HLO
BH-13	4231	35	37.4	64.36	0	0	0	0	0	SLO_FO
BH-13	4232	37.4	38	61.19	0	0	0	0	0	SLO_FO
BH-13	4233	38	40	59.83	0	0	0	0	0	Lateritic Ore
BH-14	4234	0	3	60.03	0	0	0	0	0	SLO_FO
BH-14	4235	3	5	59.23	0	0	0	0	0	Lateritic Ore
BH-14	4236	5	8	65.62	0	0	0	0	0	SLO_FO
BH-14	4237	8	15	64.51	0	0	0	0	0	HLO
BH-14	4238	15	19	65.35	0	0	0	0	0	HLO
BH-14	4239	19	20	63.25	0	0	0	0	0	HLO
BH-14	4240	20	21	60.8	0	0	0	0	0	SLO_FO
BH-14	4241	21	21.5	61.16	0	0	0	0	0	SLO_FO
BH-14	4242	21.5	23	60.88	0	0	0	0	0	SLO_FO
BH-14	4243	23	24	62.28	0	0	0	0	0	SLO_FO
BH-14	4244	24	25	61.16	0	0	0	0	0	SLO_FO
BH-14	4245	25	26.5	57.25	0	0	0	0	0	Lateritic Ore

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-14	4246	26.5	30	63.87	0	0	0	0	0	SLO_FO
BH-15	4247	0	3	64.09	0	0	0	0	0	HLO
BH-15	4248	3	6.6	61.94	0	0	0	0	0	HLO
BH-15	4249	6.6	11	59.35	0	0	0	0	0	Lateritic Ore
BH-15	4250	11	12	53.27	0	0	0	0	0	Laterite
BH-15	4251	12	14	40.37	0	0	0	0	0	Laterite
BH-15	4252	14	16	63.29	0	0	0	0	0	HLO
BH-15	4253	16	20	63.25	0	0	0	0	0	HLO
BH-15	4254	20	21	64.53	0	0	0	0	0	SLO_FO
BH-15	4255	21	24	67.44	0	0	0	0	0	SLO_FO
BH-15	4256	24	25	67.16	0	0	0	0	0	SLO_FO
BH-15	4257	25	26.5	67.16	0	0	0	0	0	SLO_FO
BH-15	4258	26.5	27	66.6	0	0	0	0	0	HLO
BH-15	4259	27	31	66.74	0	0	0	0	0	SLO_FO
BH-15	4260	31	31.5	65.9	0	0	0	0	0	HLO
BH-15	4261	31.5	33.5	66.6	0	0	0	0	0	SLO_FO
BH-15	4262	33.5	38	66.32	0	0	0	0	0	SLO_FO
BH-15	4263	38	41.5	65.62	0	0	0	0	0	SLO_FO
BH-16	4264	0	1.5	57.47	0	0	0	0	0	Lateritic Ore
BH-16	4265	1.5	2.8	59.7	0	0	0	0	0	Lateritic Ore
BH-16	4266	2.8	5.7	65.35	0	0	0	0	0	HLO
BH-16	4267	5.7	6.8	59.56	0	0	0	0	0	HLO
BH-16	4268	6.8	7	64.17	0	0	0	0	0	HLO
BH-16	4269	7	11	59.24	0	0	0	0	0	Lateritic Ore
BH-16	4270	11	11.5	63.81	0	0	0	0	0	HLO
BH-16	4271	11.5	12.5	60.32	0	0	0	0	0	SLO_FO
BH-16	4272	12.5	13	65.76	0	0	0	0	0	HLO
BH-16	4273	13	14	60.32	0	0	0	0	0	SLO_FO
BH-16	4274	14	16	65.76	0	0	0	0	0	HLO
BH-16	4275	16	17.5	67.02	0	0	0	0	0	HLO
BH-16	4276	17.5	19	66.32	0	0	0	0	0	HLO
BH-16	4277	19	21	65.9	0	0	0	0	0	HLO
BH-16	4278	21	22.5	64.93	0	0	0	0	0	HLO
BH-16	4279	22.5	24	64.51	0	0	0	0	0	HLO
BH-16	4280	24	26	63.81	0	0	0	0	0	HLO
BH-16	4281	26	27.5	65.07	0	0	0	0	0	HLO
BH-16	4282	27.5	29	66.04	0	0	0	0	0	HLO
BH-16	4283	29	30.5	66.32	0	0	0	0	0	HLO
BH-16	4284	30.5	32	65.62	0	0	0	0	0	HLO
BH-16	4285	32	34.5	64.51	0	0	0	0	0	HLO
BH-16	4286	34.5	40	52.99	0	0	0	0	0	Laterite
BH-17	4287	0	7	0	0	0	0	0	0	Laterite
BH-17	4288	7	8.5	54.69	0	0	0	0	0	Laterite
BH-17	4289	8.5	9	47.63	0	0	0	0	0	Laterite
BH-17	4290	9	10	53.73	0	0	0	0	0	Laterite

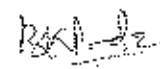
ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-17	4291	10	11.5	42.53	0	0	0	0	0	Laterite
BH-17	4292	11.5	15	58.25	0	0	0	0	0	Lateritic Ore
BH-17	4293	15	16.5	56.71	0	0	0	0	0	Lateritic Ore
BH-17	4294	16.5	17.5	62.41	0	0	0	0	0	HLO
BH-17	4295	17.5	18.5	65.46	0	0	0	0	0	HLO
BH-17	4296	18.5	19	60.57	0	0	0	0	0	SLO_FO
BH-17	4297	19	20.5	60.57	0	0	0	0	0	SLO_FO
BH-17	4298	20.5	22.5	58.4	0	0	0	0	0	Lateritic Ore
BH-17	4299	22.5	23	64.2	0	0	0	0	0	HLO
BH-17	4300	23	24.5	63.22	0	0	0	0	0	SLO_FO
BH-17	4301	24.5	28.5	62.39	0	0	0	0	0	HLO
BH-17	4302	28.5	30	63.64	0	0	0	0	0	SLO_FO
BH-17	4303	30	32	63.49	0	0	0	0	0	SLO_FO
BH-17	4304	32	34	65.31	0	0	0	0	0	HLO
BH-17	4305	34	35	64.74	0	0	0	0	0	SLO_FO
BH-17	4306	35	36	66.99	0	0	0	0	0	HLO
BH-17	4307	36	39	65.17	0	0	0	0	0	SLO_FO
BH-17	4308	39	40	66.29	0	0	0	0	0	HLO
BH-17	4309	40	40.5	64.32	0	0	0	0	0	SLO_FO
BH-17	4310	40.5	43	66.43	0	0	0	0	0	HLO
BH-17	4311	43	45	65.03	0	0	0	0	0	HLO
BH-18	4312	0	4	55.3	0	0	0	0	0	Lateritic Ore
BH-18	4313	4	6.5	60.4	0	0	0	0	0	HLO
BH-18	4314	6.5	7.5	62.2	0	0	0	0	0	SLO_FO
BH-18	4315	7.5	9	59.6	0	0	0	0	0	Lateritic Ore
BH-18	4316	9	9.8	57.1	0	0	0	0	0	HLO
BH-18	4317	9.8	10.5	55.8	0	0	0	0	0	HLO
BH-18	4318	10.5	13	60.4	0	0	0	0	0	HLO
BH-18	4319	13	13.75	62.5	0	0	0	0	0	HLO
BH-18	4320	13.75	15	64	0	0	0	0	0	SLO_FO
BH-18	4321	15	17.5	57.1	0	0	0	0	0	Lateritic Ore
BH-18	4322	17.5	18.5	60	0	0	0	0	0	Lateritic Ore
BH-18	4323	18.5	20	59.5	0	0	0	0	0	Lateritic Ore
BH-18	4324	20	22	60.4	0	0	0	0	0	Lateritic Ore
BH-18	4325	22	25	63.4	0	0	0	0	0	HLO
BH-18	4326	25	26	61.1	0	0	0	0	0	HLO
BH-18	4327	26	29	64.1	0	0	0	0	0	HLO
BH-18	4328	29	31	63.4	0	0	0	0	0	HLO
BH-18	4329	31	33	62.6	0	0	0	0	0	HLO
BH-18	4330	33	35	63.5	0	0	0	0	0	HLO
BH-18	4331	35	38	62.7	0	0	0	0	0	HLO
BH-18	4332	38	40	63.8	0	0	0	0	0	HLO
BH-18	4333	40	43	62.7	0	0	0	0	0	HLO
BH-18	4334	43	45	62.6	0	0	0	0	0	HLO
BH-19	4335	0	3	65.69	0	0	0	0	0	SLO_FO

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-19	4336	3	3.5	60.88	0	0	0	0	0	SLO_FO
BH-19	4337	3.5	4.5	53.76	0	0	0	0	0	Laterite
BH-19	4338	4.5	6.5	51.06	0	0	0	0	0	Laterite
BH-19	4339	6.5	7.5	61.58	0	0	0	0	0	SLO_FO
BH-19	4340	7.5	10.5	55.29	0	0	0	0	0	Lateritic Ore
BH-19	4341	10.5	13	53.25	0	0	0	0	0	Limonite
BH-19	4342	13	14	57.25	0	0	0	0	0	Lateritic Ore
BH-19	4343	14	15	63.53	0	0	0	0	0	HLO
BH-19	4344	15	17	58.23	0	0	0	0	0	Lateritic Ore
BH-19	4345	17	18	64.51	0	0	0	0	0	HLO
BH-19	4346	18	19.5	63.11	0	0	0	0	0	SLO_FO
BH-19	4347	19.5	23	63.39	0	0	0	0	0	HLO
BH-19	4348	23	25.5	60.88	0	0	0	0	0	SLO_FO
BH-19	4349	25.5	27	60.88	0	0	0	0	0	SLO_FO
BH-19	4350	27	28.5	62.64	0	0	0	0	0	HLO
BH-31	4351	0	1.25	56.67	0	0	0	0	0	Lateritic Ore
BH-31	4352	1.25	2	54.18	0	0	0	0	0	Laterite
BH-31	4353	2	3	59.82	0	0	0	0	0	Lateritic Ore
BH-31	4354	3	3.8	65.98	0	0	0	0	0	HLO
BH-31	4355	3.8	5	64.54	0	0	0	0	0	HLO
BH-31	4356	5	6.5	63.98	0	0	0	0	0	HLO
BH-31	4357	6.5	7	64.25	0	0	0	0	0	HLO
BH-31	4358	7	7.5	61.97	0	0	0	0	0	SLO_FO
BH-31	4359	7.5	8	62.25	0	0	0	0	0	SLO_FO
BH-31	4360	8	10.5	63.11	0	0	0	0	0	SLO_FO
BH-31	4361	10.5	11.5	62.54	0	0	0	0	0	HLO
BH-31	4362	11.5	12	58.56	0	0	0	0	0	Lateritic Ore
BH-31	4363	12	12.5	59.13	0	0	0	0	0	Lateritic Ore
BH-31	4364	12.5	13.3	60.55	0	0	0	0	0	SLO_FO
BH-31	4365	13.3	14	63.68	0	0	0	0	0	SLO_FO
BH-31	4366	14	15	60.85	0	0	0	0	0	SLO_FO
BH-31	4367	15	18.5	60.8	0	0	0	0	0	SLO_FO
BH-31	4368	18.5	19	61.94	0	0	0	0	0	SLO_FO
BH-31	4369	19	21	62.52	0	0	0	0	0	SLO_FO
BH-31	4370	21	21.5	61.12	0	0	0	0	0	SLO_FO
BH-31	4371	21.5	22	62.8	0	0	0	0	0	SLO_FO
BH-31	4372	22	24.5	63.68	0	0	0	0	0	SLO_FO
BH-31	4373	24.5	25	61.97	0	0	0	0	0	SLO_FO
BH-31	4374	25	27	63.39	0	0	0	0	0	SLO_FO
BH-32	4375	0	1.4	54.3	0	0	0	0	0	Laterite
BH-32	4376	1.4	2	54.32	0	0	0	0	0	Laterite
BH-32	4377	2	3.5	49.84	0	0	0	0	0	Laterite
BH-32	4378	3.5	5.3	52.92	0	0	0	0	0	Laterite
BH-32	4379	5.3	8.2	64.4	0	0	0	0	0	HLO
BH-32	4380	8.2	10.3	61.82	0	0	0	0	0	SLO_FO



 I hereby certify that the data
 is true and correct as per
 the field notes and sample
 analysis.

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-32	4381	10.3	13.5	62.8	0	0	0	0	0	SLO_FO
BH-32	4382	13.5	14.2	62.94	0	0	0	0	0	SLO_FO
BH-32	4383	14.2	16	63	0	0	0	0	0	SLO_FO
BH-32	4384	16	18	62.24	0	0	0	0	0	SLO_FO
BH-32	4385	18	24.3	64.05	0	0	0	0	0	HLO
BH-32	4386	24.3	26	64.68	0	0	0	0	0	HLO
BH-32	4387	26	30.2	63.84	0	0	0	0	0	SLO_FO
BH-36	4388	0	0.95	65.19	0	0	0	0	0	HLO
BH-36	4389	0.95	1.7	66.01	0	0	0	0	0	HLO
BH-36	4390	1.7	2.1	65.33	0	0	0	0	0	HLO
BH-36	4391	2.1	2.7	65.48	0	0	0	0	0	HLO
BH-36	4392	2.7	3.9	63.62	0	0	0	0	0	HLO
BH-36	4393	3.9	4.5	65.03	0	0	0	0	0	SLO_FO
BH-36	4394	4.5	4.75	65.45	0	0	0	0	0	SLO_FO
BH-36	4395	4.75	6.2	64.47	0	0	0	0	0	SLO_FO
BH-36	4396	6.2	6.6	65.89	0	0	0	0	0	SLO_FO
BH-36	4397	6.6	8.25	64.92	0	0	0	0	0	HLO
BH-36	4398	8.25	9	66.03	0	0	0	0	0	SLO_FO
BH-36	4399	9	10.5	65.19	0	0	0	0	0	HLO
BH-36	4400	10.5	12	66.03	0	0	0	0	0	SLO_FO
BH-36	4401	12	14	66.19	0	0	0	0	0	SLO_FO
BH-36	4402	14	16.36	66.02	0	0	0	0	0	SLO_FO
BH-36	4403	16.36	17.3	66.3	0	0	0	0	0	SLO_FO
BH-36	4404	17.3	19	65.73	0	0	0	0	0	SLO_FO
BH-36	4405	19	19.55	66.98	0	0	0	0	0	SLO_FO
BH-36	4406	19.55	20.85	66.19	0	0	0	0	0	SLO_FO
BH-36	4407	20.85	21.15	65.74	0	0	0	0	0	SLO_FO
BH-36	4408	21.15	22.15	67.55	0	0	0	0	0	HLO
BH-36	4409	22.15	30.5	65.73	0	0	0	0	0	SLO_FO
BH-42	4410	0	0.4	68.36	0	0	0	0	0	SLO_FO
BH-42	4411	0.4	1.55	58.93	0	0	0	0	0	Lateritic Ore
BH-42	4412	1.55	3.05	59.77	0	0	0	0	0	Lateritic Ore
BH-42	4413	3.05	4.5	60.87	0	0	0	0	0	HLO
BH-42	4414	4.5	6	61.15	0	0	0	0	0	HLO
BH-42	4415	6	9	62.54	0	0	0	0	0	HLO
BH-42	4416	9	10.5	62.28	0	0	0	0	0	SLO_FO
BH-42	4417	10.5	12	63.22	0	0	0	0	0	SLO_FO
BH-42	4418	12	13.5	62.82	0	0	0	0	0	SLO_FO
BH-42	4419	13.5	15	64.77	0	0	0	0	0	SLO_FO
BH-42	4420	15	16.5	63.63	0	0	0	0	0	SLO_FO
BH-42	4421	16.5	19	65.06	0	0	0	0	0	HLO
BH-42	4422	19	20	65.36	0	0	0	0	0	SLO_FO
BH-42	4423	20	21	63.68	0	0	0	0	0	HLO
BH-42	4424	21	24	65.86	0	0	0	0	0	SLO_FO
BH-42	4425	24	25	61.75	0	0	0	0	0	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-42	4426	25	28	65.06	0	0	0	0	0	HLO
BH-42	4427	28	30	65.83	0	0	0	0	0	HLO
BH-42	4428	30	32	66.74	0	0	0	0	0	SLO_FO
BH-42	4429	32	32.5	66.32	0	0	0	0	0	SLO_FO
BH-42	4430	32.5	37	66.18	0	0	0	0	0	SLO_FO
BH-42	4431	37	37.6	65.76	0	0	0	0	0	SLO_FO
BH-42	4432	37.6	40	66.18	0	0	0	0	0	SLO_FO
BH-42	4433	40	41.5	64.95	0	0	0	0	0	HLO
BH-42	4434	41.5	42	65.35	0	0	0	0	0	HLO
BH-43	4435	0	1	60.31	0	0	0	0	0	SLO_FO
BH-43	4436	1	2	63.21	0	0	0	0	0	SLO_FO
BH-43	4437	2	3	60.35	0	0	0	0	0	SLO_FO
BH-43	4438	3	4	63.78	0	0	0	0	0	SLO_FO
BH-43	4439	4	5	61.49	0	0	0	0	0	SLO_FO
BH-43	4440	5	6	63.06	0	0	0	0	0	SLO_FO
BH-43	4441	6	7	64.49	0	0	0	0	0	SLO_FO
BH-43	4442	7	8	63.64	0	0	0	0	0	HLO
BH-43	4443	8	9	64.49	0	0	0	0	0	SLO_FO
BH-43	4444	9	10	61.82	0	0	0	0	0	SLO_FO
BH-43	4445	10	11	64.58	0	0	0	0	0	SLO_FO
BH-43	4446	11	12	63.96	0	0	0	0	0	SLO_FO
BH-43	4447	12	13	59.62	0	0	0	0	0	SLO_FO
BH-43	4448	13	14	64.8	0	0	0	0	0	SLO_FO
BH-43	4449	14	15	62.93	0	0	0	0	0	SLO_FO
BH-43	4450	15	16	63.69	0	0	0	0	0	SLO_FO
BH-43	4451	16	17	62.86	0	0	0	0	0	SLO_FO
BH-43	4452	17	18	63.69	0	0	0	0	0	SLO_FO
BH-43	4453	18	20	61.25	0	0	0	0	0	SLO_FO
BH-43	4454	20	23	64.13	0	0	0	0	0	SLO_FO
BH-43	4455	23	24	64.35	0	0	0	0	0	HLO
BH-43	4456	24	27	64.96	0	0	0	0	0	HLO
BH-43	4457	27	30	62.72	0	0	0	0	0	SLO_FO
BH-43	4458	30	33	66.08	0	0	0	0	0	HLO
BH-43	4459	33	34.5	64.68	0	0	0	0	0	SLO_FO
BH-43	4460	34.5	35.5	63.85	0	0	0	0	0	SLO_FO
BH-43	4461	35.5	37.5	65.85	0	0	0	0	0	SLO_FO
BH-43	4462	37.5	40	64.92	0	0	0	0	0	SLO_FO
BH-44	4463	0	1	60.3	0	0	0	0	0	SLO_FO
BH-44	4464	1	2	63.7	0	0	0	0	0	HLO
BH-44	4465	2	3	61.43	0	0	0	0	0	HLO
BH-44	4466	3	7.5	63.68	0	0	0	0	0	HLO
BH-44	4467	7.5	8	61.4	0	0	0	0	0	SLO_FO
BH-44	4468	8	9	63.68	0	0	0	0	0	SLO_FO
BH-44	4469	9	11.5	57.99	0	0	0	0	0	HLO
BH-44	4470	11.5	12	62.54	0	0	0	0	0	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-44	4471	12	14	57.65	0	0	0	0	0	HLO
BH-44	4472	14	16.5	61.97	0	0	0	0	0	HLO
BH-44	4473	16.5	16.9	63.67	0	0	0	0	0	HLO
BH-44	4474	16.9	17.2	62.67	0	0	0	0	0	HLO
BH-44	4475	17.2	18.5	64.53	0	0	0	0	0	HLO
BH-44	4476	18.5	21	63.81	0	0	0	0	0	HLO
BH-44	4477	21	22.5	64.07	0	0	0	0	0	HLO
BH-44	4478	22.5	23.75	64.49	0	0	0	0	0	HLO
BH-44	4479	23.75	25.5	65.57	0	0	0	0	0	HLO
BH-44	4480	25.5	27.8	62.28	0	0	0	0	0	HLO
BH-44	4481	27.8	30	64.6	0	0	0	0	0	HLO
BH-46	4482	0	1.8	63.27	0	0	0	0	0	HLO
BH-46	4483	1.8	2.5	63.1	0	0	0	0	0	HLO
BH-46	4484	2.5	3.1	64.92	0	0	0	0	0	HLO
BH-46	4485	3.1	3.5	61.29	0	0	0	0	0	HLO
BH-46	4486	3.5	4	51.75	0	0	0	0	0	Laterite
BH-46	4487	4	5	52.89	0	0	0	0	0	Laterite
BH-46	4488	5	5.5	61.29	0	0	0	0	0	SLO_FO
BH-46	4489	5.5	6.25	60.6	0	0	0	0	0	SLO_FO
BH-46	4490	6.25	7	62.11	0	0	0	0	0	SLO_FO
BH-46	4491	7	9	64.04	0	0	0	0	0	SLO_FO
BH-46	4492	9	10.5	63.53	0	0	0	0	0	SLO_FO
BH-46	4493	10.5	11	63.2	0	0	0	0	0	SLO_FO
BH-46	4494	11	11.5	58.92	0	0	0	0	0	SLO_FO
BH-46	4495	11.5	12	61.77	0	0	0	0	0	SLO_FO
BH-46	4496	12	13	61.78	0	0	0	0	0	SLO_FO
BH-46	4497	13	13.5	61.49	0	0	0	0	0	SLO_FO
BH-46	4498	13.5	15	64.63	0	0	0	0	0	SLO_FO
BH-46	4499	15	16	62.92	0	0	0	0	0	SLO_FO
BH-46	4500	16	16.5	62.06	0	0	0	0	0	SLO_FO
BH-46	4501	16.5	17	60.06	0	0	0	0	0	SLO_FO
BH-46	4502	17	17.5	63.78	0	0	0	0	0	SLO_FO
BH-46	4503	17.5	18	63.64	0	0	0	0	0	SLO_FO
BH-46	4504	18	19	61.2	0	0	0	0	0	SLO_FO
BH-46	4505	19	19.5	62.35	0	0	0	0	0	SLO_FO
BH-46	4506	19.5	20	63.78	0	0	0	0	0	SLO_FO
BH-46	4507	20	20.85	56.82	0	0	0	0	0	Lateritic Ore
BH-46	4508	20.85	21.15	22.84	0	0	0	0	0	Manganese Ore
BH-46	4509	21.15	22.5	59.58	0	0	0	0	0	Lateritic Ore
BH-46	4510	22.5	23.5	60.06	0	0	0	0	0	SLO_FO
BH-46	4511	23.5	23.75	55.41	0	0	0	0	0	Lateritic Ore
BH-46	4512	23.75	24	61.47	0	0	0	0	0	SLO_FO
BH-46	4513	24	25	57.67	0	0	0	0	0	Lateritic Ore
BH-46	4514	25	26.5	56.62	0	0	0	0	0	Lateritic Ore
BH-46	4515	26.5	27	57.81	0	0	0	0	0	Lateritic Ore

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-46	4516	27	28	59.78	0	0	0	0	0	Lateritic Ore
BH-46	4517	28	28.5	59.79	0	0	0	0	0	Lateritic Ore
BH-46	4518	28.5	30	62.18	0	0	0	0	0	SLO_FO
BH-46	4519	30	31.5	62.6	0	0	0	0	0	SLO_FO
BH-46	4520	31.5	32.5	63.2	0	0	0	0	0	HLO
BH-46	4521	32.5	33.5	65.66	0	0	0	0	0	SLO_FO
BH-46	4522	33.5	34.5	64.43	0	0	0	0	0	SLO_FO
BH-46	4523	34.5	35.5	63.03	0	0	0	0	0	SLO_FO
BH-46	4524	35.5	36.5	65.39	0	0	0	0	0	SLO_FO
BH-46	4525	36.5	38.5	63.27	0	0	0	0	0	SLO_FO
BH-46	4526	38.5	40	63.75	0	0	0	0	0	SLO_FO
BH-46	4527	40	41	63.74	0	0	0	0	0	SLO_FO
BH-47	4528	0	1.4	68.11	0	0	0	0	0	HLO
BH-47	4529	1.4	2	60.18	0	0	0	0	0	SLO_FO
BH-47	4530	2	3	67.55	0	0	0	0	0	HLO
BH-47	4531	3	4	67.82	0	0	0	0	0	HLO
BH-47	4532	4	5	67.56	0	0	0	0	0	HLO
BH-47	4533	5	6	66.72	0	0	0	0	0	HLO
BH-47	4534	6	7	67.45	0	0	0	0	0	HLO
BH-47	4535	7	8	66.85	0	0	0	0	0	HLO
BH-47	4536	8	9	66.99	0	0	0	0	0	HLO
BH-47	4537	9	10	66.96	0	0	0	0	0	HLO
BH-47	4538	10	11	63.49	0	0	0	0	0	SLO_FO
BH-47	4539	11	12	63.21	0	0	0	0	0	SLO_FO
BH-47	4540	12	13	64.05	0	0	0	0	0	SLO_FO
BH-47	4541	13	14	65.31	0	0	0	0	0	HLO
BH-47	4542	14	15	66.01	0	0	0	0	0	HLO
BH-47	4543	15	16	65.45	0	0	0	0	0	HLO
BH-47	4544	16	17	64.89	0	0	0	0	0	HLO
BH-47	4545	17	18	62.51	0	0	0	0	0	HLO
BH-47	4546	18	19	64.33	0	0	0	0	0	HLO
BH-47	4547	19	20	62.09	0	0	0	0	0	HLO
BH-47	4548	20	21	64.24	0	0	0	0	0	HLO
BH-47	4549	21	22	64.52	0	0	0	0	0	HLO
BH-47	4550	22	23	62.82	0	0	0	0	0	SLO_FO
BH-47	4551	23	24	63.93	0	0	0	0	0	SLO_FO
BH-47	4552	24	25	63.94	0	0	0	0	0	SLO_FO
BH-47	4553	25	26	64.63	0	0	0	0	0	HLO
BH-47	4554	26	27	64.02	0	0	0	0	0	HLO
BH-47	4555	27	28	65.92	0	0	0	0	0	SLO_FO
BH-47	4556	28	29	60.41	0	0	0	0	0	SLO_FO
BH-47	4557	29	30	62.29	0	0	0	0	0	SLO_FO
BH-47	4558	30	31	64.21	0	0	0	0	0	HLO
BH-47	4559	31	32	62.53	0	0	0	0	0	HLO
BH-47	4560	32	33	60.32	0	0	0	0	0	SLO_FO

Borehole Assay & Litho Data

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ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-47	4561	33	34	60.49	0	0	0	0	0	SLO_FO
BH-47	4562	34	35	62.94	0	0	0	0	0	SLO_FO
BH-47	4563	35	36	64.54	0	0	0	0	0	SLO_FO
BH-47	4564	36	37	62.4	0	0	0	0	0	SLO_FO
BH-47	4565	37	38	62.19	0	0	0	0	0	SLO_FO
BH-47	4566	38	39	62.43	0	0	0	0	0	SLO_FO
BH-47	4567	39	40	60.49	0	0	0	0	0	SLO_FO
BH-47	4568	40	41	63.76	0	0	0	0	0	SLO_FO
BH-47	4569	41	42	64.25	0	0	0	0	0	SLO_FO
BH-47	4570	42	43	63.4	0	0	0	0	0	SLO_FO
BH-47	4571	43	44	64.12	0	0	0	0	0	SLO_FO
BH-47	4572	44	45	62.7	0	0	0	0	0	SLO_FO
BH-48	4573	0	1	52.73	0	0	0	0	0	Laterite
BH-48	4574	1	5	51.8	0	0	0	0	0	Laterite
BH-48	4575	5	6	57.44	0	0	0	0	0	Lateritic Ore
BH-48	4576	6	7	53.01	0	0	0	0	0	Laterite
BH-48	4577	7	8	51.1	0	0	0	0	0	Laterite
BH-48	4578	8	9	50.68	0	0	0	0	0	Laterite
BH-48	4579	9	10	48.77	0	0	0	0	0	Laterite
BH-48	4580	10	11	51.5	0	0	0	0	0	Laterite
BH-48	4581	11	12	48.44	0	0	0	0	0	Laterite
BH-48	4582	12	15	52.28	0	0	0	0	0	Laterite
BH-48	4583	15	19	53.79	0	0	0	0	0	Laterite
BH-48	4584	19	20	60.22	0	0	0	0	0	SLO_FO
BH-48	4585	20	21	57.49	0	0	0	0	0	Lateritic Ore
BH-48	4586	21	22	63.84	0	0	0	0	0	HLO
BH-48	4587	22	23	60.42	0	0	0	0	0	SLO_FO
BH-48	4588	23	24	58.06	0	0	0	0	0	Lateritic Ore
BH-48	4589	24	25	56.6	0	0	0	0	0	Lateritic Ore
BH-48	4590	25	26	62.85	0	0	0	0	0	HLO
BH-48	4591	26	27	62.01	0	0	0	0	0	HLO
BH-48	4592	27	28	63.84	0	0	0	0	0	HLO
BH-48	4593	28	29	63.69	0	0	0	0	0	HLO
BH-48	4594	29	30	57.54	0	0	0	0	0	Lateritic Ore
BH-48	4595	30	31	64.07	0	0	0	0	0	HLO
BH-48	4596	31	32	64.21	0	0	0	0	0	HLO
BH-48	4597	32	33	64.49	0	0	0	0	0	HLO
BH-48	4598	33	34	64.1	0	0	0	0	0	HLO
BH-48	4599	34	35	48.33	0	0	0	0	0	Laterite
BH-48	4600	35	36	64.36	0	0	0	0	0	HLO
BH-48	4601	36	37	63.65	0	0	0	0	0	HLO
BH-48	4602	37	38	57.4	0	0	0	0	0	Lateritic Ore
BH-48	4603	38	39	65.61	0	0	0	0	0	HLO
BH-48	4604	39	40	59.48	0	0	0	0	0	Lateritic Ore
BH-48	4605	40	41	63.03	0	0	0	0	0	SLO_FO

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-48	4606	41	42	64.21	0	0	0	0	0	SLO_FO
BH-48	4607	42	46	62.96	0	0	0	0	0	SLO_FO
BH-49	4608	0	2.5	57.38	0	0	0	0	0	Lateritic Ore
BH-49	4609	2.5	5	60.06	0	0	0	0	0	Lateritic Ore
BH-49	4610	5	7.5	60.22	0	0	0	0	0	Lateritic Ore
BH-49	4611	7.5	9	59.88	0	0	0	0	0	Lateritic Ore
BH-49	4612	9	10	62.96	0	0	0	0	0	SLO_FO
BH-49	4613	10	12	60.04	0	0	0	0	0	SLO_FO
BH-49	4614	12	12.5	59.07	0	0	0	0	0	Lateritic Ore
BH-49	4615	12.5	13.8	59.23	0	0	0	0	0	Lateritic Ore
BH-49	4616	13.8	16.2	60.27	0	0	0	0	0	Lateritic Ore
BH-49	4617	16.2	16.5	61.49	0	0	0	0	0	HLO
BH-49	4618	16.5	17.5	62.47	0	0	0	0	0	HLO
BH-49	4619	17.5	18.5	62.76	0	0	0	0	0	HLO
BH-49	4620	18.5	19	64.41	0	0	0	0	0	SLO_FO
BH-49	4621	19	21	62.91	0	0	0	0	0	HLO
BH-49	4622	21	22.5	63.28	0	0	0	0	0	HLO
BH-49	4623	22.5	24	61.88	0	0	0	0	0	HLO
BH-49	4624	24	29	62.72	0	0	0	0	0	SLO_FO
BH-49	4625	29	30	60.08	0	0	0	0	0	SLO_FO
BH-50	4626	0	1	64.4	0	0	0	0	0	SLO_FO
BH-50	4627	1	4	59.64	0	0	0	0	0	SLO_FO
BH-50	4628	4	6	62.72	0	0	0	0	0	HLO
BH-50	4629	6	7	52.92	0	0	0	0	0	Laterite
BH-50	4630	7	9	62.16	0	0	0	0	0	HLO
BH-50	4631	9	10	63.84	0	0	0	0	0	SLO_FO
BH-50	4632	10	12	61.04	0	0	0	0	0	SLO_FO
BH-50	4633	12	15	64.68	0	0	0	0	0	SLO_FO
BH-50	4634	15	20	62.72	0	0	0	0	0	SLO_FO
BH-50	4635	20	21	63.77	0	0	0	0	0	SLO_FO
BH-50	4636	21	23	61.51	0	0	0	0	0	SLO_FO
BH-50	4637	23	24	61.23	0	0	0	0	0	SLO_FO
BH-50	4638	24	26	62.08	0	0	0	0	0	SLO_FO
BH-50	4639	26	28.5	61.52	0	0	0	0	0	SLO_FO
BH-50	4640	28.5	30	60.1	0	0	0	0	0	SLO_FO
BH-62	4641	0	2	48.33	0	0	0	0	0	Laterite
BH-62	4642	2	4.5	56.8	0	0	0	0	0	Lateritic Ore
BH-62	4643	4.5	6	58.5	0	0	0	0	0	Lateritic Ore
BH-62	4644	6	7.5	60.5	0	0	0	0	0	HLO
BH-62	4645	7.5	9.5	61.3	0	0	0	0	0	HLO
BH-62	4646	9.5	10.5	58.4	0	0	0	0	0	Lateritic Ore
BH-62	4647	10.5	13	58.9	0	0	0	0	0	Lateritic Ore
BH-62	4648	13	16	59.5	0	0	0	0	0	Lateritic Ore
BH-62	4649	16	19	56	0	0	0	0	0	Lateritic Ore
BH-62	4650	19	20	58.4	0	0	0	0	0	Lateritic Ore

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-62	4651	20	23	60.4	0	0	0	0	0	SLO_FO
BH-62	4652	23	25	60.2	0	0	0	0	0	SLO_FO
BH-62	4653	25	28	62.8	0	0	0	0	0	HLO
BH-62	4654	28	31	63.7	0	0	0	0	0	HLO
BH-62	4655	31	35	60.7	0	0	0	0	0	HLO
BH-62	4656	35	37	62.7	0	0	0	0	0	HLO
BH-62	4657	37	39	63.2	0	0	0	0	0	HLO
BH-62	4658	39	40	63.7	0	0	0	0	0	HLO
BH-62	4659	40	42.5	63.4	0	0	0	0	0	HLO
BH-63	4660	0	2.5	56.24	0	0	0	0	0	Lateritic Ore
BH-63	4661	2.5	4.5	56.72	0	0	0	0	0	Lateritic Ore
BH-63	4662	4.5	6.6	58.88	0	0	0	0	0	Lateritic Ore
BH-63	4663	6.6	9.5	62.95	0	0	0	0	0	HLO
BH-63	4664	9.5	11	62.44	0	0	0	0	0	HLO
BH-63	4665	11	12.5	61.6	0	0	0	0	0	SLO_FO
BH-63	4666	12.5	13	64.48	0	0	0	0	0	SLO_FO
BH-63	4667	13	14.5	65.06	0	0	0	0	0	SLO_FO
BH-63	4668	14.5	15	64.4	0	0	0	0	0	SLO_FO
BH-63	4669	15	16.5	65.06	0	0	0	0	0	SLO_FO
BH-63	4670	16.5	17.5	65.13	0	0	0	0	0	SLO_FO
BH-63	4671	17.5	18	64.76	0	0	0	0	0	SLO_FO
BH-63	4672	18	19.5	62.82	0	0	0	0	0	SLO_FO
BH-63	4673	19.5	21	63.37	0	0	0	0	0	SLO_FO
BH-63	4674	21	22.5	62.04	0	0	0	0	0	SLO_FO
BH-63	4675	22.5	24	63.35	0	0	0	0	0	SLO_FO
BH-63	4676	24	25	63.37	0	0	0	0	0	SLO_FO
BH-63	4677	25	25.5	57.92	0	0	0	0	0	Lateritic Ore
BH-63	4678	25.5	27	58.02	0	0	0	0	0	Lateritic Ore
BH-63	4679	27	30	61.6	0	0	0	0	0	SLO_FO
BH-63	4680	30	32	61.63	0	0	0	0	0	SLO_FO
BH-63	4681	32	33	62.38	0	0	0	0	0	HLO
BH-63	4682	33	34	62.46	0	0	0	0	0	SLO_FO
BH-63	4683	34	36	58.58	0	0	0	0	0	Lateritic Ore
BH-63	4684	36	40	64.22	0	0	0	0	0	SLO_FO
BH-64	4685	0	2	64.23	0	0	0	0	0	HLO
BH-64	4686	2	3.5	61.85	0	0	0	0	0	HLO
BH-64	4687	3.5	4.5	63.53	0	0	0	0	0	HLO
BH-64	4688	4.5	6	61.85	0	0	0	0	0	HLO
BH-64	4689	6	7.5	63.53	0	0	0	0	0	SLO_FO
BH-64	4690	7.5	9	63.25	0	0	0	0	0	HLO
BH-64	4691	9	9.5	62.97	0	0	0	0	0	HLO
BH-64	4692	9.5	10	62.7	0	0	0	0	0	SLO_FO
BH-64	4693	10	11	63.25	0	0	0	0	0	SLO_FO
BH-64	4694	11	15	63.67	0	0	0	0	0	SLO_FO
BH-64	4695	15	16	61.85	0	0	0	0	0	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-67	4741	14.5	15.9	63.75	0	0	0	0	0	SLO_FO
BH-67	4742	15.9	16.3	66.75	0	0	0	0	0	SLO_FO
BH-67	4743	16.3	18.7	65.75	0	0	0	0	0	SLO_FO
BH-67	4744	18.7	19.4	63.94	0	0	0	0	0	SLO_FO
BH-67	4745	19.4	20.7	65.61	0	0	0	0	0	SLO_FO
BH-67	4746	20.7	21	66.47	0	0	0	0	0	SLO_FO
BH-67	4747	21	22.2	66.93	0	0	0	0	0	HLO
BH-69	4748	0	3	52.36	0	0	0	0	0	Laterite
BH-69	4749	3	4	60.32	0	0	0	0	0	HLO
BH-69	4750	4	5	65.76	0	0	0	0	0	HLO
BH-69	4751	5	7	65.62	0	0	0	0	0	HLO
BH-69	4752	7	8	57.95	0	0	0	0	0	Lateritic Ore
BH-69	4753	8	9	58.23	0	0	0	0	0	Lateritic Ore
BH-69	4754	9	11	63.39	0	0	0	0	0	HLO
BH-69	4755	11	12.5	55.29	0	0	0	0	0	Lateritic Ore
BH-69	4756	12.5	14	64.93	0	0	0	0	0	HLO
BH-69	4757	14	16	54.04	0	0	0	0	0	Laterite
BH-69	4758	16	18	53.76	0	0	0	0	0	Laterite
BH-69	4759	18	21	57.53	0	0	0	0	0	Lateritic Ore
BH-69	4760	21	22	61.72	0	0	0	0	0	SLO_FO
BH-69	4761	22	23.5	63.95	0	0	0	0	0	SLO_FO
BH-69	4762	23.5	24.5	66.74	0	0	0	0	0	HLO
BH-69	4763	24.5	26.5	65.62	0	0	0	0	0	SLO_FO
BH-69	4764	26.5	28.5	65.07	0	0	0	0	0	HLO
BH-69	4765	28.5	29.5	63.35	0	0	0	0	0	SLO_FO
BH-69	4766	29.5	30	65.49	0	0	0	0	0	HLO
BH-70	4767	0	2.5	61.25	0	0	0	0	0	SLO_FO
BH-70	4768	2.5	5.5	63.5	0	0	0	0	0	HLO
BH-70	4769	5.5	6.5	65.9	0	0	0	0	0	SLO_FO
BH-70	4770	6.5	7	65.92	0	0	0	0	0	SLO_FO
BH-70	4771	7	9.5	67.44	0	0	0	0	0	HLO
BH-70	4772	9.5	11	66.88	0	0	0	0	0	HLO
BH-70	4773	11	12.5	65.75	0	0	0	0	0	SLO_FO
BH-70	4774	12.5	13.5	66.88	0	0	0	0	0	HLO
BH-70	4775	13.5	15	65.9	0	0	0	0	0	SLO_FO
BH-70	4776	15	15.5	66.88	0	0	0	0	0	HLO
BH-70	4777	15.5	16	66.32	0	0	0	0	0	SLO_FO
BH-70	4778	16	16.5	65.9	0	0	0	0	0	HLO
BH-70	4779	16.5	18.5	65.62	0	0	0	0	0	SLO_FO
BH-70	4780	18.5	20	64.32	0	0	0	0	0	SLO_FO
BH-71	4781	0	0.8	61.44	0	0	0	0	0	SLO_FO
BH-71	4782	0.8	2.5	63.39	0	0	0	0	0	HLO
BH-71	4783	2.5	3.5	63.39	0	0	0	0	0	HLO
BH-71	4784	3.5	5.5	62	0	0	0	0	0	HLO
BH-71	4785	5.5	6.1	63.53	0	0	0	0	0	HLO

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BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-71	4786	6.1	7.5	64.09	0	0	0	0	0	HLO
BH-71	4787	7.5	8.5	64.23	0	0	0	0	0	HLO
BH-71	4788	8.5	10	65.21	0	0	0	0	0	HLO
BH-71	4789	10	11	65.9	0	0	0	0	0	HLO
BH-71	4790	11	12.5	66.46	0	0	0	0	0	HLO
BH-71	4791	12.5	13.5	62.97	0	0	0	0	0	SLO_FO
BH-71	4792	13.5	15.75	66.32	0	0	0	0	0	HLO
BH-71	4793	15.75	16.5	66.32	0	0	0	0	0	HLO
BH-71	4794	16.5	17	66.6	0	0	0	0	0	HLO
BH-71	4795	17	20	66.18	0	0	0	0	0	HLO
BH-74	4796	0	0.5	56.44	0	0	0	0	0	Lateritic Ore
BH-74	4797	0.5	1.5	61.3	0	0	0	0	0	HLO
BH-74	4798	1.5	2	63.81	0	0	0	0	0	HLO
BH-74	4799	2	4	63.39	0	0	0	0	0	HLO
BH-74	4800	4	6.5	64.09	0	0	0	0	0	HLO
BH-74	4801	6.5	7	63.53	0	0	0	0	0	HLO
BH-74	4802	7	7.5	63.39	0	0	0	0	0	HLO
BH-74	4803	7.5	8.5	63.53	0	0	0	0	0	HLO
BH-74	4804	8.5	10	63.31	0	0	0	0	0	HLO
BH-74	4805	10	10.5	63.52	0	0	0	0	0	HLO
BH-74	4806	10.5	11.5	63.11	0	0	0	0	0	HLO
BH-74	4807	11.5	12	64.51	0	0	0	0	0	HLO
BH-74	4808	12	14	63.3	0	0	0	0	0	HLO
BH-74	4809	14	15	64.93	0	0	0	0	0	HLO
BH-74	4810	15	16	61.02	0	0	0	0	0	SLO_FO
BH-74	4811	16	18	60.04	0	0	0	0	0	SLO_FO
BH-74	4812	18	20.5	61.02	0	0	0	0	0	SLO_FO
BH-74	4813	20.5	22	60.46	0	0	0	0	0	SLO_FO
BH-74	4814	22	23	60.74	0	0	0	0	0	SLO_FO
BH-75	4815	0	1	64.93	0	0	0	0	0	HLO
BH-75	4816	1	2	65.21	0	0	0	0	0	HLO
BH-75	4817	2	2.5	64.32	0	0	0	0	0	HLO
BH-75	4818	2.5	4	62.28	0	0	0	0	0	HLO
BH-75	4819	4	5	62.28	0	0	0	0	0	HLO
BH-75	4820	5	7	65	0	0	0	0	0	HLO
BH-75	4821	7	9	64.37	0	0	0	0	0	HLO
BH-75	4822	9	10	63.67	0	0	0	0	0	SLO_FO
BH-75	4823	10	12	61.72	0	0	0	0	0	SLO_FO
BH-75	4824	12	13.25	62.83	0	0	0	0	0	SLO_FO
BH-75	4825	13.25	14	63.11	0	0	0	0	0	SLO_FO
BH-75	4826	14	15	63.95	0	0	0	0	0	HLO
BH-75	4827	15	16.5	64.09	0	0	0	0	0	SLO_FO
BH-75	4828	16.5	18	62.97	0	0	0	0	0	SLO_FO
BH-75	4829	18	19.5	64.87	0	0	0	0	0	HLO
BH-75	4830	19.5	20	64.51	0	0	0	0	0	SLO_FO

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BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-75	4831	20	21.5	62.33	0	0	0	0	0	HLO
BH-75	4832	21.5	22	64.51	0	0	0	0	0	SLO_FO
BH-75	4833	22	24	60.18	0	0	0	0	0	HLO
BH-75	4834	24	25	65.21	0	0	0	0	0	SLO_FO
BH-75	4835	25	26	60.88	0	0	0	0	0	HLO
BH-75	4836	26	27	65.49	0	0	0	0	0	HLO
BH-76	4837	0	1	58.23	0	0	0	0	0	Lateritic Ore
BH-76	4838	1	2	57.25	0	0	0	0	0	Lateritic Ore
BH-76	4839	2	3	61.02	0	0	0	0	0	SLO_FO
BH-76	4840	3	4	61.3	0	0	0	0	0	SLO_FO
BH-76	4841	4	5	60.45	0	0	0	0	0	SLO_FO
BH-76	4842	5	6	60.32	0	0	0	0	0	SLO_FO
BH-76	4843	6	6.5	60.32	0	0	0	0	0	SLO_FO
BH-76	4844	6.5	7.5	63.11	0	0	0	0	0	SLO_FO
BH-76	4845	7.5	8.5	61.3	0	0	0	0	0	SLO_FO
BH-76	4846	8.5	9	60.6	0	0	0	0	0	SLO_FO
BH-76	4847	9	9.7	63.11	0	0	0	0	0	SLO_FO
BH-76	4848	9.7	10.4	62.14	0	0	0	0	0	SLO_FO
BH-76	4849	10.4	12.5	63.53	0	0	0	0	0	SLO_FO
BH-76	4850	12.5	13.5	62.28	0	0	0	0	0	SLO_FO
BH-76	4851	13.5	14.7	62.83	0	0	0	0	0	SLO_FO
BH-76	4852	14.7	16	63.25	0	0	0	0	0	SLO_FO
BH-76	4853	16	17	63.67	0	0	0	0	0	SLO_FO
BH-76	4854	17	17.5	64.37	0	0	0	0	0	SLO_FO
BH-76	4855	17.5	20	64.79	0	0	0	0	0	SLO_FO
BH-76	4856	20	21	60.32	0	0	0	0	0	SLO_FO
BH-76	4857	21	23	65.04	0	0	0	0	0	SLO_FO
BH-76	4858	23	25	64.79	0	0	0	0	0	SLO_FO
BH-76	4859	25	26.1	64.23	0	0	0	0	0	SLO_FO
BH-76	4860	26.1	27	64.79	0	0	0	0	0	SLO_FO
BH-76	4861	27	28	64.65	0	0	0	0	0	SLO_FO
BH-76	4862	28	28.5	64.09	0	0	0	0	0	SLO_FO
BH-76	4863	28.5	29.5	65.62	0	0	0	0	0	HLO
BH-76	4864	29.5	31.5	63.11	0	0	0	0	0	HLO
BH-76	4865	31.5	33	64.51	0	0	0	0	0	HLO
BH-78	4866	0	1.5	62.42	0	0	0	0	0	HLO
BH-78	4867	1.5	4.5	64.93	0	0	0	0	0	HLO
BH-78	4868	4.5	6	61.02	0	0	0	0	0	HLO
BH-78	4869	6	10	66.32	0	0	0	0	0	HLO
BH-78	4870	10	12	62.82	0	0	0	0	0	SLO_FO
BH-78	4871	12	13	62	0	0	0	0	0	SLO_FO
BH-78	4872	13	15	61.44	0	0	0	0	0	SLO_FO
BH-78	4873	15	16.5	62.56	0	0	0	0	0	HLO
BH-78	4874	16.5	18.5	64.93	0	0	0	0	0	HLO
BH-78	4875	18.5	21	64.79	0	0	0	0	0	SLO_FO

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BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
BH-78	4876	21	23	64.37	0	0	0	0	0	HLO
BH-78	4877	23	24	59.06	0	0	0	0	0	SLO_FO
BH-79	4878	0	2	44.24	0	0	0	0	0	Laterite
BH-79	4879	2	3	38.67	0	0	0	0	0	Laterite
BH-79	4880	3	5	51.11	0	0	0	0	0	Laterite
BH-79	4881	5	6.5	50.83	0	0	0	0	0	Laterite
BH-79	4882	6.5	7.5	54.83	0	0	0	0	0	Laterite
BH-79	4883	7.5	8	47.34	0	0	0	0	0	Laterite
BH-79	4884	8	9	63.11	0	0	0	0	0	SLO_FO
BH-79	4885	9	12	51.8	0	0	0	0	0	Laterite
BH-79	4886	12	13	45.8	0	0	0	0	0	Laterite
BH-79	4887	13	14.5	50.83	0	0	0	0	0	Laterite
BH-79	4888	14.5	15.5	55.71	0	0	0	0	0	Lateritic Ore
BH-79	4889	15.5	16	59.9	0	0	0	0	0	Lateritic Ore
BH-79	4890	16	17	55.15	0	0	0	0	0	Lateritic Ore
BH-79	4891	17	18.5	62.83	0	0	0	0	0	HLO
BH-79	4892	18.5	19.5	56.97	0	0	0	0	0	Lateritic Ore
BH-79	4893	19.5	22	63.53	0	0	0	0	0	HLO
BH-79	4894	22	23	62	0	0	0	0	0	HLO
BH-79	4895	23	23.5	67.5	0	0	0	0	0	SLO_FO
BH-79	4896	23.5	24	66.32	0	0	0	0	0	SLO_FO
BH-79	4897	24	25	67.02	0	0	0	0	0	HLO
BH-79	4898	25	27	61.3	0	0	0	0	0	SLO_FO
BH-79	4899	27	28.5	56.69	0	0	0	0	0	Lateritic Ore
BH-79	4900	28.5	30	56.83	0	0	0	0	0	Lateritic Ore
DT-1	4901	2	5	56.5	0	0	0	0	0	Limonitic Ore
DT-1	4902	5	7.5	58.5	0	0	0	0	0	Limonitic Ore
DT-1	4903	7.5	8	60.5	0	0	0	0	0	SLO_FO
DT-1	4904	8	10	50.1	0	0	0	0	0	Laterite
DT-1	4905	10	11	58.1	0	0	0	0	0	Limonitic Ore
DT-1	4906	11	15	58.9	0	0	0	0	0	Limonitic Ore
DT-1	4907	15	20	56.8	0	0	0	0	0	Limonitic Ore
DT-1	4908	20	21	58.4	0	0	0	0	0	Limonitic Ore
DT-1	4909	21	25	60.4	0	0	0	0	0	SLO_FO
DT-1	4910	25	30	62.8	0	0	0	0	0	SLO_FO
DT-1	4911	37	39	63.2	0	0	0	0	0	SLO_FO
DT-1	4912	39	40	63.7	0	0	0	0	0	SLO_FO
DT-1	4913	40	46	63.5	0	0	0	0	0	SLO_FO
DT-1	4914	46	47	65	0	0	0	0	0	BD_PO
DT-1	4915	47	50	66.2	0	0	0	0	0	BD_PO
DT-1	4916	50	52	65	0	0	0	0	0	BD_PO
DT-1	4917	52	55	67.9	0	0	0	0	0	BD_PO
DT-1	4918	55	57.5	66.4	0	0	0	0	0	BD_PO
DT-1	4919	57.5	60	63.4	0	0	0	0	0	BD_PO
DT-1	4920	60	63	65	0	0	0	0	0	BD_PO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DT-1	40198	63	70	11.25	0	0	0	0	0	Feruginous Shale
DT-2	4921	0	2	43.8	0	0	0	0	0	Soil
DT-2	4922	2	5	43.6	0	0	0	0	0	Soil
DT-2	4923	5	10	55.3	0	0	0	0	0	Limonitic Ore
DT-2	4924	10	12	60.4	0	0	0	0	0	SLO_FO
DT-2	4925	12	13	62.2	0	0	0	0	0	SLO_FO
DT-2	4926	13	15	59.6	0	0	0	0	0	Limonitic Ore
DT-2	4927	15	16	55.8	0	0	0	0	0	HLO
DT-2	4928	16	17.5	60.4	0	0	0	0	0	HLO
DT-2	4929	17.5	18	67.5	0	0	0	0	0	SLO_FO
DT-2	4930	18	20	64	0	0	0	0	0	SLO_FO
DT-2	4931	20	21	56.5	0	0	0	0	0	Lateritic Ore
DT-2	4932	21	22	57.1	0	0	0	0	0	Lateritic Ore
DT-2	4933	22	25	60.1	0	0	0	0	0	HLO
DT-2	4934	25	30	62.4	0	0	0	0	0	SLO_FO
DT-2	4935	30	35	63.2	0	0	0	0	0	SLO_FO
DT-2	4936	35	40	64.5	0	0	0	0	0	SLO_FO
DT-2	4937	40	45	63.8	0	0	0	0	0	SLO_FO
DT-2	4938	45	50	65.5	0	0	0	0	0	SLO_FO
DT-2	4939	50	55	63.8	0	0	0	0	0	SLO_FO
DT-2	4940	55	60	62.7	0	0	0	0	0	SLO_FO
DT-2A	4941	0	2	40.1	0	0	0	0	0	Limonite
DT-2A	4942	2	4	43.5	0	0	0	0	0	Limonite
DT-2A	4943	4	6	44.6	0	0	0	0	0	Limonite
DT-2A	4944	6	7	54	0	0	0	0	0	Limonite
DT-2A	4945	7	10	55	0	0	0	0	0	Limonitic Ore
DT-2A	4946	10	15	61.5	0	0	0	0	0	SLO_FO
DT-2A	4947	15	17	59.5	0	0	0	0	0	SLO_FO
DT-2A	4948	17	20	63	0	0	0	0	0	SLO_FO
DT-2A	4949	20	24	63.5	0	0	0	0	0	SLO_FO
DT-2A	4950	24	26	63	0	0	0	0	0	SLO_FO
DT-2A	4951	26	30	50.1	0	0	0	0	0	Limonite
DT-2A	4952	30	33	62.5	0	0	0	0	0	HLO
DT-2A	4953	33	35	54	0	0	0	0	0	SLO_FO
DT-2A	4954	35	40	63.2	0	0	0	0	0	HLO
DT-2A	4955	40	45	63	0	0	0	0	0	HLO
DT-2A	4956	45	48	64.1	0	0	0	0	0	SLO_FO
DT-2A	4957	48	50	63.9	0	0	0	0	0	HLO
DT-2A	4958	50	54	60.7	0	0	0	0	0	SLO_FO
DT-2A	4959	54	59	63.6	0	0	0	0	0	HLO
DT-2A	4960	59	62	62.9	0	0	0	0	0	SLO_FO
DT-2A	4961	62	67	60.7	0	0	0	0	0	HLO
DT-2A	4962	67	69	61.7	0	0	0	0	0	SLO_FO
DT-2A	4963	69	73	65	0	0	0	0	0	SLO_FO
DT-2A	4964	73	75	62	0	0	0	0	0	HLO

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BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DT-2A	4965	75	80	60	0	0	0	0	0	SLO_FO
DT-2A	4966	80	83	60	0	0	0	0	0	SLO_FO
DT-3	4967	0	1.2	50	0	0	0	0	0	Limonite
DT-3	4968	1.2	2.8	53.3	0	0	0	0	0	Limonite
DT-3	4969	2.8	6	60.1	0	0	0	0	0	SLO_FO
DT-3	4970	6	8	66	0	0	0	0	0	SLO_FO
DT-3	4971	8	9	67.5	0	0	0	0	0	SLO_FO
DT-3	4972	9	12	64.1	0	0	0	0	0	BD_PO
DT-3	4973	12	14.2	64.6	0	0	0	0	0	SLO_FO
DT-3	4974	14.2	17.2	53.4	0	0	0	0	0	SLO_FO
DT-3	4975	17.2	20	58.8	0	0	0	0	0	SLO_FO
DT-3	4976	20	21.6	67.7	0	0	0	0	0	SLO_FO
DT-3	4977	21.6	23.6	64.6	0	0	0	0	0	SLO_FO
DT-3	4978	23.6	24.4	64.5	0	0	0	0	0	SLO_FO
DT-3	4979	24.4	27	64.5	0	0	0	0	0	SLO_FO
DT-3	4980	27	28.6	66	0	0	0	0	0	SLO_FO
DT-3	4981	28.6	31.4	63.5	0	0	0	0	0	SLO_FO
DT-3	4982	31.4	33.2	68.6	0	0	0	0	0	SLO_FO
DT-3	4983	33.2	37.6	49.4	0	0	0	0	0	SLO_FO
DT-3	4984	37.6	39.4	60	0	0	0	0	0	SLO_FO
DT-3	4985	39.4	40.6	60.1	0	0	0	0	0	SLO_FO
DT-3	4986	40.6	42.4	60.9	0	0	0	0	0	SLO_FO
DT-3	4987	42.4	45	52.4	0	0	0	0	0	BHJ_BHQ_BMQ
DT-3	4988	45	48	56.3	0	0	0	0	0	BD_PO
DT-3	4989	48	51	66.8	0	0	0	0	0	BD_PO
DT-3	4990	51	54	42.8	0	0	0	0	0	BD_PO
DT-3	4991	54	57	61.8	0	0	0	0	0	BD_PO
DT-3	4992	57	60	60.8	0	0	0	0	0	BD_PO
DT-4	4993	0	2	63.4	0	0	0	0	0	SLO_FO
DT-4	4994	2	3	63.1	0	0	0	0	0	SLO_FO
DT-4	4995	3	8	63.7	0	0	0	0	0	SLO_FO
DT-4	4996	8	10.2	60.9	0	0	0	0	0	SLO_FO
DT-4	4997	10.2	11.6	63.6	0	0	0	0	0	SLO_FO
DT-4	4998	11.6	14	61.6	0	0	0	0	0	SLO_FO
DT-4	4999	14	16.4	61.2	0	0	0	0	0	SLO_FO
DT-4	5000	16.4	18	58.6	0	0	0	0	0	Limonitic Ore
DT-4	5001	18	20.8	60.8	0	0	0	0	0	SLO_FO
DT-4	5002	20.8	22.2	62	0	0	0	0	0	SLO_FO
DT-4	5003	22.2	24	63.4	0	0	0	0	0	SLO_FO
DT-4	5004	24	27	64.9	0	0	0	0	0	SLO_FO
DT-4	5005	27	30	65.6	0	0	0	0	0	SLO_FO
DT-4	5006	30	32.4	65.3	0	0	0	0	0	SLO_FO
DT-4	5007	32.4	35	65.1	0	0	0	0	0	SLO_FO
DT-4	5008	35	37	66.1	0	0	0	0	0	SLO_FO
DT-4	5009	37	40	65.8	0	0	0	0	0	BD_PO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DT-4	5010	40	43	67.5	0	0	0	0	0	BD_PO
DT-4	5011	43	45	66	0	0	0	0	0	SLO_FO
DT-4	5012	45	48	64	0	0	0	0	0	SLO_FO
DT-4	5013	48	51	63.5	0	0	0	0	0	SLO_FO
DT-4	5014	51	54	61.8	0	0	0	0	0	BD_PO
DT-4	5015	54	57	59.8	0	0	0	0	0	BD_PO
DT-4	5016	57	60	63.4	0	0	0	0	0	SLO_FO
DT-4	5017	60	63	62.6	0	0	0	0	0	SLO_FO
DT-4	5018	63	66	64.5	0	0	0	0	0	SLO_FO
DT-4	5019	66	69	65.4	0	0	0	0	0	SLO_FO
DT-4	5020	69	72	65.5	0	0	0	0	0	BD_PO
DT-4	5021	72	74.2	62.4	0	0	0	0	0	BD_PO
DT-4	5022	74.2	76.4	59.6	0	0	0	0	0	Limonitic Ore
DT-4	5023	76.4	78	57.7	0	0	0	0	0	Limonitic Ore
DT-4	5024	78	81	61.6	0	0	0	0	0	SLO_FO
DT-4	5025	81	84	61.6	0	0	0	0	0	HLO
DT-4	5026	84	87	61.4	0	0	0	0	0	HLO
DT-4	5027	87	90	61.2	0	0	0	0	0	HLO
DT-5	5028	1	2.4	42	0	0	0	0	0	Limonite
DT-5	5029	2.4	3.2	59.5	0	0	0	0	0	Limonitic Ore
DT-5	5030	3.2	4	54.2	0	0	0	0	0	Limonite
DT-5	5031	4	5.4	58.2	0	0	0	0	0	Limonitic Ore
DT-5	5032	5.4	6.6	52.8	0	0	0	0	0	Limonite
DT-5	5033	6.6	7.4	60	0	0	0	0	0	SLO_FO
DT-5	5034	7.4	9	60.5	0	0	0	0	0	SLO_FO
DT-5	5035	9	10.4	51.9	0	0	0	0	0	SLO_FO
DT-5	5036	10.4	13	47.6	0	0	0	0	0	SLO_FO
DT-5	5037	13	14.6	47.4	0	0	0	0	0	SLO_FO
DT-5	5038	14.6	15.6	57.6	0	0	0	0	0	SLO_FO
DT-5	5039	15.6	18	52.4	0	0	0	0	0	SLO_FO
DT-5	5040	18	20.2	62.4	0	0	0	0	0	SLO_FO
DT-5	5041	20.2	22	48.3	0	0	0	0	0	SLO_FO
DT-5	5042	22	24	61	0	0	0	0	0	SLO_FO
DT-5	5043	24	27	56	0	0	0	0	0	SLO_FO
DT-5	5044	27	30	59.3	0	0	0	0	0	SLO_FO
DT-5	5045	30	33	57.6	0	0	0	0	0	SLO_FO
DT-5	5046	33	34.4	63	0	0	0	0	0	SLO_FO
DT-5	5047	34.4	36	56.1	0	0	0	0	0	SLO_FO
DT-5	5048	36	39	55.2	0	0	0	0	0	SLO_FO
DT-5	5049	39	42	56.2	0	0	0	0	0	SLO_FO
DT-5	5050	42	43.4	60.6	0	0	0	0	0	SLO_FO
DT-5	5051	43.4	46	64	0	0	0	0	0	BD_PO
DT-5	5052	46	47	60.6	0	0	0	0	0	BD_PO
DT-5	5053	47	49.4	60.9	0	0	0	0	0	BD_PO
DT-5	5054	49.4	51	64.9	0	0	0	0	0	BD_PO

BKF - Borehole Assay & Litho Data

Manager (Geo-Env)
 District In-charge, District
 G. S. S. S. S.

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DT-5	5055	51	52	64.7	0	0	0	0	0	BD_PO
DT-5	5056	52	54	65.1	0	0	0	0	0	BD_PO
DT-5	5057	54	55	65	0	0	0	0	0	BD_PO
DT-5	5058	55	56	65	0	0	0	0	0	BD_PO
DT-5	5059	56	58	64.4	0	0	0	0	0	BD_PO
DT-5	5060	58	60	64.4	0	0	0	0	0	BD_PO
DT-6	5061	0	1	51.5	0	0	0	0	0	Limonite
DT-6	5062	1	2	52.9	0	0	0	0	0	Limonite
DT-6	5063	2	3	54.6	0	0	0	0	0	Limonite
DT-6	5064	3	4.4	48.7	0	0	0	0	0	Limonite
DT-6	5065	4.4	5.4	49.1	0	0	0	0	0	Limonite
DT-6	5066	5.4	6	52.6	0	0	0	0	0	Limonite
DT-6	5067	6	6.4	63.7	0	0	0	0	0	SLO_FO
DT-6	5068	6.4	9.4	54.9	0	0	0	0	0	SLO_FO
DT-6	5069	9.4	11	33.2	0	0	0	0	0	SLO_FO
DT-6	5070	11	13.6	55.5	0	0	0	0	0	SLO_FO
DT-6	5071	13.6	15.4	55.2	0	0	0	0	0	SLO_FO
DT-6	5072	15.4	16	57.2	0	0	0	0	0	SLO_FO
DT-6	5073	16	18	58.1	0	0	0	0	0	SLO_FO
DT-6	5074	18	20	59.2	0	0	0	0	0	HLO
DT-6	5075	20	23	59.4	0	0	0	0	0	SLO_FO
DT-6	5076	23	24.4	62.3	0	0	0	0	0	SLO_FO
DT-6	5077	24.4	25.2	63	0	0	0	0	0	SLO_FO
DT-6	5078	25.2	26	64.9	0	0	0	0	0	HLO
DT-6	5079	26	27.8	61.7	0	0	0	0	0	HLO
DT-6	5080	27.8	29.2	61.2	0	0	0	0	0	SLO_FO
DT-6	5081	29.2	30	63.3	0	0	0	0	0	SLO_FO
DT-6	5082	30	32.2	62.6	0	0	0	0	0	SLO_FO
DT-6	5083	32.2	33.2	69.7	0	0	0	0	0	SLO_FO
DT-6	5084	33.2	34	62	0	0	0	0	0	SLO_FO
DT-6	5085	34.4	35.4	62.8	0	0	0	0	0	SLO_FO
DT-6	5086	35.4	36.8	66	0	0	0	0	0	SLO_FO
DT-6	5087	36.8	38.4	63.6	0	0	0	0	0	SLO_FO
DT-6	5088	38.4	40.8	63.5	0	0	0	0	0	SLO_FO
DT-6	5089	40.8	43	54.6	0	0	0	0	0	SLO_FO
DT-6	5090	43	44.4	64.8	0	0	0	0	0	HLO
DT-6	5091	44.4	46	64.2	0	0	0	0	0	HLO
DT-6	5092	46	46.8	64	0	0	0	0	0	SLO_FO
DT-6	5093	46.8	48.4	63.2	0	0	0	0	0	SLO_FO
DT-6	5094	48.4	50.4	63.2	0	0	0	0	0	SLO_FO
DT-6	5095	50.4	51	62.2	0	0	0	0	0	SLO_FO
DT-6	5096	51	52.2	63.2	0	0	0	0	0	SLO_FO
DT-6	5097	52.2	55.4	59.7	0	0	0	0	0	SLO_FO
DT-6	5098	55.4	58	60	0	0	0	0	0	SLO_FO
DT-6	5099	58	60	58.2	0	0	0	0	0	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DT-7	5100	0	0.6	44.5	0	0	0	0	0	Limonite
DT-7	5101	0.6	1.2	57.8	0	0	0	0	0	Limonitic Ore
DT-7	5102	1.2	3	55.7	0	0	0	0	0	Limonitic Ore
DT-7	5103	3	4	52.9	0	0	0	0	0	Limonite
DT-7	5104	4	6	46.3	0	0	0	0	0	SLO_FO
DT-7	5105	6	7	61.3	0	0	0	0	0	BD_PO
DT-7	5106	7	9	61.7	0	0	0	0	0	BD_PO
DT-7	5107	9	12	65.7	0	0	0	0	0	BD_PO
DT-7	5108	12	15	64.4	0	0	0	0	0	BD_PO
DT-7	5109	15	18	65.2	0	0	0	0	0	BD_PO
DT-7	5110	18	21	64.7	0	0	0	0	0	BD_PO
DT-7	5111	21	24	62.3	0	0	0	0	0	BD_PO
DT-7	5112	24	27	63.8	0	0	0	0	0	SLO_FO
DT-7	5113	27	30	66.9	0	0	0	0	0	BD_PO
DT-7	5114	30	31.4	67.5	0	0	0	0	0	BD_PO
DT-7	5115	31.4	33	66.4	0	0	0	0	0	BD_PO
DT-8	5116	0	2	59.7	0	0	0	0	0	Limonitic Ore
DT-8	5117	2	4.8	58.2	0	0	0	0	0	Limonitic Ore
DT-8	5118	4.8	6.2	61.7	0	0	0	0	0	SLO_FO
DT-8	5119	6.2	8	61.4	0	0	0	0	0	SLO_FO
DT-8	5120	8	11.6	60.2	0	0	0	0	0	SLO_FO
DT-8	5121	11.6	13.8	60.9	0	0	0	0	0	SLO_FO
DT-8	5122	13.8	16.6	62.7	0	0	0	0	0	SLO_FO
DT-8	5123	16.6	19	65.2	0	0	0	0	0	SLO_FO
DT-8	5124	19	20	66	0	0	0	0	0	BD_PO
DT-8	5125	20	22.8	64.1	0	0	0	0	0	BD_PO
DT-8	5126	22.8	25	64.9	0	0	0	0	0	BD_PO
DT-8	5127	25	27	61.5	0	0	0	0	0	BD_PO
DT-8	5128	27	30	61.9	0	0	0	0	0	BD_PO
DT-8	5129	30	34	60	0	0	0	0	0	BD_PO
DT-8	5130	34	35.2	58	0	0	0	0	0	BD_PO
DT-8	5131	35.2	38.2	63.2	0	0	0	0	0	BD_PO
DT-8	5132	38.2	39.4	63.2	0	0	0	0	0	BD_PO
DT-8	5133	39.4	42	66.3	0	0	0	0	0	BD_PO
DT-8	5134	42	46	65.7	0	0	0	0	0	BD_PO
DT-8	5135	46	49	65	0	0	0	0	0	BD_PO
DT-8	5136	49	52	64.9	0	0	0	0	0	BD_PO
DT-9	5137	0	5	54.6	0	0	0	0	0	Limonite
DT-9	5138	5	10	58.3	0	0	0	0	0	Limonitic Ore
DT-9	5139	10	13.2	48.4	0	0	0	0	0	Limonite
DT-9	5140	13.2	14.2	47.8	0	0	0	0	0	Limonite
DT-9	5141	14.2	17	48.8	0	0	0	0	0	Limonite
DT-9	5142	17	18.6	49.1	0	0	0	0	0	Limonite
DT-9	5143	18.6	19.4	49.5	0	0	0	0	0	Limonite
DT-9	5144	19.4	21	53.6	0	0	0	0	0	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DT-9	5145	21	22.4	53.1	0	0	0	0	0	SLO_FO
DT-9	5146	22.4	25.8	59.5	0	0	0	0	0	BD_PO
DT-9	5147	25.8	26.8	61.9	0	0	0	0	0	BD_PO
DT-9	5148	26.8	29.2	56.1	0	0	0	0	0	BD_PO
DT-9	5149	29.2	31.95	59	0	0	0	0	0	BD_PO
DT-10	5150	0	3	50.7	0	0	0	0	0	Limonite
DT-10	5151	3	6	52.7	0	0	0	0	0	Limonite
DT-10	5152	6	8	58.6	0	0	0	0	0	Limonitic Ore
DT-10	5153	8	9	58.1	0	0	0	0	0	Limonitic Ore
DT-10	5154	9	12	56.1	0	0	0	0	0	Limonitic Ore
DT-10	5155	12	14	56.7	0	0	0	0	0	Limonitic Ore
DT-10	5156	14	19.6	54	0	0	0	0	0	Limonite
DT-10	5157	19.6	22.8	54	0	0	0	0	0	Limonite
DT-10	5158	22.8	24.4	51	0	0	0	0	0	Limonite
DT-10	5159	24.4	27.2	49.3	0	0	0	0	0	BD_PO
DT-10	5160	27.2	30.4	50	0	0	0	0	0	BD_PO
DT-10	5161	30.4	36	60.8	0	0	0	0	0	BD_PO
DT-10	5162	36	38.2	60.2	0	0	0	0	0	BD_PO
DT-10	5163	38.2	44.4	56.5	0	0	0	0	0	BD_PO
DT-10	5164	44.4	47.2	57.4	0	0	0	0	0	BD_PO
DT-10	5165	47.2	55	58.8	0	0	0	0	0	BD_PO
DT-10	5166	55	58	56.1	0	0	0	0	0	BD_PO
DT-10	5167	58	61	56.2	0	0	0	0	0	BD_PO
DTR/32	5168	0	1	33.78	0	0	0	0	0	Laterite
DTR/32	5169	1	2	41.04	0	0	0	0	0	Laterite
DTR/32	5170	2	3	41.78	0	0	0	0	0	Laterite
DTR/32	5171	3	4	39.37	0	0	0	0	0	Laterite
DTR/32	5172	4	5	47.89	0	0	0	0	0	Limonite
DTR/32	5173	5	6	51.24	0	0	0	0	0	Limonite
DTR/32	5174	6	7	53.62	0	0	0	0	0	Limonite
DTR/32	5175	7	8	45.8	0	0	0	0	0	Limonite
DTR/32	5176	8	9	46.49	0	0	0	0	0	Limonite
DTR/32	5177	9	10	39.65	0	0	0	0	0	Limonite
DTR/32	5178	10	11	54.73	0	0	0	0	0	Limonite
DTR/32	5179	11	12	42.03	0	0	0	0	0	Limonite
DTR/32	5180	12	13	40.9	0	0	0	0	0	Limonite
DTR/32	5181	13	14	55.71	0	0	0	0	0	Limonitic Ore
DTR/32	5182	14	15	57.28	0	0	0	0	0	Limonitic Ore
DTR/32	5183	15	16	42.59	0	0	0	0	0	Limonite
DTR/32	5184	16	17	57.89	0	0	0	0	0	Limonitic Ore
DTR/32	5185	17	18	48.31	0	0	0	0	0	Limonite
DTR/32	5186	18	19	55.85	0	0	0	0	0	Limonitic Ore
DTR/32	5187	19	20	54.45	0	0	0	0	0	Limonite
DTR/32	5188	20	21	56.55	0	0	0	0	0	Limonitic Ore
DTR/32	5189	21	22	43.15	0	0	0	0	0	Limonite

3

BAH

0.000000

0.000000

0.000000

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/32	5190	22	23	52.36	0	0	0	0	0	Limonite
DTR/32	5191	23	24	38.95	0	0	0	0	0	Limonite
DTR/32	5192	24	25	39.51	0	0	0	0	0	Limonite
DTR/32	5193	25	26	55.85	0	0	0	0	0	Limonitic Ore
DTR/32	5194	26	27	38.53	0	0	0	0	0	Limonite
DTR/32	5195	27	28	50.4	0	0	0	0	0	Feruginous Shale
DTR/32	5196	28	29	58.22	0	0	0	0	0	Limonitic Ore
DTR/32	5197	29	30	57.94	0	0	0	0	0	Limonitic Ore
DTR/32	5198	30	31	57.24	0	0	0	0	0	Limonitic Ore
DTR/32	5199	31	32	59.39	0	0	0	0	0	SLO_FO
DTR/32	5200	32	33	55.29	0	0	0	0	0	SLO_FO
DTR/32	5201	33	34	43.15	0	0	0	0	0	Feruginous Shale
DTR/32	5202	34	35	38.25	0	0	0	0	0	Feruginous Shale
DTR/32	5203	35	36	39.37	0	0	0	0	0	Feruginous Shale
DTR/32	5204	36	37	9.49	0	0	0	0	0	Feruginous Shale
DTR/32	5205	37	38	24.43	0	0	0	0	0	Feruginous Shale
DTR/32	5206	38	39	15.77	0	0	0	0	0	Feruginous Shale
DTR/32	5207	39	40	15.77	0	0	0	0	0	Feruginous Shale
DTR/32	5208	40	41	15.77	0	0	0	0	0	Feruginous Shale
DTR/32	5209	41	42	10.47	0	0	0	0	0	Feruginous Shale
DTR/32	5210	42	43	10.47	0	0	0	0	0	Feruginous Shale
DTR/32	5211	43	44	10.47	0	0	0	0	0	Feruginous Shale
DTR/32	5212	44	45	10.47	0	0	0	0	0	Feruginous Shale
DTR/32	5213	45	46	31.27	0	0	0	0	0	Feruginous Shale
DTR/32	5214	46	48	57.94	0	0	0	0	0	Lateritic Ore
DTR/32	5215	48	49	60	0	0	0	0	0	SLO_FO
DTR/32	5216	49	50	60.74	0	0	0	0	0	SLO_FO
DTR/32	5217	50	51	60.88	0	0	0	0	0	SLO_FO
DTR/32	5218	51	52	61.43	0	0	0	0	0	SLO_FO
DTR/32	5219	52	53	49.39	0	0	0	0	0	Laterite
DTR/32	5220	53	54	25.13	0	0	0	0	0	Laterite
DTR/32	5221	54	55	31.71	0	0	0	0	0	Laterite
DTR/32	5222	55	56	48.17	0	0	0	0	0	Laterite
DTR/32	5223	56	57	19.96	0	0	0	0	0	Limonite
DTR/32	5224	57	58	17.45	0	0	0	0	0	Limonite
DTR/32	5225	58	59	20.66	0	0	0	0	0	Limonite
DTR/32	5226	59	60	21.78	0	0	0	0	0	Limonite

Borehole Assay & Litho Data

BKP-2
 Manager - Mr. [Name]
 District In-charge Engineer
 [Location]

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/32	5227	60	61	62	0	0	0	0	0	HLO
DTR/32	5228	61	62	63.39	0	0	0	0	0	HLO
DTR/32	5229	62	63	62.83	0	0	0	0	0	HLO
DTR/32	5230	63	64	60.32	0	0	0	0	0	HLO
DTR/32	5231	64	65	60.32	0	0	0	0	0	HLO
DTR/32	5232	65	66	60.18	0	0	0	0	0	HLO
DTR/32	5233	66	67	61.57	0	0	0	0	0	HLO
DTR/32	5234	67	68	59.2	0	0	0	0	0	HLO
DTR/32	5235	68	69	58.64	0	0	0	0	0	HLO
DTR/32	5236	69	70	58.08	0	0	0	0	0	HLO
DTR/33	5237	0	1	39.65	0	0	0	0	0	Laterite
DTR/33	5238	1	2	52.08	0	0	0	0	0	Laterite
DTR/33	5239	2	3	40.48	0	0	0	0	0	Laterite
DTR/33	5240	3	4	53.34	0	0	0	0	0	Laterite
DTR/33	5241	4	5	51.66	0	0	0	0	0	Laterite
DTR/33	5242	5	6	34.62	0	0	0	0	0	Laterite
DTR/33	5243	6	7	17.17	0	0	0	0	0	Laterite
DTR/33	5244	7	8	45.52	0	0	0	0	0	Laterite
DTR/33	5245	8	9	41.46	0	0	0	0	0	Laterite
DTR/33	5246	9	10	57.38	0	0	0	0	0	Lateritic Ore
DTR/33	5247	10	11	39.79	0	0	0	0	0	Limonite
DTR/33	5248	11	12	11.16	0	0	0	0	0	Feruginous Shale
DTR/33	5249	12	13	11.72	0	0	0	0	0	Feruginous Shale
DTR/33	5250	13	14	15.35	0	0	0	0	0	Feruginous Shale
DTR/33	5251	14	15	22.33	0	0	0	0	0	Feruginous Shale
DTR/33	5252	15	16	25.13	0	0	0	0	0	Feruginous Shale
DTR/33	5253	16	17	33.08	0	0	0	0	0	Feruginous Shale
DTR/33	5254	17	18	47.61	0	0	0	0	0	Feruginous Shale
DTR/33	5255	18	19	31.83	0	0	0	0	0	Feruginous Shale
DTR/33	5256	19	20	17.03	0	0	0	0	0	Feruginous Shale
DTR/33	5257	20	21	15.21	0	0	0	0	0	Feruginous Shale
DTR/33	5258	21	22.1	15.49	0	0	0	0	0	Feruginous Shale
DTR/33	5259	22.1	22.5	27.5	0	0	0	0	0	Feruginous Shale
DTR/33	5260	22.5	25.5	14.1	0	0	0	0	0	Limonite
DTR/33	5261	25.5	27.5	60.46	0	0	0	0	0	HLO
DTR/33	5262	27.5	28.6	18.29	0	0	0	0	0	Feruginous Shale
DTR/33	5263	28.6	29.2	20.8	0	0	0	0	0	Feruginous Shale

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/33	5264	29.2	31	29.74	0	0	0	0	0	Feruginous Shale
DTR/33	5265	31	32	30.72	0	0	0	0	0	Feruginous Shale
DTR/33	5266	32	33.2	17.87	0	0	0	0	0	Feruginous Shale
DTR/33	5267	33.2	33.8	34.21	0	0	0	0	0	Feruginous Shale
DTR/33	5268	33.8	34.8	30.72	0	0	0	0	0	Feruginous Shale
DTR/33	5269	34.8	35.8	32.67	0	0	0	0	0	Feruginous Shale
DTR/33	5270	35.8	36.8	21.08	0	0	0	0	0	Feruginous Shale
DTR/33	5271	36.8	37.8	28.2	0	0	0	0	0	Feruginous Shale
DTR/33	5272	37.8	38.8	24.71	0	0	0	0	0	Feruginous Shale
DTR/33	5273	38.8	39.8	28.62	0	0	0	0	0	Feruginous Shale
DTR/33	5274	39.8	40.8	8.79	0	0	0	0	0	Feruginous Shale
DTR/33	5275	40.8	41.8	24.71	0	0	0	0	0	Feruginous Shale
DTR/33	5276	41.8	42.8	12.14	0	0	0	0	0	Feruginous Shale
DTR/33	5277	42.8	44	26.24	0	0	0	0	0	Feruginous Shale
DTR/33	5278	44	45	24.57	0	0	0	0	0	Feruginous Shale
DTR/33	5279	45	46	4.89	0	0	0	0	0	Feruginous Shale
DTR/33	5280	46	47	6	0	0	0	0	0	Feruginous Shale
DTR/33	5281	47	48	15.08	0	0	0	0	0	Feruginous Shale
DTR/33	5282	48	49	41.05	0	0	0	0	0	Feruginous Shale
DTR/33	5283	49	50	38.12	0	0	0	0	0	Feruginous Shale
DTR/33	5284	50	51	33.65	0	0	0	0	0	Feruginous Shale
DTR/33	5285	51	52	32.95	0	0	0	0	0	Feruginous Shale
DTR/33	5286	52	53	58.78	0	0	0	0	0	HLO
DTR/33	5287	53	54	55.43	0	0	0	0	0	HLO
DTR/33	5288	54	55	65.2	0	0	0	0	0	HLO
DTR/33	5289	55	56	63.67	0	0	0	0	0	HLO
DTR/33	5290	56	57	64.64	0	0	0	0	0	HLO
DTR/33	5291	57	58	45.66	0	0	0	0	0	Feruginous Shale
DTR/33	5292	58	59	27.09	0	0	0	0	0	Feruginous Shale
DTR/33	5293	59	60	45.1	0	0	0	0	0	Feruginous Shale

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/33	5294	60	61	44.68	0	0	0	0	0	Feruginous Shale
DTR/33	5295	61	62	37	0	0	0	0	0	Feruginous Shale
DTR/33	5296	62	63	34.2	0	0	0	0	0	Feruginous Shale
DTR/33	5297	63	64	34.91	0	0	0	0	0	Feruginous Shale
DTR/33	5298	64	65	34.77	0	0	0	0	0	Feruginous Shale
DTR/33	5299	65	66	30.71	0	0	0	0	0	Feruginous Shale
DTR/33	5300	66	67	34.63	0	0	0	0	0	Feruginous Shale
DTR/33	5301	67	67.7	28.9	0	0	0	0	0	Feruginous Shale
DTR/33	5302	67.7	68.8	61.16	0	0	0	0	0	HLO
DTR/33	5303	68.8	69.8	57.11	0	0	0	0	0	HLO
DTR/33	5304	69.8	70.8	39.79	0	0	0	0	0	Feruginous Shale
DTR/33	5305	70.8	72	44.25	0	0	0	0	0	Feruginous Shale
DTR/33	5306	72	72.9	41.18	0	0	0	0	0	Feruginous Shale
DTR/33	5307	72.9	74.5	62.83	0	0	0	0	0	SLO_FO
DTR/33	5308	74.5	75.5	30.29	0	0	0	0	0	Feruginous Shale
DTR/33	5309	75.5	76.5	25.69	0	0	0	0	0	Feruginous Shale
DTR/33	5310	76.5	77.5	39.93	0	0	0	0	0	Feruginous Shale
DTR/33	5311	77.5	78.5	28.62	0	0	0	0	0	Feruginous Shale
DTR/33	5312	78.5	79.5	27.08	0	0	0	0	0	Feruginous Shale
DTR/33	5313	79.5	80.5	29.45	0	0	0	0	0	Feruginous Shale
DTR/33	5314	80.5	82	28.48	0	0	0	0	0	Feruginous Shale
DTR/33	5315	82	83	26.8	0	0	0	0	0	Feruginous Shale
DTR/33	5316	83	84	65.62	0	0	0	0	0	HLO
DTR/35	5342	0	1	51.66	0	0	0	0	0	Laterite
DTR/35	5343	1	2	52.64	0	0	0	0	0	Laterite
DTR/35	5344	2	3	53.9	0	0	0	0	0	Laterite
DTR/35	5345	3	4	56.55	0	0	0	0	0	Lateritic Ore
DTR/35	5346	4	5	56.27	0	0	0	0	0	Lateritic Ore
DTR/35	5347	5	6	57.38	0	0	0	0	0	SLO_FO
DTR/35	5348	6	7	58.5	0	0	0	0	0	SLO_FO
DTR/35	5349	7	8	58.22	0	0	0	0	0	SLO_FO
DTR/35	5350	8	9	57.52	0	0	0	0	0	SLO_FO
DTR/35	5351	9	10	56.55	0	0	0	0	0	SLO_FO
DTR/35	5352	10	11	56.55	0	0	0	0	0	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/35	5353	11	12	56.13	0	0	0	0	0	SLO_FO
DTR/35	5354	12	13	57.52	0	0	0	0	0	SLO_FO
DTR/35	5355	13	14	57.94	0	0	0	0	0	SLO_FO
DTR/35	5356	14	15	58.08	0	0	0	0	0	SLO_FO
DTR/35	5357	15	16	57.8	0	0	0	0	0	SLO_FO
DTR/35	5358	16	17	57.38	0	0	0	0	0	SLO_FO
DTR/35	5359	17	18	48.45	0	0	0	0	0	SLO_FO
DTR/35	5360	18	19	58.5	0	0	0	0	0	SLO_FO
DTR/35	5361	19	20	59.76	0	0	0	0	0	SLO_FO
DTR/35	5362	20	21	58.36	0	0	0	0	0	SLO_FO
DTR/35	5363	21	22	25.96	0	0	0	0	0	Feruginous Shale
DTR/35	5364	22	23	57.94	0	0	0	0	0	SLO_FO
DTR/35	5365	23	24	58.78	0	0	0	0	0	SLO_FO
DTR/35	5366	24	25	59.34	0	0	0	0	0	SLO_FO
DTR/35	5367	25	26	54.32	0	0	0	0	0	SLO_FO
DTR/35	5368	26	27	55.85	0	0	0	0	0	SLO_FO
DTR/35	5369	27	28	58.64	0	0	0	0	0	SLO_FO
DTR/35	5370	28	29	57.66	0	0	0	0	0	SLO_FO
DTR/35	5371	29	30	36.99	0	0	0	0	0	Feruginous Shale
DTR/35	5372	30	31	37.83	0	0	0	0	0	Feruginous Shale
DTR/35	5373	31	32	39.79	0	0	0	0	0	Feruginous Shale
DTR/35	5374	32	33	42.17	0	0	0	0	0	Feruginous Shale
DTR/35	5375	33	34	41.89	0	0	0	0	0	Feruginous Shale
DTR/35	5376	34	35	51.24	0	0	0	0	0	Feruginous Shale
DTR/35	5377	35	36	40.76	0	0	0	0	0	Feruginous Shale
DTR/35	5378	36	37	25.96	0	0	0	0	0	Feruginous Shale
DTR/35	5379	37	38	32.67	0	0	0	0	0	Feruginous Shale
DTR/35	5380	38	39	23.03	0	0	0	0	0	Feruginous Shale
DTR/35	5381	39	40	36.99	0	0	0	0	0	Feruginous Shale
DTR/35	5382	40	41	43.7	0	0	0	0	0	Feruginous Shale
DTR/35	5383	41	42	47.88	0	0	0	0	0	Feruginous Shale
DTR/35	5384	42	43	41.18	0	0	0	0	0	Feruginous Shale
DTR/35	5385	43	44	39.93	0	0	0	0	0	Feruginous Shale
DTR/35	5386	44	45	38.11	0	0	0	0	0	Feruginous Shale
DTR/35	5387	45	46	35.18	0	0	0	0	0	Feruginous

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/35	5388	46	47	17.45	0	0	0	0	0	Feruginous Shale
DTR/35	5389	47	48	21.92	0	0	0	0	0	Feruginous Shale
DTR/35	5390	48	49	31.55	0	0	0	0	0	Feruginous Shale
DTR/35	5391	49	50	29.87	0	0	0	0	0	Feruginous Shale
DTR/35	5392	50	50.5	29.73	0	0	0	0	0	Feruginous Shale
DTR/35	5393	50.5	51.5	45.51	0	0	0	0	0	Feruginous Shale
DTR/35	5394	51.5	52.5	43.42	0	0	0	0	0	Feruginous Shale
DTR/35	5395	52.5	54	12	0	0	0	0	0	Feruginous Shale
DTR/35	5396	54	55	41.6	0	0	0	0	0	Feruginous Shale
DTR/35	5397	55	56	36.85	0	0	0	0	0	Feruginous Shale
DTR/35	5398	56	57	62.42	0	0	0	0	0	HLO
DTR/35	5399	57	58	62.28	0	0	0	0	0	HLO
DTR/35	5400	58	59	63.53	0	0	0	0	0	HLO
DTR/35	5401	59	60	64.09	0	0	0	0	0	HLO
DTR/35	5402	60	61	32.81	0	0	0	0	0	Feruginous Shale
DTR/35	5403	61	62	63.95	0	0	0	0	0	HLO
DTR/35	5404	62	63	64.51	0	0	0	0	0	HLO
DTR/35	5405	63	64	65.21	0	0	0	0	0	HLO
DTR/35	5406	64	64.5	38.67	0	0	0	0	0	Feruginous Shale
DTR/35	5407	64.5	65.5	61.48	0	0	0	0	0	HLO
DTR/35	5408	65.5	66.5	55.01	0	0	0	0	0	HLO
DTR/35	5409	66.5	67.5	53.62	0	0	0	0	0	HLO
DTR/35	5410	67.5	69	32.11	0	0	0	0	0	Chert
DTR/35	5411	69	69.5	64.51	0	0	0	0	0	HLO
DTR/35	5412	69.5	70	36.02	0	0	0	0	0	Feruginous Shale
DTR/35	5413	70	71	64.79	0	0	0	0	0	HLO
DTR/35	5414	71	72	37.69	0	0	0	0	0	Feruginous Shale
DTR/35	5415	72	73	37.27	0	0	0	0	0	BCS
DTR/35	5416	73	74	35.46	0	0	0	0	0	BCS
DTR/35	5417	74	75	64.93	0	0	0	0	0	HLO
DTR/35	5418	75	76	65.21	0	0	0	0	0	HLO
DTR/35	5419	76	77	30.15	0	0	0	0	0	BCS
DTR/35	5420	77	78	33.08	0	0	0	0	0	BCS
DTR/35	5421	78	79	33.22	0	0	0	0	0	BCS
DTR/35	5422	79	80	28.9	0	0	0	0	0	BCS
DTR/35	5423	80	81	20.94	0	0	0	0	0	BCS

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/35	5424	81	82	62.97	0	0	0	0	0	HLO
DTR/35	5425	82	83	64.37	0	0	0	0	0	HLO
DTR/35	5426	83	84	63.11	0	0	0	0	0	HLO
DTR/35	5427	84	85	44.12	0	0	0	0	0	Feruginous Shale
DTR/35	5428	85	86.3	41.89	0	0	0	0	0	Feruginous Shale
DTR/35	5429	86.3	88.4	15.4	0	0	0	0	0	Feruginous Shale
DTR/35	5430	88.4	90	27.72	0	0	0	0	0	Feruginous Shale
DTR/35	5431	90	91.8	33.6	0	0	0	0	0	Feruginous Shale
DTR/36	5432	0	1	48.44	0	0	0	0	0	Laterite
DTR/36	5433	1	2	47.88	0	0	0	0	0	Laterite
DTR/36	5434	2	3	43.12	0	0	0	0	0	Laterite
DTR/36	5435	3	4	43.12	0	0	0	0	0	Feruginous Shale
DTR/36	5436	4	5	44.24	0	0	0	0	0	Feruginous Shale
DTR/36	5437	5	6	30.52	0	0	0	0	0	Feruginous Shale
DTR/36	5438	6	7	30.52	0	0	0	0	0	Feruginous Shale
DTR/36	5439	7	9	30.52	0	0	0	0	0	Feruginous Shale
DTR/36	5440	9	10	25.2	0	0	0	0	0	Feruginous Shale
DTR/36	5441	10	11.5	25.2	0	0	0	0	0	Feruginous Shale
DTR/36	5442	11.5	12.5	25.2	0	0	0	0	0	Feruginous Shale
DTR/36	5443	12.5	13.5	25.2	0	0	0	0	0	Feruginous Shale
DTR/36	5444	13.5	15	25.2	0	0	0	0	0	Feruginous Shale
DTR/36	5445	15	16	37.8	0	0	0	0	0	Feruginous Shale
DTR/36	5446	16	17	37.8	0	0	0	0	0	Feruginous Shale
DTR/36	5447	17	18	37.8	0	0	0	0	0	Feruginous Shale
DTR/36	5448	18	19	39.9	0	0	0	0	0	Feruginous Shale
DTR/36	5449	19	20	42.59	0	0	0	0	0	Feruginous Shale
DTR/36	5450	20	22.5	23.8	0	0	0	0	0	Feruginous Shale
DTR/36	5451	22.5	46.8	24.22	0	0	0	0	0	Feruginous Shale
DTR/36	5452	46.8	48	24.22	0	0	0	0	0	Feruginous Shale
DTR/36	5453	48	49	24.36	0	0	0	0	0	Feruginous Shale
DTR/36	5454	49	50	24.36	0	0	0	0	0	Feruginous

Borehole Assay & Litho Data

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/36	5455	50	67	24.5	0	0	0	0	0	Feruginous Shale
DTR/36	5456	67	68	24.36	0	0	0	0	0	Feruginous Shale
DTR/36	5457	68	69	24.36	0	0	0	0	0	Feruginous Shale
DTR/36	5458	69	70	24.37	0	0	0	0	0	Feruginous Shale
DTR/36	5459	70	71	24.36	0	0	0	0	0	Feruginous Shale
DTR/36	5460	71	72	24.36	0	0	0	0	0	Feruginous Shale
DTR/36	5461	72	72.6	23.8	0	0	0	0	0	Feruginous Shale
DTR/36	5462	72.6	81.8	39.48	0	0	0	0	0	Feruginous Shale
DTR/36	5463	81.8	83	39.9	0	0	0	0	0	Feruginous Shale
DTR/36	5464	83	84	42.45	0	0	0	0	0	Feruginous Shale
DTR/36	5465	84	85	45.94	0	0	0	0	0	Feruginous Shale
DTR/36	5466	85	86	48.17	0	0	0	0	0	Feruginous Shale
DTR/36	5467	86	87	46.35	0	0	0	0	0	Feruginous Shale
DTR/36	5468	87	88	51.66	0	0	0	0	0	Feruginous Shale
DTR/36	5469	88	89	41.58	0	0	0	0	0	Feruginous Shale
DTR/36	5470	89	90	32.2	0	0	0	0	0	Feruginous Shale
DTR/36	5471	90	91	21.56	0	0	0	0	0	Feruginous Shale
DTR/36	5472	91	92	38.22	0	0	0	0	0	Feruginous Shale
DTR/36	5473	92	93	37.7	0	0	0	0	0	Feruginous Shale
DTR/37	5474	0	1	52.36	0	0	0	0	0	Laterite
DTR/37	5475	1	2	54.73	0	0	0	0	0	Laterite
DTR/37	5476	2	3	53.76	0	0	0	0	0	Laterite
DTR/37	5477	3	4	54.18	0	0	0	0	0	Laterite
DTR/37	5478	4	5	47.47	0	0	0	0	0	Laterite
DTR/37	5479	5	6	54.04	0	0	0	0	0	Laterite
DTR/37	5480	6	7	51.52	0	0	0	0	0	Laterite
DTR/37	5481	7	8	53.76	0	0	0	0	0	Laterite
DTR/37	5482	8	9	49.57	0	0	0	0	0	Laterite
DTR/37	5483	9	10	53.48	0	0	0	0	0	Laterite
DTR/37	5484	10	11	51.66	0	0	0	0	0	Laterite
DTR/37	5485	11	12	54.04	0	0	0	0	0	Laterite
DTR/37	5486	12	13	47.89	0	0	0	0	0	Feruginous Shale

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/37	5487	13	14	55.15	0	0	0	0	0	Lateritic Ore
DTR/37	5488	14	15	53.48	0	0	0	0	0	Laterite
DTR/37	5489	15	16	49.57	0	0	0	0	0	Feruginous Shale
DTR/37	5490	16	17	43.42	0	0	0	0	0	Feruginous Shale
DTR/37	5491	17	18	45.66	0	0	0	0	0	Feruginous Shale
DTR/37	5492	18	19	52.08	0	0	0	0	0	Laterite
DTR/37	5493	19	20	43.56	0	0	0	0	0	Feruginous Shale
DTR/37	5494	20	21	43.56	0	0	0	0	0	Feruginous Shale
DTR/37	5495	21	22	49.57	0	0	0	0	0	Feruginous Shale
DTR/37	5496	22	23	48.87	0	0	0	0	0	Feruginous Shale
DTR/37	5497	23	24	48.31	0	0	0	0	0	Feruginous Shale
DTR/37	5498	24	25	40.21	0	0	0	0	0	Feruginous Shale
DTR/37	5499	25	26	58.5	0	0	0	0	0	SLO_FO
DTR/37	5500	26	27	59.62	0	0	0	0	0	SLO_FO
DTR/37	5501	27	28	60.04	0	0	0	0	0	SLO_FO
DTR/37	5502	28	29	54.59	0	0	0	0	0	SLO_FO
DTR/37	5503	29	30	51.24	0	0	0	0	0	SLO_FO
DTR/37	5504	30	31	53.2	0	0	0	0	0	SLO_FO
DTR/37	5505	31	32	53.2	0	0	0	0	0	SLO_FO
DTR/37	5506	32	33	47.33	0	0	0	0	0	Laterite
DTR/37	5507	33	34	51.24	0	0	0	0	0	Laterite
DTR/37	5508	34	35	56.69	0	0	0	0	0	Lateritic Ore
DTR/37	5509	35	36	42.17	0	0	0	0	0	Laterite
DTR/37	5510	36	37	46.49	0	0	0	0	0	Laterite
DTR/37	5511	37	38	48.59	0	0	0	0	0	Laterite
DTR/37	5512	38	39	53.39	0	0	0	0	0	Laterite
DTR/37	5513	39	40	35.18	0	0	0	0	0	Feruginous Shale
DTR/37	5514	40	41	36.3	0	0	0	0	0	Feruginous Shale
DTR/37	5515	41	42	36.58	0	0	0	0	0	Feruginous Shale
DTR/37	5516	42	43.3	38.11	0	0	0	0	0	Feruginous Shale
DTR/37	5517	43.3	44.2	38.11	0	0	0	0	0	Feruginous Shale
DTR/37	5518	44.2	45	58.08	0	0	0	0	0	Lateritic Ore
DTR/37	5519	45	46	56.97	0	0	0	0	0	Lateritic Ore
DTR/37	5520	46	47	56.55	0	0	0	0	0	Lateritic Ore
DTR/37	5521	47	48	56.69	0	0	0	0	0	Lateritic Ore
DTR/37	5522	48	49	56.27	0	0	0	0	0	Lateritic Ore
DTR/37	5523	49	50	46.07	0	0	0	0	0	Feruginous

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/37	5524	50	51	47.33	0	0	0	0	0	Feruginous Shale
DTR/37	5525	51	52	59.75	0	0	0	0	0	Lateritic Ore
DTR/37	5526	52	53	58.78	0	0	0	0	0	Lateritic Ore
DTR/37	5527	53	54	51.79	0	0	0	0	0	Feruginous Shale
DTR/37	5528	54	55	30.71	0	0	0	0	0	Feruginous Shale
DTR/37	5529	55	56	28.48	0	0	0	0	0	Feruginous Shale
DTR/37	5530	56	57	33.5	0	0	0	0	0	Feruginous Shale
DTR/37	5531	57	58	42.86	0	0	0	0	0	Feruginous Shale
DTR/37	5532	58	59	22.61	0	0	0	0	0	Feruginous Shale
DTR/37	5533	59	60	49	0	0	0	0	0	Feruginous Shale
DTR/37	5534	60	61	49.56	0	0	0	0	0	Feruginous Shale
DTR/37	5535	61	62	57.94	0	0	0	0	0	Lateritic Ore
DTR/37	5536	62	63	59.33	0	0	0	0	0	Lateritic Ore
DTR/37	5537	63	64	41.74	0	0	0	0	0	Feruginous Shale
DTR/37	5538	64	65	49.56	0	0	0	0	0	Feruginous Shale
DTR/37	5539	65	66	50.26	0	0	0	0	0	Feruginous Shale
DTR/37	5540	66	67.8	56.4	0	0	0	0	0	Lateritic Ore
DTR/37	5541	67.8	69.2	57.8	0	0	0	0	0	Lateritic Ore
DTR/37	5542	69.2	70	48.44	0	0	0	0	0	Feruginous Shale
DTR/37	5543	70	71	55.98	0	0	0	0	0	Lateritic Ore
DTR/37	5544	71	72	47.05	0	0	0	0	0	Feruginous Shale
DTR/37	5545	72	73	46.63	0	0	0	0	0	Feruginous Shale
DTR/37	5546	73	74	53.75	0	0	0	0	0	Feruginous Shale
DTR/37	5547	74	75	53.62	0	0	0	0	0	Feruginous Shale
DTR/37	5548	75	76	52.49	0	0	0	0	0	Feruginous Shale
DTR/37	5549	76	77	47.05	0	0	0	0	0	Feruginous Shale
DTR/37	5550	77	78	48.17	0	0	0	0	0	Feruginous Shale
DTR/37	5551	78	79	37.55	0	0	0	0	0	Feruginous Shale
DTR/37	5552	79	80	36.72	0	0	0	0	0	Feruginous Shale
DTR/37	5553	80	81	50.96	0	0	0	0	0	Feruginous Shale

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/37	5554	81	82	53.2	0	0	0	0	0	Feruginous Shale
DTR/37	5555	82	83	54.45	0	0	0	0	0	Feruginous Shale
DTR/37	5556	83	84	53.76	0	0	0	0	0	Feruginous Shale
DTR/37	5557	84	85	57.66	0	0	0	0	0	Lateritic Ore
DTR/37	5558	85	86	54.87	0	0	0	0	0	Feruginous Shale
DTR/37	5559	86	87	51.94	0	0	0	0	0	Feruginous Shale
DTR/37	5560	87	88	43.42	0	0	0	0	0	Feruginous Shale
DTR/37	5561	88	89	16.89	0	0	0	0	0	Feruginous Shale
DTR/37	5562	89	90	11.58	0	0	0	0	0	Feruginous Shale
DTR/37	5563	90	91	52.91	0	0	0	0	0	Feruginous Shale
DTR/37	5564	91	92	48.16	0	0	0	0	0	Feruginous Shale
DTR/37	5565	92	93	48.86	0	0	0	0	0	Feruginous Shale
DTR/37	5566	93	93.6	49.98	0	0	0	0	0	Feruginous Shale
DTR/37	5567	93.6	112	18.15	0	0	0	0	0	Feruginous Shale
DTR/38	5568	0	1	48.87	0	0	0	0	0	Laterite
DTR/38	5569	1	2	39.48	0	0	0	0	0	Laterite
DTR/38	5570	2	3	46.07	0	0	0	0	0	Laterite
DTR/38	5571	3	4	45.24	0	0	0	0	0	Laterite
DTR/38	5572	4	5	36.96	0	0	0	0	0	Feruginous Shale
DTR/38	5573	5	6	36.54	0	0	0	0	0	Feruginous Shale
DTR/38	5574	6	7	27.72	0	0	0	0	0	Feruginous Shale
DTR/38	5575	7	8	28.84	0	0	0	0	0	Feruginous Shale
DTR/38	5576	8	9	39.2	0	0	0	0	0	Feruginous Shale
DTR/38	5577	9	10	40.32	0	0	0	0	0	Feruginous Shale
DTR/38	5578	10	11	38.5	0	0	0	0	0	Feruginous Shale
DTR/38	5579	11	12	33.6	0	0	0	0	0	Feruginous Shale
DTR/38	5580	12	13	32.48	0	0	0	0	0	Feruginous Shale
DTR/38	5581	13	14	28	0	0	0	0	0	Feruginous Shale
DTR/38	5582	14	15	37.24	0	0	0	0	0	Feruginous Shale
DTR/38	5583	15	16	48.16	0	0	0	0	0	Feruginous Shale

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/38	5584	16	17	45.5	0	0	0	0	0	Feruginous Shale
DTR/38	5585	17	18	45.92	0	0	0	0	0	Feruginous Shale
DTR/38	5586	18	19	49.56	0	0	0	0	0	Feruginous Shale
DTR/38	5587	19	20	44.29	0	0	0	0	0	Feruginous Shale
DTR/38	5588	20	21	42.45	0	0	0	0	0	Feruginous Shale
DTR/38	5589	21	22	41.89	0	0	0	0	0	Feruginous Shale
DTR/38	5590	22	23	44.82	0	0	0	0	0	Feruginous Shale
DTR/38	5591	23	24	46.36	0	0	0	0	0	Feruginous Shale
DTR/38	5592	24	25	43.8	0	0	0	0	0	Feruginous Shale
DTR/38	5593	25	26	46.07	0	0	0	0	0	Feruginous Shale
DTR/38	5594	26	27	40.32	0	0	0	0	0	Feruginous Shale
DTR/38	5595	27	28	35.55	0	0	0	0	0	Feruginous Shale
DTR/38	5596	28	29	38.48	0	0	0	0	0	Feruginous Shale
DTR/38	5597	29	30	44.68	0	0	0	0	0	Feruginous Shale
DTR/38	5598	30	31	30.64	0	0	0	0	0	Feruginous Shale
DTR/38	5599	31	32	42.03	0	0	0	0	0	Feruginous Shale
DTR/38	5600	32	33	42.17	0	0	0	0	0	Feruginous Shale
DTR/38	5601	33	34	40.88	0	0	0	0	0	Feruginous Shale
DTR/38	5602	34	35	39.76	0	0	0	0	0	Feruginous Shale
DTR/38	5603	35	36	39.2	0	0	0	0	0	Feruginous Shale
DTR/38	5604	36	37	38.64	0	0	0	0	0	Feruginous Shale
DTR/38	5605	37	38	38.64	0	0	0	0	0	Feruginous Shale
DTR/38	5606	38	39	38.5	0	0	0	0	0	Feruginous Shale
DTR/38	5607	39	40	52.36	0	0	0	0	0	Feruginous Shale
DTR/38	5608	40	47	53.76	0	0	0	0	0	Feruginous Shale
DTR/38	5609	47	48	53.76	0	0	0	0	0	Feruginous Shale
DTR/38	5610	48	49	53.76	0	0	0	0	0	Feruginous Shale
DTR/38	5611	49	50	53.62	0	0	0	0	0	Feruginous Shale

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/38	5612	50	51	53.62	0	0	0	0	0	Feruginous Shale
DTR/38	5613	51	52	53.62	0	0	0	0	0	Feruginous Shale
DTR/38	5614	52	53	39.1	0	0	0	0	0	Feruginous Shale
DTR/38	5615	53	54	39.1	0	0	0	0	0	Feruginous Shale
DTR/38	5616	54	55	39.1	0	0	0	0	0	Feruginous Shale
DTR/38	5617	55	56	37.1	0	0	0	0	0	Feruginous Shale
DTR/38	5618	56	57	37.1	0	0	0	0	0	Feruginous Shale
DTR/38	5619	57	58	37.1	0	0	0	0	0	Feruginous Shale
DTR/38	5620	58	59	39.2	0	0	0	0	0	Feruginous Shale
DTR/38	5621	59	60	39.2	0	0	0	0	0	Feruginous Shale
DTR/38	5622	60	61	39.2	0	0	0	0	0	Feruginous Shale
DTR/38	5623	61	62	35.98	0	0	0	0	0	Feruginous Shale
DTR/38	5624	62	63	35.98	0	0	0	0	0	Feruginous Shale
DTR/38	5625	63	64	35.98	0	0	0	0	0	Feruginous Shale
DTR/38	5626	64	65	37.8	0	0	0	0	0	Feruginous Shale
DTR/38	5627	65	66	37.8	0	0	0	0	0	Feruginous Shale
DTR/38	5628	66	67	37.8	0	0	0	0	0	Feruginous Shale
DTR/38	5629	67	68	36.96	0	0	0	0	0	Feruginous Shale
DTR/38	5630	68	69	36.96	0	0	0	0	0	Feruginous Shale
DTR/38	5631	69	70	36.96	0	0	0	0	0	Feruginous Shale
DTR/38	5632	70	71	35	0	0	0	0	0	Feruginous Shale
DTR/38	5633	71	72	35	0	0	0	0	0	Feruginous Shale
DTR/38	5634	72	73	35	0	0	0	0	0	Feruginous Shale
DTR/38	5635	73	74	36.4	0	0	0	0	0	Feruginous Shale
DTR/38	5636	74	75	36.4	0	0	0	0	0	Feruginous Shale
DTR/38	5637	75	80	41.3	0	0	0	0	0	Limonite
DTR/38	5638	80	81	41.16	0	0	0	0	0	Feruginous Shale
DTR/38	5639	81	82	41.16	0	0	0	0	0	Feruginous Shale
DTR/38	5640	82	83	41.16	0	0	0	0	0	Feruginous

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/38	5641	83	84	36.96	0	0	0	0	0	Feruginous Shale
DTR/38	5642	84	85	36.96	0	0	0	0	0	Feruginous Shale
DTR/38	5643	85	86	36.96	0	0	0	0	0	Feruginous Shale
DTR/38	5644	86	87	39.76	0	0	0	0	0	Feruginous Shale
DTR/38	5645	87	88	39.76	0	0	0	0	0	Feruginous Shale
DTR/38	5646	88	89	39.76	0	0	0	0	0	Feruginous Shale
DTR/38	5647	89	90	40.04	0	0	0	0	0	Feruginous Shale
DTR/38	5648	90	91	40.04	0	0	0	0	0	Feruginous Shale
DTR/38	5649	91	92	40.04	0	0	0	0	0	Feruginous Shale
DTR/38	5650	92	93	40.32	0	0	0	0	0	Feruginous Shale
DTR/38	5651	93	94	40.32	0	0	0	0	0	Feruginous Shale
DTR/38	5652	94	95	40.32	0	0	0	0	0	Feruginous Shale
DTR/38	5653	95	96	46.62	0	0	0	0	0	Feruginous Shale
DTR/38	5654	96	97	52.64	0	0	0	0	0	Feruginous Shale
DTR/38	5655	97	98	56.28	0	0	0	0	0	Lateritic Ore
DTR/38	5656	98	99	55.44	0	0	0	0	0	Lateritic Ore
DTR/38	5657	99	100	57.4	0	0	0	0	0	Lateritic Ore
DTR/39	5658	0	0.4	11.2	0	0	0	0	0	Soil
DTR/39	5659	0.4	1	11.2	0	0	0	0	0	Soil
DTR/39	5660	1	22.5	11.34	0	0	0	0	0	Feruginous Shale
DTR/39	5661	22.5	23.5	46.77	0	0	0	0	0	Feruginous Shale
DTR/39	5662	23.5	25	44.68	0	0	0	0	0	Feruginous Shale
DTR/39	5663	25	26	48.03	0	0	0	0	0	Feruginous Shale
DTR/39	5664	26	27	34.72	0	0	0	0	0	Feruginous Shale
DTR/39	5665	27	28	35	0	0	0	0	0	Feruginous Shale
DTR/39	5666	28	29	49.57	0	0	0	0	0	Feruginous Shale
DTR/39	5667	29	30	54.45	0	0	0	0	0	Feruginous Shale
DTR/39	5668	30	31	54.18	0	0	0	0	0	Feruginous Shale
DTR/39	5669	31	32	41.02	0	0	0	0	0	Feruginous Shale
DTR/39	5670	32	33	41.44	0	0	0	0	0	Feruginous

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/39	5671	33	34	39.2	0	0	0	0	0	Feruginous Shale
DTR/39	5672	34	35	35.42	0	0	0	0	0	Feruginous Shale
DTR/39	5673	35	36	35.28	0	0	0	0	0	Feruginous Shale
DTR/39	5674	36	37	54.45	0	0	0	0	0	Feruginous Shale
DTR/39	5675	37	37.6	53.9	0	0	0	0	0	Feruginous Shale
DTR/39	5676	37.6	39	59.62	0	0	0	0	0	Lateritic Ore
DTR/39	5677	39	40	51.1	0	0	0	0	0	Feruginous Shale
DTR/39	5678	40	41	42.59	0	0	0	0	0	Feruginous Shale
DTR/39	5679	41	42	42.59	0	0	0	0	0	Feruginous Shale
DTR/39	5680	42	43	39.87	0	0	0	0	0	Feruginous Shale
DTR/39	5681	43	44	32.81	0	0	0	0	0	Feruginous Shale
DTR/39	5682	44	45	57.11	0	0	0	0	0	Lateritic Ore
DTR/39	5683	45	47	41.18	0	0	0	0	0	Feruginous Shale
DTR/39	5684	47	48	36.02	0	0	0	0	0	Feruginous Shale
DTR/39	5685	48	49	43.7	0	0	0	0	0	Feruginous Shale
DTR/39	5686	49	50	43.28	0	0	0	0	0	Feruginous Shale
DTR/39	5687	50	53	30.29	0	0	0	0	0	Feruginous Shale
DTR/39	5688	53	54	30.29	0	0	0	0	0	Feruginous Shale
DTR/39	5689	54	55	30.29	0	0	0	0	0	Feruginous Shale
DTR/39	5690	55	56	24.17	0	0	0	0	0	Feruginous Shale
DTR/39	5691	56	57	37.97	0	0	0	0	0	Feruginous Shale
DTR/39	5692	57	58	37.97	0	0	0	0	0	Feruginous Shale
DTR/39	5693	58	59	31.27	0	0	0	0	0	Feruginous Shale
DTR/39	5694	59	62	28.76	0	0	0	0	0	Feruginous Shale
DTR/39	5695	62	63	17.87	0	0	0	0	0	Feruginous Shale
DTR/39	5696	63	64	24.43	0	0	0	0	0	Feruginous Shale
DTR/39	5697	64	68	29.73	0	0	0	0	0	Feruginous Shale
DTR/39	5698	68	71	22.33	0	0	0	0	0	Feruginous Shale
DTR/39	5699	71	72	24.01	0	0	0	0	0	Feruginous

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/39	5700	72	73	15.49	0	0	0	0	0	Feruginous Shale
DTR/39	5701	73	74	15.49	0	0	0	0	0	Feruginous Shale
DTR/39	5702	74	87	35.32	0	0	0	0	0	Feruginous Shale
DTR/39	5703	87	88	31.83	0	0	0	0	0	Feruginous Shale
DTR/39	5704	88	89	42.02	0	0	0	0	0	Feruginous Shale
DTR/39	5705	89	90	42.3	0	0	0	0	0	Feruginous Shale
DTR/39	5706	90	91	33.22	0	0	0	0	0	Feruginous Shale
DTR/39	5707	91	92	33.22	0	0	0	0	0	Feruginous Shale
DTR/40	5708	0	1	38.89	0	0	0	0	0	Laterite
DTR/40	5709	1	2	47.05	0	0	0	0	0	Laterite
DTR/40	5710	2	3	45.1	0	0	0	0	0	Laterite
DTR/40	5711	3	4	51.94	0	0	0	0	0	Laterite
DTR/40	5712	4	5	43.98	0	0	0	0	0	Laterite
DTR/40	5713	5	6	39.23	0	0	0	0	0	Laterite
DTR/40	5714	6	7	34.9	0	0	0	0	0	Laterite
DTR/40	5715	7	8	30.71	0	0	0	0	0	Laterite
DTR/40	5716	8	9	33.92	0	0	0	0	0	Laterite
DTR/40	5717	9	10	33.78	0	0	0	0	0	Laterite
DTR/40	5718	10	11	30.71	0	0	0	0	0	Laterite
DTR/40	5719	11	12.5	31.97	0	0	0	0	0	Laterite
DTR/40	5720	12.5	14	21.37	0	0	0	0	0	Laterite
DTR/40	5721	66.5	68	11.16	0	0	0	0	0	Feruginous Shale
DTR/40	5722	69.5	70	14.1	0	0	0	0	0	Feruginous Shale
DTR/40	5723	73.2	74.2	22.33	0	0	0	0	0	Feruginous Shale
DTR/40	5724	74.2	74.6	39.65	0	0	0	0	0	Feruginous Shale
DTR/40	5725	74.6	75.3	39.65	0	0	0	0	0	Feruginous Shale
DTR/40	5726	75.3	76.3	43.7	0	0	0	0	0	Feruginous Shale
DTR/40	5727	76.3	77.7	44.11	0	0	0	0	0	Feruginous Shale
DTR/40	5728	77.7	78.8	16.75	0	0	0	0	0	Feruginous Shale
DTR/40	5729	78.8	80	29.18	0	0	0	0	0	Feruginous Shale
DTR/41	5730	0	1	42.03	0	0	0	0	0	Laterite
DTR/41	5731	1	2	48.17	0	0	0	0	0	Laterite
DTR/41	5732	2	3	49.57	0	0	0	0	0	Feruginous Shale

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/41	5733	3	4	49.71	0	0	0	0	0	Feruginous Shale
DTR/41	5734	4	5	49.15	0	0	0	0	0	Feruginous Shale
DTR/41	5735	5	6	50.13	0	0	0	0	0	Feruginous Shale
DTR/41	5736	6	7	56.69	0	0	0	0	0	Lateritic Ore
DTR/41	5737	7	8	47.05	0	0	0	0	0	Feruginous Shale
DTR/41	5738	8	9	49.15	0	0	0	0	0	Feruginous Shale
DTR/41	5739	9	10	49.29	0	0	0	0	0	Feruginous Shale
DTR/41	5740	10	11	60.18	0	0	0	0	0	SLO_FO
DTR/41	5741	11	12	52.36	0	0	0	0	0	Feruginous Shale
DTR/41	5742	12	13	55.85	0	0	0	0	0	Lateritic Ore
DTR/41	5743	13	14	56.13	0	0	0	0	0	Lateritic Ore
DTR/41	5744	14	15	48.45	0	0	0	0	0	Feruginous Shale
DTR/41	5745	15	16	50.26	0	0	0	0	0	Feruginous Shale
DTR/41	5746	16	17	48.17	0	0	0	0	0	Feruginous Shale
DTR/41	5747	17	18	54.45	0	0	0	0	0	Feruginous Shale
DTR/41	5748	18	19	54.59	0	0	0	0	0	Feruginous Shale
DTR/41	5749	19	20	56.97	0	0	0	0	0	Lateritic Ore
DTR/41	5750	20	21	56.55	0	0	0	0	0	Lateritic Ore
DTR/41	5751	21	22	57.24	0	0	0	0	0	Lateritic Ore
DTR/41	5752	22	23	31.69	0	0	0	0	0	Feruginous Shale
DTR/41	5753	23	24	37.41	0	0	0	0	0	Feruginous Shale
DTR/41	5754	24	25	45.38	0	0	0	0	0	Feruginous Shale
DTR/41	5755	25	26	48.45	0	0	0	0	0	Feruginous Shale
DTR/41	5756	26	27	41.46	0	0	0	0	0	Feruginous Shale
DTR/41	5757	27	28	45.8	0	0	0	0	0	Feruginous Shale
DTR/41	5758	28	29	44.26	0	0	0	0	0	Feruginous Shale
DTR/41	5759	29	30	43.28	0	0	0	0	0	Feruginous Shale
DTR/41	5760	47	48	41.89	0	0	0	0	0	Feruginous Shale
DTR/41	5761	48	49	48.17	0	0	0	0	0	Feruginous Shale
DTR/41	5762	49	50	33.5	0	0	0	0	0	Feruginous Shale
DTR/41	5763	50	51	43.98	0	0	0	0	0	Feruginous Shale

Borehole Assay & Litho Data

BKJ
Manager (Mining)
Dated 10/10/2023
C. K. P. S. S.

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/41	5764	51	52	40.48	0	0	0	0	0	Feruginous Shale
DTR/41	5765	52	53	41.46	0	0	0	0	0	Feruginous Shale
DTR/41	5766	53	53.5	45.24	0	0	0	0	0	Feruginous Shale
DTR/41	5767	53.5	82	23.45	0	0	0	0	0	Feruginous Shale
DTR/41	5768	82	83	22.47	0	0	0	0	0	Feruginous Shale
DTR/41	5769	83	84	13.96	0	0	0	0	0	Feruginous Shale
DTR/41	5770	84	85	13.54	0	0	0	0	0	Feruginous Shale
DTR/41	5771	85	86	18.29	0	0	0	0	0	Feruginous Shale
DTR/41	5772	86	87	18.43	0	0	0	0	0	Feruginous Shale
DTR/41	5773	87	88	16.75	0	0	0	0	0	Feruginous Shale
DTR/41	5774	88	89	43.98	0	0	0	0	0	Feruginous Shale
DTR/41	5775	89	90	48.44	0	0	0	0	0	Feruginous Shale
DTR/41	5776	90	91	39.37	0	0	0	0	0	Feruginous Shale
DTR/41	5777	91	92	46.77	0	0	0	0	0	Feruginous Shale
DTR/41	5778	92	93	38.11	0	0	0	0	0	Feruginous Shale
DTR/41	5779	93	94	37.97	0	0	0	0	0	Feruginous Shale
DTR/42	5780	0	1	44.25	0	0	0	0	0	Laterite
DTR/42	5781	1	2	38.81	0	0	0	0	0	Laterite
DTR/42	5782	2	3	34.06	0	0	0	0	0	Laterite
DTR/42	5783	3	4	22.61	0	0	0	0	0	Laterite
DTR/42	5784	4	5	28.34	0	0	0	0	0	Laterite
DTR/42	5785	5	6	18.03	0	0	0	0	0	Laterite
DTR/42	5786	6	7	12.7	0	0	0	0	0	Laterite
DTR/42	5787	7	8	14.66	0	0	0	0	0	Laterite
DTR/42	5788	8	9	34.2	0	0	0	0	0	Laterite
DTR/42	5789	9	10	34.9	0	0	0	0	0	Laterite
DTR/42	5790	10	11	48.86	0	0	0	0	0	Laterite
DTR/42	5791	11	12.2	38.25	0	0	0	0	0	Laterite
DTR/42	5792	26.2	27	19.4	0	0	0	0	0	Feruginous Shale
DTR/42	5793	27	28	19.54	0	0	0	0	0	Feruginous Shale
DTR/42	5794	28	28.5	18.42	0	0	0	0	0	Feruginous Shale
DTR/42	5795	32.8	33.5	22.33	0	0	0	0	0	Feruginous Shale
DTR/42	5796	33.5	34.5	18.15	0	0	0	0	0	Feruginous Shale

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/42	5797	34.5	35.5	18.84	0	0	0	0	0	Feruginous Shale
DTR/42	5798	35.5	36	20.38	0	0	0	0	0	Feruginous Shale
DTR/42	5799	36	37	55.01	0	0	0	0	0	Lateritic Ore
DTR/42	5800	37	38	52.35	0	0	0	0	0	Feruginous Shale
DTR/42	5801	38	39	49.98	0	0	0	0	0	Feruginous Shale
DTR/42	5802	39	40	55.14	0	0	0	0	0	Lateritic Ore
DTR/42	5803	42.2	43	29.87	0	0	0	0	0	Feruginous Shale
DTR/42	5804	43	44	43.42	0	0	0	0	0	Feruginous Shale
DTR/42	5805	44	45	49.56	0	0	0	0	0	Feruginous Shale
DTR/42	5806	45	46	51.93	0	0	0	0	0	Feruginous Shale
DTR/42	5807	60	60.5	58.91	0	0	0	0	0	Lateritic Ore
DTR/42	5808	65	66	17.03	0	0	0	0	0	Feruginous Shale
DTR/42	5809	66	66.6	17.17	0	0	0	0	0	Feruginous Shale
DTR/42	5810	70.8	71.8	46.77	0	0	0	0	0	Feruginous Shale
DTR/42	5811	71.8	72.4	58.92	0	0	0	0	0	Lateritic Ore
DTR/42	5812	72.4	73	59.2	0	0	0	0	0	Lateritic Ore
DTR/42	5813	73	74	56.13	0	0	0	0	0	Lateritic Ore
DTR/42	5814	74	75	58.22	0	0	0	0	0	Lateritic Ore
DTR/42	5815	75	76	57.52	0	0	0	0	0	Lateritic Ore
DTR/42	5816	76	77	58.08	0	0	0	0	0	Lateritic Ore
DTR/42	5817	77	78	52.63	0	0	0	0	0	Feruginous Shale
DTR/42	5818	78	79	56.27	0	0	0	0	0	Lateritic Ore
DTR/42	5819	79	80	55.85	0	0	0	0	0	Lateritic Ore
DTR/42	5820	80	81	56.13	0	0	0	0	0	Lateritic Ore
DTR/42	5821	81	82	55.29	0	0	0	0	0	Lateritic Ore
DTR/42	5822	82	83	55.57	0	0	0	0	0	Lateritic Ore
DTR/42	5823	83	84	60.04	0	0	0	0	0	SLO_FD
DTR/42	5824	84	85	33.22	0	0	0	0	0	Feruginous Shale
DTR/42	5825	85	86	18.15	0	0	0	0	0	Feruginous Shale
DTR/42	5826	86	87	58.08	0	0	0	0	0	Lateritic Ore
DTR/42	5827	87	88	57.94	0	0	0	0	0	Lateritic Ore
DTR/42	5828	88	89	54.45	0	0	0	0	0	Feruginous Shale
DTR/42	5829	89	90	54.59	0	0	0	0	0	Feruginous Shale
DTR/42	5830	90	91	53.75	0	0	0	0	0	Feruginous Shale
DTR/42	5831	91	92	49.84	0	0	0	0	0	Feruginous

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/42	5832	92	93	49.56	0	0	0	0	0	Feruginous Shale
DTR/42	5833	93	94	43.28	0	0	0	0	0	Feruginous Shale
DTR/42	5834	94	95	32.53	0	0	0	0	0	Feruginous Shale
DTR/42	5835	95	96	27.22	0	0	0	0	0	Feruginous Shale
DTR/42	5836	96	97	29.32	0	0	0	0	0	Feruginous Shale
DTR/42	5837	97	98	33.08	0	0	0	0	0	Feruginous Shale
DTR/42	5838	98	99	17.31	0	0	0	0	0	Feruginous Shale
DTR/42	5839	99	100	11.58	0	0	0	0	0	Feruginous Shale
DTR/43	5840	0	1	55.01	0	0	0	0	0	Lateritic Ore
DTR/43	5841	1	2	56.55	0	0	0	0	0	Lateritic Ore
DTR/43	5842	2	3	55.57	0	0	0	0	0	Lateritic Ore
DTR/43	5843	3	4	57.94	0	0	0	0	0	Lateritic Ore
DTR/43	5844	4	5	56.13	0	0	0	0	0	Lateritic Ore
DTR/43	5845	5	6	56.41	0	0	0	0	0	Lateritic Ore
DTR/43	5846	6	7	61.02	0	0	0	0	0	SLO_FO
DTR/43	5847	7	8	56.83	0	0	0	0	0	SLO_FO
DTR/43	5848	8	9	59.76	0	0	0	0	0	SLO_FO
DTR/43	5849	9	10	62.13	0	0	0	0	0	SLO_FO
DTR/43	5850	10	11	60.32	0	0	0	0	0	SLO_FO
DTR/43	5851	11	12	60.74	0	0	0	0	0	SLO_FO
DTR/43	5852	12	13	56.13	0	0	0	0	0	Lateritic Ore
DTR/43	5853	13	14	57.11	0	0	0	0	0	Lateritic Ore
DTR/43	5854	14	15	60.32	0	0	0	0	0	SLO_FO
DTR/43	5855	15	16	55.71	0	0	0	0	0	Lateritic Ore
DTR/43	5856	16	17	55.85	0	0	0	0	0	Lateritic Ore
DTR/43	5857	17	18	56.55	0	0	0	0	0	Lateritic Ore
DTR/43	5858	18	19	58.78	0	0	0	0	0	Lateritic Ore
DTR/43	5859	19	20	60.74	0	0	0	0	0	SLO_FO
DTR/43	5860	20	21	60.46	0	0	0	0	0	SLO_FO
DTR/43	5861	21	22	60.6	0	0	0	0	0	SLO_FO
DTR/43	5862	22	23	59.62	0	0	0	0	0	SLO_FO
DTR/43	5863	23	24	61.71	0	0	0	0	0	SLO_FO
DTR/43	5864	24	25	59.48	0	0	0	0	0	SLO_FO
DTR/43	5865	25	26	60.32	0	0	0	0	0	SLO_FO
DTR/43	5866	26	27	60.32	0	0	0	0	0	SLO_FO
DTR/43	5867	27	28	57.24	0	0	0	0	0	SLO_FO
DTR/43	5868	46	47	28.2	0	0	0	0	0	Feruginous Shale
DTR/43	5869	47	48	48.37	0	0	0	0	0	Feruginous Shale

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/44	5870	0	1	51.66	0	0	0	0	0	Laterite
DTR/44	5871	1	2	56.13	0	0	0	0	0	Lateritic Ore
DTR/44	5872	2	3	54.73	0	0	0	0	0	Laterite
DTR/44	5873	3	4	55.85	0	0	0	0	0	Lateritic Ore
DTR/44	5874	4	5	54.73	0	0	0	0	0	Laterite
DTR/44	5875	5	6	54.73	0	0	0	0	0	Laterite
DTR/44	5876	6	7	50.82	0	0	0	0	0	Laterite
DTR/44	5877	7	8	54.73	0	0	0	0	0	Laterite
DTR/44	5878	11	12	54.45	0	0	0	0	0	Laterite
DTR/44	5879	12	13	39.93	0	0	0	0	0	Laterite
DTR/44	5880	13	14	36.99	0	0	0	0	0	Laterite
DTR/44	5881	14	15	45.66	0	0	0	0	0	Laterite
DTR/44	5882	15	16	52.64	0	0	0	0	0	Laterite
DTR/44	5883	16	17	46.07	0	0	0	0	0	Laterite
DTR/44	5884	17	18	57.52	0	0	0	0	0	Lateritic Ore
DTR/44	5885	18	19	48.17	0	0	0	0	0	Laterite
DTR/44	5886	19	20	44.99	0	0	0	0	0	Laterite
DTR/44	5887	20	21	55.43	0	0	0	0	0	Lateritic Ore
DTR/44	5888	21	22	54.18	0	0	0	0	0	Laterite
DTR/44	5889	22	23	51.38	0	0	0	0	0	Laterite
DTR/44	5890	23	24	53.48	0	0	0	0	0	Laterite
DTR/44	5891	24	25	53.76	0	0	0	0	0	Laterite
DTR/44	5892	25	26	52.36	0	0	0	0	0	Laterite
DTR/44	5893	26	27	51.1	0	0	0	0	0	Laterite
DTR/44	5894	27	28	50.26	0	0	0	0	0	Laterite
DTR/44	5895	28	29	50.4	0	0	0	0	0	Laterite
DTR/44	5896	29	30	49.15	0	0	0	0	0	Laterite
DTR/44	5897	30	31	39.37	0	0	0	0	0	Feruginous Shale
DTR/44	5898	31	32	50.68	0	0	0	0	0	Feruginous Shale
DTR/44	5899	32	33	48.59	0	0	0	0	0	Feruginous Shale
DTR/44	5900	33	34	51.52	0	0	0	0	0	Feruginous Shale
DTR/44	5901	34	35	48.17	0	0	0	0	0	Feruginous Shale
DTR/44	5902	35	36	43.98	0	0	0	0	0	Feruginous Shale
DTR/44	5903	36	37	47.33	0	0	0	0	0	Feruginous Shale
DTR/44	5904	37	38	47.47	0	0	0	0	0	Feruginous Shale
DTR/44	5905	38	39	45.79	0	0	0	0	0	Feruginous Shale
DTR/44	5906	39	40	47.75	0	0	0	0	0	Feruginous Shale
DTR/44	5907	40	41	52.07	0	0	0	0	0	Feruginous Shale
DTR/44	5908	41	42	36.72	0	0	0	0	0	Feruginous

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/44	5909	42	43	48.58	0	0	0	0	0	Feruginous Shale
DTR/44	5910	43	44	38.25	0	0	0	0	0	Feruginous Shale
DTR/44	5911	44	45	44.67	0	0	0	0	0	Feruginous Shale
DTR/44	5912	45	46	45.37	0	0	0	0	0	Feruginous Shale
DTR/44	5913	46	47	43.14	0	0	0	0	0	Feruginous Shale
DTR/44	5914	47	48	42.58	0	0	0	0	0	Feruginous Shale
DTR/44	5915	48	49	43.14	0	0	0	0	0	Feruginous Shale
DTR/44	5916	49	50	42.58	0	0	0	0	0	Feruginous Shale
DTR/44	5917	50	51	43.14	0	0	0	0	0	Feruginous Shale
DTR/44	5918	51	52	42.58	0	0	0	0	0	Feruginous Shale
DTR/44	5919	52	53	42.3	0	0	0	0	0	Feruginous Shale
DTR/44	5920	53	54	42.72	0	0	0	0	0	Feruginous Shale
DTR/44	5921	54	55	34.48	0	0	0	0	0	Feruginous Shale
DTR/44	5922	55	56	35.32	0	0	0	0	0	Feruginous Shale
DTR/44	5923	56	57	49.98	0	0	0	0	0	Feruginous Shale
DTR/44	5924	57	58	56.54	0	0	0	0	0	Lateritic Ore
DTR/44	5925	58	59	49.56	0	0	0	0	0	Feruginous Shale
DTR/44	5926	59	60	40.35	0	0	0	0	0	Feruginous Shale
DTR/44	5927	61	62	40.76	0	0	0	0	0	Feruginous Shale
DTR/44	5928	62	63	38.39	0	0	0	0	0	Feruginous Shale
DTR/44	5929	63	64	36.85	0	0	0	0	0	Feruginous Shale
DTR/44	5930	64	65	39.93	0	0	0	0	0	Feruginous Shale
DTR/44	5931	65	66	51.65	0	0	0	0	0	Feruginous Shale
DTR/44	5932	66	67	41.74	0	0	0	0	0	Feruginous Shale
DTR/44	5933	67	68	56.12	0	0	0	0	0	Lateritic Ore
DTR/44	5934	68	69	44.25	0	0	0	0	0	Feruginous Shale
DTR/44	5935	69	70	51.65	0	0	0	0	0	Feruginous Shale
DTR/44	5936	70	71	45.79	0	0	0	0	0	Feruginous Shale
DTR/44	5937	71	72	47.47	0	0	0	0	0	Feruginous

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/44	5938	72	73	53.05	0	0	0	0	0	Feruginous Shale
DTR/44	5939	73	74	51.65	0	0	0	0	0	Feruginous Shale
DTR/44	5940	74	75	52.49	0	0	0	0	0	Feruginous Shale
DTR/44	5941	75	76	51.52	0	0	0	0	0	Feruginous Shale
DTR/44	5942	76	77	53.06	0	0	0	0	0	Feruginous Shale
DTR/44	5943	77	78	50.4	0	0	0	0	0	Feruginous Shale
DTR/44	5944	78	79	32.53	0	0	0	0	0	Feruginous Shale
DTR/44	5945	79	80	33.78	0	0	0	0	0	Feruginous Shale
DTR/44	5946	80	81	28.34	0	0	0	0	0	Feruginous Shale
DTR/44	5947	81	82	16.05	0	0	0	0	0	Feruginous Shale
DTR/44	5948	82	83	21.5	0	0	0	0	0	Feruginous Shale
DTR/44	5949	83	84	40.48	0	0	0	0	0	Feruginous Shale
DTR/44	5950	84	85	34.2	0	0	0	0	0	Feruginous Shale
DTR/44	5951	85	86	49.71	0	0	0	0	0	Feruginous Shale
DTR/44	5952	86	87	48.87	0	0	0	0	0	Feruginous Shale
DTR/44	5953	87	88	28.34	0	0	0	0	0	Feruginous Shale
DTR/44	5954	88	88.5	25.69	0	0	0	0	0	Feruginous Shale
DTR/44	5955	89.2	90	16.05	0	0	0	0	0	Feruginous Shale
DTR/44	5956	90	91	19.68	0	0	0	0	0	Feruginous Shale
DTR/44	5957	91	92	45.93	0	0	0	0	0	Feruginous Shale
DTR/44	5958	92	93	33.08	0	0	0	0	0	Feruginous Shale
DTR/44	5959	93	94	39.93	0	0	0	0	0	Feruginous Shale
DTR/44	5960	94	95	36.44	0	0	0	0	0	Feruginous Shale
DTR/45	5961	0	1	57.52	0	0	0	0	0	Lateritic Ore
DTR/45	5962	1	2	55.15	0	0	0	0	0	Lateritic Ore
DTR/45	5963	2	3	57.38	0	0	0	0	0	Lateritic Ore
DTR/45	5964	3	4	56.55	0	0	0	0	0	Lateritic Ore
DTR/45	5965	4	5	56.13	0	0	0	0	0	Lateritic Ore
DTR/45	5966	5	6	55.15	0	0	0	0	0	Lateritic Ore
DTR/45	5967	6	7	53.9	0	0	0	0	0	Laterite

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/45	5968	7	8	56.83	0	0	0	0	0	Lateritic Ore
DTR/45	5969	8	9	55.15	0	0	0	0	0	Lateritic Ore
DTR/45	5970	9	10	57.24	0	0	0	0	0	Lateritic Ore
DTR/45	5971	10	11	55.55	0	0	0	0	0	Lateritic Ore
DTR/45	5972	11	12	53.34	0	0	0	0	0	Laterite
DTR/45	5973	12	13	54.74	0	0	0	0	0	Laterite
DTR/45	5974	13	14	55.29	0	0	0	0	0	Lateritic Ore
DTR/45	5975	14	15	56.83	0	0	0	0	0	Lateritic Ore
DTR/45	5976	15	16	53.24	0	0	0	0	0	Laterite
DTR/45	5977	16	17	56.96	0	0	0	0	0	Lateritic Ore
DTR/45	5978	17	18	59.47	0	0	0	0	0	Lateritic Ore
DTR/45	5979	18	19	58.08	0	0	0	0	0	Lateritic Ore
DTR/45	5980	19	20	60.03	0	0	0	0	0	SLO_FO
DTR/45	5981	20	21	58.78	0	0	0	0	0	Lateritic Ore
DTR/45	5982	21	22	58.64	0	0	0	0	0	Lateritic Ore
DTR/45	5983	22	23	58.78	0	0	0	0	0	Lateritic Ore
DTR/45	5984	23	24	58.92	0	0	0	0	0	Lateritic Ore
DTR/45	5985	24	25	58.08	0	0	0	0	0	Lateritic Ore
DTR/45	5986	25	26	47.75	0	0	0	0	0	Laterite
DTR/45	5987	26	27	50.26	0	0	0	0	0	Laterite
DTR/45	5988	27	28	51.93	0	0	0	0	0	Laterite
DTR/45	5989	28	29	56.26	0	0	0	0	0	Lateritic Ore
DTR/45	5990	29	30	55.14	0	0	0	0	0	Lateritic Ore
DTR/45	5991	30	31	56.13	0	0	0	0	0	Lateritic Ore
DTR/45	5992	31	32	56.55	0	0	0	0	0	Lateritic Ore
DTR/45	5993	32	33	56.41	0	0	0	0	0	Lateritic Ore
DTR/45	5994	33	34	57.24	0	0	0	0	0	Lateritic Ore
DTR/45	5995	34	35	53.9	0	0	0	0	0	Laterite
DTR/45	5996	35	36	54.32	0	0	0	0	0	Laterite
DTR/45	5997	36	37	57.24	0	0	0	0	0	Lateritic Ore
DTR/45	5998	37	38	54.45	0	0	0	0	0	Laterite
DTR/45	5999	38	39	50.54	0	0	0	0	0	Laterite
DTR/45	6000	39	40	54.59	0	0	0	0	0	Laterite
DTR/45	6001	40	41	54.73	0	0	0	0	0	Laterite
DTR/45	6002	41	42	54.59	0	0	0	0	0	Laterite
DTR/45	6003	42	43	56.27	0	0	0	0	0	Lateritic Ore
DTR/45	6004	43	44	55.85	0	0	0	0	0	Lateritic Ore
DTR/45	6005	44	45	54.45	0	0	0	0	0	Laterite
DTR/45	6006	45	46	53.2	0	0	0	0	0	Laterite
DTR/45	6007	46	47	56.55	0	0	0	0	0	Lateritic Ore
DTR/45	6008	47	48	55.57	0	0	0	0	0	Lateritic Ore
DTR/45	6009	48	49	54.87	0	0	0	0	0	Laterite
DTR/45	6010	49	50	54.87	0	0	0	0	0	Laterite
DTR/45	6011	50	51	57.52	0	0	0	0	0	Lateritic Ore
DTR/45	6012	51	52	55.99	0	0	0	0	0	Lateritic Ore

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/45	6013	52	53	57.52	0	0	0	0	0	Lateritic Ore
DTR/45	6014	53	54	52.42	0	0	0	0	0	Laterite
DTR/45	6015	54	55	57.52	0	0	0	0	0	Lateritic Ore
DTR/45	6016	55	56	55.01	0	0	0	0	0	Lateritic Ore
DTR/45	6017	56	57	57.32	0	0	0	0	0	Lateritic Ore
DTR/45	6018	57	58	57.32	0	0	0	0	0	Lateritic Ore
DTR/45	6019	58	59	57.42	0	0	0	0	0	Lateritic Ore
DTR/46	6020	0	1	55.99	0	0	0	0	0	Lateritic Ore
DTR/46	6021	1	2	55.15	0	0	0	0	0	Lateritic Ore
DTR/46	6022	2	3.2	52.36	0	0	0	0	0	Laterite
DTR/46	6023	3.2	4	53.06	0	0	0	0	0	HLO
DTR/46	6024	4	5	54.73	0	0	0	0	0	HLO
DTR/46	6025	5	6	53.76	0	0	0	0	0	SLO_FO
DTR/46	6026	6	7	51.94	0	0	0	0	0	SLO_FO
DTR/46	6027	7	8	55.43	0	0	0	0	0	HLO
DTR/46	6028	8	9	54.59	0	0	0	0	0	HLO
DTR/46	6029	9	10	57.24	0	0	0	0	0	HLO
DTR/46	6030	10	11	49.29	0	0	0	0	0	HLO
DTR/46	6031	11	12	51.52	0	0	0	0	0	HLO
DTR/46	6032	12	13	52.36	0	0	0	0	0	Laterite
DTR/46	6033	13	14	50.8	0	0	0	0	0	Laterite
DTR/46	6034	14	15	46.77	0	0	0	0	0	Laterite
DTR/46	6035	15	16	48.17	0	0	0	0	0	Laterite
DTR/46	6036	16	17	28.2	0	0	0	0	0	Laterite
DTR/46	6037	17	18	44.96	0	0	0	0	0	Laterite
DTR/46	6038	18	19	50.96	0	0	0	0	0	Laterite
DTR/46	6039	19	20	53.76	0	0	0	0	0	Laterite
DTR/46	6040	20	21	55.15	0	0	0	0	0	Lateritic Ore
DTR/46	6041	21	22	27.92	0	0	0	0	0	Laterite
DTR/46	6042	22	23	40.9	0	0	0	0	0	Laterite
DTR/46	6043	23	24	53.06	0	0	0	0	0	Laterite
DTR/46	6044	24	25	50.54	0	0	0	0	0	Laterite
DTR/46	6045	25	26	47.89	0	0	0	0	0	Laterite
DTR/46	6046	26	27	53.62	0	0	0	0	0	Laterite
DTR/46	6047	27	28	52.36	0	0	0	0	0	Laterite
DTR/46	6048	28	29	51.1	0	0	0	0	0	Laterite
DTR/46	6049	29	30	51.66	0	0	0	0	0	Laterite
DTR/46	6050	30	31	33.5	0	0	0	0	0	Feruginous Shale
DTR/46	6051	31	32	42.3	0	0	0	0	0	Feruginous Shale
DTR/46	6052	32	33	44.95	0	0	0	0	0	Feruginous Shale
DTR/46	6053	33	34	36.58	0	0	0	0	0	Feruginous Shale
DTR/46	6054	34	35	35.32	0	0	0	0	0	Feruginous Shale

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/46	6055	35	36	39.51	0	0	0	0	0	Feruginous Shale
DTR/46	6056	36	37	36.3	0	0	0	0	0	Feruginous Shale
DTR/46	6057	37	38	30.99	0	0	0	0	0	Feruginous Shale
DTR/46	6058	38	39	31.83	0	0	0	0	0	Feruginous Shale
DTR/46	6059	39	40	36.44	0	0	0	0	0	Limonite
DTR/46	6060	40	41	35.04	0	0	0	0	0	Limonite
DTR/46	6061	41	42.3	40.48	0	0	0	0	0	Feruginous Shale
DTR/46	6062	42.3	43	44.39	0	0	0	0	0	Feruginous Shale
DTR/46	6063	43	44	36.58	0	0	0	0	0	Feruginous Shale
DTR/46	6064	44	45	33.78	0	0	0	0	0	Feruginous Shale
DTR/46	6065	45	46	43.98	0	0	0	0	0	Feruginous Shale
DTR/46	6066	46	47	41.18	0	0	0	0	0	Feruginous Shale
DTR/46	6067	47	48	50.54	0	0	0	0	0	Limonite
DTR/46	6068	48	49	51.1	0	0	0	0	0	Limonite
DTR/46	6069	49	50	35.88	0	0	0	0	0	Feruginous Shale
DTR/46	6070	50	51	47.75	0	0	0	0	0	Feruginous Shale
DTR/46	6071	51	52	45.09	0	0	0	0	0	Feruginous Shale
DTR/46	6072	52	53	36.44	0	0	0	0	0	Feruginous Shale
DTR/46	6073	53	54	51.24	0	0	0	0	0	Feruginous Shale
DTR/46	6074	54	55	28.06	0	0	0	0	0	Feruginous Shale
DTR/46	6075	55	56	50.96	0	0	0	0	0	Feruginous Shale
DTR/46	6076	56	57	49.42	0	0	0	0	0	Feruginous Shale
DTR/46	6077	57	58	27.92	0	0	0	0	0	Feruginous Shale
DTR/46	6078	58	59	50.26	0	0	0	0	0	Feruginous Shale
DTR/46	6079	59	60	51.24	0	0	0	0	0	Feruginous Shale
DTR/46	6080	60	61	55.73	0	0	0	0	0	Lateritic Ore
DTR/46	6081	61	62	52.08	0	0	0	0	0	Feruginous Shale
DTR/46	6082	62	63	52.08	0	0	0	0	0	Feruginous Shale
DTR/46	6083	63	64	50.26	0	0	0	0	0	Feruginous Shale
DTR/46	6084	64	65	44.73	0	0	0	0	0	Feruginous Shale

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/46	6085	65	66	52.08	0	0	0	0	0	Feruginous Shale
DTR/46	6086	66	67	49.29	0	0	0	0	0	Feruginous Shale
DTR/46	6087	67	68	53.76	0	0	0	0	0	Feruginous Shale
DTR/46	6088	68	69	52.36	0	0	0	0	0	Feruginous Shale
DTR/46	6089	69	70	51.66	0	0	0	0	0	Feruginous Shale
DTR/46	6090	70	71	55.01	0	0	0	0	0	Lateritic Ore
DTR/46	6091	71	72	48.45	0	0	0	0	0	Feruginous Shale
DTR/46	6092	72	73	46.63	0	0	0	0	0	Feruginous Shale
DTR/46	6093	73	74	44.82	0	0	0	0	0	Feruginous Shale
DTR/46	6094	74	75	47.47	0	0	0	0	0	Feruginous Shale
DTR/46	6095	75	76	46.07	0	0	0	0	0	Feruginous Shale
DTR/46	6096	76	77	46.09	0	0	0	0	0	Feruginous Shale
DTR/46	6097	77	78	45.09	0	0	0	0	0	Feruginous Shale
DTR/46	6098	78	79	43.28	0	0	0	0	0	Feruginous Shale
DTR/46	6099	79	80	44.67	0	0	0	0	0	Feruginous Shale
DTR/46	6100	80	81	40.48	0	0	0	0	0	Feruginous Shale
DTR/46	6101	81	82	38.39	0	0	0	0	0	Feruginous Shale
DTR/46	6102	82	83	46.49	0	0	0	0	0	Feruginous Shale
DTR/46	6103	83	84	35.74	0	0	0	0	0	Feruginous Shale
DTR/46	6104	84	85	35.74	0	0	0	0	0	Feruginous Shale
DTR/46	6105	85	86	29.59	0	0	0	0	0	Feruginous Shale
DTR/46	6106	86	87	35.46	0	0	0	0	0	Feruginous Shale
DTR/46	6107	87	88	46.77	0	0	0	0	0	Feruginous Shale
DTR/46	6108	88	89	45.79	0	0	0	0	0	Feruginous Shale
DTR/46	6109	89	90	53.61	0	0	0	0	0	Feruginous Shale
DTR/46	6110	90	91	52.63	0	0	0	0	0	Feruginous Shale
DTR/46	6111	91	92	52.08	0	0	0	0	0	Feruginous Shale
DTR/46	6112	92	93	50.26	0	0	0	0	0	Feruginous Shale
DTR/46	6113	93	94	48.73	0	0	0	0	0	Feruginous

BKL-1 Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/46	6114	94	95	40.21	0	0	0	0	0	Feruginous Shale
DTR/46	6115	95	96	46.07	0	0	0	0	0	Feruginous Shale
DTR/46	6116	96	97	40.21	0	0	0	0	0	Feruginous Shale
DTR/46	6117	97	98	38.39	0	0	0	0	0	Feruginous Shale
DTR/46	6118	98	99.5	41.89	0	0	0	0	0	Feruginous Shale
DTR/46	6119	99.5	100.5	40.76	0	0	0	0	0	Feruginous Shale
DTR/47	6120	0	1	61.57	0	0	0	0	0	SLO_FO
DTR/47	6121	1	2	49.57	0	0	0	0	0	Laterite
DTR/47	6122	2	3	52.36	0	0	0	0	0	Laterite
DTR/47	6123	3	4	52.36	0	0	0	0	0	Laterite
DTR/47	6124	4	5	52.36	0	0	0	0	0	Laterite
DTR/47	6125	5	6	54.59	0	0	0	0	0	Laterite
DTR/47	6126	6	7	54.59	0	0	0	0	0	Laterite
DTR/47	6127	7	8	54.59	0	0	0	0	0	Laterite
DTR/47	6128	8	9	57.94	0	0	0	0	0	Lateritic Ore
DTR/47	6129	9	10	57.94	0	0	0	0	0	Lateritic Ore
DTR/47	6130	10	11	57.94	0	0	0	0	0	Lateritic Ore
DTR/47	6131	11	12	51.52	0	0	0	0	0	Laterite
DTR/47	6132	12	13	51.52	0	0	0	0	0	Laterite
DTR/47	6133	13	14	51.52	0	0	0	0	0	Laterite
DTR/47	6134	14	15	52.08	0	0	0	0	0	Laterite
DTR/47	6135	15	16	52.08	0	0	0	0	0	Laterite
DTR/47	6136	16	17	52.08	0	0	0	0	0	Laterite
DTR/47	6137	17	18	50.26	0	0	0	0	0	Laterite
DTR/47	6138	18	19	50.26	0	0	0	0	0	Laterite
DTR/47	6139	19	20	50.26	0	0	0	0	0	Laterite
DTR/47	6140	20	21	52.22	0	0	0	0	0	Laterite
DTR/47	6141	21	22	52.22	0	0	0	0	0	Laterite
DTR/47	6142	22	23	52.22	0	0	0	0	0	Laterite
DTR/47	6143	23	24	55.15	0	0	0	0	0	Lateritic Ore
DTR/47	6144	24	25	55.15	0	0	0	0	0	Lateritic Ore
DTR/47	6145	25	26	55.15	0	0	0	0	0	Lateritic Ore
DTR/47	6146	26	27	54.45	0	0	0	0	0	Laterite
DTR/47	6147	27	28	54.45	0	0	0	0	0	Laterite
DTR/47	6148	28	29	54.45	0	0	0	0	0	Laterite
DTR/47	6149	29	30	52.22	0	0	0	0	0	Laterite
DTR/47	6150	30	31	52.22	0	0	0	0	0	Laterite
DTR/47	6151	31	32	52.22	0	0	0	0	0	Laterite
DTR/47	6152	32	33	54.18	0	0	0	0	0	Laterite
DTR/47	6153	33	34	54.18	0	0	0	0	0	Laterite
DTR/47	6154	34	35	54.18	0	0	0	0	0	Laterite

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/47	6155	35	36	55.57	0	0	0	0	0	Lateritic Ore
DTR/47	6156	36	37	55.57	0	0	0	0	0	Lateritic Ore
DTR/47	6157	37	38	55.57	0	0	0	0	0	Lateritic Ore
DTR/47	6158	38	39	46.35	0	0	0	0	0	Feruginous Shale
DTR/47	6159	39	40	46.35	0	0	0	0	0	Feruginous Shale
DTR/47	6160	40	41	46.35	0	0	0	0	0	Feruginous Shale
DTR/47	6161	41	42	48.58	0	0	0	0	0	Limonite
DTR/47	6162	42	43	48.58	0	0	0	0	0	Limonite
DTR/47	6163	43	44	48.58	0	0	0	0	0	Limonite
DTR/47	6164	44	45.5	58.64	0	0	0	0	0	Limonitic Ore
DTR/47	6165	45.5	46	58.64	0	0	0	0	0	Limonitic Ore
DTR/47	6166	46	47	58.64	0	0	0	0	0	Limonitic Ore
DTR/47	6167	47	48	57.94	0	0	0	0	0	Lateritic Ore
DTR/47	6168	48	49	57.94	0	0	0	0	0	Lateritic Ore
DTR/47	6169	49	50.5	57.94	0	0	0	0	0	Lateritic Ore
DTR/47	6170	50.5	51.8	61.02	0	0	0	0	0	SLO_FO
DTR/47	6171	51.8	53	56.97	0	0	0	0	0	Limonitic Ore
DTR/47	6172	53	54	56.97	0	0	0	0	0	Limonitic Ore
DTR/47	6173	54	54.8	56.97	0	0	0	0	0	Limonitic Ore
DTR/47	6174	54.8	56.3	50.68	0	0	0	0	0	Limonite
DTR/47	6175	56.3	57	50.68	0	0	0	0	0	Limonite
DTR/47	6176	57	58	50.68	0	0	0	0	0	Limonite
DTR/47	6177	58	59	49.43	0	0	0	0	0	Feruginous Shale
DTR/47	6178	59	60	50.4	0	0	0	0	0	Feruginous Shale
DTR/47	6179	60	61	44.82	0	0	0	0	0	Feruginous Shale
DTR/47	6180	61	62	14.66	0	0	0	0	0	Feruginous Shale
DTR/47	6181	62	63	14.66	0	0	0	0	0	Feruginous Shale
DTR/47	6182	63	64.6	14.66	0	0	0	0	0	Feruginous Shale
DTR/47	6183	64.6	66	8.51	0	0	0	0	0	Feruginous Shale
DTR/47	6184	66	67	33.9	0	0	0	0	0	Limonite
DTR/47	6185	67	68	33.9	0	0	0	0	0	Limonite
DTR/47	6186	68	69	33.9	0	0	0	0	0	Limonite
DTR/47	6187	69	70	49.57	0	0	0	0	0	Feruginous Shale
DTR/47	6188	70	71	26.38	0	0	0	0	0	Feruginous Shale
DTR/47	6189	71	72	26.38	0	0	0	0	0	Feruginous Shale
DTR/47	6190	72	72.5	45.01	0	0	0	0	0	Limonite
DTR/47	6191	72.5	73.5	27.92	0	0	0	0	0	Feruginous Shale

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/47	6192	73.5	74.5	17.17	0	0	0	0	0	Feruginous Shale
DTR/47	6193	74.5	76	18.29	0	0	0	0	0	Feruginous Shale
DTR/47	6194	76	77	25.41	0	0	0	0	0	Feruginous Shale
DTR/47	6195	77	78	30.85	0	0	0	0	0	Feruginous Shale
DTR/47	6196	78	79	47.89	0	0	0	0	0	Feruginous Shale
DTR/47	6197	79	80	47.89	0	0	0	0	0	Feruginous Shale
DTR/47	6198	80	81.5	47.89	0	0	0	0	0	Feruginous Shale
DTR/47	6199	81.5	82.8	13.26	0	0	0	0	0	Feruginous Shale
DTR/47	6200	82.8	84	13.26	0	0	0	0	0	Feruginous Shale
DTR/47	6201	84	85	11.16	0	0	0	0	0	Feruginous Shale
DTR/47	6202	85	86	12.84	0	0	0	0	0	Feruginous Shale
DTR/47	6203	86	87	13.26	0	0	0	0	0	Feruginous Shale
DTR/47	6204	87	88	13.96	0	0	0	0	0	Feruginous Shale
DTR/47	6205	88	89	18.7	0	0	0	0	0	Feruginous Shale
DTR/47	6206	89	90	18.99	0	0	0	0	0	Feruginous Shale
DTR/47	6207	90	91	18.7	0	0	0	0	0	Feruginous Shale
DTR/47	6208	91	92	12.98	0	0	0	0	0	Feruginous Shale
DTR/47	6209	92	93	9.21	0	0	0	0	0	Feruginous Shale
DTR/47	6210	93	94	8.65	0	0	0	0	0	Feruginous Shale
DTR/47	6211	94	95	5.86	0	0	0	0	0	Feruginous Shale
DTR/47	6212	95	96	8.79	0	0	0	0	0	Feruginous Shale
DTR/47	6213	96	97	9.35	0	0	0	0	0	Feruginous Shale
DTR/47	6214	97	98	8.09	0	0	0	0	0	Feruginous Shale
DTR/47	6215	98	99	9.35	0	0	0	0	0	Feruginous Shale
DTR/48	6216	0	1	57.24	0	0	0	0	0	Lateritic Ore
DTR/48	6217	1	2	58.08	0	0	0	0	0	Lateritic Ore
DTR/48	6218	2	3	58.92	0	0	0	0	0	Lateritic Ore
DTR/48	6219	3	4	58.78	0	0	0	0	0	Lateritic Ore
DTR/48	6220	4	5	60.88	0	0	0	0	0	SLO_FO
DTR/48	6221	5	6	59.18	0	0	0	0	0	Lateritic Ore
DTR/48	6222	6	7	58.08	0	0	0	0	0	Lateritic Ore

Handwritten signatures and notes:
 RKR
 Manager, Geology
 DTR/47-48
 10/10/2018

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/48	6223	7	8	59.9	0	0	0	0	0	Lateritic Ore
DTR/48	6224	8	9	59.9	0	0	0	0	0	Lateritic Ore
DTR/48	6225	9	10	58.64	0	0	0	0	0	Lateritic Ore
DTR/48	6226	10	11	61.02	0	0	0	0	0	SLO_FO
DTR/48	6227	11	12	49.29	0	0	0	0	0	Laterite
DTR/48	6228	12	13	55.99	0	0	0	0	0	Lateritic Ore
DTR/48	6229	13	14	55.99	0	0	0	0	0	Lateritic Ore
DTR/48	6230	14	15	55.99	0	0	0	0	0	Lateritic Ore
DTR/48	6231	15	16	55.71	0	0	0	0	0	Lateritic Ore
DTR/48	6232	16	17	55.71	0	0	0	0	0	Lateritic Ore
DTR/48	6233	17	18	55.71	0	0	0	0	0	Lateritic Ore
DTR/48	6234	18	19	56.13	0	0	0	0	0	Lateritic Ore
DTR/48	6235	19	20	56.13	0	0	0	0	0	Lateritic Ore
DTR/48	6236	20	20.5	56.13	0	0	0	0	0	Lateritic Ore
DTR/48	6237	20.5	21.5	58.64	0	0	0	0	0	Lateritic Ore
DTR/48	6238	21.5	22.5	58.64	0	0	0	0	0	Lateritic Ore
DTR/48	6239	22.5	24	55.57	0	0	0	0	0	Lateritic Ore
DTR/48	6240	24	25.5	55.57	0	0	0	0	0	Lateritic Ore
DTR/48	6241	25.5	27	56.83	0	0	0	0	0	Lateritic Ore
DTR/48	6242	27	28.5	56.83	0	0	0	0	0	Lateritic Ore
DTR/48	6243	28.5	29.5	56.69	0	0	0	0	0	Lateritic Ore
DTR/48	6244	29.5	30.5	56.69	0	0	0	0	0	Lateritic Ore
DTR/48	6245	30.5	31	56.69	0	0	0	0	0	Lateritic Ore
DTR/48	6246	31	32.5	56.13	0	0	0	0	0	Lateritic Ore
DTR/48	6247	32.5	33	61.43	0	0	0	0	0	SLO_FO
DTR/48	6248	33	34	56.13	0	0	0	0	0	Lateritic Ore
DTR/48	6249	34	35	55.15	0	0	0	0	0	Limonic Ore
DTR/48	6250	35	36	55.15	0	0	0	0	0	Limonic Ore
DTR/48	6251	36	37	56.55	0	0	0	0	0	Limonic Ore
DTR/48	6252	37	38	54.73	0	0	0	0	0	Limonic
DTR/48	6253	38	39	57.24	0	0	0	0	0	Limonic Ore
DTR/48	6254	39	40	50.54	0	0	0	0	0	Feruginous Shale
DTR/48	6255	40	41.5	45.66	0	0	0	0	0	Feruginous Shale
DTR/48	6256	41.5	42.5	57.94	0	0	0	0	0	Lateritic Ore
DTR/48	6257	42.5	43	56.83	0	0	0	0	0	Lateritic Ore
DTR/48	6258	43	44	56.83	0	0	0	0	0	Lateritic Ore
DTR/48	6259	44	45.2	58.64	0	0	0	0	0	Lateritic Ore
DTR/48	6260	45.2	46.2	57.94	0	0	0	0	0	Lateritic Ore
DTR/48	6261	46.2	47.2	59.06	0	0	0	0	0	Lateritic Ore
DTR/48	6262	47.2	48.2	60.04	0	0	0	0	0	SLO_FO
DTR/48	6263	48.2	50	59.06	0	0	0	0	0	Lateritic Ore
DTR/48	6264	50	51	59.34	0	0	0	0	0	Lateritic Ore
DTR/48	6265	51	52	59.34	0	0	0	0	0	SLO_FO
DTR/48	6266	52	53	60.88	0	0	0	0	0	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/48	6267	53	54	62.41	0	0	0	0	0	SLO_FO
DTR/48	6268	54	55	60.74	0	0	0	0	0	SLO_FO
DTR/48	6269	55	57.2	55.15	0	0	0	0	0	SLO_FO
DTR/48	6270	57.2	58	55.15	0	0	0	0	0	SLO_FO
DTR/48	6271	68.5	69.5	19.54	0	0	0	0	0	Feruginous Shale
DTR/48	6272	69.5	70.5	25.96	0	0	0	0	0	Feruginous Shale
DTR/48	6273	70.5	71.2	25.96	0	0	0	0	0	Feruginous Shale
DTR/48	6274	71.2	72.8	36.85	0	0	0	0	0	Limonite
DTR/48	6275	72.8	73.8	36.85	0	0	0	0	0	Limonite
DTR/48	6276	73.8	75	42.17	0	0	0	0	0	Feruginous Shale
DTR/48	6277	75	75.8	42.17	0	0	0	0	0	Feruginous Shale
DTR/48	6278	75.8	77	44.26	0	0	0	0	0	Feruginous Shale
DTR/48	6279	77	78	44.26	0	0	0	0	0	Feruginous Shale
DTR/48	6280	78	78.8	44.26	0	0	0	0	0	Feruginous Shale
DTR/48	6281	78.8	79.5	43.01	0	0	0	0	0	Limonite
DTR/48	6282	79.5	81.5	43.01	0	0	0	0	0	Limonite
DTR/49	6283	0	1	49.71	0	0	0	0	0	Laterite
DTR/49	6284	1	2	49.99	0	0	0	0	0	Laterite
DTR/49	6285	2	3	58.92	0	0	0	0	0	Lateritic Ore
DTR/49	6286	3	4	59.34	0	0	0	0	0	Lateritic Ore
DTR/49	6287	4	5	59.62	0	0	0	0	0	Lateritic Ore
DTR/49	6288	5	6	32.81	0	0	0	0	0	Laterite
DTR/49	6289	6	7	48.17	0	0	0	0	0	Laterite
DTR/49	6290	7	8	59.92	0	0	0	0	0	HLO
DTR/49	6291	8	9	62	0	0	0	0	0	HLO
DTR/49	6292	9	10	62.28	0	0	0	0	0	HLO
DTR/49	6293	10	11	61.43	0	0	0	0	0	HLO
DTR/49	6294	11	12	57.94	0	0	0	0	0	HLO
DTR/49	6295	12	13	58.64	0	0	0	0	0	HLO
DTR/49	6296	13	14	42.59	0	0	0	0	0	HLO
DTR/49	6297	14	15	61.85	0	0	0	0	0	HLO
DTR/49	6298	15	16	60.74	0	0	0	0	0	HLO
DTR/49	6299	16	17	52.36	0	0	0	0	0	HLO
DTR/49	6300	17	18	55.15	0	0	0	0	0	HLO
DTR/49	6301	18	19	62.83	0	0	0	0	0	HLO
DTR/49	6302	19	20	58.78	0	0	0	0	0	HLO
DTR/49	6303	20	21	55.85	0	0	0	0	0	HLO
DTR/49	6304	21	22	62.41	0	0	0	0	0	HLO
DTR/49	6305	22	23	63.95	0	0	0	0	0	HLO
DTR/49	6306	23	24	62.13	0	0	0	0	0	HLO
DTR/49	6307	24	25	63.25	0	0	0	0	0	HLO

Borehole Assay & Litho Data

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/49	6308	25	26	62.97	0	0	0	0	0	HLO
DTR/49	6309	26	27	63.11	0	0	0	0	0	HLO
DTR/49	6310	27	28	63.53	0	0	0	0	0	HLO
DTR/49	6311	28	29	64.51	0	0	0	0	0	HLO
DTR/49	6312	29	30	64.37	0	0	0	0	0	HLO
DTR/49	6313	30	31	64.23	0	0	0	0	0	HLO
DTR/49	6314	31	32	63.81	0	0	0	0	0	HLO
DTR/49	6315	32	33	63.53	0	0	0	0	0	HLO
DTR/49	6316	33	34	62.13	0	0	0	0	0	HLO
DTR/49	6317	34	35	63.25	0	0	0	0	0	HLO
DTR/49	6318	35	36	63.39	0	0	0	0	0	HLO
DTR/49	6319	36	37	62.83	0	0	0	0	0	HLO
DTR/49	6320	37	38	62.13	0	0	0	0	0	HLO
DTR/49	6321	38	39	63.53	0	0	0	0	0	HLO
DTR/49	6322	39	40	64.09	0	0	0	0	0	HLO
DTR/49	6323	40	41	63.11	0	0	0	0	0	HLO
DTR/49	6324	41	42.5	58.08	0	0	0	0	0	Limonitic Ore
DTR/49	6325	42.5	44	58.08	0	0	0	0	0	Limonitic Ore
DTR/49	6326	44	45.4	58.36	0	0	0	0	0	Limonitic Ore
DTR/49	6327	45.4	46	58.36	0	0	0	0	0	Limonitic Ore
DTR/49	6328	46	47	58.36	0	0	0	0	0	Limonitic Ore
DTR/49	6329	47	47.5	53.06	0	0	0	0	0	Limonite
DTR/49	6330	47.5	48.2	53.06	0	0	0	0	0	Feruginous Shale
DTR/49	6331	48.2	49	53.06	0	0	0	0	0	Feruginous Shale
DTR/49	6332	49	50.5	53.06	0	0	0	0	0	Feruginous Shale
DTR/49	6333	50.5	52	58.5	0	0	0	0	0	Limonitic Ore
DTR/49	6334	52	53	58.5	0	0	0	0	0	Limonitic Ore
DTR/49	6335	53	54	60.32	0	0	0	0	0	SLO_FO
DTR/49	6336	54	55	36.6	0	0	0	0	0	Feruginous Shale
DTR/49	6337	55	56	38.39	0	0	0	0	0	Feruginous Shale
DTR/49	6338	56	57	58.78	0	0	0	0	0	Lateritic Ore
DTR/49	6339	57	58	61.02	0	0	0	0	0	SLO_FO
DTR/49	6340	58	59	58.36	0	0	0	0	0	Lateritic Ore
DTR/49	6341	59	60	59.48	0	0	0	0	0	Lateritic Ore
DTR/49	6342	60	60.6	59.48	0	0	0	0	0	Lateritic Ore
DTR/49	6343	67	68	61.43	0	0	0	0	0	SLO_FO
DTR/49	6344	68	69	59.9	0	0	0	0	0	SLO_FO
DTR/49	6345	69	70	55.85	0	0	0	0	0	SLO_FO
DTR/49	6346	70	71	60.74	0	0	0	0	0	SLO_FO
DTR/49	6347	71	72	54.45	0	0	0	0	0	SLO_FO
DTR/49	6348	72	73	60.46	0	0	0	0	0	SLO_FO
DTR/49	6349	73	74	55.15	0	0	0	0	0	HLO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/49	6350	74	75	59.76	0	0	0	0	0	HLO
DTR/49	6351	75	76	58.5	0	0	0	0	0	HLO
DTR/49	6352	76	77	52.78	0	0	0	0	0	Feruginous Shale
DTR/49	6353	77	78	51.8	0	0	0	0	0	Feruginous Shale
DTR/49	6354	78	79	53.48	0	0	0	0	0	Feruginous Shale
DTR/49	6355	79	80	53.76	0	0	0	0	0	Feruginous Shale
DTR/49	6356	80	81	55.85	0	0	0	0	0	Lateritic Ore
DTR/49	6357	81	82	59.2	0	0	0	0	0	Lateritic Ore
DTR/49	6358	82	83.3	56.55	0	0	0	0	0	Lateritic Ore
DTR/49	6359	83.3	84	60.46	0	0	0	0	0	SLO_FO
DTR/49	6360	84	85.2	60.46	0	0	0	0	0	SLO_FO
DTR/49	6361	85.2	86	60.46	0	0	0	0	0	SLO_FO
DTR/49	6362	86	87	32.67	0	0	0	0	0	Feruginous Shale
DTR/49	6363	87	88	32.67	0	0	0	0	0	Feruginous Shale
DTR/50	6364	0	1	39.79	0	0	0	0	0	Float Ore
DTR/50	6365	1	2	38.81	0	0	0	0	0	Float Ore
DTR/50	6366	2	3	20.66	0	0	0	0	0	Feruginous Shale
DTR/50	6367	3	4	50.96	0	0	0	0	0	Laterite
DTR/50	6368	4	5	55.71	0	0	0	0	0	Lateritic Ore
DTR/50	6369	5	6	53.48	0	0	0	0	0	Laterite
DTR/50	6370	6	7	53.76	0	0	0	0	0	Laterite
DTR/50	6371	7	8	55.85	0	0	0	0	0	Lateritic Ore
DTR/50	6372	8	9	33.22	0	0	0	0	0	Laterite
DTR/50	6373	9	10	57.66	0	0	0	0	0	Lateritic Ore
DTR/50	6374	10	11	48.31	0	0	0	0	0	Laterite
DTR/50	6375	11	12	31.5	0	0	0	0	0	Feruginous Shale
DTR/50	6376	12	13	32.9	0	0	0	0	0	Feruginous Shale
DTR/50	6377	13	14	41.89	0	0	0	0	0	Feruginous Shale
DTR/50	6378	14	15	19.88	0	0	0	0	0	Feruginous Shale
DTR/50	6379	15	16	19.88	0	0	0	0	0	Feruginous Shale
DTR/50	6380	16	17	19.88	0	0	0	0	0	Feruginous Shale
DTR/50	6381	17	18	49.99	0	0	0	0	0	Feruginous Shale
DTR/50	6382	18	19	30.8	0	0	0	0	0	Feruginous Shale
DTR/50	6383	19	20	35	0	0	0	0	0	Feruginous Shale
DTR/50	6384	20	21	35	0	0	0	0	0	Feruginous Shale

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/50	6385	21	22	28	0	0	0	0	0	Feruginous Shale
DTR/50	6386	22	23	28.3	0	0	0	0	0	Feruginous Shale
DTR/50	6387	23	24	23.8	0	0	0	0	0	Feruginous Shale
DTR/50	6388	24	25	25.82	0	0	0	0	0	Feruginous Shale
DTR/50	6389	25	26	36.68	0	0	0	0	0	Feruginous Shale
DTR/50	6390	26	27	41.89	0	0	0	0	0	Feruginous Shale
DTR/50	6391	27	28	58.64	0	0	0	0	0	Lateritic Ore
DTR/50	6392	28	29	32.2	0	0	0	0	0	Feruginous Shale
DTR/50	6393	29	30	59.06	0	0	0	0	0	HLO
DTR/50	6394	30	31	60.04	0	0	0	0	0	HLO
DTR/50	6395	31	32	60.04	0	0	0	0	0	HLO
DTR/50	6396	32	33	60.04	0	0	0	0	0	HLO
DTR/50	6397	33	34	56.63	0	0	0	0	0	HLO
DTR/50	6398	34	35	58.22	0	0	0	0	0	Lateritic Ore
DTR/50	6399	35	36	59.92	0	0	0	0	0	Lateritic Ore
DTR/50	6400	36	37	59.92	0	0	0	0	0	Lateritic Ore
DTR/50	6401	37	38	60.6	0	0	0	0	0	HLO
DTR/50	6402	38	39	59.06	0	0	0	0	0	HLO
DTR/50	6403	39	40	59.2	0	0	0	0	0	HLO
DTR/50	6404	40	41	60.04	0	0	0	0	0	HLO
DTR/50	6405	41	42	59.34	0	0	0	0	0	HLO
DTR/50	6406	42	43	58.64	0	0	0	0	0	HLO
DTR/50	6407	43	44	59.2	0	0	0	0	0	HLO
DTR/50	6408	44	45	58.36	0	0	0	0	0	HLO
DTR/50	6409	45	46	61.93	0	0	0	0	0	HLO
DTR/50	6410	46	47	55.83	0	0	0	0	0	HLO
DTR/50	6411	47	48	60.04	0	0	0	0	0	HLO
DTR/50	6412	48	49	60.18	0	0	0	0	0	HLO
DTR/50	6413	49	50	62.13	0	0	0	0	0	HLO
DTR/50	6414	50	51	58.64	0	0	0	0	0	HLO
DTR/50	6415	51	52	58.64	0	0	0	0	0	HLO
DTR/50	6416	52	53	58.08	0	0	0	0	0	HLO
DTR/50	6417	53	54	57.24	0	0	0	0	0	SLO_FO
DTR/50	6418	54	55	57.52	0	0	0	0	0	SLO_FO
DTR/50	6419	55	56	57.24	0	0	0	0	0	SLO_FO
DTR/50	6420	56	57	57.55	0	0	0	0	0	SLO_FO
DTR/50	6421	57	58	55.43	0	0	0	0	0	SLO_FO
DTR/50	6422	58	59	55.43	0	0	0	0	0	SLO_FO
DTR/50	6423	59	60	55.01	0	0	0	0	0	SLO_FO
DTR/50	6424	60	61	57.52	0	0	0	0	0	SLO_FO
DTR/50	6425	61	62	55.57	0	0	0	0	0	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/50	6426	62	63	56.55	0	0	0	0	0	SLO_FO
DTR/50	6427	63	64.5	57.66	0	0	0	0	0	SLO_FO
DTR/50	6428	64.5	66	57.66	0	0	0	0	0	SLO_FO
DTR/50	6429	66	67	56.27	0	0	0	0	0	SLO_FO
DTR/50	6430	67	68.5	56.27	0	0	0	0	0	SLO_FO
DTR/50	6431	68.5	69	55.01	0	0	0	0	0	SLO_FO
DTR/50	6432	69	70	55.01	0	0	0	0	0	SLO_FO
DTR/50	6433	70	71	49.99	0	0	0	0	0	SLO_FO
DTR/50	6434	71	72	52.36	0	0	0	0	0	SLO_FO
DTR/50	6435	72	73	53.34	0	0	0	0	0	SLO_FO
DTR/50	6436	73	74	43.28	0	0	0	0	0	Feruginous Shale
DTR/50	6437	74	75	36.3	0	0	0	0	0	Feruginous Shale
DTR/50	6438	75	76	34.48	0	0	0	0	0	Feruginous Shale
DTR/50	6439	76	77	40.35	0	0	0	0	0	Feruginous Shale
DTR/50	6440	77	78	40.48	0	0	0	0	0	Feruginous Shale
DTR/50	6441	78	79	43.01	0	0	0	0	0	Feruginous Shale
DTR/50	6442	79	79.8	40.48	0	0	0	0	0	Feruginous Shale
DTR/50	6443	79.8	81	40.48	0	0	0	0	0	Feruginous Shale
DTR/50	6444	81	82	54.59	0	0	0	0	0	Feruginous Shale
DTR/50	6445	82	83.2	54.59	0	0	0	0	0	Feruginous Shale
DTR/50	6446	83.2	84	54.59	0	0	0	0	0	Feruginous Shale
DTR/50	6447	84	85.2	54.45	0	0	0	0	0	Feruginous Shale
DTR/50	6448	85.2	86	54.45	0	0	0	0	0	Feruginous Shale
DTR/50	6449	86	87	55.43	0	0	0	0	0	Lateritic Ore
DTR/50	6450	87	88	55.43	0	0	0	0	0	Lateritic Ore
DTR/50	6451	88	89	55.43	0	0	0	0	0	Lateritic Ore
DTR/50	6452	89	90	54.73	0	0	0	0	0	Feruginous Shale
DTR/50	6453	90	91	54.73	0	0	0	0	0	Feruginous Shale
DTR/50	6454	91	92	54.73	0	0	0	0	0	Feruginous Shale
DTR/50	6455	92	93	55.01	0	0	0	0	0	Lateritic Ore
DTR/50	6456	93	94	55.01	0	0	0	0	0	Lateritic Ore
DTR/50	6457	94	95	55.01	0	0	0	0	0	Lateritic Ore
DTR/50	6458	95	96.8	56.27	0	0	0	0	0	Lateritic Ore
DTR/50	6459	96.8	98	56.27	0	0	0	0	0	Lateritic Ore
DTR/50	6460	98	99.3	54.32	0	0	0	0	0	Feruginous Shale

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/50	6461	99.3	100	54.32	0	0	0	0	0	Feruginous Shale
DTR/50	6462	100	101	54.32	0	0	0	0	0	Feruginous Shale
DTR/50	6463	101	102	56.41	0	0	0	0	0	Lateritic Ore
DTR/50	6464	102	103	56.41	0	0	0	0	0	Lateritic Ore
DTR/50	6465	103	103.8	40.62	0	0	0	0	0	Feruginous Shale
DTR/50	6466	103.8	105	40.62	0	0	0	0	0	Feruginous Shale
DTR/51	6467	0	1	54.04	0	0	0	0	0	Float Ore
DTR/51	6468	1	2	53.06	0	0	0	0	0	Laterite
DTR/51	6469	2	3	53.76	0	0	0	0	0	Laterite
DTR/51	6470	3	4	55.29	0	0	0	0	0	Lateritic Ore
DTR/51	6471	4	5	54.45	0	0	0	0	0	Laterite
DTR/51	6472	5	6	41.18	0	0	0	0	0	Feruginous Shale
DTR/51	6473	6	7	44.68	0	0	0	0	0	Feruginous Shale
DTR/51	6474	7	8	44.54	0	0	0	0	0	Feruginous Shale
DTR/51	6475	8	9	53.06	0	0	0	0	0	Feruginous Shale
DTR/51	6476	9	10	53.06	0	0	0	0	0	Feruginous Shale
DTR/51	6477	10	11	53.06	0	0	0	0	0	Feruginous Shale
DTR/51	6478	22	23	52.22	0	0	0	0	0	Feruginous Shale
DTR/51	6479	23	24	44.26	0	0	0	0	0	Feruginous Shale
DTR/51	6480	24	25	41.74	0	0	0	0	0	Feruginous Shale
DTR/51	6481	25	26	37.69	0	0	0	0	0	Feruginous Shale
DTR/51	6482	26	27	41.18	0	0	0	0	0	Feruginous Shale
DTR/51	6483	27	28	60.74	0	0	0	0	0	HLO
DTR/51	6484	28	29	60.74	0	0	0	0	0	HLO
DTR/51	6485	29	30.5	61.99	0	0	0	0	0	HLO
DTR/51	6486	30.5	31	45.8	0	0	0	0	0	Feruginous Shale
DTR/51	6487	31	32	45.8	0	0	0	0	0	Feruginous Shale
DTR/51	6488	32	33	19.54	0	0	0	0	0	Feruginous Shale
DTR/51	6489	33	33.5	19.54	0	0	0	0	0	Feruginous Shale
DTR/51	6490	33.5	34.5	60.32	0	0	0	0	0	HLO
DTR/51	6491	34.5	35.5	60.32	0	0	0	0	0	HLO
DTR/51	6492	35.5	36.5	62.27	0	0	0	0	0	HLO
DTR/51	6493	36.5	37.5	62.27	0	0	0	0	0	HLO
DTR/51	6494	37.5	38.5	62.55	0	0	0	0	0	HLO

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BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/51	6495	38.5	39.5	63.53	0	0	0	0	0	HLO
DTR/51	6496	39.5	40.3	63.11	0	0	0	0	0	HLO
DTR/51	6497	40.3	41.3	60.04	0	0	0	0	0	HLO
DTR/51	6498	41.3	42	59.76	0	0	0	0	0	HLO
DTR/51	6499	42	43	62.13	0	0	0	0	0	HLO
DTR/51	6500	43	44	59.06	0	0	0	0	0	HLO
DTR/51	6501	44	45	58.64	0	0	0	0	0	HLO
DTR/51	6502	45	46	59.06	0	0	0	0	0	HLO
DTR/51	6503	46	47	54.73	0	0	0	0	0	Feruginous Shale
DTR/51	6504	47	48	59.62	0	0	0	0	0	HLO
DTR/51	6505	48	49	59.62	0	0	0	0	0	HLO
DTR/51	6506	49	50	59.62	0	0	0	0	0	HLO
DTR/51	6507	50	52	60.04	0	0	0	0	0	HLO
DTR/51	6508	52	53	60.04	0	0	0	0	0	HLO
DTR/51	6509	53	54	55.15	0	0	0	0	0	Lateritic Ore
DTR/51	6510	54	55	55.15	0	0	0	0	0	Lateritic Ore
DTR/51	6511	55	56	55.15	0	0	0	0	0	Lateritic Ore
DTR/51	6512	56	57	52.36	0	0	0	0	0	Laterite
DTR/51	6513	57	58	50.96	0	0	0	0	0	Laterite
DTR/51	6514	58	59	51.24	0	0	0	0	0	Laterite
DTR/51	6515	59	60	54.87	0	0	0	0	0	Laterite
DTR/51	6516	60	61.5	62.13	0	0	0	0	0	SLO_FO
DTR/51	6517	61.5	62.5	62.41	0	0	0	0	0	SLO_FO
DTR/51	6518	62.5	63.5	62.41	0	0	0	0	0	SLO_FO
DTR/51	6519	63.5	64.5	62.41	0	0	0	0	0	SLO_FO
DTR/51	6520	64.5	65.5	63.11	0	0	0	0	0	SLO_FO
DTR/51	6521	65.5	66.5	63.11	0	0	0	0	0	SLO_FO
DTR/51	6522	66.5	67.5	62.27	0	0	0	0	0	SLO_FO
DTR/51	6523	67.5	68	62.27	0	0	0	0	0	SLO_FO
DTR/51	6524	68	69	29.87	0	0	0	0	0	BHJ_BHQ_BMQ
DTR/51	6525	69	70	32.11	0	0	0	0	0	BHJ_BHQ_BMQ
DTR/51	6526	70	71	50.4	0	0	0	0	0	BHJ_BHQ_BMQ
DTR/51	6527	71	72	36.16	0	0	0	0	0	BHJ_BHQ_BMQ
DTR/51	6528	72	73	60.04	0	0	0	0	0	BHJ_BHQ_BMQ
DTR/51	6529	73	74	20.24	0	0	0	0	0	BHJ_BHQ_BMQ
DTR/51	6530	74	75	62.13	0	0	0	0	0	BHJ_BHQ_BMQ
DTR/51	6531	75	76	62.83	0	0	0	0	0	BHJ_BHQ_BMQ
DTR/51	6532	76	77	62.83	0	0	0	0	0	BHJ_BHQ_BMQ
DTR/51	6533	77	78	55.85	0	0	0	0	0	Lateritic Ore
DTR/51	6534	78	79	55.85	0	0	0	0	0	Lateritic Ore
DTR/51	6535	79	80	55.85	0	0	0	0	0	Lateritic Ore
DTR/51	6536	80	81	59.06	0	0	0	0	0	HLO
DTR/51	6537	81	82	59.06	0	0	0	0	0	HLO
DTR/51	6538	82	83	59.06	0	0	0	0	0	HLO
DTR/51	6539	83	84	59.76	0	0	0	0	0	HLO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/51	6540	84	85	59.76	0	0	0	0	0	HLO
DTR/51	6541	85	86	59.76	0	0	0	0	0	HLO
DTR/51	6542	86	87	59.48	0	0	0	0	0	HLO
DTR/51	6543	87	88	59.48	0	0	0	0	0	HLO
DTR/51	6544	88	89	59.48	0	0	0	0	0	HLO
DTR/51	6545	89	90	56.55	0	0	0	0	0	HLO
DTR/51	6546	90	91.5	56.55	0	0	0	0	0	HLO
DTR/51	6547	91.5	92.5	33.08	0	0	0	0	0	Feruginous Shale
DTR/51	6548	92.5	93.5	33.08	0	0	0	0	0	Feruginous Shale
DTR/51	6549	93.5	94.5	14.66	0	0	0	0	0	Limonite
DTR/51	6550	94.5	95.5	14.66	0	0	0	0	0	Limonite
DTR/51	6551	95.5	96	14.66	0	0	0	0	0	Limonite
DTR/52	6552	0	1	57.8	0	0	0	0	0	Lateritic Ore
DTR/52	6553	1	2	59.48	0	0	0	0	0	Lateritic Ore
DTR/52	6554	2	3	58.36	0	0	0	0	0	Lateritic Ore
DTR/52	6555	3	4	58.22	0	0	0	0	0	Lateritic Ore
DTR/52	6556	4	5	59.34	0	0	0	0	0	Lateritic Ore
DTR/52	6557	5	6	58.64	0	0	0	0	0	Lateritic Ore
DTR/52	6558	6	7	58.08	0	0	0	0	0	Lateritic Ore
DTR/52	6559	7	8	57.24	0	0	0	0	0	Lateritic Ore
DTR/52	6560	8	9	59.48	0	0	0	0	0	Lateritic Ore
DTR/52	6561	9	10	59.62	0	0	0	0	0	Lateritic Ore
DTR/52	6562	10	11	56.55	0	0	0	0	0	Lateritic Ore
DTR/52	6563	11	12	57.24	0	0	0	0	0	Lateritic Ore
DTR/52	6564	12	13	61.3	0	0	0	0	0	HLO
DTR/52	6565	13	14	58.5	0	0	0	0	0	HLO
DTR/52	6566	14	15	58.22	0	0	0	0	0	HLO
DTR/52	6567	15	16	60.74	0	0	0	0	0	HLO
DTR/52	6568	16	17	61.02	0	0	0	0	0	HLO
DTR/52	6569	17	18	60.04	0	0	0	0	0	HLO
DTR/52	6570	18	19	61.16	0	0	0	0	0	HLO
DTR/52	6571	19	20	60.18	0	0	0	0	0	HLO
DTR/52	6572	20	21	59.9	0	0	0	0	0	HLO
DTR/52	6573	21	22	59.34	0	0	0	0	0	HLO
DTR/52	6574	22	23	59.2	0	0	0	0	0	HLO
DTR/52	6575	23	24	58.78	0	0	0	0	0	HLO
DTR/52	6576	24	25	60.04	0	0	0	0	0	HLO
DTR/52	6577	25	26	58.5	0	0	0	0	0	HLO
DTR/52	6578	26	27	59.34	0	0	0	0	0	HLO
DTR/52	6579	27	28	58.36	0	0	0	0	0	HLO
DTR/52	6580	28	29	57.94	0	0	0	0	0	HLO
DTR/52	6581	29	30	59.48	0	0	0	0	0	HLO
DTR/52	6582	30	31	59.34	0	0	0	0	0	HLO
DTR/52	6583	31	32	57.94	0	0	0	0	0	HLO

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BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/52	6584	32	33	60.04	0	0	0	0	0	HLO
DTR/52	6585	33	34	59.34	0	0	0	0	0	HLO
DTR/52	6586	34	35	59.34	0	0	0	0	0	HLO
DTR/52	6587	35	36	59.9	0	0	0	0	0	HLO
DTR/52	6588	36	37	58.36	0	0	0	0	0	HLO
DTR/52	6589	37	38	59.48	0	0	0	0	0	HLO
DTR/52	6590	38	39	60.04	0	0	0	0	0	HLO
DTR/52	6591	39	40	59.34	0	0	0	0	0	HLO
DTR/52	6592	40	41	58.08	0	0	0	0	0	Limonitic Ore
DTR/52	6593	41	42	59.34	0	0	0	0	0	Limonitic Ore
DTR/52	6594	42	43	59.48	0	0	0	0	0	Limonitic Ore
DTR/52	6595	43	44	59.9	0	0	0	0	0	HLO
DTR/52	6596	44	45	59.76	0	0	0	0	0	HLO
DTR/52	6597	45	46	60.6	0	0	0	0	0	HLO
DTR/52	6598	46	47	59.2	0	0	0	0	0	HLO
DTR/52	6599	47	48	66.32	0	0	0	0	0	SLO_FO
DTR/52	6600	48	49	66.32	0	0	0	0	0	SLO_FO
DTR/52	6601	49	50	66.32	0	0	0	0	0	SLO_FO
DTR/52	6602	50	51	66.74	0	0	0	0	0	SLO_FO
DTR/52	6603	51	53	66.74	0	0	0	0	0	SLO_FO
DTR/52	6604	53	54	65.62	0	0	0	0	0	SLO_FO
DTR/52	6605	54	55.5	65.62	0	0	0	0	0	SLO_FO
DTR/52	6606	55.5	56.5	60.32	0	0	0	0	0	SLO_FO
DTR/52	6607	56.5	57.5	60.32	0	0	0	0	0	SLO_FO
DTR/52	6608	57.5	58.3	60.32	0	0	0	0	0	SLO_FO
DTR/52	6609	58.3	59	57.92	0	0	0	0	0	Limonitic Ore
DTR/52	6610	59	60	57.92	0	0	0	0	0	Limonitic Ore
DTR/52	6611	60	61	57.92	0	0	0	0	0	Limonitic Ore
DTR/52	6612	61	62	57.92	0	0	0	0	0	Limonitic Ore
DTR/52	6613	62	63.5	54.45	0	0	0	0	0	Feruginous Shale
DTR/52	6614	63.5	64.3	54.45	0	0	0	0	0	Feruginous Shale
DTR/52	6615	64.3	65.3	54.73	0	0	0	0	0	Feruginous Shale
DTR/52	6616	65.3	66.3	54.73	0	0	0	0	0	Feruginous Shale
DTR/52	6617	66.3	67.3	56.69	0	0	0	0	0	Lateritic Ore
DTR/52	6618	67.3	68.3	56.69	0	0	0	0	0	Lateritic Ore
DTR/52	6619	68.3	69	56.69	0	0	0	0	0	Lateritic Ore
DTR/52	6620	69	69.8	56.69	0	0	0	0	0	Lateritic Ore
DTR/52	6621	69.8	70.8	62	0	0	0	0	0	HLO
DTR/52	6622	70.8	71.5	62	0	0	0	0	0	HLO
DTR/52	6623	71.5	72.5	54.13	0	0	0	0	0	Feruginous Shale
DTR/52	6624	72.5	73.5	54.13	0	0	0	0	0	Feruginous Shale
DTR/52	6625	73.5	74.5	53.34	0	0	0	0	0	Feruginous

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/52	6626	74.5	75.5	53.34	0	0	0	0	0	Feruginous Shale
DTR/52	6627	75.5	76	59.76	0	0	0	0	0	HLO
DTR/52	6628	76	77	59.76	0	0	0	0	0	HLO
DTR/52	6629	77	78	59.76	0	0	0	0	0	HLO
DTR/52	6630	78	79	55.29	0	0	0	0	0	Lateritic Ore
DTR/52	6631	79	79.5	55.29	0	0	0	0	0	Lateritic Ore
DTR/52	6632	79.5	80.5	53.06	0	0	0	0	0	Feruginous Shale
DTR/52	6633	80.5	81.5	53.06	0	0	0	0	0	Feruginous Shale
DTR/52	6634	81.5	82.5	53.62	0	0	0	0	0	Feruginous Shale
DTR/52	6635	82.5	83	53.48	0	0	0	0	0	Feruginous Shale
DTR/52	6636	83	84	53.48	0	0	0	0	0	Feruginous Shale
DTR/52	6637	84	85.5	54.87	0	0	0	0	0	Feruginous Shale
DTR/52	6638	85.5	86.5	53.85	0	0	0	0	0	Lateritic Ore
DTR/52	6639	86.5	87.5	52.08	0	0	0	0	0	Feruginous Shale
DTR/52	6640	87.5	88.5	52.08	0	0	0	0	0	Feruginous Shale
DTR/52	6641	88.5	89	52.08	0	0	0	0	0	Feruginous Shale
DTR/52	6642	89	90	56.27	0	0	0	0	0	Lateritic Ore
DTR/52	6643	90	91	56.27	0	0	0	0	0	Lateritic Ore
DTR/52	6644	91	91.5	56.27	0	0	0	0	0	Lateritic Ore
DTR/52	6645	91.5	92.5	50.96	0	0	0	0	0	Limonite
DTR/52	6646	92.5	93.5	50.96	0	0	0	0	0	Feruginous Shale
DTR/52	6647	93.5	94.5	57.38	0	0	0	0	0	Lateritic Ore
DTR/52	6648	94.5	95.5	57.38	0	0	0	0	0	Lateritic Ore
DTR/52	6649	95.5	96.2	57.38	0	0	0	0	0	Lateritic Ore
DTR/52	6650	96.2	97	44.4	0	0	0	0	0	Feruginous Shale
DTR/52	6651	97	98	44.4	0	0	0	0	0	Feruginous Shale
DTR/52	6652	98	99	44.4	0	0	0	0	0	Feruginous Shale
DTR/53	6653	0	1	60.18	0	0	0	0	0	Float Ore
DTR/53	6654	1	2	55.85	0	0	0	0	0	Float Ore
DTR/53	6655	2	3	55.15	0	0	0	0	0	Lateritic Ore
DTR/53	6656	3	4	56.69	0	0	0	0	0	Lateritic Ore
DTR/53	6657	4	5	57.11	0	0	0	0	0	Lateritic Ore
DTR/53	6658	5	6	54.45	0	0	0	0	0	Laterite
DTR/53	6659	6	7	57.95	0	0	0	0	0	Lateritic Ore
DTR/53	6660	7	8	54.73	0	0	0	0	0	Laterite
DTR/53	6661	8	9	53.76	0	0	0	0	0	Laterite

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BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/53	6662	9	10	56.55	0	0	0	0	0	Lateritic Ore
DTR/53	6663	10	11	55.43	0	0	0	0	0	Lateritic Ore
DTR/53	6664	11	12	54.45	0	0	0	0	0	Feruginous Shale
DTR/53	6665	12	13	55.29	0	0	0	0	0	Lateritic Ore
DTR/53	6666	13	14	54.73	0	0	0	0	0	Feruginous Shale
DTR/53	6667	14	15	54.87	0	0	0	0	0	Feruginous Shale
DTR/53	6668	15	16	55.15	0	0	0	0	0	Lateritic Ore
DTR/53	6669	16	17	47.75	0	0	0	0	0	Laterite
DTR/53	6670	17	18	52.5	0	0	0	0	0	Laterite
DTR/53	6671	18	19	53.76	0	0	0	0	0	Laterite
DTR/53	6672	19	20	52.22	0	0	0	0	0	Laterite
DTR/53	6673	20	21	53.2	0	0	0	0	0	Feruginous Shale
DTR/53	6674	21	22	55.71	0	0	0	0	0	Lateritic Ore
DTR/53	6675	22	23	52.92	0	0	0	0	0	Feruginous Shale
DTR/53	6676	23	24	57.94	0	0	0	0	0	Lateritic Ore
DTR/53	6677	24	25	58.22	0	0	0	0	0	Lateritic Ore
DTR/53	6678	25	26	58.08	0	0	0	0	0	Lateritic Ore
DTR/53	6679	26	27	57.8	0	0	0	0	0	Lateritic Ore
DTR/53	6680	27	28	54.32	0	0	0	0	0	Feruginous Shale
DTR/53	6681	28	29	54.73	0	0	0	0	0	Feruginous Shale
DTR/53	6682	29	30	54.73	0	0	0	0	0	Feruginous Shale
DTR/53	6683	40.2	41.2	59.06	0	0	0	0	0	Lateritic Ore
DTR/53	6684	41.2	42.2	59.06	0	0	0	0	0	Lateritic Ore
DTR/53	6685	42.2	43.2	59.06	0	0	0	0	0	Lateritic Ore
DTR/53	6686	43.2	44	57.52	0	0	0	0	0	Lateritic Ore
DTR/53	6687	44	45	57.52	0	0	0	0	0	Lateritic Ore
DTR/53	6688	45	46	57.52	0	0	0	0	0	Lateritic Ore
DTR/53	6689	46	47	60.32	0	0	0	0	0	HLO
DTR/53	6690	47	48	60.32	0	0	0	0	0	HLO
DTR/53	6691	48	49	60.32	0	0	0	0	0	HLO
DTR/53	6692	49	50	62.69	0	0	0	0	0	HLO
DTR/53	6693	50	51.5	62.69	0	0	0	0	0	HLO
DTR/53	6694	51.5	52.5	62.83	0	0	0	0	0	HLO
DTR/53	6695	52.5	53	62.83	0	0	0	0	0	HLO
DTR/53	6696	53	54	39.79	0	0	0	0	0	Feruginous Shale
DTR/53	6697	54	55	59.34	0	0	0	0	0	Lateritic Ore
DTR/53	6698	55	56	53.06	0	0	0	0	0	Feruginous Shale
DTR/53	6699	56	56.8	53.06	0	0	0	0	0	Feruginous Shale
DTR/53	6700	56.8	57.8	54.73	0	0	0	0	0	Feruginous

Borehole Assay & Litho Data

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/53	6701	57.8	59	54.73	0	0	0	0	0	Feruginous Shale
DTR/53	6702	59	60.5	59.06	0	0	0	0	0	HLO
DTR/53	6703	60.5	61.5	60.46	0	0	0	0	0	HLO
DTR/53	6704	61.5	62	60.46	0	0	0	0	0	HLO
DTR/53	6705	62	63	60.88	0	0	0	0	0	HLO
DTR/53	6706	63	64.5	60.74	0	0	0	0	0	HLO
DTR/53	6707	64.5	65.5	60.46	0	0	0	0	0	HLO
DTR/53	6708	65.5	66.5	59.34	0	0	0	0	0	HLO
DTR/53	6709	66.5	67.5	59.34	0	0	0	0	0	HLO
DTR/53	6710	67.5	68.5	59.34	0	0	0	0	0	HLO
DTR/53	6711	68.5	70	51.66	0	0	0	0	0	Feruginous Shale
DTR/53	6712	70	71	54.59	0	0	0	0	0	Feruginous Shale
DTR/53	6713	71	72	54.59	0	0	0	0	0	Feruginous Shale
DTR/53	6714	72	73.5	55.43	0	0	0	0	0	Lateritic Ore
DTR/53	6715	73.5	74.5	61.02	0	0	0	0	0	HLO
DTR/53	6716	74.5	75.5	61.02	0	0	0	0	0	HLO
DTR/53	6717	75.5	76	59.06	0	0	0	0	0	HLO
DTR/53	6718	76	77	59.06	0	0	0	0	0	HLO
DTR/53	6719	77	78	58.64	0	0	0	0	0	HLO
DTR/53	6720	78	79	58.64	0	0	0	0	0	HLO
DTR/53	6721	79	80.5	45.38	0	0	0	0	0	Feruginous Shale
DTR/53	6722	80.5	81.2	45.38	0	0	0	0	0	Feruginous Shale
DTR/53	6723	81.2	82.8	56.41	0	0	0	0	0	Lateritic Ore
DTR/53	6724	82.8	84	54.73	0	0	0	0	0	Feruginous Shale
DTR/53	6725	84	85	58.08	0	0	0	0	0	Lateritic Ore
DTR/53	6726	85	86	58.08	0	0	0	0	0	Lateritic Ore
DTR/53	6727	86	86.8	58.08	0	0	0	0	0	Lateritic Ore
DTR/53	6728	86.8	87.8	58.22	0	0	0	0	0	Lateritic Ore
DTR/53	6729	87.8	88.8	58.22	0	0	0	0	0	Lateritic Ore
DTR/53	6730	88.8	89.5	58.22	0	0	0	0	0	Lateritic Ore
DTR/53	6731	89.5	90	58.5	0	0	0	0	0	Lateritic Ore
DTR/53	6732	90	91	58.5	0	0	0	0	0	Lateritic Ore
DTR/53	6733	91	92	58.5	0	0	0	0	0	Lateritic Ore
DTR/53	6734	92	93	56.83	0	0	0	0	0	Lateritic Ore
DTR/54	6735	0	1	52.36	0	0	0	0	0	Float Ore
DTR/54	6736	1	2	53.06	0	0	0	0	0	Float Ore
DTR/54	6737	2	3	57.24	0	0	0	0	0	Float Ore
DTR/54	6738	3	4	56.69	0	0	0	0	0	Lateritic Ore
DTR/54	6739	4	5	59.2	0	0	0	0	0	Lateritic Ore
DTR/54	6740	5	6	57.94	0	0	0	0	0	Lateritic Ore

BKH-12 Borehole Assay & Litho Data

Manner (P. 10/10/10)

G. M. C. Ltd.

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/54	6741	6	7	57.66	0	0	0	0	0	Lateritic Ore
DTR/54	6742	7	8	57.52	0	0	0	0	0	Lateritic Ore
DTR/54	6743	8	9	56.55	0	0	0	0	0	Lateritic Ore
DTR/54	6744	9	10	54.18	0	0	0	0	0	Laterite
DTR/54	6745	10	11	51.66	0	0	0	0	0	Feruginous Shale
DTR/54	6746	11	12	55.85	0	0	0	0	0	Lateritic Ore
DTR/54	6747	12	13	50.96	0	0	0	0	0	Feruginous Shale
DTR/54	6748	13	14	55.15	0	0	0	0	0	Lateritic Ore
DTR/54	6749	14	15	54.59	0	0	0	0	0	Feruginous Shale
DTR/54	6750	15	16	47.19	0	0	0	0	0	Feruginous Shale
DTR/54	6751	16	17	32.39	0	0	0	0	0	Laterite
DTR/54	6752	17	18	22.33	0	0	0	0	0	Laterite
DTR/54	6753	18	19	61.85	0	0	0	0	0	SLO_FO
DTR/54	6754	19	20	61.85	0	0	0	0	0	SLO_FO
DTR/54	6755	20	21	56.83	0	0	0	0	0	Lateritic Ore
DTR/54	6756	21	22	56.83	0	0	0	0	0	Lateritic Ore
DTR/54	6757	22	23	56.83	0	0	0	0	0	Lateritic Ore
DTR/54	6758	23	24	55.85	0	0	0	0	0	Lateritic Ore
DTR/54	6759	24	25	55.85	0	0	0	0	0	Lateritic Ore
DTR/54	6760	25	26	55.85	0	0	0	0	0	Lateritic Ore
DTR/54	6761	26	27	11.86	0	0	0	0	0	Feruginous Shale
DTR/54	6762	27	28	11.86	0	0	0	0	0	Feruginous Shale
DTR/54	6763	28	29	11.86	0	0	0	0	0	Feruginous Shale
DTR/54	6764	29	30	56.27	0	0	0	0	0	Lateritic Ore
DTR/54	6765	30	31	56.27	0	0	0	0	0	Lateritic Ore
DTR/54	6766	31	32	56.27	0	0	0	0	0	Lateritic Ore
DTR/54	6767	32	33	6.28	0	0	0	0	0	Feruginous Shale
DTR/54	6768	33	34	6.28	0	0	0	0	0	Feruginous Shale
DTR/54	6769	34	35.5	6.28	0	0	0	0	0	Feruginous Shale
DTR/54	6770	36	37	10.47	0	0	0	0	0	Feruginous Shale
DTR/54	6771	37	38	10.47	0	0	0	0	0	Feruginous Shale
DTR/54	6772	38	39	10.47	0	0	0	0	0	Feruginous Shale
DTR/54	6773	39	40	5.86	0	0	0	0	0	Feruginous Shale
DTR/54	6774	40	41	5.86	0	0	0	0	0	Feruginous Shale
DTR/54	6775	41	42	5.86	0	0	0	0	0	Feruginous Shale
DTR/54	6776	42	43	48.59	0	0	0	0	0	Feruginous

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/54	6777	43	44	48.59	0	0	0	0	0	Feruginous Shale
DTR/54	6778	44	45	48.59	0	0	0	0	0	Feruginous Shale
DTR/54	6779	45	46	46.77	0	0	0	0	0	Feruginous Shale
DTR/54	6780	46	47	46.77	0	0	0	0	0	Feruginous Shale
DTR/54	6781	47	48	46.77	0	0	0	0	0	Feruginous Shale
DTR/54	6782	48	49	47.47	0	0	0	0	0	Feruginous Shale
DTR/54	6783	49	50	47.47	0	0	0	0	0	Feruginous Shale
DTR/54	6784	50	51	47.47	0	0	0	0	0	Feruginous Shale
DTR/54	6785	51	52	41.18	0	0	0	0	0	Feruginous Shale
DTR/54	6786	52	53	41.18	0	0	0	0	0	Feruginous Shale
DTR/54	6787	53	54	41.18	0	0	0	0	0	Feruginous Shale
DTR/54	6788	54	55	50.96	0	0	0	0	0	Feruginous Shale
DTR/54	6789	55	56	50.96	0	0	0	0	0	Feruginous Shale
DTR/54	6790	56	57	50.96	0	0	0	0	0	Feruginous Shale
DTR/54	6791	57	58	54.18	0	0	0	0	0	Limonite
DTR/54	6792	58	59	54.18	0	0	0	0	0	Limonite
DTR/54	6793	59	60	54.18	0	0	0	0	0	Limonite
DTR/54	6794	60	61	59.06	0	0	0	0	0	HLO
DTR/54	6795	61	62	59.06	0	0	0	0	0	HLO
DTR/54	6796	62	63	59.06	0	0	0	0	0	HLO
DTR/54	6797	63	64	60.74	0	0	0	0	0	HLO
DTR/54	6798	64	65	60.74	0	0	0	0	0	HLO
DTR/54	6799	65	66	60.74	0	0	0	0	0	HLO
DTR/54	6800	66	67	61.43	0	0	0	0	0	HLO
DTR/54	6801	67	68	61.43	0	0	0	0	0	HLO
DTR/54	6802	68	69	61.43	0	0	0	0	0	HLO
DTR/54	6803	69	70	64.23	0	0	0	0	0	SLO_FO
DTR/54	6804	70	71	64.23	0	0	0	0	0	SLO_FO
DTR/54	6805	71	72	64.23	0	0	0	0	0	SLO_FO
DTR/54	6806	72	73	62.41	0	0	0	0	0	SLO_FO
DTR/54	6807	73	74	62.41	0	0	0	0	0	SLO_FO
DTR/54	6808	74	75	62.41	0	0	0	0	0	SLO_FO
DTR/54	6809	75	76	60.74	0	0	0	0	0	SLO_FO
DTR/54	6810	76	77	60.74	0	0	0	0	0	SLO_FO
DTR/54	6811	77	78	60.74	0	0	0	0	0	SLO_FO
DTR/54	6812	78	79	63.53	0	0	0	0	0	SLO_FO

BKF--dr Borehole Assay & Litho Data

Manager (Geology)
District Head Office, P. J. J. J.
G. M. S. J. J.

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/54	6813	79	80.5	63.53	0	0	0	0	0	SLO_FO
DTR/54	6814	80.5	81.5	5.72	0	0	0	0	0	Limonite
DTR/54	6815	81.5	82.5	5.72	0	0	0	0	0	Limonite
DTR/54	6816	82.5	83.5	5.72	0	0	0	0	0	Limonite
DTR/54	6817	83.5	84.5	5.44	0	0	0	0	0	Limonite
DTR/54	6818	84.5	85.5	5.44	0	0	0	0	0	Limonite
DTR/54	6819	85.5	86.5	6.28	0	0	0	0	0	Feruginous Shale
DTR/54	6820	86.5	87.5	6.28	0	0	0	0	0	Feruginous Shale
DTR/54	6821	87.5	88.5	6.28	0	0	0	0	0	Feruginous Shale
DTR/54	6822	88.5	89.5	6.56	0	0	0	0	0	Feruginous Shale
DTR/54	6823	89.5	90.5	6.56	0	0	0	0	0	Feruginous Shale
DTR/55	6824	0	1	59.34	0	0	0	0	0	Float Ore
DTR/55	6825	1	2	58.92	0	0	0	0	0	Float Ore
DTR/55	6826	2	3	59.62	0	0	0	0	0	Float Ore
DTR/55	6827	3	4	57.94	0	0	0	0	0	Lateritic Ore
DTR/55	6828	4	5	52.78	0	0	0	0	0	Laterite
DTR/55	6829	5	6	53.34	0	0	0	0	0	Laterite
DTR/55	6830	6	7	53.62	0	0	0	0	0	Laterite
DTR/55	6831	7	8	53.9	0	0	0	0	0	Laterite
DTR/55	6832	8	9	52.78	0	0	0	0	0	Laterite
DTR/55	6833	9	10	53.48	0	0	0	0	0	Laterite
DTR/55	6834	10	11	55.57	0	0	0	0	0	Lateritic Ore
DTR/55	6835	11	12	61.99	0	0	0	0	0	SLO_FO
DTR/55	6836	12	13	61.85	0	0	0	0	0	SLO_FO
DTR/55	6837	13	14	62.83	0	0	0	0	0	SLO_FO
DTR/55	6838	14	15	62.69	0	0	0	0	0	SLO_FO
DTR/55	6839	15	16	63.39	0	0	0	0	0	SLO_FO
DTR/55	6840	16	17	62.83	0	0	0	0	0	SLO_FO
DTR/55	6841	17	18	62.97	0	0	0	0	0	SLO_FO
DTR/55	6842	18	19	63.53	0	0	0	0	0	SLO_FO
DTR/55	6843	19	20	61.43	0	0	0	0	0	SLO_FO
DTR/55	6844	20	21	60.32	0	0	0	0	0	SLO_FO
DTR/55	6845	21	22	60.74	0	0	0	0	0	SLO_FO
DTR/55	6846	22	23	60.04	0	0	0	0	0	SLO_FO
DTR/55	6847	23	24	55.71	0	0	0	0	0	Lateritic Ore
DTR/55	6848	24	25	54.32	0	0	0	0	0	Feruginous Shale
DTR/55	6849	25	26	54.45	0	0	0	0	0	Feruginous Shale
DTR/55	6850	26	27	54.87	0	0	0	0	0	Feruginous Shale
DTR/55	6851	27	28	54.04	0	0	0	0	0	Feruginous Shale
DTR/55	6852	28	29	57.52	0	0	0	0	0	Lateritic Ore

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/55	6853	29	30	55.01	0	0	0	0	0	Lateritic Ore
DTR/55	6854	30	31	53.34	0	0	0	0	0	Feruginous Shale
DTR/55	6855	31	32	53.48	0	0	0	0	0	Feruginous Shale
DTR/55	6856	32	33	53.2	0	0	0	0	0	Feruginous Shale
DTR/55	6857	33	34	54.45	0	0	0	0	0	Feruginous Shale
DTR/55	6858	34	35	62.69	0	0	0	0	0	SLO_FO
DTR/55	6859	35	36	57.94	0	0	0	0	0	Lateritic Ore
DTR/55	6860	36	37	55.15	0	0	0	0	0	Lateritic Ore
DTR/55	6861	37	38	56.27	0	0	0	0	0	Lateritic Ore
DTR/55	6862	38	39	56.55	0	0	0	0	0	Lateritic Ore
DTR/55	6863	39	40	59.06	0	0	0	0	0	Lateritic Ore
DTR/55	6864	40	41	59.62	0	0	0	0	0	Lateritic Ore
DTR/55	6865	41	42	59.62	0	0	0	0	0	Lateritic Ore
DTR/55	6866	42	43	59.62	0	0	0	0	0	Lateritic Ore
DTR/55	6867	43	44	59.62	0	0	0	0	0	Lateritic Ore
DTR/55	6868	44	45	59.62	0	0	0	0	0	Lateritic Ore
DTR/55	6869	45	46	59.62	0	0	0	0	0	Lateritic Ore
DTR/55	6870	46	47	59.76	0	0	0	0	0	Lateritic Ore
DTR/55	6871	47	48	59.76	0	0	0	0	0	Lateritic Ore
DTR/55	6872	48	49	56.83	0	0	0	0	0	Lateritic Ore
DTR/55	6873	50	51	54.04	0	0	0	0	0	Feruginous Shale
DTR/55	6874	51	52	54.04	0	0	0	0	0	Feruginous Shale
DTR/55	6875	52	53	51.52	0	0	0	0	0	Feruginous Shale
DTR/55	6876	53	54	51.52	0	0	0	0	0	Feruginous Shale
DTR/55	6877	54	55	61.3	0	0	0	0	0	HLO
DTR/55	6878	55	56	61.16	0	0	0	0	0	HLO
DTR/55	6879	56	57	62.83	0	0	0	0	0	HLO
DTR/55	6880	57	58	61.43	0	0	0	0	0	HLO
DTR/55	6881	58	59	62.56	0	0	0	0	0	HLO
DTR/55	6882	59	60	59.76	0	0	0	0	0	HLO
DTR/55	6883	60	61	59.62	0	0	0	0	0	HLO
DTR/55	6884	61	62	59.34	0	0	0	0	0	HLO
DTR/55	6885	62	63	60.88	0	0	0	0	0	HLO
DTR/55	6886	63	64	61.43	0	0	0	0	0	HLO
DTR/55	6887	64	65	58.5	0	0	0	0	0	HLO
DTR/55	6888	65	66	59.48	0	0	0	0	0	HLO
DTR/55	6889	66	67	60.74	0	0	0	0	0	HLO
DTR/55	6890	67	68	61.3	0	0	0	0	0	HLO
DTR/55	6891	68	69	59.69	0	0	0	0	0	HLO
DTR/55	6892	69	70.5	59.34	0	0	0	0	0	HLO
DTR/55	6893	70.5	71.5	60.04	0	0	0	0	0	HLO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/55	6894	71.5	72.5	60.04	0	0	0	0	0	HLO
DTR/55	6895	72.5	73.5	60.04	0	0	0	0	0	HLO
DTR/55	6896	73.5	74.5	52.78	0	0	0	0	0	Feruginous Shale
DTR/55	6897	74.5	75.5	52.78	0	0	0	0	0	Feruginous Shale
DTR/55	6898	75.5	76.5	52.78	0	0	0	0	0	Feruginous Shale
DTR/55	6899	76.5	77.5	60.04	0	0	0	0	0	SLO_FO
DTR/55	6900	77.5	78.5	60.04	0	0	0	0	0	SLO_FO
DTR/55	6901	78.5	79.5	60.04	0	0	0	0	0	SLO_FO
DTR/55	6902	79.5	80.5	58.92	0	0	0	0	0	SLO_FO
DTR/55	6903	80.5	81.5	58.92	0	0	0	0	0	SLO_FO
DTR/55	6904	81.5	82.5	58.92	0	0	0	0	0	SLO_FO
DTR/55	6905	82.5	83.5	59.34	0	0	0	0	0	SLO_FO
DTR/55	6906	83.5	84.5	59.34	0	0	0	0	0	SLO_FO
DTR/55	6907	84.5	85.5	59.34	0	0	0	0	0	SLO_FO
DTR/55	6908	85.5	86.5	59.76	0	0	0	0	0	SLO_FO
DTR/55	6909	86.5	87.5	59.76	0	0	0	0	0	SLO_FO
DTR/55	6910	87.5	88.5	59.76	0	0	0	0	0	SLO_FO
DTR/55	6911	88.5	89.5	59.2	0	0	0	0	0	SLO_FO
DTR/55	6912	89.5	90.5	59.2	0	0	0	0	0	SLO_FO
DTR/56	6913	0	1	53.9	0	0	0	0	0	Laterite
DTR/56	6914	1	2	57.38	0	0	0	0	0	Lateritic Ore
DTR/56	6915	2	3	57.11	0	0	0	0	0	Lateritic Ore
DTR/56	6916	3	4	53.62	0	0	0	0	0	Laterite
DTR/56	6917	4	5	54.74	0	0	0	0	0	Laterite
DTR/56	6918	5	6	56.55	0	0	0	0	0	Lateritic Ore
DTR/56	6919	6	7	55.57	0	0	0	0	0	Lateritic Ore
DTR/56	6920	7	8	55.57	0	0	0	0	0	Lateritic Ore
DTR/56	6921	8	9	53.34	0	0	0	0	0	Feruginous Shale
DTR/56	6922	9	10	53.62	0	0	0	0	0	Feruginous Shale
DTR/56	6923	10	11	49.01	0	0	0	0	0	Feruginous Shale
DTR/56	6924	11	12	49.99	0	0	0	0	0	Feruginous Shale
DTR/56	6925	12	13	51.1	0	0	0	0	0	Feruginous Shale
DTR/56	6926	13	14	51.38	0	0	0	0	0	Feruginous Shale
DTR/56	6927	15	16	50.26	0	0	0	0	0	Feruginous Shale
DTR/56	6928	16	17	50.26	0	0	0	0	0	Feruginous Shale
DTR/56	6929	17	18	51.94	0	0	0	0	0	Feruginous Shale
DTR/56	6930	18	19	51.94	0	0	0	0	0	Feruginous Shale
DTR/56	6931	19	20	49.29	0	0	0	0	0	Feruginous

Borehole Assay & Litho Data

B.R.D. - 2
 Director of Geol. &
 M. S. & M. S. & M. S. & M. S.
 G. S. & M. S. & M. S. & M. S.

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/56	6932	20	21	49.29	0	0	0	0	0	Feruginous Shale
DTR/56	6933	25	26	38.81	0	0	0	0	0	Feruginous Shale
DTR/56	6934	26	27	38.81	0	0	0	0	0	Feruginous Shale
DTR/56	6935	27	28	35.88	0	0	0	0	0	Feruginous Shale
DTR/56	6936	28	29	35.88	0	0	0	0	0	Feruginous Shale
DTR/56	6937	29	30	45.1	0	0	0	0	0	Feruginous Shale
DTR/56	6938	30	31.5	45.1	0	0	0	0	0	Feruginous Shale
DTR/56	6939	31.5	32.5	46.77	0	0	0	0	0	Feruginous Shale
DTR/56	6940	32.5	33.5	46.77	0	0	0	0	0	Feruginous Shale
DTR/56	6941	33.5	34.5	46.77	0	0	0	0	0	Feruginous Shale
DTR/56	6942	34.5	35.5	59.34	0	0	0	0	0	Limonitic Ore
DTR/56	6943	35.5	36.5	59.34	0	0	0	0	0	Limonitic Ore
DTR/56	6944	36.5	37.5	59.34	0	0	0	0	0	Limonitic Ore
DTR/56	6945	37.5	38.5	47.33	0	0	0	0	0	Feruginous Shale
DTR/56	6946	38.5	39.5	46.77	0	0	0	0	0	Feruginous Shale
DTR/56	6947	39.5	40.5	46.77	0	0	0	0	0	Feruginous Shale
DTR/56	6948	40.5	41	52.64	0	0	0	0	0	Feruginous Shale
DTR/56	6949	41	42	52.64	0	0	0	0	0	Feruginous Shale
DTR/56	6950	42	43	55.57	0	0	0	0	0	Lateritic Ore
DTR/56	6951	43	44	55.57	0	0	0	0	0	Lateritic Ore
DTR/56	6952	44	45	58.08	0	0	0	0	0	Lateritic Ore
DTR/56	6953	45	46	54.45	0	0	0	0	0	Feruginous Shale
DTR/56	6954	46	47	49.15	0	0	0	0	0	Feruginous Shale
DTR/56	6955	47	48	53.76	0	0	0	0	0	Feruginous Shale
DTR/56	6956	48	49	54.45	0	0	0	0	0	Feruginous Shale
DTR/56	6957	49	50	51.94	0	0	0	0	0	Feruginous Shale
DTR/56	6958	50	51	55.01	0	0	0	0	0	Lateritic Ore
DTR/56	6959	51	52	49.57	0	0	0	0	0	Feruginous Shale
DTR/56	6960	52	53	49.71	0	0	0	0	0	Feruginous Shale
DTR/56	6961	53	54	55.29	0	0	0	0	0	Lateritic Ore
DTR/56	6962	54	55	54.87	0	0	0	0	0	Feruginous

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/56	6963	55	56	55.29	0	0	0	0	0	Lateritic Ore
DTR/56	6964	56	57	56.55	0	0	0	0	0	Lateritic Ore
DTR/56	6965	57	58	55.57	0	0	0	0	0	Lateritic Ore
DTR/56	6966	58	59	53.34	0	0	0	0	0	Feruginous Shale
DTR/56	6967	59	60	53.76	0	0	0	0	0	Feruginous Shale
DTR/56	6968	60	61	51.24	0	0	0	0	0	Feruginous Shale
DTR/56	6969	61	62	45.01	0	0	0	0	0	Feruginous Shale
DTR/56	6970	62	63	36.72	0	0	0	0	0	Feruginous Shale
DTR/56	6971	63	64	41.18	0	0	0	0	0	Feruginous Shale
DTR/56	6972	64	65	39.51	0	0	0	0	0	Feruginous Shale
DTR/56	6973	65	66	51.38	0	0	0	0	0	Feruginous Shale
DTR/56	6974	66	67	39.93	0	0	0	0	0	Feruginous Shale
DTR/56	6975	67	68	48.87	0	0	0	0	0	Feruginous Shale
DTR/56	6976	68	69	49.71	0	0	0	0	0	Feruginous Shale
DTR/56	6977	69	70	49.71	0	0	0	0	0	Feruginous Shale
DTR/56	6978	70	71	51.94	0	0	0	0	0	Feruginous Shale
DTR/56	6979	71	72	51.94	0	0	0	0	0	Feruginous Shale
DTR/56	6980	72	73	52.5	0	0	0	0	0	Feruginous Shale
DTR/56	6981	73	74	52.5	0	0	0	0	0	Feruginous Shale
DTR/56	6982	74	75	50.54	0	0	0	0	0	Feruginous Shale
DTR/56	6983	75	76	50.54	0	0	0	0	0	Feruginous Shale
DTR/56	6984	76	77	49.85	0	0	0	0	0	Feruginous Shale
DTR/56	6985	77	78	49.85	0	0	0	0	0	BHJ_BHQ_BMQ
DTR/56	6986	78	79	51.24	0	0	0	0	0	BHJ_BHQ_BMQ
DTR/56	6987	79	80	51.24	0	0	0	0	0	BHJ_BHQ_BMQ
DTR/56	6988	80	81.5	50.26	0	0	0	0	0	Feruginous Shale
DTR/56	6989	81.5	82.5	46.29	0	0	0	0	0	Feruginous Shale
DTR/56	6990	82.5	83	46.29	0	0	0	0	0	Feruginous Shale
DTR/56	6991	83	84	49.57	0	0	0	0	0	Feruginous Shale
DTR/56	6992	84	85	49.57	0	0	0	0	0	Feruginous Shale

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/56	6993	85	86.5	48.17	0	0	0	0	0	Feruginous Shale
DTR/56	6994	86.5	87.5	57.11	0	0	0	0	0	Lateritic Ore
DTR/56	6995	87.5	88	57.11	0	0	0	0	0	Lateritic Ore
DTR/56	6996	88	89	58.36	0	0	0	0	0	Lateritic Ore
DTR/56	6997	89	90	58.36	0	0	0	0	0	Lateritic Ore
DTR/56	6998	90	91	60.06	0	0	0	0	0	HLO
DTR/56	6999	91	92	60.06	0	0	0	0	0	HLO
DTR/56	7000	92	93	61.72	0	0	0	0	0	HLO
DTR/56	7001	93	94	61.72	0	0	0	0	0	HLO
DTR/56	7002	94	95	61.02	0	0	0	0	0	HLO
DTR/56	7003	95	96	61.02	0	0	0	0	0	HLO
DTR/56	7004	96	97	62	0	0	0	0	0	HLO
DTR/56	7005	97	98	62	0	0	0	0	0	HLO
DTR/56	7006	98	99	62	0	0	0	0	0	HLO
DTR/56	7007	99	99.3	12.56	0	0	0	0	0	Feruginous Shale
DTR/56	7008	99.3	100	12.56	0	0	0	0	0	Feruginous Shale
DTR/56	7009	100	101	12.56	0	0	0	0	0	Feruginous Shale
DTR/57	7010	0	1	49.99	0	0	0	0	0	Laterite
DTR/57	7011	1	2	46.91	0	0	0	0	0	Laterite
DTR/57	7012	2	3	40.35	0	0	0	0	0	Laterite
DTR/57	7013	3	4	42.17	0	0	0	0	0	Laterite
DTR/57	7014	4	5	43.98	0	0	0	0	0	Laterite
DTR/57	7015	5	6	45.1	0	0	0	0	0	Laterite
DTR/57	7016	6	7	47.05	0	0	0	0	0	Feruginous Shale
DTR/57	7017	7	8	46.63	0	0	0	0	0	Feruginous Shale
DTR/57	7018	8	9	43.56	0	0	0	0	0	Feruginous Shale
DTR/57	7019	9	10	48.45	0	0	0	0	0	Feruginous Shale
DTR/57	7020	10	11	44.26	0	0	0	0	0	Feruginous Shale
DTR/57	7021	11	12	49.57	0	0	0	0	0	Feruginous Shale
DTR/57	7022	12	13	55.43	0	0	0	0	0	Lateritic Ore
DTR/57	7023	13	14	51.24	0	0	0	0	0	Feruginous Shale
DTR/57	7024	14	15	46.91	0	0	0	0	0	Feruginous Shale
DTR/57	7025	15	16	49.15	0	0	0	0	0	Feruginous Shale
DTR/57	7026	16	17	52.78	0	0	0	0	0	Feruginous Shale
DTR/57	7027	17	18	46.21	0	0	0	0	0	Feruginous Shale
DTR/57	7028	18	19	48.87	0	0	0	0	0	Feruginous Shale

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/57	7029	19	20	47.47	0	0	0	0	0	Feruginous Shale
DTR/57	7030	20	21	42.73	0	0	0	0	0	Feruginous Shale
DTR/57	7031	21	22	44.26	0	0	0	0	0	Feruginous Shale
DTR/57	7032	22	23	46.35	0	0	0	0	0	Feruginous Shale
DTR/57	7033	23	24	49.99	0	0	0	0	0	Feruginous Shale
DTR/57	7034	24	25.7	43.15	0	0	0	0	0	Feruginous Shale
DTR/57	7035	25.7	26	51.8	0	0	0	0	0	Feruginous Shale
DTR/57	7036	26	27	51.8	0	0	0	0	0	Feruginous Shale
DTR/57	7037	27	28	59.62	0	0	0	0	0	Lateritic Ore
DTR/57	7038	28	29	59.62	0	0	0	0	0	Lateritic Ore
DTR/57	7039	29	30	59.62	0	0	0	0	0	Lateritic Ore
DTR/57	7040	30	31	59.48	0	0	0	0	0	Lateritic Ore
DTR/57	7041	31	32	59.48	0	0	0	0	0	Lateritic Ore
DTR/57	7042	32	33	50.82	0	0	0	0	0	Feruginous Shale
DTR/57	7043	33	34	50.82	0	0	0	0	0	Feruginous Shale
DTR/57	7044	34	35	55.85	0	0	0	0	0	Limonitic Ore
DTR/57	7045	35	36	55.85	0	0	0	0	0	Limonitic Ore
DTR/57	7046	36	37	53.34	0	0	0	0	0	Limonite
DTR/57	7047	37	38	53.34	0	0	0	0	0	Feruginous Shale
DTR/57	7048	38	39	58.92	0	0	0	0	0	Lateritic Ore
DTR/57	7049	39	40	58.92	0	0	0	0	0	Lateritic Ore
DTR/57	7050	40	41	53.48	0	0	0	0	0	Feruginous Shale
DTR/57	7051	41	42	53.48	0	0	0	0	0	Feruginous Shale
DTR/57	7052	42	43	56.16	0	0	0	0	0	Lateritic Ore
DTR/57	7053	43	44	56.16	0	0	0	0	0	Lateritic Ore
DTR/57	7054	44	45	51.94	0	0	0	0	0	Feruginous Shale
DTR/57	7055	45	46	51.94	0	0	0	0	0	Feruginous Shale
DTR/57	7056	46	47	58.92	0	0	0	0	0	Lateritic Ore
DTR/57	7057	47	48	58.92	0	0	0	0	0	Lateritic Ore
DTR/57	7058	48	49	50.26	0	0	0	0	0	Feruginous Shale
DTR/57	7059	49	50	50.26	0	0	0	0	0	Feruginous Shale
DTR/57	7060	50	51	53.9	0	0	0	0	0	Feruginous Shale
DTR/57	7061	51	52	53.9	0	0	0	0	0	Feruginous Shale
DTR/57	7062	52	53	55.57	0	0	0	0	0	Lateritic Ore

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/57	7063	53	54	55.57	0	0	0	0	0	Lateritic Ore
DTR/57	7064	54	55	62.13	0	0	0	0	0	SLO_FO
DTR/57	7065	55	56	62.13	0	0	0	0	0	SLO_FO
DTR/57	7066	56	57	61.43	0	0	0	0	0	HLO
DTR/57	7067	57	58	61.43	0	0	0	0	0	HLO
DTR/57	7068	58	59	61.86	0	0	0	0	0	HLO
DTR/57	7069	59	60	61.86	0	0	0	0	0	HLO
DTR/57	7070	60	61	44.96	0	0	0	0	0	Feruginous Shale
DTR/57	7071	61	62	44.96	0	0	0	0	0	Feruginous Shale
DTR/57	7072	62	63	45.38	0	0	0	0	0	Feruginous Shale
DTR/57	7073	63	64	45.38	0	0	0	0	0	Feruginous Shale
DTR/57	7074	64	65	45.24	0	0	0	0	0	Feruginous Shale
DTR/57	7075	65	66	45.24	0	0	0	0	0	Feruginous Shale
DTR/57	7076	66	67	47.47	0	0	0	0	0	Feruginous Shale
DTR/57	7077	67	68	47.47	0	0	0	0	0	Feruginous Shale
DTR/57	7078	68	69	57.11	0	0	0	0	0	Lateritic Ore
DTR/57	7079	69	70	57.11	0	0	0	0	0	Lateritic Ore
DTR/57	7080	70	71	56.83	0	0	0	0	0	Lateritic Ore
DTR/57	7081	71	72	56.83	0	0	0	0	0	Lateritic Ore
DTR/57	7082	72	73	58.63	0	0	0	0	0	Lateritic Ore
DTR/57	7083	73	74	58.63	0	0	0	0	0	Lateritic Ore
DTR/57	7084	74	75	59.06	0	0	0	0	0	Lateritic Ore
DTR/57	7085	75	76	59.06	0	0	0	0	0	Lateritic Ore
DTR/57	7086	76	77	57.52	0	0	0	0	0	Lateritic Ore
DTR/57	7087	77	78	57.52	0	0	0	0	0	Lateritic Ore
DTR/57	7088	78	79	57.11	0	0	0	0	0	Lateritic Ore
DTR/57	7089	79	80	57.52	0	0	0	0	0	Lateritic Ore
DTR/57	7090	80	81	57.11	0	0	0	0	0	Lateritic Ore
DTR/57	7091	81	82	57.11	0	0	0	0	0	Lateritic Ore
DTR/57	7092	82	83	56.97	0	0	0	0	0	Lateritic Ore
DTR/57	7093	83	84	57.52	0	0	0	0	0	Lateritic Ore
DTR/57	7094	84	85	57.52	0	0	0	0	0	Lateritic Ore
DTR/57	7095	85	86.5	57.52	0	0	0	0	0	Lateritic Ore
DTR/57	7096	86.5	87.5	60.88	0	0	0	0	0	HLO
DTR/57	7097	87.5	88.5	60.88	0	0	0	0	0	HLO
DTR/57	7098	88.5	89.5	60.88	0	0	0	0	0	HLO
DTR/57	7099	89.5	90.5	59.06	0	0	0	0	0	HLO
DTR/57	7100	90.5	91.5	59.06	0	0	0	0	0	HLO
DTR/57	7101	91.5	92.5	18.84	0	0	0	0	0	Feruginous Shale
DTR/57	7102	92.5	93.5	18.84	0	0	0	0	0	Feruginous

BKF-ek Borehole Assay & Litho Data

Manager (Development)

Borehole Assay Data Project

01.01.2006

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/57	7103	93.5	94.5	18.84	0	0	0	0	0	Feruginous Shale
DTR/57	7104	94.5	95.5	15.07	0	0	0	0	0	Feruginous Shale
DTR/57	7105	95.5	96.5	15.07	0	0	0	0	0	Feruginous Shale
DTR/57	7106	96.5	97.5	15.07	0	0	0	0	0	Feruginous Shale
DTR/57	7107	97.5	98.5	10.47	0	0	0	0	0	Feruginous Shale
DTR/57	7108	98.5	99.5	10.47	0	0	0	0	0	Feruginous Shale
DTR/57	7109	99.5	101.5	10.47	0	0	0	0	0	Feruginous Shale
DTR/57	7110	101.5	102.5	10.61	0	0	0	0	0	Feruginous Shale
DTR/57	7111	102.5	103.5	10.61	0	0	0	0	0	Feruginous Shale
DTR/57	7112	103.5	104.5	10.61	0	0	0	0	0	Feruginous Shale
DTR/57	7113	104.5	105.5	10.61	0	0	0	0	0	Feruginous Shale
DTR/58	7114	0	1	50.97	0	0	0	0	0	Float Ore
DTR/58	7115	1	2	56.9	0	0	0	0	0	Lateritic Ore
DTR/58	7116	2	3	56.32	0	0	0	0	0	Lateritic Ore
DTR/58	7117	3	4	54.24	0	0	0	0	0	Laterite
DTR/58	7118	4	5	55.54	0	0	0	0	0	Lateritic Ore
DTR/58	7119	5	6	54.59	0	0	0	0	0	Laterite
DTR/58	7120	6	7	51.58	0	0	0	0	0	Laterite
DTR/58	7121	7	8	49.96	0	0	0	0	0	Laterite
DTR/58	7122	8	9	51.12	0	0	0	0	0	Laterite
DTR/58	7123	9	10	63.53	0	0	0	0	0	SLO_FO
DTR/58	7124	10	11	20.35	0	0	0	0	0	Laterite
DTR/58	7125	11	12	20.35	0	0	0	0	0	Laterite
DTR/58	7126	12	13	54.12	0	0	0	0	0	Laterite
DTR/58	7127	13	14	54.12	0	0	0	0	0	Laterite
DTR/58	7128	14	15	54.82	0	0	0	0	0	Laterite
DTR/58	7129	15	16	54.82	0	0	0	0	0	Feruginous Shale
DTR/58	7130	16	17	56.32	0	0	0	0	0	Lateritic Ore
DTR/58	7131	17	18	56.32	0	0	0	0	0	Lateritic Ore
DTR/58	7132	18	19	58.81	0	0	0	0	0	Lateritic Ore
DTR/58	7133	19	20	55.97	0	0	0	0	0	Lateritic Ore
DTR/58	7134	20	21	57.83	0	0	0	0	0	Lateritic Ore
DTR/58	7135	21	22	60.14	0	0	0	0	0	SLO_FO
DTR/58	7136	22	23	59.44	0	0	0	0	0	Lateritic Ore
DTR/58	7137	23	24	53.35	0	0	0	0	0	Feruginous Shale
DTR/58	7138	24	25	53.35	0	0	0	0	0	Feruginous Shale

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/58	7139	25	26	58.52	0	0	0	0	0	Lateritic Ore
DTR/58	7140	26	27	58.52	0	0	0	0	0	Lateritic Ore
DTR/58	7141	27	28	55.51	0	0	0	0	0	Lateritic Ore
DTR/58	7142	28	29	55.51	0	0	0	0	0	Lateritic Ore
DTR/58	7143	29	30	55.86	0	0	0	0	0	Lateritic Ore
DTR/58	7144	30	31	55.86	0	0	0	0	0	Lateritic Ore
DTR/58	7145	31	32	58.75	0	0	0	0	0	Lateritic Ore
DTR/58	7146	32	33	55.98	0	0	0	0	0	Lateritic Ore
DTR/58	7147	33	34	55.16	0	0	0	0	0	Lateritic Ore
DTR/58	7148	34	35	56.44	0	0	0	0	0	Lateritic Ore
DTR/58	7149	35	36	58.06	0	0	0	0	0	Lateritic Ore
DTR/58	7150	36	37	57.48	0	0	0	0	0	Lateritic Ore
DTR/58	7151	37	38	59.52	0	0	0	0	0	Lateritic Ore
DTR/58	7152	38	39	58.52	0	0	0	0	0	SLO_FO
DTR/58	7153	39	40	57.59	0	0	0	0	0	SLO_FO
DTR/58	7154	40	41	56.57	0	0	0	0	0	SLO_FO
DTR/58	7155	41	42	56.57	0	0	0	0	0	Lateritic Ore
DTR/58	7156	42	43	55.51	0	0	0	0	0	Lateritic Ore
DTR/58	7157	43	44	55.51	0	0	0	0	0	Lateritic Ore
DTR/58	7158	44	45	56.2	0	0	0	0	0	Lateritic Ore
DTR/58	7159	45	46	56.2	0	0	0	0	0	Lateritic Ore
DTR/58	7160	46	47	56.2	0	0	0	0	0	Lateritic Ore
DTR/58	7161	47	48	62.68	0	0	0	0	0	SLO_FO
DTR/58	7162	48	49	62.68	0	0	0	0	0	SLO_FO
DTR/58	7163	49	50	61.53	0	0	0	0	0	SLO_FO
DTR/58	7164	50	51	61.53	0	0	0	0	0	SLO_FO
DTR/58	7165	51	52	57.71	0	0	0	0	0	SLO_FO
DTR/58	7166	52	53	57.71	0	0	0	0	0	SLO_FO
DTR/58	7167	53	54	55.51	0	0	0	0	0	Lateritic Ore
DTR/58	7168	54	55	55.51	0	0	0	0	0	Lateritic Ore
DTR/58	7169	55	56	54.62	0	0	0	0	0	Laterite
DTR/58	7170	56	57	54.62	0	0	0	0	0	Laterite
DTR/58	7171	57	58	56.9	0	0	0	0	0	Lateritic Ore
DTR/58	7172	58	59	56.9	0	0	0	0	0	Lateritic Ore
DTR/58	7173	59	60	52.27	0	0	0	0	0	Laterite
DTR/58	7174	60	61	52.27	0	0	0	0	0	Laterite
DTR/58	7175	61	62	54.93	0	0	0	0	0	Feruginous Shale
DTR/58	7176	62	63	54.93	0	0	0	0	0	Feruginous Shale
DTR/58	7177	63	64	57.36	0	0	0	0	0	Lateritic Ore
DTR/58	7178	64	65	57.36	0	0	0	0	0	Lateritic Ore
DTR/58	7179	65	66	57.94	0	0	0	0	0	Lateritic Ore
DTR/58	7180	66	67	57.94	0	0	0	0	0	Lateritic Ore
DTR/58	7181	67	68	61.53	0	0	0	0	0	SLO_FO
DTR/58	7182	68	69	61.53	0	0	0	0	0	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/58	7183	69	70	57.59	0	0	0	0	0	Lateritic Ore
DTR/58	7184	70	71	57.59	0	0	0	0	0	Lateritic Ore
DTR/58	7185	71	72	57.71	0	0	0	0	0	Lateritic Ore
DTR/58	7186	72	73	59.44	0	0	0	0	0	Lateritic Ore
DTR/58	7187	73	74	59.85	0	0	0	0	0	Lateritic Ore
DTR/58	7188	74	75	60.02	0	0	0	0	0	SLO_FO
DTR/58	7189	75	76	57.71	0	0	0	0	0	Lateritic Ore
DTR/58	7190	76	77	57.83	0	0	0	0	0	Lateritic Ore
DTR/58	7191	77	78	50.89	0	0	0	0	0	Feruginous Shale
DTR/58	7192	78	79	49.88	0	0	0	0	0	Feruginous Shale
DTR/58	7193	79	80	54.12	0	0	0	0	0	Feruginous Shale
DTR/58	7194	80	81	55.05	0	0	0	0	0	Lateritic Ore
DTR/58	7195	81	82	58.06	0	0	0	0	0	Lateritic Ore
DTR/58	7196	82	83	57.13	0	0	0	0	0	Lateritic Ore
DTR/58	7197	83	84	56.02	0	0	0	0	0	Lateritic Ore
DTR/58	7198	84	85	59.33	0	0	0	0	0	Lateritic Ore
DTR/58	7199	85	86	56.32	0	0	0	0	0	Lateritic Ore
DTR/58	7200	86	87	52.62	0	0	0	0	0	Feruginous Shale
DTR/58	7201	87	88	51.58	0	0	0	0	0	Feruginous Shale
DTR/58	7202	88	89	55.21	0	0	0	0	0	Lateritic Ore
DTR/58	7203	89	90	59.91	0	0	0	0	0	Lateritic Ore
DTR/58	7204	90	91	59.21	0	0	0	0	0	Lateritic Ore
DTR/58	7205	91	92	57.48	0	0	0	0	0	Lateritic Ore
DTR/58	7206	92	93	57.83	0	0	0	0	0	Lateritic Ore
DTR/58	7207	93	94	58.09	0	0	0	0	0	Lateritic Ore
DTR/58	7208	94	95	55.4	0	0	0	0	0	Lateritic Ore
DTR/58	7209	95	96	59.91	0	0	0	0	0	Lateritic Ore
DTR/58	7210	96	97	60.6	0	0	0	0	0	SLO_FO
DTR/58	7211	97	98	59.56	0	0	0	0	0	Lateritic Ore
DTR/58	7212	98	99	59.56	0	0	0	0	0	Lateritic Ore
DTR/59	7213	0	1	50.64	0	0	0	0	0	Laterite
DTR/59	7214	1	2	54.93	0	0	0	0	0	Laterite
DTR/59	7215	2	3	54.82	0	0	0	0	0	Laterite
DTR/59	7216	3	4	53.78	0	0	0	0	0	Laterite
DTR/59	7217	4	5	49.01	0	0	0	0	0	Feruginous Shale
DTR/59	7218	5	6	49.03	0	0	0	0	0	Feruginous Shale
DTR/59	7219	6	7	51.35	0	0	0	0	0	Feruginous Shale
DTR/59	7220	7	8	47.88	0	0	0	0	0	Feruginous Shale
DTR/59	7221	8	9	49.27	0	0	0	0	0	Feruginous Shale

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/59	7222	9	10	44.55	0	0	0	0	0	Feruginous Shale
DTR/59	7223	10	11	46.61	0	0	0	0	0	Feruginous Shale
DTR/59	7224	11	12	35.39	0	0	0	0	0	Feruginous Shale
DTR/59	7225	12	13	40.24	0	0	0	0	0	Feruginous Shale
DTR/59	7226	13	14	35.85	0	0	0	0	0	Feruginous Shale
DTR/59	7227	14	15	52.17	0	0	0	0	0	Feruginous Shale
DTR/59	7228	15	16	57.25	0	0	0	0	0	Lateritic Ore
DTR/59	7229	16	17	55.28	0	0	0	0	0	Lateritic Ore
DTR/59	7230	17	18	33.88	0	0	0	0	0	Feruginous Shale
DTR/59	7231	18	19	40.38	0	0	0	0	0	Feruginous Shale
DTR/59	7232	19	20	40.38	0	0	0	0	0	Feruginous Shale
DTR/59	7233	20	21	57.32	0	0	0	0	0	Lateritic Ore
DTR/59	7234	21	22	59.33	0	0	0	0	0	Lateritic Ore
DTR/59	7235	22	23	62.57	0	0	0	0	0	SLO_FO
DTR/59	7236	23	24	59.68	0	0	0	0	0	SLO_FO
DTR/59	7237	24	25	59.56	0	0	0	0	0	SLO_FO
DTR/59	7238	25	26	60.33	0	0	0	0	0	SLO_FO
DTR/59	7239	26	27	60.14	0	0	0	0	0	SLO_FO
DTR/59	7240	27	28	60.02	0	0	0	0	0	SLO_FO
DTR/59	7241	28	29	57.94	0	0	0	0	0	Lateritic Ore
DTR/59	7242	29	30	57.71	0	0	0	0	0	Lateritic Ore
DTR/59	7243	30	31	55.37	0	0	0	0	0	Lateritic Ore
DTR/59	7244	31	32	55.51	0	0	0	0	0	Lateritic Ore
DTR/59	7245	32	33	55.86	0	0	0	0	0	Lateritic Ore
DTR/59	7246	33	34	55.86	0	0	0	0	0	Lateritic Ore
DTR/59	7247	34	35	58.98	0	0	0	0	0	Lateritic Ore
DTR/59	7248	35	36	58.98	0	0	0	0	0	Lateritic Ore
DTR/59	7249	36	37	58.75	0	0	0	0	0	Lateritic Ore
DTR/59	7250	37	38	58.75	0	0	0	0	0	Lateritic Ore
DTR/59	7251	38	39	60.44	0	0	0	0	0	HLO
DTR/59	7252	39	40	60.44	0	0	0	0	0	HLO
DTR/59	7253	40	41	58.52	0	0	0	0	0	HLO
DTR/59	7254	41	42	58.52	0	0	0	0	0	HLO
DTR/59	7255	42	43	60.25	0	0	0	0	0	HLO
DTR/59	7256	43	44	60.25	0	0	0	0	0	HLO
DTR/59	7257	44	45	58.52	0	0	0	0	0	HLO
DTR/59	7258	45	46	58.52	0	0	0	0	0	HLO
DTR/59	7259	46	47	60.6	0	0	0	0	0	HLO
DTR/59	7260	47	48	60.6	0	0	0	0	0	HLO
DTR/59	7261	48	49	60.6	0	0	0	0	0	HLO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/59	7262	49	50	58.99	0	0	0	0	0	HLO
DTR/59	7263	50	51	58.99	0	0	0	0	0	Lateritic Ore
DTR/59	7264	51	52	59.56	0	0	0	0	0	Lateritic Ore
DTR/59	7265	52	53	59.56	0	0	0	0	0	Lateritic Ore
DTR/59	7266	53	54	58.4	0	0	0	0	0	Lateritic Ore
DTR/59	7267	54	55	58.4	0	0	0	0	0	Lateritic Ore
DTR/59	7268	55	56	64.07	0	0	0	0	0	HLO
DTR/59	7269	56	57	62.65	0	0	0	0	0	HLO
DTR/59	7270	57	58	62.51	0	0	0	0	0	HLO
DTR/59	7271	58	59	60.6	0	0	0	0	0	HLO
DTR/59	7272	59	60	58.98	0	0	0	0	0	HLO
DTR/59	7273	60	61	62.68	0	0	0	0	0	HLO
DTR/59	7274	61	62	60.95	0	0	0	0	0	HLO
DTR/59	7275	62	63	58.47	0	0	0	0	0	Lateritic Ore
DTR/59	7276	63	64	56.67	0	0	0	0	0	Lateritic Ore
DTR/59	7277	64	65	57.02	0	0	0	0	0	Lateritic Ore
DTR/59	7278	65	66	57.83	0	0	0	0	0	Lateritic Ore
DTR/59	7279	66	67	57.13	0	0	0	0	0	Lateritic Ore
DTR/59	7280	67	68	58.7	0	0	0	0	0	Lateritic Ore
DTR/59	7281	68	69	58.52	0	0	0	0	0	Lateritic Ore
DTR/59	7282	69	70	55.05	0	0	0	0	0	Lateritic Ore
DTR/59	7283	70	71	53.89	0	0	0	0	0	Feruginous Shale
DTR/59	7284	71	72	51.12	0	0	0	0	0	Feruginous Shale
DTR/59	7285	72	73	54.56	0	0	0	0	0	Feruginous Shale
DTR/59	7286	73	74	44.99	0	0	0	0	0	Feruginous Shale
DTR/59	7287	74	75	46.03	0	0	0	0	0	Feruginous Shale
DTR/59	7288	75	76	46.03	0	0	0	0	0	Feruginous Shale
DTR/59	7289	76	77	59.21	0	0	0	0	0	Lateritic Ore
DTR/59	7290	77	78	59.21	0	0	0	0	0	Lateritic Ore
DTR/59	7291	78	79	60.12	0	0	0	0	0	SLO_FO
DTR/59	7292	79	80	60.12	0	0	0	0	0	SLO_FO
DTR/59	7293	80	81	53.62	0	0	0	0	0	Feruginous Shale
DTR/59	7294	81	82	53.62	0	0	0	0	0	Feruginous Shale
DTR/59	7295	82	83	59.68	0	0	0	0	0	Lateritic Ore
DTR/59	7296	83	84	59.68	0	0	0	0	0	Lateritic Ore
DTR/59	7297	84	85	56.96	0	0	0	0	0	Lateritic Ore
DTR/59	7298	85	86	56.96	0	0	0	0	0	Lateritic Ore
DTR/59	7299	86	87	44.65	0	0	0	0	0	Limonite
DTR/59	7300	87	88	44.65	0	0	0	0	0	Feruginous Shale
DTR/59	7301	88	89	57.28	0	0	0	0	0	Lateritic Ore

Borehole Assay & Litho Data

02

EXP-2

10/10/2023

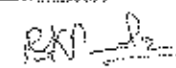
10/10/2023

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/59	7302	89	90	57.28	0	0	0	0	0	Lateritic Ore
DTR/61	7303	0	1	45.3	0	0	0	0	0	Laterite
DTR/61	7304	1	2	44.21	0	0	0	0	0	Laterite
DTR/61	7305	2	3	44.32	0	0	0	0	0	Laterite
DTR/61	7306	3	4	40.73	0	0	0	0	0	Laterite
DTR/61	7307	4	5	46.39	0	0	0	0	0	Laterite
DTR/61	7308	5	6	36.48	0	0	0	0	0	Laterite
DTR/61	7309	6	7	47.05	0	0	0	0	0	Laterite
DTR/61	7310	7	8	47.92	0	0	0	0	0	Laterite
DTR/61	7311	8	9	43.34	0	0	0	0	0	Laterite
DTR/61	7312	9	10	43.36	0	0	0	0	0	Laterite
DTR/61	7313	10	11	49.22	0	0	0	0	0	Laterite
DTR/61	7314	11	12	43.56	0	0	0	0	0	Laterite
DTR/61	7315	12	13	54.13	0	0	0	0	0	Feruginous Shale
DTR/61	7316	13	14	57.28	0	0	0	0	0	Lateritic Ore
DTR/61	7317	14	15	51.4	0	0	0	0	0	Feruginous Shale
DTR/61	7318	15	16	56.52	0	0	0	0	0	Lateritic Ore
DTR/61	7319	16	17	45.52	0	0	0	0	0	Feruginous Shale
DTR/61	7320	17	18	47.05	0	0	0	0	0	Feruginous Shale
DTR/61	7321	18	19	52.06	0	0	0	0	0	Feruginous Shale
DTR/61	7322	19	20	52.89	0	0	0	0	0	Feruginous Shale
DTR/61	7323	20	21	58.59	0	0	0	0	0	Lateritic Ore
DTR/61	7324	21	22	54.67	0	0	0	0	0	Feruginous Shale
DTR/61	7325	22	23	52.82	0	0	0	0	0	Feruginous Shale
DTR/61	7326	23	24	57.72	0	0	0	0	0	Lateritic Ore
DTR/61	7327	24	25	59.46	0	0	0	0	0	Lateritic Ore
DTR/61	7328	25	26	60.55	0	0	0	0	0	HLO
DTR/61	7329	26	27	60.12	0	0	0	0	0	HLO
DTR/61	7330	27	28	60.22	0	0	0	0	0	HLO
DTR/61	7331	28	29	60.44	0	0	0	0	0	HLO
DTR/61	7332	29	30	59.7	0	0	0	0	0	HLO
DTR/61	7333	30	31	60.12	0	0	0	0	0	HLO
DTR/61	7334	31	32	60.22	0	0	0	0	0	HLO
DTR/61	7335	32	33	60.55	0	0	0	0	0	HLO
DTR/61	7336	33	34	59.9	0	0	0	0	0	HLO
DTR/61	7337	34	35	57.28	0	0	0	0	0	HLO
DTR/61	7338	35	36	61.1	0	0	0	0	0	HLO
DTR/61	7339	36	37	59.24	0	0	0	0	0	HLO
DTR/61	7340	37	38	59.35	0	0	0	0	0	HLO
DTR/61	7341	38	39	60.66	0	0	0	0	0	HLO
DTR/61	7342	39	40	60.91	0	0	0	0	0	HLO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/61	7343	40	41	60.01	0	0	0	0	0	HLO
DTR/61	7344	41	42	54.45	0	0	0	0	0	HLO
DTR/61	7345	42	43	59.57	0	0	0	0	0	HLO
DTR/61	7346	43	44	57.94	0	0	0	0	0	HLO
DTR/61	7347	44	45	56.52	0	0	0	0	0	SLO_FO
DTR/61	7348	45	46	56.48	0	0	0	0	0	SLO_FO
DTR/61	7349	46	47	60.33	0	0	0	0	0	SLO_FO
DTR/61	7350	47	48	60.33	0	0	0	0	0	SLO_FO
DTR/61	7351	48	49	60.66	0	0	0	0	0	SLO_FO
DTR/61	7352	49	50	60.66	0	0	0	0	0	SLO_FO
DTR/61	7353	50	51	58.92	0	0	0	0	0	Lateritic Ore
DTR/61	7354	51	52	58.92	0	0	0	0	0	Lateritic Ore
DTR/61	7355	52	53	50.77	0	0	0	0	0	Feruginous Shale
DTR/61	7356	53	54	50.77	0	0	0	0	0	Feruginous Shale
DTR/61	7357	54	55	48.35	0	0	0	0	0	Feruginous Shale
DTR/61	7358	55	56	48.35	0	0	0	0	0	Feruginous Shale
DTR/61	7359	56	57	50.31	0	0	0	0	0	Feruginous Shale
DTR/61	7360	57	58	50.31	0	0	0	0	0	Feruginous Shale
DTR/61	7361	58	59	47.92	0	0	0	0	0	Feruginous Shale
DTR/61	7362	59	60	47.92	0	0	0	0	0	Feruginous Shale
DTR/61	7363	60	61	52.93	0	0	0	0	0	Feruginous Shale
DTR/61	7364	61	62	52.93	0	0	0	0	0	Feruginous Shale
DTR/61	7365	62	63	51.73	0	0	0	0	0	Feruginous Shale
DTR/61	7366	63	64	51.73	0	0	0	0	0	Feruginous Shale
DTR/61	7367	64	65	55.21	0	0	0	0	0	Lateritic Ore
DTR/61	7368	65	66	55.21	0	0	0	0	0	Lateritic Ore
DTR/61	7369	66	67	56.74	0	0	0	0	0	Lateritic Ore
DTR/61	7370	67	68	56.74	0	0	0	0	0	Lateritic Ore
DTR/61	7371	68	69	56.41	0	0	0	0	0	Lateritic Ore
DTR/61	7372	69	70	56.41	0	0	0	0	0	Lateritic Ore
DTR/61	7373	70	71	55.11	0	0	0	0	0	Lateritic Ore
DTR/61	7374	71	72	56.82	0	0	0	0	0	Lateritic Ore
DTR/61	7375	72	73	57.61	0	0	0	0	0	Lateritic Ore
DTR/61	7376	73	74	57.5	0	0	0	0	0	Lateritic Ore
DTR/61	7377	74	75	57.94	0	0	0	0	0	Lateritic Ore
DTR/61	7378	75	76	56.52	0	0	0	0	0	Lateritic Ore
DTR/61	7379	76	77	57.72	0	0	0	0	0	Lateritic Ore
DTR/61	7380	77	78	56.2	0	0	0	0	0	Lateritic Ore

Borehole Assay & Litho Data



 Director, Geological
 Department, Geological Survey of India
 New Delhi, India

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/61	7381	78	79	57.07	0	0	0	0	0	Lateritic Ore
DTR/61	7382	79	80	57.07	0	0	0	0	0	Lateritic Ore
DTR/61	7383	80	81	57.72	0	0	0	0	0	Lateritic Ore
DTR/61	7384	81	82	57.72	0	0	0	0	0	Lateritic Ore
DTR/61	7385	82	83	57.83	0	0	0	0	0	Lateritic Ore
DTR/61	7386	83	84	57.83	0	0	0	0	0	Lateritic Ore
DTR/61	7387	84	85	60.28	0	0	0	0	0	SLO_FO
DTR/61	7388	85	86	60.28	0	0	0	0	0	SLO_FO
DTR/61	7389	86	87	56.63	0	0	0	0	0	Lateritic Ore
DTR/61	7390	87	88	56.63	0	0	0	0	0	Lateritic Ore
DTR/61	7391	88	89	57.5	0	0	0	0	0	Lateritic Ore
DTR/61	7392	89	90	57.5	0	0	0	0	0	Lateritic Ore
DTR/61	7393	90	91	54.67	0	0	0	0	0	Feruginous Shale
DTR/61	7394	91	92	54.67	0	0	0	0	0	Feruginous Shale
DTR/61	7395	92	93	50.97	0	0	0	0	0	Feruginous Shale
DTR/61	7396	93	94.4	50.97	0	0	0	0	0	Feruginous Shale
DTR/62	7397	0	1	45.19	0	0	0	0	0	Laterite
DTR/62	7398	1	2	49.22	0	0	0	0	0	Laterite
DTR/62	7399	2	3	54.23	0	0	0	0	0	Laterite
DTR/62	7400	3	4	55.32	0	0	0	0	0	Lateritic Ore
DTR/62	7401	4	5	56.2	0	0	0	0	0	Lateritic Ore
DTR/62	7402	5	6	54.13	0	0	0	0	0	Laterite
DTR/62	7403	6	7	52.06	0	0	0	0	0	Laterite
DTR/62	7404	7	8	49.12	0	0	0	0	0	Laterite
DTR/62	7405	8	9	54.56	0	0	0	0	0	Laterite
DTR/62	7406	9	10	51.42	0	0	0	0	0	Laterite
DTR/62	7407	10	11	44.21	0	0	0	0	0	Laterite
DTR/62	7408	11	12	47.16	0	0	0	0	0	Laterite
DTR/62	7409	12	13	43.23	0	0	0	0	0	Laterite
DTR/62	7410	13	14	57.83	0	0	0	0	0	Lateritic Ore
DTR/62	7411	14	15	58.05	0	0	0	0	0	Lateritic Ore
DTR/62	7412	15	16	59.03	0	0	0	0	0	Lateritic Ore
DTR/62	7413	16	17	56.3	0	0	0	0	0	Lateritic Ore
DTR/62	7414	17	18	58.48	0	0	0	0	0	Lateritic Ore
DTR/62	7415	18	19	54.89	0	0	0	0	0	Feruginous Shale
DTR/62	7416	19	20	58.53	0	0	0	0	0	Lateritic Ore
DTR/62	7417	20	21	59.79	0	0	0	0	0	Lateritic Ore
DTR/62	7418	21	22	48.57	0	0	0	0	0	Feruginous Shale
DTR/62	7419	22	23	44.21	0	0	0	0	0	Feruginous Shale
DTR/62	7420	23	24	43.34	0	0	0	0	0	Feruginous Shale
DTR/62	7421	24	25	55.11	0	0	0	0	0	Lateritic Ore

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BH No.	sample Id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/62	7422	25	26	56.74	0	0	0	0	0	Lateritic Ore
DTR/62	7423	26	27	57.18	0	0	0	0	0	Lateritic Ore
DTR/62	7424	27	28	60.33	0	0	0	0	0	SLO_FO
DTR/62	7425	28	29	59.68	0	0	0	0	0	Lateritic Ore
DTR/62	7426	29	30	58.93	0	0	0	0	0	Lateritic Ore
DTR/62	7427	30	31	57.94	0	0	0	0	0	Lateritic Ore
DTR/62	7428	31	32	57.83	0	0	0	0	0	Lateritic Ore
DTR/62	7429	32	33	58.05	0	0	0	0	0	Lateritic Ore
DTR/62	7430	33	34	58.92	0	0	0	0	0	Lateritic Ore
DTR/62	7431	34	35	57.94	0	0	0	0	0	Lateritic Ore
DTR/62	7432	35	36	59.9	0	0	0	0	0	Lateritic Ore
DTR/62	7433	36	37	56.96	0	0	0	0	0	Lateritic Ore
DTR/62	7434	37	38	52.71	0	0	0	0	0	Feruginous Shale
DTR/62	7435	38	39	53.91	0	0	0	0	0	Feruginous Shale
DTR/62	7436	39	40	60.47	0	0	0	0	0	SLO_FO
DTR/62	7437	40	41	52.93	0	0	0	0	0	Feruginous Shale
DTR/62	7438	41	42	60.01	0	0	0	0	0	SLO_FO
DTR/62	7439	42	43	60.55	0	0	0	0	0	SLO_FO
DTR/62	7440	43	44	61.42	0	0	0	0	0	SLO_FO
DTR/62	7441	44	45	60.55	0	0	0	0	0	SLO_FO
DTR/62	7442	45	46	59.68	0	0	0	0	0	Lateritic Ore
DTR/62	7443	46	47	55.32	0	0	0	0	0	Lateritic Ore
DTR/62	7444	47	48	59.79	0	0	0	0	0	Lateritic Ore
DTR/62	7445	48	49	54.78	0	0	0	0	0	Feruginous Shale
DTR/62	7446	49	50	50.87	0	0	0	0	0	Feruginous Shale
DTR/62	7447	50	51	49.44	0	0	0	0	0	Feruginous Shale
DTR/62	7448	51	52	50.1	0	0	0	0	0	Feruginous Shale
DTR/62	7449	52	53	59.24	0	0	0	0	0	Lateritic Ore
DTR/62	7450	53	54	54.67	0	0	0	0	0	Feruginous Shale
DTR/62	7451	54	55	52.72	0	0	0	0	0	Feruginous Shale
DTR/62	7452	55	56	51.29	0	0	0	0	0	Laterite
DTR/62	7453	56	57	50.1	0	0	0	0	0	Laterite
DTR/62	7454	57	58	52.49	0	0	0	0	0	Laterite
DTR/62	7455	58	59	56.85	0	0	0	0	0	Lateritic Ore
DTR/62	7456	59	60	56.85	0	0	0	0	0	Lateritic Ore
DTR/62	7457	60	61	56.85	0	0	0	0	0	Lateritic Ore
DTR/62	7458	61	62	56.85	0	0	0	0	0	Lateritic Ore
DTR/62	7459	62	63	56.85	0	0	0	0	0	Lateritic Ore
DTR/62	7460	63	64	61.42	0	0	0	0	0	SLO_FO
DTR/62	7461	64	65	61.42	0	0	0	0	0	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/62	7462	65	66	60.66	0	0	0	0	0	SLO_FO
DTR/62	7463	66	67	60.66	0	0	0	0	0	SLO_FO
DTR/62	7464	67	68	61.1	0	0	0	0	0	SLO_FO
DTR/62	7465	68	69	61.1	0	0	0	0	0	SLO_FO
DTR/62	7466	69	70	58.59	0	0	0	0	0	Lateritic Ore
DTR/62	7467	70	71	58.59	0	0	0	0	0	Lateritic Ore
DTR/62	7468	71	72	53.97	0	0	0	0	0	Feruginous Shale
DTR/62	7469	72	73	53.97	0	0	0	0	0	Feruginous Shale
DTR/62	7470	73	74	52.71	0	0	0	0	0	Feruginous Shale
DTR/62	7471	74	75	52.71	0	0	0	0	0	Feruginous Shale
DTR/62	7472	75	76	54.78	0	0	0	0	0	Feruginous Shale
DTR/62	7473	76	77	57.28	0	0	0	0	0	Lateritic Ore
DTR/62	7474	77	78	55.32	0	0	0	0	0	Lateritic Ore
DTR/62	7475	78	79	53.72	0	0	0	0	0	Feruginous Shale
DTR/62	7476	79	80	55.43	0	0	0	0	0	Lateritic Ore
DTR/62	7477	80	81	52.93	0	0	0	0	0	Feruginous Shale
DTR/62	7478	81	82	53.25	0	0	0	0	0	Feruginous Shale
DTR/62	7479	82	83	53.91	0	0	0	0	0	Feruginous Shale
DTR/62	7480	83	84	55.78	0	0	0	0	0	Lateritic Ore
DTR/62	7481	84	85	55.78	0	0	0	0	0	Lateritic Ore
DTR/62	7482	85	86	55.78	0	0	0	0	0	Lateritic Ore
DTR/62	7483	86	87	55.98	0	0	0	0	0	Lateritic Ore
DTR/62	7484	87	88	55.98	0	0	0	0	0	Lateritic Ore
DTR/62	7485	88	89	55.98	0	0	0	0	0	Lateritic Ore
DTR/63	7486	0	1	51.19	0	0	0	0	0	Laterite
DTR/63	7487	1	2	46.61	0	0	0	0	0	Laterite
DTR/63	7488	2	3	49.33	0	0	0	0	0	Laterite
DTR/63	7489	3	4	45.52	0	0	0	0	0	Laterite
DTR/63	7490	4	5	51.02	0	0	0	0	0	Laterite
DTR/63	7491	5	6	55.75	0	0	0	0	0	Lateritic Ore
DTR/63	7492	6	7	63.6	0	0	0	0	0	SLO_FO
DTR/63	7493	7	8	51.62	0	0	0	0	0	Laterite
DTR/63	7494	8	9	55.21	0	0	0	0	0	Lateritic Ore
DTR/63	7495	9	10	58.89	0	0	0	0	0	Lateritic Ore
DTR/63	7496	10	11	59.57	0	0	0	0	0	Lateritic Ore
DTR/63	7497	11	12	59.46	0	0	0	0	0	Lateritic Ore
DTR/63	7498	12	13	59.88	0	0	0	0	0	Lateritic Ore
DTR/63	7499	13	14	64.36	0	0	0	0	0	SLO_FO
DTR/63	7500	14	15	60.32	0	0	0	0	0	SLO_FO
DTR/63	7501	15	16	62.73	0	0	0	0	0	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/63	7547	61	62	60.01	0	0	0	0	0	SLO_FO
DTR/63	7548	62	63	59.03	0	0	0	0	0	Lateritic Ore
DTR/63	7549	63	64	61.64	0	0	0	0	0	SLO_FO
DTR/63	7550	64	65	61.21	0	0	0	0	0	SLO_FO
DTR/63	7551	65	66	59.52	0	0	0	0	0	Lateritic Ore
DTR/63	7552	66	67	58.16	0	0	0	0	0	Lateritic Ore
DTR/63	7553	67	68	60.55	0	0	0	0	0	SLO_FO
DTR/63	7554	68	69	59.46	0	0	0	0	0	Lateritic Ore
DTR/63	7555	69	70	59.79	0	0	0	0	0	Lateritic Ore
DTR/63	7556	70	71	60.67	0	0	0	0	0	SLO_FO
DTR/63	7557	71	72	60.66	0	0	0	0	0	SLO_FO
DTR/63	7558	72	73	60.66	0	0	0	0	0	SLO_FO
DTR/63	7559	73	74	64.36	0	0	0	0	0	SLO_FO
DTR/63	7560	74	75	64.36	0	0	0	0	0	SLO_FO
DTR/63	7561	75	76	63.82	0	0	0	0	0	SLO_FO
DTR/63	7562	76	77	63.82	0	0	0	0	0	SLO_FO
DTR/63	7563	77	78	61.42	0	0	0	0	0	SLO_FO
DTR/63	7564	78	79	61.42	0	0	0	0	0	SLO_FO
DTR/63	7565	79	80	60.77	0	0	0	0	0	SLO_FO
DTR/63	7566	80	81	60.77	0	0	0	0	0	SLO_FO
DTR/63	7567	81	82	43.13	0	0	0	0	0	Limonite
DTR/63	7568	82	83.2	43.13	0	0	0	0	0	Limonite
DTR/63	7569	83.2	84	57.83	0	0	0	0	0	Lateritic Ore
DTR/63	7570	84	85	57.83	0	0	0	0	0	Lateritic Ore
DTR/63	7571	85	86.2	57.83	0	0	0	0	0	Lateritic Ore
DTR/63	7572	86.2	87	59.24	0	0	0	0	0	Lateritic Ore
DTR/63	7573	87	88	59.24	0	0	0	0	0	Lateritic Ore
DTR/63	7574	88	89.2	59.24	0	0	0	0	0	Lateritic Ore
DTR/64	7575	0	1	36.48	0	0	0	0	0	Float Ore
DTR/64	7576	1	2	20.69	0	0	0	0	0	Float Ore
DTR/64	7577	2	3	54.02	0	0	0	0	0	Laterite
DTR/64	7578	3	4	54.56	0	0	0	0	0	Laterite
DTR/64	7579	4	5	54.54	0	0	0	0	0	Laterite
DTR/64	7580	5	6	52.82	0	0	0	0	0	Laterite
DTR/64	7581	6	7	52.71	0	0	0	0	0	Laterite
DTR/64	7582	7	8	53.15	0	0	0	0	0	Laterite
DTR/64	7583	8	9	51.62	0	0	0	0	0	Laterite
DTR/64	7584	9	10	53.22	0	0	0	0	0	Laterite
DTR/64	7585	10	11	55.98	0	0	0	0	0	Lateritic Ore
DTR/64	7586	11	12	55.76	0	0	0	0	0	Lateritic Ore
DTR/64	7587	12	13	51.73	0	0	0	0	0	Laterite
DTR/64	7588	13	14	56.2	0	0	0	0	0	Lateritic Ore
DTR/64	7589	14	15	53.08	0	0	0	0	0	Laterite
DTR/64	7590	15	16	56.41	0	0	0	0	0	Lateritic Ore
DTR/64	7591	16	17	54.67	0	0	0	0	0	Laterite

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BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/64	7592	17	18	55.32	0	0	0	0	0	Lateritic Ore
DTR/64	7593	18	19	56.63	0	0	0	0	0	Lateritic Ore
DTR/64	7594	19	20	61.1	0	0	0	0	0	SLO_FO
DTR/64	7595	20	21	64.91	0	0	0	0	0	SLO_FO
DTR/64	7596	21	22	64.47	0	0	0	0	0	SLO_FO
DTR/64	7597	22	23	64.47	0	0	0	0	0	SLO_FO
DTR/64	7598	23	24	62.62	0	0	0	0	0	SLO_FO
DTR/64	7599	24	25	62.62	0	0	0	0	0	SLO_FO
DTR/64	7600	25	26	66.65	0	0	0	0	0	SLO_FO
DTR/64	7601	26	27	66.67	0	0	0	0	0	SLO_FO
DTR/64	7602	27	28	66.98	0	0	0	0	0	SLO_FO
DTR/64	7603	28	29	65.56	0	0	0	0	0	SLO_FO
DTR/64	7604	29	30	64.69	0	0	0	0	0	SLO_FO
DTR/64	7605	30	31	63.93	0	0	0	0	0	SLO_FO
DTR/64	7606	31	32	66.32	0	0	0	0	0	SLO_FO
DTR/64	7607	32	33	64.65	0	0	0	0	0	SLO_FO
DTR/64	7608	33	34	65.21	0	0	0	0	0	SLO_FO
DTR/64	7609	34	35	64.65	0	0	0	0	0	SLO_FO
DTR/64	7610	35	36	64.98	0	0	0	0	0	SLO_FO
DTR/64	7611	36	37	59.48	0	0	0	0	0	Lateritic Ore
DTR/64	7612	37	38	62.83	0	0	0	0	0	SLO_FO
DTR/64	7613	38	39	65.07	0	0	0	0	0	SLO_FO
DTR/64	7614	39	40	64.23	0	0	0	0	0	SLO_FO
DTR/64	7615	40	41	62.97	0	0	0	0	0	SLO_FO
DTR/64	7616	41	42	61.43	0	0	0	0	0	SLO_FO
DTR/64	7617	42	43	61.3	0	0	0	0	0	SLO_FO
DTR/64	7618	43	44	53.34	0	0	0	0	0	SLO_FO
DTR/64	7619	44	45	47.75	0	0	0	0	0	SLO_FO
DTR/64	7620	45	46	61.43	0	0	0	0	0	SLO_FO
DTR/64	7621	46	47	24.08	0	0	0	0	0	Feruginous Shale
DTR/64	7622	47	48	24.08	0	0	0	0	0	Feruginous Shale
DTR/64	7623	48	49	30.1	0	0	0	0	0	Feruginous Shale
DTR/64	7624	49	50	30.1	0	0	0	0	0	Feruginous Shale
DTR/64	7625	50	51	52.2	0	0	0	0	0	Feruginous Shale
DTR/64	7626	51	52	52.2	0	0	0	0	0	Feruginous Shale
DTR/64	7627	52	53	62.67	0	0	0	0	0	HLO
DTR/64	7628	53	54	62.67	0	0	0	0	0	HLO
DTR/64	7629	54	55	61.57	0	0	0	0	0	HLO
DTR/64	7630	55	56	61.57	0	0	0	0	0	HLO
DTR/64	7631	56	57	61.71	0	0	0	0	0	HLO
DTR/64	7632	57	58	61.71	0	0	0	0	0	HLO
DTR/64	7633	58	59	57.11	0	0	0	0	0	Lateritic Ore

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/64	7634	59	60	57.11	0	0	0	0	0	Lateritic Ore
DTR/64	7635	60	61	58.64	0	0	0	0	0	Lateritic Ore
DTR/64	7636	61	62	58.64	0	0	0	0	0	Lateritic Ore
DTR/64	7637	62	63	60.18	0	0	0	0	0	HLO
DTR/64	7638	63	64	60.18	0	0	0	0	0	HLO
DTR/64	7639	64	65	60.18	0	0	0	0	0	HLO
DTR/64	7640	65	66	64.51	0	0	0	0	0	HLO
DTR/64	7641	66	67	63.67	0	0	0	0	0	HLO
DTR/64	7642	67	68	62.83	0	0	0	0	0	HLO
DTR/64	7643	68	69	64.23	0	0	0	0	0	HLO
DTR/64	7644	69	70	63.25	0	0	0	0	0	HLO
DTR/64	7645	70	71	63.53	0	0	0	0	0	HLO
DTR/64	7646	71	72	61.71	0	0	0	0	0	HLO
DTR/64	7647	72	73	58.08	0	0	0	0	0	Lateritic Ore
DTR/64	7648	73	74	56.55	0	0	0	0	0	Lateritic Ore
DTR/64	7649	74	75	50.68	0	0	0	0	0	Feruginous Shale
DTR/64	7650	75	76	51.66	0	0	0	0	0	Feruginous Shale
DTR/64	7651	76	77	53.34	0	0	0	0	0	Feruginous Shale
DTR/64	7652	77	78	56.55	0	0	0	0	0	Lateritic Ore
DTR/64	7653	78	79	55.01	0	0	0	0	0	Lateritic Ore
DTR/64	7654	79	80	64.65	0	0	0	0	0	HLO
DTR/64	7655	80	81	64.23	0	0	0	0	0	HLO
DTR/64	7656	81	82	63.53	0	0	0	0	0	HLO
DTR/64	7657	82	83	62.69	0	0	0	0	0	HLO
DTR/64	7658	83	84	62.28	0	0	0	0	0	HLO
DTR/64	7659	84	85	62.28	0	0	0	0	0	HLO
DTR/64	7660	85	86	63.95	0	0	0	0	0	HLO
DTR/64	7661	86	87	63.95	0	0	0	0	0	HLO
DTR/64	7662	87	88	63.39	0	0	0	0	0	HLO
DTR/64	7663	88	89	63.39	0	0	0	0	0	HLO
DTR/64	7664	89	90	60.74	0	0	0	0	0	HLO
DTR/64	7665	90	91	60.74	0	0	0	0	0	HLO
DTR/64	7666	91	92	60.04	0	0	0	0	0	HLO
DTR/64	7667	92	93	60.04	0	0	0	0	0	HLO
DTR/64	7668	93	94.4	59.34	0	0	0	0	0	Lateritic Ore
DTR/64	7669	94.4	94.7	59.34	0	0	0	0	0	Lateritic Ore
DTR/64	7670	94.7	95	59.34	0	0	0	0	0	Lateritic Ore
DTR/64	7671	95	96	59.34	0	0	0	0	0	Lateritic Ore
DTR/65	7672	0	1	37.57	0	0	0	0	0	Laterite
DTR/65	7673	1	2	29.62	0	0	0	0	0	Laterite
DTR/65	7674	2	3	27.88	0	0	0	0	0	Laterite
DTR/65	7675	3	4	23.41	0	0	0	0	0	Laterite
DTR/65	7676	4	5	20.86	0	0	0	0	0	Laterite
DTR/65	7677	5	6	29.4	0	0	0	0	0	Laterite

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BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/65	7678	6	7	31.91	0	0	0	0	0	Laterite
DTR/65	7679	7	8	24.28	0	0	0	0	0	Laterite
DTR/65	7680	8	9	27.65	0	0	0	0	0	Laterite
DTR/65	7681	9	10	39.49	0	0	0	0	0	Laterite
DTR/65	7682	10	11	40.73	0	0	0	0	0	Laterite
DTR/65	7683	11	12	22.43	0	0	0	0	0	Laterite
DTR/65	7684	12	13.3	25.7	0	0	0	0	0	Laterite
DTR/65	7685	13.3	14	26.35	0	0	0	0	0	Laterite
DTR/65	7686	14	15	26.35	0	0	0	0	0	Laterite
DTR/65	7687	15	16	25.85	0	0	0	0	0	Laterite
DTR/65	7688	16	17	40.29	0	0	0	0	0	Laterite
DTR/65	7689	17	18	33.76	0	0	0	0	0	Laterite
DTR/65	7690	18	19	32.56	0	0	0	0	0	Laterite
DTR/65	7691	19	20	27.77	0	0	0	0	0	Laterite
DTR/65	7692	20	21	27.77	0	0	0	0	0	Laterite
DTR/65	7693	21	22	16.02	0	0	0	0	0	Feruginous Shale
DTR/65	7694	22	23	16.02	0	0	0	0	0	Feruginous Shale
DTR/65	7695	23	24	16.02	0	0	0	0	0	Feruginous Shale
DTR/65	7696	24	25	44.87	0	0	0	0	0	Feruginous Shale
DTR/65	7697	25	26	44.87	0	0	0	0	0	Feruginous Shale
DTR/65	7698	26	27	44.87	0	0	0	0	0	Feruginous Shale
DTR/65	7699	27	28	26.35	0	0	0	0	0	Feruginous Shale
DTR/65	7700	28	29	51.62	0	0	0	0	0	Feruginous Shale
DTR/65	7701	29	30	57.83	0	0	0	0	0	Lateritic Ore
DTR/65	7702	30	31	46.83	0	0	0	0	0	Feruginous Shale
DTR/65	7703	35	36	53.36	0	0	0	0	0	Feruginous Shale
DTR/65	7704	36	37	53.36	0	0	0	0	0	Feruginous Shale
DTR/65	7705	37	38	46.83	0	0	0	0	0	Feruginous Shale
DTR/65	7706	38	39	46.83	0	0	0	0	0	Feruginous Shale
DTR/65	7707	39	40	46.83	0	0	0	0	0	Feruginous Shale
DTR/65	7708	40	41	40.95	0	0	0	0	0	Laterite
DTR/65	7709	41	42	46.83	0	0	0	0	0	Laterite
DTR/65	7710	42	43	38.42	0	0	0	0	0	Laterite
DTR/65	7711	43	44	30.71	0	0	0	0	0	Feruginous Shale
DTR/65	7712	44	45	27.88	0	0	0	0	0	Feruginous Shale
DTR/65	7713	45	46	31.91	0	0	0	0	0	Feruginous

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/65	7714	46	47	49.66	0	0	0	0	0	Laterite
DTR/65	7715	47	48	55.44	0	0	0	0	0	Lateritic Ore
DTR/65	7716	48	49	40.29	0	0	0	0	0	Feruginous Shale
DTR/65	7717	49	50	40.29	0	0	0	0	0	Feruginous Shale
DTR/65	7718	50	51	40.29	0	0	0	0	0	Feruginous Shale
DTR/65	7719	51	52	22.43	0	0	0	0	0	Feruginous Shale
DTR/65	7720	52	53	22.43	0	0	0	0	0	Laterite
DTR/65	7721	53	54	22.21	0	0	0	0	0	Feruginous Shale
DTR/65	7722	54	55	22.21	0	0	0	0	0	Feruginous Shale
DTR/65	7723	55	56	22.21	0	0	0	0	0	Feruginous Shale
DTR/65	7724	56	57	44.21	0	0	0	0	0	Feruginous Shale
DTR/65	7725	57	58	44.21	0	0	0	0	0	Feruginous Shale
DTR/65	7726	58	59	44.21	0	0	0	0	0	Feruginous Shale
DTR/65	7727	59	60	43.3	0	0	0	0	0	Feruginous Shale
DTR/65	7728	60	61	43.3	0	0	0	0	0	Feruginous Shale
DTR/65	7729	61	62	57.94	0	0	0	0	0	Lateritic Ore
DTR/65	7730	62	63	58.16	0	0	0	0	0	Lateritic Ore
DTR/65	7731	63	64	59.14	0	0	0	0	0	Lateritic Ore
DTR/65	7732	64	65	53.69	0	0	0	0	0	Feruginous Shale
DTR/65	7733	65	66	53.69	0	0	0	0	0	Feruginous Shale
DTR/65	7734	66	67	58.28	0	0	0	0	0	Lateritic Ore
DTR/65	7735	67	68	58.28	0	0	0	0	0	Lateritic Ore
DTR/65	7736	68	69	58.28	0	0	0	0	0	Lateritic Ore
DTR/65	7737	69	70	56.52	0	0	0	0	0	Lateritic Ore
DTR/65	7738	70	71	56.52	0	0	0	0	0	Lateritic Ore
DTR/65	7739	71	72	53.58	0	0	0	0	0	Feruginous Shale
DTR/65	7740	72	73	53.58	0	0	0	0	0	Feruginous Shale
DTR/65	7741	73	74	53.58	0	0	0	0	0	Feruginous Shale
DTR/65	7742	74	75	51.4	0	0	0	0	0	Feruginous Shale
DTR/65	7743	75	76	51.4	0	0	0	0	0	Feruginous Shale
DTR/65	7744	76	77	51.4	0	0	0	0	0	Feruginous Shale
DTR/65	7745	77	78	57.18	0	0	0	0	0	Lateritic Ore

2. BRF-2
"Manager (Onology)"
F. No. 104. 47. 1. 1960
1960

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/66	7788	33	34	46.14	0	0	0	0	0	Feruginous Shale
DTR/66	7789	34	35	49.89	0	0	0	0	0	Feruginous Shale
DTR/66	7790	35	36	26.76	0	0	0	0	0	Feruginous Shale
DTR/66	7791	36	37	36.73	0	0	0	0	0	Laterite
DTR/66	7792	37	38	50.11	0	0	0	0	0	Laterite
DTR/66	7793	38	39	41.95	0	0	0	0	0	Laterite
DTR/66	7794	39	40	51.7	0	0	0	0	0	Laterite
DTR/66	7795	40	41	56.01	0	0	0	0	0	Lateritic Ore
DTR/66	7796	41	42	56.92	0	0	0	0	0	Lateritic Ore
DTR/66	7797	42	43	48.07	0	0	0	0	0	Laterite
DTR/66	7798	43	44	46.94	0	0	0	0	0	Laterite
DTR/66	7799	44	45	47.39	0	0	0	0	0	Feruginous Shale
DTR/66	7800	45	46	47.51	0	0	0	0	0	Feruginous Shale
DTR/66	7801	46	47	47.85	0	0	0	0	0	Feruginous Shale
DTR/66	7802	47	48	56.8	0	0	0	0	0	Lateritic Ore
DTR/66	7803	48	49	54.99	0	0	0	0	0	Feruginous Shale
DTR/66	7804	49	50	58.28	0	0	0	0	0	Lateritic Ore
DTR/66	7805	50	51	48.78	0	0	0	0	0	Feruginous Shale
DTR/66	7806	51	52	54.08	0	0	0	0	0	Feruginous Shale
DTR/66	7807	52	53	52.04	0	0	0	0	0	Feruginous Shale
DTR/66	7808	53	54	52.04	0	0	0	0	0	Feruginous Shale
DTR/66	7809	54	55	53.74	0	0	0	0	0	Feruginous Shale
DTR/66	7810	55	56	53.74	0	0	0	0	0	Feruginous Shale
DTR/66	7811	56	57	56.58	0	0	0	0	0	Lateritic Ore
DTR/66	7812	57	58	56.58	0	0	0	0	0	Lateritic Ore
DTR/66	7813	58	59.7	38.45	0	0	0	0	0	Feruginous Shale
DTR/66	7814	60.8	61.8	37.19	0	0	0	0	0	Feruginous Shale
DTR/66	7815	61.8	62.8	37.19	0	0	0	0	0	Feruginous Shale
DTR/66	7816	62.8	63	37.41	0	0	0	0	0	Feruginous Shale
DTR/66	7817	63	64.3	37.41	0	0	0	0	0	Feruginous Shale
DTR/66	7818	68	69	55.56	0	0	0	0	0	Lateritic Ore
DTR/66	7819	69	70	55.56	0	0	0	0	0	SLO_FO
DTR/66	7820	70	71	55.56	0	0	0	0	0	SLO_FO
DTR/66	7821	71	72	62.59	0	0	0	0	0	SLO_FO

BKH Borehole Assay & Litho Data

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/66	7822	72	73	62.59	0	0	0	0	0	SLO_FO
DTR/66	7823	73	74	63.61	0	0	0	0	0	SLO_FO
DTR/66	7824	74	75	63.61	0	0	0	0	0	SLO_FO
DTR/66	7825	75	76	59.07	0	0	0	0	0	SLO_FO
DTR/66	7826	76	77	59.07	0	0	0	0	0	SLO_FO
DTR/66	7827	77	78	62.47	0	0	0	0	0	SLO_FO
DTR/66	7828	78	79	62.47	0	0	0	0	0	SLO_FO
DTR/66	7829	79	80	59.76	0	0	0	0	0	SLO_FO
DTR/66	7830	80	81.5	59.76	0	0	0	0	0	SLO_FO
DTR/66	7831	81.5	82	57.6	0	0	0	0	0	SLO_FO
DTR/66	7832	82	83.5	57.6	0	0	0	0	0	SLO_FO
DTR/66	7833	83.5	84.5	64.85	0	0	0	0	0	SLO_FO
DTR/66	7834	84.5	85.5	64.85	0	0	0	0	0	SLO_FO
DTR/66	7835	85.5	86	64.06	0	0	0	0	0	SLO_FO
DTR/66	7836	86	87	64.06	0	0	0	0	0	SLO_FO
DTR/67	7837	0	1.7	56.01	0	0	0	0	0	Lateritic Ore
DTR/67	7838	1.7	3	47.39	0	0	0	0	0	Laterite
DTR/67	7839	3	4	58.05	0	0	0	0	0	Lateritic Ore
DTR/67	7840	4	5	61.34	0	0	0	0	0	SLO_FO
DTR/67	7841	5	6	46.37	0	0	0	0	0	Laterite
DTR/67	7842	6	7	59.18	0	0	0	0	0	Lateritic Ore
DTR/67	7843	7	8	59.75	0	0	0	0	0	Lateritic Ore
DTR/67	7844	8	9	59.21	0	0	0	0	0	Lateritic Ore
DTR/67	7845	9	10	59.3	0	0	0	0	0	Lateritic Ore
DTR/67	7846	10	11	62.93	0	0	0	0	0	SLO_FO
DTR/67	7847	11	12	59.07	0	0	0	0	0	Lateritic Ore
DTR/67	7848	12	13	60.43	0	0	0	0	0	SLO_FO
DTR/67	7849	13	14	61.45	0	0	0	0	0	SLO_FO
DTR/67	7850	14	15	51.02	0	0	0	0	0	Laterite
DTR/67	7851	15	16	51.59	0	0	0	0	0	Laterite
DTR/67	7852	16	17	56.24	0	0	0	0	0	Lateritic Ore
DTR/67	7853	17	18	44.9	0	0	0	0	0	Laterite
DTR/67	7854	18	19	56.58	0	0	0	0	0	Lateritic Ore
DTR/67	7855	19	20	59.64	0	0	0	0	0	Lateritic Ore
DTR/67	7856	20	21	55.67	0	0	0	0	0	Lateritic Ore
DTR/67	7857	21	22	53.74	0	0	0	0	0	Laterite
DTR/67	7858	22	23	58.96	0	0	0	0	0	Lateritic Ore
DTR/67	7859	23	24	61.68	0	0	0	0	0	SLO_FO
DTR/67	7860	24	25	54.93	0	0	0	0	0	SLO_FO
DTR/67	7861	25	26	60.89	0	0	0	0	0	SLO_FO
DTR/67	7862	26	27	53.17	0	0	0	0	0	SLO_FO
DTR/67	7863	27	28	56.8	0	0	0	0	0	SLO_FO
DTR/67	7864	28	29	67.8	0	0	0	0	0	SLO_FO
DTR/67	7865	29	30	68.48	0	0	0	0	0	SLO_FO
DTR/67	7866	30	31	67.92	0	0	0	0	0	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/67	7867	31	32	67.58	0	0	0	0	0	SLO_FO
DTR/67	7868	32	33	67.67	0	0	0	0	0	SLO_FO
DTR/67	7869	33	34	67.92	0	0	0	0	0	SLO_FO
DTR/67	7870	34	35	66.9	0	0	0	0	0	SLO_FO
DTR/67	7871	35	36	68.26	0	0	0	0	0	SLO_FO
DTR/67	7872	36	37	68.26	0	0	0	0	0	SLO_FO
DTR/67	7873	37	38	66.9	0	0	0	0	0	SLO_FO
DTR/67	7874	38	39	66.9	0	0	0	0	0	SLO_FO
DTR/67	7875	39	40	61	0	0	0	0	0	SLO_FO
DTR/67	7876	40	41	61	0	0	0	0	0	SLO_FO
DTR/67	7877	41	42	59.86	0	0	0	0	0	SLO_FO
DTR/67	7878	42	43	61	0	0	0	0	0	SLO_FO
DTR/67	7879	43	44	59.54	0	0	0	0	0	SLO_FO
DTR/67	7880	44	45	60.55	0	0	0	0	0	SLO_FO
DTR/67	7881	45	46	60.09	0	0	0	0	0	SLO_FO
DTR/67	7882	46	47	60.21	0	0	0	0	0	SLO_FO
DTR/67	7883	47	48	60.32	0	0	0	0	0	SLO_FO
DTR/67	7884	48	49	60.89	0	0	0	0	0	SLO_FO
DTR/67	7885	49	50	60.55	0	0	0	0	0	SLO_FO
DTR/67	7886	50	51	65.99	0	0	0	0	0	SLO_FO
DTR/67	7887	51	52	66.02	0	0	0	0	0	SLO_FO
DTR/67	7888	52	53	65.87	0	0	0	0	0	SLO_FO
DTR/67	7889	53	54.5	55.56	0	0	0	0	0	Lateritic Ore
DTR/67	7890	54.5	55.5	59.52	0	0	0	0	0	Lateritic Ore
DTR/67	7891	55.5	56.5	55.33	0	0	0	0	0	Lateritic Ore
DTR/67	7892	56.5	57.5	52.83	0	0	0	0	0	Feruginous Shale
DTR/67	7893	57.5	58.5	58.96	0	0	0	0	0	Lateritic Ore
DTR/67	7894	58.5	59.5	58.28	0	0	0	0	0	Lateritic Ore
DTR/67	7895	59.5	60.5	59.87	0	0	0	0	0	Lateritic Ore
DTR/67	7896	60.5	61.5	56.01	0	0	0	0	0	Lateritic Ore
DTR/67	7897	61.5	62	60.77	0	0	0	0	0	SLO_FO
DTR/67	7898	62	63	60.77	0	0	0	0	0	SLO_FO
DTR/67	7899	63	64	65.31	0	0	0	0	0	SLO_FO
DTR/67	7900	64	65	65.65	0	0	0	0	0	SLO_FO
DTR/67	7901	65	66	65.53	0	0	0	0	0	SLO_FO
DTR/67	7902	66	67	64.17	0	0	0	0	0	SLO_FO
DTR/67	7903	67	68	64.63	0	0	0	0	0	SLO_FO
DTR/67	7904	68	69	64.15	0	0	0	0	0	SLO_FO
DTR/67	7905	69	70	62.36	0	0	0	0	0	SLO_FO
DTR/67	7906	70	71	63.95	0	0	0	0	0	SLO_FO
DTR/67	7907	71	72	63.38	0	0	0	0	0	SLO_FO
DTR/67	7908	72	73	63.38	0	0	0	0	0	SLO_FO
DTR/67	7909	73	74	64.97	0	0	0	0	0	SLO_FO
DTR/67	7910	74	75	61.45	0	0	0	0	0	SLO_FO
DTR/67	7911	75	76	61.68	0	0	0	0	0	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/67	7912	76	77	58.28	0	0	0	0	0	Lateritic Ore
DTR/67	7913	77	78	52.83	0	0	0	0	0	Feruginous Shale
DTR/67	7914	78	79	43.54	0	0	0	0	0	Feruginous Shale
DTR/67	7915	79	80	43.31	0	0	0	0	0	Feruginous Shale
DTR/67	7916	80	81	48.64	0	0	0	0	0	Feruginous Shale
DTR/67	7917	81	82	48.07	0	0	0	0	0	Feruginous Shale
DTR/67	7918	82	83	32.99	0	0	0	0	0	Feruginous Shale
DTR/67	7919	83	84	31.2	0	0	0	0	0	Feruginous Shale
DTR/67	7920	84	85	36.77	0	0	0	0	0	Feruginous Shale
DTR/67	7921	87	88	45.12	0	0	0	0	0	Feruginous Shale
DTR/67	7922	88	89	45.12	0	0	0	0	0	Feruginous Shale
DTR/68	7923	0	0.6	50.34	0	0	0	0	0	Laterite
DTR/68	7924	0.6	1.2	50.34	0	0	0	0	0	Laterite
DTR/68	7925	1.2	2	51.02	0	0	0	0	0	Feruginous Shale
DTR/68	7926	2	3	50.79	0	0	0	0	0	Feruginous Shale
DTR/68	7927	3	4	57.26	0	0	0	0	0	Lateritic Ore
DTR/68	7928	4	5	55.56	0	0	0	0	0	Lateritic Ore
DTR/68	7929	5	6	58.5	0	0	0	0	0	Lateritic Ore
DTR/68	7930	6	6.9	58.28	0	0	0	0	0	Lateritic Ore
DTR/68	7931	6.9	8	59.64	0	0	0	0	0	Lateritic Ore
DTR/68	7932	8	9	58.66	0	0	0	0	0	Lateritic Ore
DTR/68	7933	9	10	57.03	0	0	0	0	0	Lateritic Ore
DTR/68	7934	10	11.3	60.55	0	0	0	0	0	SLO_FO
DTR/68	7935	11.3	12.5	58.73	0	0	0	0	0	Lateritic Ore
DTR/68	7936	12.5	13.7	61.45	0	0	0	0	0	SLO_FO
DTR/68	7937	13.7	15	45.12	0	0	0	0	0	Feruginous Shale
DTR/68	7938	15	16	59.64	0	0	0	0	0	Lateritic Ore
DTR/68	7939	16	17	60.55	0	0	0	0	0	SLO_FO
DTR/68	7940	17	18	59.87	0	0	0	0	0	Lateritic Ore
DTR/68	7941	18	19.2	57.26	0	0	0	0	0	Lateritic Ore
DTR/68	7942	19.2	20.5	54.42	0	0	0	0	0	Feruginous Shale
DTR/68	7943	20.5	21.2	61.11	0	0	0	0	0	SLO_FO
DTR/68	7944	21.2	21.8	54.65	0	0	0	0	0	Feruginous Shale
DTR/68	7945	21.8	23	60.21	0	0	0	0	0	SLO_FO
DTR/68	7946	23	24	60.32	0	0	0	0	0	SLO_FO
DTR/68	7947	24	25	56.46	0	0	0	0	0	Lateritic Ore

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/68	7948	25	26.3	56.24	0	0	0	0	0	Lateritic Ore
DTR/68	7949	26.3	27.5	58.28	0	0	0	0	0	Lateritic Ore
DTR/68	7950	27.5	28.7	56.92	0	0	0	0	0	Lateritic Ore
DTR/68	7951	28.7	30	58.62	0	0	0	0	0	Lateritic Ore
DTR/68	7952	30	31	58.5	0	0	0	0	0	Lateritic Ore
DTR/68	7953	31	32.1	58.73	0	0	0	0	0	Lateritic Ore
DTR/68	7954	32.1	33	58.62	0	0	0	0	0	Lateritic Ore
DTR/68	7955	33	33.75	59.86	0	0	0	0	0	Lateritic Ore
DTR/68	7956	33.75	34	59.86	0	0	0	0	0	Lateritic Ore
DTR/68	7957	34	35	58.05	0	0	0	0	0	Lateritic Ore
DTR/68	7958	35	36.1	60.77	0	0	0	0	0	SLO_FO
DTR/68	7959	36.1	36.2	60.77	0	0	0	0	0	SLO_FO
DTR/68	7960	36.2	37.2	60.09	0	0	0	0	0	SLO_FO
DTR/68	7961	37.2	38	57.6	0	0	0	0	0	Lateritic Ore
DTR/68	7962	38	38.9	52.72	0	0	0	0	0	Feruginous Shale
DTR/68	7963	38.9	40	59.64	0	0	0	0	0	Lateritic Ore
DTR/68	7964	40	41	59.41	0	0	0	0	0	Lateritic Ore
DTR/68	7965	41	42	60.09	0	0	0	0	0	SLO_FO
DTR/68	7966	42	43.2	60.31	0	0	0	0	0	SLO_FO
DTR/68	7967	43.2	44	52.61	0	0	0	0	0	Feruginous Shale
DTR/68	7968	44	45.1	56.92	0	0	0	0	0	Lateritic Ore
DTR/68	7969	45.1	45.2	56.92	0	0	0	0	0	Lateritic Ore
DTR/68	7970	45.2	46.1	57.94	0	0	0	0	0	Lateritic Ore
DTR/68	7971	46.1	46.55	57.94	0	0	0	0	0	Lateritic Ore
DTR/68	7972	46.55	46.8	61.45	0	0	0	0	0	BD_PO
DTR/68	7973	46.8	47.7	54.08	0	0	0	0	0	BD_PO
DTR/68	7974	47.7	48.8	58.62	0	0	0	0	0	BD_PO
DTR/68	7975	48.8	50	58.62	0	0	0	0	0	BD_PO
DTR/68	7976	50	51	56.46	0	0	0	0	0	BD_PO
DTR/68	7977	51	52	59.64	0	0	0	0	0	BD_PO
DTR/68	7978	52	53.1	59.64	0	0	0	0	0	BD_PO
DTR/68	7979	53.1	54	63.95	0	0	0	0	0	BD_PO
DTR/68	7980	54	55	63.04	0	0	0	0	0	BD_PO
DTR/68	7981	55	56	61.45	0	0	0	0	0	BD_PO
DTR/68	7982	56	57.2	64.63	0	0	0	0	0	BD_PO
DTR/68	7983	57.2	58.5	56.92	0	0	0	0	0	BD_PO
DTR/68	7984	58.5	59.5	62.13	0	0	0	0	0	BD_PO
DTR/68	7985	59.5	59.8	62.13	0	0	0	0	0	BD_PO
DTR/68	7986	59.8	61	61.79	0	0	0	0	0	BD_PO
DTR/68	7987	61	62	64.63	0	0	0	0	0	BD_PO
DTR/68	7988	62	63.1	57.82	0	0	0	0	0	BD_PO
DTR/68	7989	63.1	64	63.27	0	0	0	0	0	BD_PO
DTR/68	7990	64	65	62.25	0	0	0	0	0	BD_PO
DTR/68	7991	65	66	62.7	0	0	0	0	0	BD_PO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/68	7992	66	67	63.72	0	0	0	0	0	BD_PO
DTR/68	7993	67	68.2	62.94	0	0	0	0	0	BD_PO
DTR/68	7994	68.2	69.1	62.93	0	0	0	0	0	BD_PO
DTR/68	7995	69.1	70	63.72	0	0	0	0	0	BD_PO
DTR/68	7996	70	71	63.49	0	0	0	0	0	BD_PO
DTR/68	7997	71	72	63.72	0	0	0	0	0	BD_PO
DTR/68	7998	72	72.4	63.27	0	0	0	0	0	BD_PO
DTR/68	7999	72.4	73.1	63.27	0	0	0	0	0	BD_PO
DTR/68	8000	73.1	74	63.38	0	0	0	0	0	BD_PO
DTR/68	8001	74	75	61.91	0	0	0	0	0	BD_PO
DTR/68	8002	75	76	64.37	0	0	0	0	0	BD_PO
DTR/68	8003	76	77.1	64.97	0	0	0	0	0	BD_PO
DTR/68	8004	77.1	78	65.31	0	0	0	0	0	BD_PO
DTR/68	8005	78	78.7	63.95	0	0	0	0	0	BD_PO
DTR/68	8006	78.7	79	63.95	0	0	0	0	0	BD_PO
DTR/68	8007	79	80	53.17	0	0	0	0	0	BD_PO
DTR/68	8008	80	81	43.65	0	0	0	0	0	Feruginous Shale
DTR/68	8009	81	82	37.87	0	0	0	0	0	Feruginous Shale
DTR/68	8010	82	83	53.74	0	0	0	0	0	Feruginous Shale
DTR/68	8011	83	83.9	40.75	0	0	0	0	0	Feruginous Shale
DTR/68	8012	83.9	84.7	42.86	0	0	0	0	0	Feruginous Shale
DTR/68	8013	84.7	84.9	42.86	0	0	0	0	0	Feruginous Shale
DTR/68	8014	84.9	86	42.4	0	0	0	0	0	Feruginous Shale
DTR/68	8015	86	87	47.96	0	0	0	0	0	Feruginous Shale
DTR/68	8016	87	88	50.57	0	0	0	0	0	Feruginous Shale
DTR/68	8017	88	89	51.25	0	0	0	0	0	Feruginous Shale
DTR/68	8018	89	90.1	40.82	0	0	0	0	0	Feruginous Shale
DTR/68	8019	90.1	90.6	47.17	0	0	0	0	0	Feruginous Shale
DTR/68	8020	90.6	91	47.17	0	0	0	0	0	Limonite
DTR/68	8021	92	93	54.65	0	0	0	0	0	Limonite
DTR/68	8022	93	94	54.65	0	0	0	0	0	Limonite
DTR/69	8023	0	0.6	54.42	0	0	0	0	0	Laterite
DTR/69	8024	0.6	1.2	54.42	0	0	0	0	0	Laterite
DTR/69	8025	1.2	2	55.1	0	0	0	0	0	Lateritic Ore
DTR/69	8026	2	3	59.18	0	0	0	0	0	Lateritic Ore
DTR/69	8027	3	4	59.3	0	0	0	0	0	Lateritic Ore
DTR/69	8028	4	5	48.3	0	0	0	0	0	Laterite
DTR/69	8029	5	6.2	53.97	0	0	0	0	0	Laterite

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/69	8030	6.2	7.5	53.97	0	0	0	0	0	Laterite
DTR/69	8031	7.5	8	52.83	0	0	0	0	0	Laterite
DTR/69	8032	8	9	52.83	0	0	0	0	0	Laterite
DTR/69	8033	9	10	53.63	0	0	0	0	0	Laterite
DTR/69	8034	10	11.3	56.79	0	0	0	0	0	Lateritic Ore
DTR/69	8035	11.3	12.5	54.31	0	0	0	0	0	Laterite
DTR/69	8036	12.5	13.8	56.69	0	0	0	0	0	Lateritic Ore
DTR/69	8037	13.8	15	57.37	0	0	0	0	0	Lateritic Ore
DTR/69	8038	15	16	57.37	0	0	0	0	0	Lateritic Ore
DTR/69	8039	16	17	50.45	0	0	0	0	0	Laterite
DTR/69	8040	17	18	58.28	0	0	0	0	0	Lateritic Ore
DTR/69	8041	18	19.2	57.78	0	0	0	0	0	Lateritic Ore
DTR/69	8042	19.2	20.5	57.14	0	0	0	0	0	Lateritic Ore
DTR/69	8043	20.5	21.3	57.37	0	0	0	0	0	Lateritic Ore
DTR/69	8044	21.3	21.8	57.82	0	0	0	0	0	Lateritic Ore
DTR/69	8045	21.8	23	57.26	0	0	0	0	0	Lateritic Ore
DTR/69	8046	23	24	55.67	0	0	0	0	0	Lateritic Ore
DTR/69	8047	24	25.1	46.03	0	0	0	0	0	Laterite
DTR/69	8048	25.1	26	56.58	0	0	0	0	0	Lateritic Ore
DTR/69	8049	26	27	58	0	0	0	0	0	Lateritic Ore
DTR/69	8050	27	27.7	58	0	0	0	0	0	Lateritic Ore
DTR/69	8051	27.7	28	58	0	0	0	0	0	Lateritic Ore
DTR/69	8052	28	29.3	54.32	0	0	0	0	0	Feruginous Shale
DTR/69	8053	29.3	30.5	54.32	0	0	0	0	0	Feruginous Shale
DTR/69	8054	30.5	31.7	57.14	0	0	0	0	0	Lateritic Ore
DTR/69	8055	31.7	33	55.44	0	0	0	0	0	Lateritic Ore
DTR/69	8056	33	34	58.5	0	0	0	0	0	Lateritic Ore
DTR/69	8057	34	35.1	57.03	0	0	0	0	0	Lateritic Ore
DTR/69	8058	35.1	36	58.5	0	0	0	0	0	Lateritic Ore
DTR/69	8059	36	37	54.31	0	0	0	0	0	Feruginous Shale
DTR/69	8060	37	38.3	61.23	0	0	0	0	0	SLO_FO
DTR/69	8061	38.3	39.2	60.77	0	0	0	0	0	SLO_FO
DTR/69	8062	39.2	40.3	60.66	0	0	0	0	0	SLO_FO
DTR/69	8063	40.3	41.3	52.83	0	0	0	0	0	Feruginous Shale
DTR/69	8064	41.3	42	56.69	0	0	0	0	0	Lateritic Ore
DTR/69	8065	42	43	56.69	0	0	0	0	0	Lateritic Ore
DTR/69	8066	43	44	54.2	0	0	0	0	0	Feruginous Shale
DTR/69	8067	44	45	54.2	0	0	0	0	0	Feruginous Shale
DTR/69	8068	45	46.2	51.7	0	0	0	0	0	Feruginous Shale
DTR/69	8069	46.2	46.65	51.7	0	0	0	0	0	Feruginous Shale
DTR/69	8070	46.65	47	51.7	0	0	0	0	0	Feruginous

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
										Shale
DTR/69	8071	47	48.1	38.43	0	0	0	0	0	Feruginous Shale
DTR/69	8072	49.1	50	59.54	0	0	0	0	0	Lateritic Ore
DTR/69	8073	50	51	56.8	0	0	0	0	0	Lateritic Ore
DTR/69	8074	51	52.2	57.03	0	0	0	0	0	Lateritic Ore
DTR/69	8075	52.2	53.1	58.05	0	0	0	0	0	Lateritic Ore
DTR/69	8076	53.1	53.4	58.05	0	0	0	0	0	Lateritic Ore
DTR/69	8077	53.4	54.5	57.82	0	0	0	0	0	Lateritic Ore
DTR/69	8078	54.5	55.6	57.82	0	0	0	0	0	Lateritic Ore
DTR/69	8079	55.6	57.2	58.62	0	0	0	0	0	Lateritic Ore
DTR/69	8080	57.2	58	58.05	0	0	0	0	0	Lateritic Ore
DTR/69	8081	58	59	57.89	0	0	0	0	0	Lateritic Ore
DTR/69	8082	59	59.4	57.37	0	0	0	0	0	Lateritic Ore
DTR/69	8083	59.4	60	57.37	0	0	0	0	0	Lateritic Ore
DTR/69	8084	60	60.9	58.39	0	0	0	0	0	Lateritic Ore
DTR/69	8085	60.9	62	58.05	0	0	0	0	0	Lateritic Ore
DTR/69	8086	62	62.8	58.5	0	0	0	0	0	Lateritic Ore
DTR/69	8087	62.8	63	61.34	0	0	0	0	0	SLO_FO
DTR/69	8088	63	64	61.34	0	0	0	0	0	SLO_FO
DTR/69	8089	64	65.1	67.58	0	0	0	0	0	SLO_FO
DTR/69	8090	65.1	65.8	66.33	0	0	0	0	0	SLO_FO
DTR/69	8091	65.8	66.3	66.21	0	0	0	0	0	SLO_FO
DTR/69	8092	66.3	67.4	58.77	0	0	0	0	0	SLO_FO
DTR/69	8093	67.4	67.6	54.42	0	0	0	0	0	SLO_FO
DTR/69	8094	67.6	68.8	39.34	0	0	0	0	0	Feruginous Shale
DTR/69	8095	68.8	70	39.34	0	0	0	0	0	Feruginous Shale
DTR/69	8096	70	71.2	56.01	0	0	0	0	0	Lateritic Ore
DTR/69	8097	71.2	72.1	60.43	0	0	0	0	0	SLO_FO
DTR/69	8098	72.1	73	59.86	0	0	0	0	0	Lateritic Ore
DTR/69	8099	73	74	61	0	0	0	0	0	SLO_FO
DTR/69	8100	74	75	61	0	0	0	0	0	SLO_FO
DTR/69	8101	75	76	58.5	0	0	0	0	0	Lateritic Ore
DTR/69	8102	76	77.1	58.5	0	0	0	0	0	Lateritic Ore
DTR/69	8103	77.1	78	58.62	0	0	0	0	0	Lateritic Ore
DTR/69	8104	78	78.8	58.62	0	0	0	0	0	Lateritic Ore
DTR/69	8105	78.8	79	58.62	0	0	0	0	0	Lateritic Ore
DTR/69	8106	79	80.2	60.77	0	0	0	0	0	SLO_FO
DTR/69	8107	80.2	80.6	65.87	0	0	0	0	0	SLO_FO
DTR/69	8108	80.6	81	65.87	0	0	0	0	0	BD_PO
DTR/69	8109	81	82	65.87	0	0	0	0	0	BD_PO
DTR/69	8110	82	83.1	67.12	0	0	0	0	0	BD_PO
DTR/69	8111	83.1	84	67.24	0	0	0	0	0	BD_PO
DTR/69	8112	84	85	66.44	0	0	0	0	0	BD_PO
DTR/69	8113	85	85.8	64.63	0	0	0	0	0	BD_PO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/69	8114	85.8	87	64.63	0	0	0	0	0	BD_PO
DTR/69	8115	87	88	64.4	0	0	0	0	0	BD_PO
DTR/69	8116	88	89.1	64.4	0	0	0	0	0	BD_PO
DTR/69	8117	89.1	90	63.49	0	0	0	0	0	BD_PO
DTR/69	8118	90	91	63.49	0	0	0	0	0	BD_PO
DTR/69	8119	91	91.4	64.29	0	0	0	0	0	BD_PO
DTR/69	8120	91.4	92	64.29	0	0	0	0	0	BD_PO
DTR/69	8121	92	93	64.29	0	0	0	0	0	BD_PO
DTR/69	8122	93	94	62.7	0	0	0	0	0	BD_PO
DTR/69	8123	94	95	62.7	0	0	0	0	0	BD_PO
DTR/70	8124	0	0.6	53.39	0	0	0	0	0	Float Ore
DTR/70	8125	0.6	1.4	53.39	0	0	0	0	0	Float Ore
DTR/70	8126	1.4	2.4	54.6	0	0	0	0	0	Float Ore
DTR/70	8127	2.4	3.7	54.6	0	0	0	0	0	Float Ore
DTR/70	8128	3.7	5	54.82	0	0	0	0	0	Float Ore
DTR/70	8129	5	6	43.5	0	0	0	0	0	Float Ore
DTR/70	8130	6	7.1	55.58	0	0	0	0	0	Float Ore
DTR/70	8131	7.1	8	58.77	0	0	0	0	0	Float Ore
DTR/70	8132	8	9.2	59.43	0	0	0	0	0	Float Ore
DTR/70	8133	9.2	10	59.1	0	0	0	0	0	Float Ore
DTR/70	8134	10	10.5	59.1	0	0	0	0	0	SLO_FO
DTR/70	8135	10.5	11.5	63.71	0	0	0	0	0	SLO_FO
DTR/70	8136	11.5	12.6	63.93	0	0	0	0	0	SLO_FO
DTR/70	8137	12.6	13.5	63.65	0	0	0	0	0	SLO_FO
DTR/70	8138	13.5	14.2	63.27	0	0	0	0	0	SLO_FO
DTR/70	8139	14.2	15	59.98	0	0	0	0	0	SLO_FO
DTR/70	8140	15	16	55.8	0	0	0	0	0	SLO_FO
DTR/70	8141	16	17	57.89	0	0	0	0	0	SLO_FO
DTR/70	8142	17	18	54.16	0	0	0	0	0	SLO_FO
DTR/70	8143	18	19	58	0	0	0	0	0	SLO_FO
DTR/70	8144	19	21	58.66	0	0	0	0	0	SLO_FO
DTR/70	8145	21	22.1	67.89	0	0	0	0	0	SLO_FO
DTR/70	8146	22.1	23	68.11	0	0	0	0	0	SLO_FO
DTR/70	8147	23	24.2	65.8	0	0	0	0	0	SLO_FO
DTR/70	8148	24.2	25.1	65.91	0	0	0	0	0	SLO_FO
DTR/70	8149	25.1	26	64.48	0	0	0	0	0	SLO_FO
DTR/70	8150	26	26.8	64.59	0	0	0	0	0	SLO_FO
DTR/70	8151	26.8	27.4	64.59	0	0	0	0	0	SLO_FO
DTR/70	8152	27.4	27.6	65.69	0	0	0	0	0	SLO_FO
DTR/70	8153	27.6	28.9	66.68	0	0	0	0	0	SLO_FO
DTR/70	8154	28.9	30	67.23	0	0	0	0	0	SLO_FO
DTR/70	8155	30	31	67.45	0	0	0	0	0	SLO_FO
DTR/70	8156	31	32.2	67.56	0	0	0	0	0	SLO_FO
DTR/70	8157	32.2	33	67.67	0	0	0	0	0	SLO_FO
DTR/70	8158	33	33.9	67.56	0	0	0	0	0	SLO_FO

BKF-Dr Borehole Assay & Litho Data

Manager, (M&S)
 District, (M&S)
 District, (M&S)

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/70	8159	33.9	34.3	50.86	0	0	0	0	0	Feruginous Shale
DTR/70	8160	34.3	35.4	50.86	0	0	0	0	0	Feruginous Shale
DTR/70	8161	35.4	36.1	52.84	0	0	0	0	0	Feruginous Shale
DTR/70	8162	36.1	37	50.2	0	0	0	0	0	Feruginous Shale
DTR/70	8163	37	38.1	55.69	0	0	0	0	0	Lateritic Ore
DTR/70	8164	38.1	39.2	54.93	0	0	0	0	0	Feruginous Shale
DTR/70	8165	39.2	40	58.44	0	0	0	0	0	Lateritic Ore
DTR/70	8166	40	40.1	58.44	0	0	0	0	0	Lateritic Ore
DTR/70	8167	40.1	41	51.19	0	0	0	0	0	Feruginous Shale
DTR/70	8168	41	42	61.08	0	0	0	0	0	SLO_FO
DTR/70	8169	42	43	60.64	0	0	0	0	0	SLO_FO
DTR/70	8170	43	44	56.24	0	0	0	0	0	Lateritic Ore
DTR/70	8171	44	44.8	49.43	0	0	0	0	0	Feruginous Shale
DTR/70	8172	44.8	45.6	40.75	0	0	0	0	0	Feruginous Shale
DTR/70	8173	45.6	46.3	40.75	0	0	0	0	0	Feruginous Shale
DTR/70	8174	46.3	46.4	38.23	0	0	0	0	0	Feruginous Shale
DTR/70	8175	46.4	47.2	38.23	0	0	0	0	0	Feruginous Shale
DTR/70	8176	47.2	48	37.13	0	0	0	0	0	Feruginous Shale
DTR/70	8177	48	49	52.51	0	0	0	0	0	Feruginous Shale
DTR/70	8178	49	50	45.04	0	0	0	0	0	Feruginous Shale
DTR/70	8179	50	51.2	45.04	0	0	0	0	0	Feruginous Shale
DTR/70	8180	51.2	52.1	35.92	0	0	0	0	0	Feruginous Shale
DTR/70	8181	52.1	52.6	38.67	0	0	0	0	0	Feruginous Shale
DTR/70	8182	52.6	53	49.65	0	0	0	0	0	Feruginous Shale
DTR/70	8183	53	54	46.36	0	0	0	0	0	Feruginous Shale
DTR/70	8184	54	55.2	46.36	0	0	0	0	0	Feruginous Shale
DTR/70	8185	55.2	56	49.65	0	0	0	0	0	Feruginous Shale
DTR/70	8186	56	57.1	64.23	0	0	0	0	0	SLO_FO
DTR/70	8187	57.1	57.9	64.26	0	0	0	0	0	SLO_FO
DTR/70	8188	57.9	58.8	64.81	0	0	0	0	0	SLO_FO
DTR/70	8189	58.8	58.9	64.81	0	0	0	0	0	SLO_FO
DTR/70	8190	58.9	60	67.01	0	0	0	0	0	SLO_FO
DTR/70	8191	60	61	66.79	0	0	0	0	0	SLO_FO

Borehole Assay & Litho Data

 BKP-22
 Manager (Ore)
 Daitari Iron Ore
 O. M. C. Ltd

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/70	8192	61	62.2	66.79	0	0	0	0	0	SLO_FO
DTR/70	8193	62.2	63	64.92	0	0	0	0	0	SLO_FO
DTR/70	8194	63	64	64.92	0	0	0	0	0	SLO_FO
DTR/70	8195	64	65.2	67.12	0	0	0	0	0	SLO_FO
DTR/70	8196	65.2	65.5	67.12	0	0	0	0	0	SLO_FO
DTR/70	8197	65.5	66.5	59.32	0	0	0	0	0	SLO_FO
DTR/70	8198	66.5	67.8	49.65	0	0	0	0	0	Limonite
DTR/70	8199	67.8	69	55.58	0	0	0	0	0	Limonitic Ore
DTR/70	8200	69	69.7	55.58	0	0	0	0	0	Limonitic Ore
DTR/70	8201	69.7	70	55.47	0	0	0	0	0	Lateritic Ore
DTR/70	8202	70	71	54.16	0	0	0	0	0	Feruginous Shale
DTR/70	8203	71	71.55	47.02	0	0	0	0	0	Feruginous Shale
DTR/70	8204	71.55	72.1	48.22	0	0	0	0	0	Feruginous Shale
DTR/70	8205	72.1	73	49.32	0	0	0	0	0	Feruginous Shale
DTR/70	8206	73	74.3	49.32	0	0	0	0	0	Feruginous Shale
DTR/70	8207	74.3	75	45.37	0	0	0	0	0	Feruginous Shale
DTR/70	8208	75	75.2	63.82	0	0	0	0	0	SLO_FO
DTR/70	8209	75.2	76	63.82	0	0	0	0	0	SLO_FO
DTR/70	8210	76	77	65.25	0	0	0	0	0	SLO_FO
DTR/70	8211	77	77.8	65.25	0	0	0	0	0	SLO_FO
DTR/70	8212	77.8	78	65.25	0	0	0	0	0	SLO_FO
DTR/70	8213	78	79.1	64.15	0	0	0	0	0	SLO_FO
DTR/70	8214	79.1	80	61.85	0	0	0	0	0	SLO_FO
DTR/70	8215	80	81	64.04	0	0	0	0	0	SLO_FO
DTR/70	8216	81	82	64.15	0	0	0	0	0	SLO_FO
DTR/70	8217	82	83	64.15	0	0	0	0	0	SLO_FO
DTR/70	8218	83	84	61.3	0	0	0	0	0	SLO_FO
DTR/70	8219	84	84.9	39.32	0	0	0	0	0	Feruginous Shale
DTR/70	8220	84.9	85.2	48.88	0	0	0	0	0	Feruginous Shale
DTR/70	8221	85.2	85.7	48.88	0	0	0	0	0	Feruginous Shale
DTR/70	8222	85.7	87.2	55.58	0	0	0	0	0	Lateritic Ore
DTR/70	8223	87.2	88	55.58	0	0	0	0	0	Lateritic Ore
DTR/70	8224	88	89	49.97	0	0	0	0	0	Feruginous Shale
DTR/70	8225	89	90	49.94	0	0	0	0	0	Feruginous Shale
DTR/70	8226	90	90.25	49.87	0	0	0	0	0	Feruginous Shale
DTR/70	8227	90.25	91	49.87	0	0	0	0	0	Feruginous Shale
DTR/70	8228	91	92	49.87	0	0	0	0	0	Feruginous Shale

BKJ
Borehole Assay & Litho Data
Manager
Date: 10/10/2023
C. S. S. Ltd.

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/70	8229	92	93	49.87	0	0	0	0	0	Feruginous Shale
DTR/70	8230	93	94	59.23	0	0	0	0	0	Lateritic Ore
DTR/72	8231	0	0.6	57.24	0	0	0	0	0	Lateritic Ore
DTR/72	8232	0.6	1.2	57.24	0	0	0	0	0	Lateritic Ore
DTR/72	8233	1.2	2	57.52	0	0	0	0	0	Lateritic Ore
DTR/72	8234	2	3.1	56.69	0	0	0	0	0	Lateritic Ore
DTR/72	8235	3.1	4	42.45	0	0	0	0	0	Laterite
DTR/72	8236	4	5	51.38	0	0	0	0	0	Laterite
DTR/72	8237	5	6.2	51.66	0	0	0	0	0	Feruginous Shale
DTR/72	8238	6.2	7.1	53.2	0	0	0	0	0	Feruginous Shale
DTR/72	8239	7.1	8	53.06	0	0	0	0	0	Feruginous Shale
DTR/72	8240	8	9	53.34	0	0	0	0	0	Feruginous Shale
DTR/72	8241	9	10	55.85	0	0	0	0	0	Lateritic Ore
DTR/72	8242	10	11.1	56.13	0	0	0	0	0	Lateritic Ore
DTR/72	8243	11.1	12	56.69	0	0	0	0	0	Lateritic Ore
DTR/72	8244	12	12.4	60.38	0	0	0	0	0	BD_PO
DTR/72	8245	12.4	12.8	60.38	0	0	0	0	0	BD_PO
DTR/72	8246	12.8	13.9	63.25	0	0	0	0	0	BD_PO
DTR/72	8247	13.9	15	63.11	0	0	0	0	0	BD_PO
DTR/72	8248	15	16.2	64.23	0	0	0	0	0	BD_PO
DTR/72	8249	16.2	17.1	63.25	0	0	0	0	0	BD_PO
DTR/72	8250	17.1	18	63.25	0	0	0	0	0	BD_PO
DTR/72	8251	18	19.2	63.81	0	0	0	0	0	BD_PO
DTR/72	8252	19.2	20.5	63.67	0	0	0	0	0	BD_PO
DTR/72	8253	20.5	21.3	64.65	0	0	0	0	0	BD_PO
DTR/72	8254	21.3	22.2	65.07	0	0	0	0	0	SLO_FO
DTR/72	8255	22.2	23	65.07	0	0	0	0	0	SLO_FO
DTR/72	8256	23	24.2	65.21	0	0	0	0	0	SLO_FO
DTR/72	8257	24.2	25.5	65.07	0	0	0	0	0	SLO_FO
DTR/72	8258	25.5	26.7	64.79	0	0	0	0	0	SLO_FO
DTR/72	8259	26.7	27.5	65.79	0	0	0	0	0	SLO_FO
DTR/72	8260	27.5	28	64.23	0	0	0	0	0	SLO_FO
DTR/72	8261	28	29	63.39	0	0	0	0	0	SLO_FO
DTR/72	8262	29	30	63.95	0	0	0	0	0	SLO_FO
DTR/72	8263	30	31	64.93	0	0	0	0	0	SLO_FO
DTR/72	8264	31	32.1	65.07	0	0	0	0	0	SLO_FO
DTR/72	8265	32.1	33	64.65	0	0	0	0	0	SLO_FO
DTR/72	8266	33	33.7	64.21	0	0	0	0	0	SLO_FO
DTR/72	8267	33.7	34	64.21	0	0	0	0	0	SLO_FO
DTR/72	8268	34	35	65.35	0	0	0	0	0	SLO_FO
DTR/72	8269	35	36.1	65.07	0	0	0	0	0	SLO_FO
DTR/72	8270	36.1	36.3	65.21	0	0	0	0	0	SLO_FO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/72	8271	36.3	37.2	65.21	0	0	0	0	0	SLO_FO
DTR/72	8272	37.2	38	65.21	0	0	0	0	0	SLO_FO
DTR/72	8273	38	39	65.07	0	0	0	0	0	SLO_FO
DTR/72	8274	39	40.2	65.07	0	0	0	0	0	SLO_FO
DTR/72	8275	40.2	41.5	65.21	0	0	0	0	0	SLO_FO
DTR/72	8276	41.5	42.7	65.62	0	0	0	0	0	SLO_FO
DTR/72	8277	42.7	44	65.35	0	0	0	0	0	SLO_FO
DTR/72	8278	44	45	65.35	0	0	0	0	0	SLO_FO
DTR/72	8279	45	46.4	64.51	0	0	0	0	0	SLO_FO
DTR/72	8280	46.4	47.6	64.23	0	0	0	0	0	SLO_FO
DTR/72	8281	47.6	48.9	63.81	0	0	0	0	0	SLO_FO
DTR/72	8282	48.9	50	63.95	0	0	0	0	0	SLO_FO
DTR/72	8283	50	50.5	63.53	0	0	0	0	0	SLO_FO
DTR/72	8284	50.5	51.1	63.39	0	0	0	0	0	BD_PO
DTR/72	8285	51.1	52	63.39	0	0	0	0	0	BD_PO
DTR/72	8286	52	52.6	62.83	0	0	0	0	0	BD_PO
DTR/72	8287	52.6	53	63.95	0	0	0	0	0	BD_PO
DTR/72	8288	53	54	63.95	0	0	0	0	0	BD_PO
DTR/72	8289	54	55.2	65.49	0	0	0	0	0	BD_PO
DTR/72	8290	55.2	56	65.62	0	0	0	0	0	BD_PO
DTR/72	8291	56	57.1	65.62	0	0	0	0	0	BD_PO
DTR/72	8292	57.1	58	65.62	0	0	0	0	0	BD_PO
DTR/72	8293	58	58.7	65.62	0	0	0	0	0	BD_PO
DTR/72	8294	58.7	59	65.62	0	0	0	0	0	BD_PO
DTR/72	8295	59	60.2	65.9	0	0	0	0	0	BD_PO
DTR/72	8296	60.2	61.5	65.9	0	0	0	0	0	BD_PO
DTR/72	8297	61.5	62.8	65.76	0	0	0	0	0	BD_PO
DTR/72	8298	62.8	64	65.62	0	0	0	0	0	BD_PO
DTR/72	8299	64	65	66.18	0	0	0	0	0	BD_PO
DTR/72	8300	65	66.1	66.32	0	0	0	0	0	BD_PO
DTR/72	8301	66.1	67	65.07	0	0	0	0	0	BD_PO
DTR/72	8302	67	67.2	65.21	0	0	0	0	0	SLO_FO
DTR/72	8303	67.2	68.5	65.21	0	0	0	0	0	SLO_FO
DTR/72	8304	68.5	69.2	65.21	0	0	0	0	0	SLO_FO
DTR/72	8305	69.2	70	64.09	0	0	0	0	0	SLO_FO
DTR/72	8306	70	71.1	65.07	0	0	0	0	0	SLO_FO
DTR/72	8307	71.1	71.25	64.51	0	0	0	0	0	SLO_FO
DTR/72	8308	71.25	72.3	64.51	0	0	0	0	0	SLO_FO
DTR/72	8309	72.3	73.6	64.65	0	0	0	0	0	SLO_FO
DTR/72	8310	73.6	74.6	65.35	0	0	0	0	0	SLO_FO
DTR/72	8311	74.6	75.2	63.11	0	0	0	0	0	SLO_FO
DTR/72	8312	75.2	76	63.25	0	0	0	0	0	SLO_FO
DTR/72	8313	76	77	63.25	0	0	0	0	0	SLO_FO
DTR/72	8314	77	77.5	62.97	0	0	0	0	0	SLO_FO
DTR/72	8315	77.5	78.5	62.97	0	0	0	0	0	SLO_FO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/72	8316	78.5	79.5	62.97	0	0	0	0	0	SLO_FO
DTR/72	8317	79.5	80.3	63.39	0	0	0	0	0	SLO_FO
DTR/72	8318	80.3	81.5	63.39	0	0	0	0	0	SLO_FO
DTR/72	8319	81.5	82.4	60.88	0	0	0	0	0	SLO_FO
DTR/72	8320	82.4	83	60.88	0	0	0	0	0	SLO_FO
DTR/72	8321	83	83.5	62.83	0	0	0	0	0	SLO_FO
DTR/72	8322	83.5	84.25	62.83	0	0	0	0	0	SLO_FO
DTR/72	8323	84.25	84.5	34.2	0	0	0	0	0	Limonite
DTR/72	8324	84.5	86	34.2	0	0	0	0	0	Feruginous Shale
DTR/72	8325	86	86.2	34.2	0	0	0	0	0	Feruginous Shale
DTR/72	8326	86.2	87	33.92	0	0	0	0	0	Feruginous Shale
DTR/72	8327	87	88.2	33.92	0	0	0	0	0	Feruginous Shale
DTR/72	8328	88.2	89.3	33.92	0	0	0	0	0	Feruginous Shale
DTR/72	8329	89.3	90	37.13	0	0	0	0	0	Feruginous Shale
DTR/72	8330	90	90.4	37.41	0	0	0	0	0	Feruginous Shale
DTR/72	8331	90.4	91	37.41	0	0	0	0	0	Feruginous Shale
DTR/72	8332	91	92	37.41	0	0	0	0	0	Feruginous Shale
DTR/72	8333	92	93	36.44	0	0	0	0	0	Feruginous Shale
DTR/72	8334	93	93.3	36.44	0	0	0	0	0	Feruginous Shale
DTR/74	8335	0	0.5	53.2	0	0	0	0	0	Float Ore
DTR/74	8336	0.5	1	53.2	0	0	0	0	0	Float Ore
DTR/74	8337	1	1.8	51.94	0	0	0	0	0	Float Ore
DTR/74	8338	1.8	2.6	56.55	0	0	0	0	0	Float Ore
DTR/74	8339	2.6	3.2	56.55	0	0	0	0	0	Float Ore
DTR/74	8340	3.2	4	43.56	0	0	0	0	0	Float Ore
DTR/74	8341	4	5	56.41	0	0	0	0	0	Float Ore
DTR/74	8342	5	6	42.31	0	0	0	0	0	Float Ore
DTR/74	8343	6	7.1	56.55	0	0	0	0	0	Float Ore
DTR/74	8344	7.1	8.2	56.27	0	0	0	0	0	Float Ore
DTR/74	8345	8.2	9.1	56.27	0	0	0	0	0	Float Ore
DTR/74	8346	9.1	10	55.99	0	0	0	0	0	Float Ore
DTR/74	8347	10	11.2	63.11	0	0	0	0	0	SLO_FO
DTR/74	8348	11.2	12.4	64.51	0	0	0	0	0	SLO_FO
DTR/74	8349	12.4	13.5	64.09	0	0	0	0	0	SLO_FO
DTR/74	8350	13.5	14.2	64.37	0	0	0	0	0	SLO_FO
DTR/74	8351	14.2	15	64.79	0	0	0	0	0	SLO_FO
DTR/74	8352	15	16.2	64.51	0	0	0	0	0	SLO_FO
DTR/74	8353	16.2	17.5	63.95	0	0	0	0	0	SLO_FO
DTR/74	8354	17.5	18.4	62.83	0	0	0	0	0	SLO_FO

2. PRAC-Plan
 Managerial Planning
 Organized manner in which
 an org. operates

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/74	8355	18.4	19.4	63.11	0	0	0	0	0	SLO_FO
DTR/74	8356	19.4	20.2	63.11	0	0	0	0	0	SLO_FO
DTR/74	8357	20.2	21	62.97	0	0	0	0	0	SLO_FO
DTR/74	8358	21	22.1	61.02	0	0	0	0	0	SLO_FO
DTR/74	8359	22.1	23	59.76	0	0	0	0	0	Lateritic Ore
DTR/74	8360	23	24.2	57.11	0	0	0	0	0	Lateritic Ore
DTR/74	8361	24.2	25.3	51.94	0	0	0	0	0	Laterite
DTR/74	8362	25.3	26.2	53.76	0	0	0	0	0	Laterite
DTR/74	8363	26.2	27.4	54.45	0	0	0	0	0	Laterite
DTR/74	8364	27.4	28	53.06	0	0	0	0	0	Feruginous Shale
DTR/74	8365	28	29.1	58.64	0	0	0	0	0	Lateritic Ore
DTR/74	8366	29.1	30	57.94	0	0	0	0	0	Lateritic Ore
DTR/74	8367	30	30.8	57.24	0	0	0	0	0	Lateritic Ore
DTR/74	8368	30.8	31.7	57.66	0	0	0	0	0	Lateritic Ore
DTR/74	8369	31.7	32.9	59.9	0	0	0	0	0	Lateritic Ore
DTR/74	8370	32.9	33.6	60.04	0	0	0	0	0	SLO_FO
DTR/74	8371	33.6	34	60.04	0	0	0	0	0	SLO_FO
DTR/74	8372	34	35.3	61.02	0	0	0	0	0	SLO_FO
DTR/74	8373	35.3	36.5	57.8	0	0	0	0	0	Lateritic Ore
DTR/74	8374	36.5	37.6	56.13	0	0	0	0	0	Lateritic Ore
DTR/74	8375	37.6	38.8	54.45	0	0	0	0	0	Feruginous Shale
DTR/74	8376	38.8	40	56.69	0	0	0	0	0	Lateritic Ore
DTR/74	8377	40	41	56.23	0	0	0	0	0	Limonitic Ore
DTR/74	8378	41	42	56.23	0	0	0	0	0	Limonitic Ore
DTR/74	8379	42	43.1	59.48	0	0	0	0	0	Limonitic Ore
DTR/74	8380	43.1	44.3	59.48	0	0	0	0	0	Limonitic Ore
DTR/74	8381	44.3	45.1	60.88	0	0	0	0	0	SLO_FO
DTR/74	8382	45.1	46	60.88	0	0	0	0	0	SLO_FO
DTR/74	8383	46	47.1	61.57	0	0	0	0	0	SLO_FO
DTR/74	8384	47.1	48.2	61.57	0	0	0	0	0	SLO_FO
DTR/74	8385	48.2	49	61.02	0	0	0	0	0	SLO_FO
DTR/74	8386	49	50	61.02	0	0	0	0	0	SLO_FO
DTR/74	8387	50	51	62	0	0	0	0	0	SLO_FO
DTR/74	8388	51	52	62	0	0	0	0	0	SLO_FO
DTR/74	8389	52	52.45	61.43	0	0	0	0	0	SLO_FO
DTR/74	8390	52.45	53.2	61.43	0	0	0	0	0	SLO_FO
DTR/74	8391	53.2	54.3	60.74	0	0	0	0	0	SLO_FO
DTR/74	8392	54.3	55.8	60.74	0	0	0	0	0	SLO_FO
DTR/74	8393	55.8	56.4	63.25	0	0	0	0	0	SLO_FO
DTR/74	8394	56.4	57	63.25	0	0	0	0	0	BD_PO
DTR/74	8395	57	58.3	65.76	0	0	0	0	0	BD_PO
DTR/74	8396	58.3	58.6	66.18	0	0	0	0	0	BD_PO
DTR/74	8397	58.6	59	66.18	0	0	0	0	0	BD_PO
DTR/74	8398	59	60	65.21	0	0	0	0	0	BD_PO

Borehole Assay & Litho Data

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/74	8399	60	61	64.23	0	0	0	0	0	BD_PO
DTR/74	8400	61	62	64.09	0	0	0	0	0	BD_PO
DTR/74	8401	62	63.5	64.65	0	0	0	0	0	BD_PO
DTR/74	8402	63.5	64.8	65.21	0	0	0	0	0	BD_PO
DTR/74	8403	64.8	65.8	66.04	0	0	0	0	0	BD_PO
DTR/74	8404	65.8	66.8	65.62	0	0	0	0	0	BD_PO
DTR/74	8405	66.8	68	64.23	0	0	0	0	0	BD_PO
DTR/74	8406	68	69	64.5	0	0	0	0	0	BD_PO
DTR/74	8407	69	70	63.53	0	0	0	0	0	BD_PO
DTR/74	8408	70	71.1	63.25	0	0	0	0	0	BD_PO
DTR/74	8409	71.1	72	64.23	0	0	0	0	0	SLO_FO
DTR/74	8410	72	73.2	64.23	0	0	0	0	0	SLO_FO
DTR/74	8411	73.2	74	63.95	0	0	0	0	0	SLO_FO
DTR/74	8412	74	75	63.95	0	0	0	0	0	SLO_FO
DTR/74	8413	75	76.5	63.95	0	0	0	0	0	SLO_FO
DTR/74	8414	76.5	77.2	63.95	0	0	0	0	0	SLO_FO
DTR/74	8415	77.2	78.1	66.04	0	0	0	0	0	SLO_FO
DTR/74	8416	78.1	79.1	66.04	0	0	0	0	0	SLO_FO
DTR/74	8417	79.1	80	66.04	0	0	0	0	0	SLO_FO
DTR/74	8418	80	81.5	65.76	0	0	0	0	0	SLO_FO
DTR/74	8419	81.5	82.7	64.65	0	0	0	0	0	SLO_FO
DTR/74	8420	82.7	83.7	64.65	0	0	0	0	0	SLO_FO
DTR/74	8421	83.7	84	64.65	0	0	0	0	0	SLO_FO
DTR/74	8422	84	85	64.65	0	0	0	0	0	SLO_FO
DTR/74	8423	85	86	62.97	0	0	0	0	0	SLO_FO
DTR/74	8424	86	87.1	62.97	0	0	0	0	0	SLO_FO
DTR/74	8425	87.1	87.8	62.97	0	0	0	0	0	SLO_FO
DTR/74	8426	87.8	88.8	62.97	0	0	0	0	0	SLO_FO
DTR/74	8427	88.8	89	58.64	0	0	0	0	0	SLO_FO
DTR/74	8428	89	90	58.64	0	0	0	0	0	Limonitic Ore
DTR/74	8429	90	91	58.5	0	0	0	0	0	Lateritic Ore
DTR/74	8430	91	92	58.5	0	0	0	0	0	Lateritic Ore
DTR/74	8431	92	93	58.5	0	0	0	0	0	Lateritic Ore
DTR/74	8432	93	94	57.24	0	0	0	0	0	Lateritic Ore
DTR/74	8433	94	94.5	57.24	0	0	0	0	0	Lateritic Ore
DTR/75	8434	0	0.6	58.36	0	0	0	0	0	Lateritic Ore
DTR/75	8435	0.6	1.2	58.36	0	0	0	0	0	Lateritic Ore
DTR/75	8436	1.2	2	57.11	0	0	0	0	0	Lateritic Ore
DTR/75	8437	2	2.9	56.27	0	0	0	0	0	Lateritic Ore
DTR/75	8438	2.9	3.9	50.54	0	0	0	0	0	Laterite
DTR/75	8439	3.9	5	45.8	0	0	0	0	0	Laterite
DTR/75	8440	5	6.2	57.52	0	0	0	0	0	HLO
DTR/75	8441	6.2	7.1	60.04	0	0	0	0	0	HLO
DTR/75	8442	7.1	8	60.04	0	0	0	0	0	HLO
DTR/75	8443	8	9	61.16	0	0	0	0	0	HLO



 Date: 10/10/2023
 By: [Signature]
 For: [Signature]

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/75	8444	9	10	61.99	0	0	0	0	0	HLO
DTR/75	8445	10	11.1	62.13	0	0	0	0	0	SLO_FO
DTR/75	8446	11.1	12.3	63.95	0	0	0	0	0	SLO_FO
DTR/75	8447	12.3	13.5	64.94	0	0	0	0	0	SLO_FO
DTR/75	8448	13.5	14.2	63.11	0	0	0	0	0	SLO_FO
DTR/75	8449	14.2	15	63.25	0	0	0	0	0	SLO_FO
DTR/75	8450	15	16	52.78	0	0	0	0	0	SLO_FO
DTR/75	8451	16	17	51.66	0	0	0	0	0	SLO_FO
DTR/75	8452	17	18.1	52.36	0	0	0	0	0	SLO_FO
DTR/75	8453	18.1	19.3	51.66	0	0	0	0	0	SLO_FO
DTR/75	8454	19.3	20.5	49.43	0	0	0	0	0	SLO_FO
DTR/75	8455	20.5	21.2	48.17	0	0	0	0	0	SLO_FO
DTR/75	8456	21.2	21.6	47.47	0	0	0	0	0	Feruginous Shale
DTR/75	8457	21.6	22.8	57.52	0	0	0	0	0	Lateritic Ore
DTR/75	8458	22.8	24	58.5	0	0	0	0	0	Lateritic Ore
DTR/75	8459	24	24.8	58.5	0	0	0	0	0	Lateritic Ore
DTR/75	8460	24.8	25	58.5	0	0	0	0	0	Lateritic Ore
DTR/75	8461	33.6	35	59.06	0	0	0	0	0	Lateritic Ore
DTR/75	8462	35	36.2	54.04	0	0	0	0	0	Feruginous Shale
DTR/75	8463	36.2	37.2	59.2	0	0	0	0	0	Lateritic Ore
DTR/75	8464	37.2	38	59.05	0	0	0	0	0	Lateritic Ore
DTR/75	8465	38	38.6	59.06	0	0	0	0	0	Lateritic Ore
DTR/75	8466	38.6	39	59.06	0	0	0	0	0	Lateritic Ore
DTR/75	8467	40	42.2	64.79	0	0	0	0	0	SLO_FO
DTR/75	8468	42.2	43.5	56.55	0	0	0	0	0	SLO_FO
DTR/75	8469	43.5	44.2	55.99	0	0	0	0	0	SLO_FO
DTR/75	8470	44.2	45	56.55	0	0	0	0	0	SLO_FO
DTR/75	8471	45	46	58.78	0	0	0	0	0	SLO_FO
DTR/75	8472	46	46.2	39.79	0	0	0	0	0	SLO_FO
DTR/75	8473	46.2	47.5	39.79	0	0	0	0	0	Feruginous Shale
DTR/75	8474	47.5	48.5	40.48	0	0	0	0	0	Feruginous Shale
DTR/75	8475	48.5	49.7	41.89	0	0	0	0	0	Feruginous Shale
DTR/75	8476	49.7	51	39.51	0	0	0	0	0	Feruginous Shale
DTR/75	8477	51	51.7	39.51	0	0	0	0	0	Feruginous Shale
DTR/75	8478	51.7	52	62.27	0	0	0	0	0	BD_PO
DTR/75	8479	52	52.4	62.27	0	0	0	0	0	BD_PO
DTR/75	8480	52.4	53.1	62.27	0	0	0	0	0	BD_PO
DTR/75	8481	53.1	54	64.65	0	0	0	0	0	BD_PO
DTR/75	8482	54	55.2	64.37	0	0	0	0	0	BD_PO
DTR/75	8483	55.2	56	64.93	0	0	0	0	0	BD_PO
DTR/75	8484	56	57	64.09	0	0	0	0	0	BD_PO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/75	8485	57	58.5	64.93	0	0	0	0	0	BD_PO
DTR/75	8486	58.5	58.6	64.93	0	0	0	0	0	BD_PO
DTR/75	8487	58.6	59.5	62.83	0	0	0	0	0	BD_PO
DTR/75	8488	59.5	60.7	62.83	0	0	0	0	0	BD_PO
DTR/75	8489	60.7	62	66.46	0	0	0	0	0	BD_PO
DTR/75	8490	62	63	66.04	0	0	0	0	0	BD_PO
DTR/75	8491	63	64	65.76	0	0	0	0	0	BD_PO
DTR/75	8492	64	65	64.69	0	0	0	0	0	BD_PO
DTR/75	8493	65	65.2	64.69	0	0	0	0	0	BD_PO
DTR/75	8494	65.2	66.5	62.13	0	0	0	0	0	SLO_FO
DTR/75	8495	66.5	67.8	61.71	0	0	0	0	0	SLO_FO
DTR/75	8496	67.8	69	61.71	0	0	0	0	0	SLO_FO
DTR/75	8497	69	70	61.85	0	0	0	0	0	SLO_FO
DTR/75	8498	70	70.5	61.85	0	0	0	0	0	SLO_FO
DTR/75	8499	70.5	71	66.32	0	0	0	0	0	SLO_FO
DTR/75	8500	71	71.15	66.32	0	0	0	0	0	SLO_FO
DTR/75	8501	71.15	72	66.6	0	0	0	0	0	SLO_FO
DTR/75	8502	72	73	66.04	0	0	0	0	0	SLO_FO
DTR/75	8503	73	74	65.49	0	0	0	0	0	SLO_FO
DTR/75	8504	74	75	65.9	0	0	0	0	0	SLO_FO
DTR/75	8505	75	75.2	65.9	0	0	0	0	0	SLO_FO
DTR/75	8506	75.2	77.5	65.49	0	0	0	0	0	SLO_FO
DTR/75	8507	77.5	79	65.07	0	0	0	0	0	SLO_FO
DTR/75	8508	79	80	64.79	0	0	0	0	0	SLO_FO
DTR/75	8509	80	80.8	64.37	0	0	0	0	0	SLO_FO
DTR/75	8510	80.8	81.5	63.53	0	0	0	0	0	SLO_FO
DTR/75	8511	81.5	82.5	63.11	0	0	0	0	0	SLO_FO
DTR/75	8512	82.5	83.6	63.53	0	0	0	0	0	SLO_FO
DTR/75	8513	83.6	83.75	62.97	0	0	0	0	0	SLO_FO
DTR/75	8514	83.75	84	62.97	0	0	0	0	0	SLO_FO
DTR/75	8515	84	85.2	62.97	0	0	0	0	0	SLO_FO
DTR/75	8516	85.2	86	62.69	0	0	0	0	0	SLO_FO
DTR/75	8517	86	87.1	62.69	0	0	0	0	0	SLO_FO
DTR/75	8518	87.1	88.1	43.98	0	0	0	0	0	Feruginous Shale
DTR/75	8519	88.1	89.8	43.98	0	0	0	0	0	Feruginous Shale
DTR/75	8520	89.8	90	43.98	0	0	0	0	0	Feruginous Shale
DTR/75	8521	90	91	43.98	0	0	0	0	0	Feruginous Shale
DTR/79	8522	0	0.6	48.87	0	0	0	0	0	Laterite
DTR/79	8523	0.6	1.3	48.87	0	0	0	0	0	Laterite
DTR/79	8524	1.3	2.3	49.57	0	0	0	0	0	Laterite
DTR/79	8525	2.3	3	50.4	0	0	0	0	0	Laterite
DTR/79	8526	3	4	56.27	0	0	0	0	0	Lateritic Ore
DTR/79	8527	4	5	57.66	0	0	0	0	0	Lateritic Ore

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/79	8528	5	6	58.5	0	0	0	0	0	Lateritic Ore
DTR/79	8529	6	7.5	58.22	0	0	0	0	0	Lateritic Ore
DTR/79	8530	7.5	8.3	58.92	0	0	0	0	0	Lateritic Ore
DTR/79	8531	8.3	9	57.11	0	0	0	0	0	Lateritic Ore
DTR/79	8532	9	10	50.96	0	0	0	0	0	Laterite
DTR/79	8533	10	11.3	51.52	0	0	0	0	0	Laterite
DTR/79	8534	11.3	12.3	52.36	0	0	0	0	0	Laterite
DTR/79	8535	12.3	13	47.47	0	0	0	0	0	Laterite
DTR/79	8536	13	14	49.43	0	0	0	0	0	Laterite
DTR/79	8537	14	15	48.87	0	0	0	0	0	Laterite
DTR/79	8538	15	16.5	62	0	0	0	0	0	SLO_FO
DTR/79	8539	16.5	17.3	61.43	0	0	0	0	0	SLO_FO
DTR/79	8540	17.3	18	61.99	0	0	0	0	0	SLO_FO
DTR/79	8541	18	19	62.13	0	0	0	0	0	SLO_FO
DTR/79	8542	19	20	61.71	0	0	0	0	0	SLO_FO
DTR/79	8543	20	21	57.94	0	0	0	0	0	SLO_FO
DTR/79	8544	21	21.5	61.85	0	0	0	0	0	SLO_FO
DTR/79	8545	21.5	22.5	62.27	0	0	0	0	0	SLO_FO
DTR/79	8546	22.5	23.5	61.43	0	0	0	0	0	SLO_FO
DTR/79	8547	23.5	24.3	61.43	0	0	0	0	0	SLO_FO
DTR/79	8548	24.3	25	58.22	0	0	0	0	0	SLO_FO
DTR/79	8549	25	26	61.71	0	0	0	0	0	SLO_FO
DTR/79	8550	26	27	62.13	0	0	0	0	0	SLO_FO
DTR/79	8551	27	28	61.57	0	0	0	0	0	SLO_FO
DTR/79	8552	28	29	59.06	0	0	0	0	0	SLO_FO
DTR/79	8553	29	30	32.11	0	0	0	0	0	Feruginous Shale
DTR/79	8554	30	30.3	32.11	0	0	0	0	0	Feruginous Shale
DTR/79	8555	30.3	31	31.69	0	0	0	0	0	Feruginous Shale
DTR/79	8556	31	32	32.39	0	0	0	0	0	Feruginous Shale
DTR/79	8557	32	33	31.79	0	0	0	0	0	Feruginous Shale
DTR/79	8558	33	33.5	39.79	0	0	0	0	0	Feruginous Shale
DTR/79	8559	33.5	34	63.53	0	0	0	0	0	SLO_FO
DTR/79	8560	34	34.6	63.53	0	0	0	0	0	SLO_FO
DTR/79	8561	34.6	35.1	64.79	0	0	0	0	0	SLO_FO
DTR/79	8562	35.1	36	64.79	0	0	0	0	0	SLO_FO
DTR/79	8563	36	37	64.79	0	0	0	0	0	SLO_FO
DTR/79	8564	37	37.7	64.79	0	0	0	0	0	SLO_FO
DTR/79	8565	37.7	38	66.46	0	0	0	0	0	SLO_FO
DTR/79	8566	38	39	67.02	0	0	0	0	0	SLO_FO
DTR/79	8567	39	40.2	66.74	0	0	0	0	0	SLO_FO
DTR/79	8568	40.2	41.2	62.83	0	0	0	0	0	SLO_FO
DTR/79	8569	41.2	42	62.97	0	0	0	0	0	SLO_FO

Borehole Assay & Litho Data

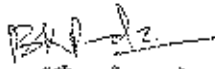
ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/79	8570	42	43	62.97	0	0	0	0	0	SLO_FO
DTR/79	8571	43	44	63.25	0	0	0	0	0	SLO_FO
DTR/79	8572	44	44.8	62.83	0	0	0	0	0	SLO_FO
DTR/79	8573	44.8	46	64.09	0	0	0	0	0	SLO_FO
DTR/79	8574	46	47	64.93	0	0	0	0	0	SLO_FO
DTR/79	8575	47	48	64.37	0	0	0	0	0	SLO_FO
DTR/79	8576	48	49.3	63.81	0	0	0	0	0	BD_PO
DTR/79	8577	49.3	50	64.37	0	0	0	0	0	BD_PO
DTR/79	8578	50	51	64.23	0	0	0	0	0	BD_PO
DTR/79	8579	51	52	46.07	0	0	0	0	0	Feruginous Shale
DTR/79	8580	52	53	48.73	0	0	0	0	0	Feruginous Shale
DTR/79	8581	53	54.2	63.95	0	0	0	0	0	BD_PO
DTR/79	8582	54.2	54.5	63.95	0	0	0	0	0	SLO_FO
DTR/79	8583	54.5	55.5	62.83	0	0	0	0	0	SLO_FO
DTR/79	8584	55.5	56.3	62.83	0	0	0	0	0	SLO_FO
DTR/79	8585	56.3	57.5	52.36	0	0	0	0	0	Limonite
DTR/79	8586	57.5	58.3	52.36	0	0	0	0	0	Limonite
DTR/79	8587	58.3	59	50.26	0	0	0	0	0	Limonite
DTR/79	8588	59	60	53.06	0	0	0	0	0	Limonite
DTR/79	8589	60	61	53.06	0	0	0	0	0	Limonite
DTR/79	8590	61	62.2	65.21	0	0	0	0	0	SLO_FO
DTR/79	8591	62.2	63	61.43	0	0	0	0	0	SLO_FO
DTR/79	8592	63	64	61.71	0	0	0	0	0	SLO_FO
DTR/79	8593	64	64.9	62.13	0	0	0	0	0	SLO_FO
DTR/79	8594	64.9	66	61.57	0	0	0	0	0	SLO_FO
DTR/79	8595	66	67	62.27	0	0	0	0	0	SLO_FO
DTR/79	8596	67	67.45	62.27	0	0	0	0	0	SLO_FO
DTR/79	8597	67.45	68	62.27	0	0	0	0	0	SLO_FO
DTR/79	8598	68	69.3	61.3	0	0	0	0	0	SLO_FO
DTR/79	8599	69.3	70	61.02	0	0	0	0	0	SLO_FO
DTR/79	8600	70	71.2	60.74	0	0	0	0	0	SLO_FO
DTR/79	8601	71.2	72.5	60.6	0	0	0	0	0	SLO_FO
DTR/79	8602	72.5	72.7	61.02	0	0	0	0	0	SLO_FO
DTR/79	8603	72.7	73.3	61.02	0	0	0	0	0	SLO_FO
DTR/79	8604	73.3	74	58.64	0	0	0	0	0	SLO_FO
DTR/79	8605	74	75	60.04	0	0	0	0	0	SLO_FO
DTR/79	8606	75	76.1	60.74	0	0	0	0	0	SLO_FO
DTR/79	8607	76.1	77	60.74	0	0	0	0	0	SLO_FO
DTR/79	8608	77	78	59.06	0	0	0	0	0	BD_PO
DTR/79	8609	78	79	59.06	0	0	0	0	0	BD_PO
DTR/79	8610	79	80	53.06	0	0	0	0	0	BD_PO
DTR/79	8611	80	81	53.06	0	0	0	0	0	BD_PO
DTR/79	8612	81	81.2	40.63	0	0	0	0	0	BD_PO
DTR/79	8613	81.2	82.5	40.63	0	0	0	0	0	BD_PO

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/80	8614	0	0.6	57.8	0	0	0	0	0	Lateritic Ore
DTR/80	8615	0.6	1.6	57.94	0	0	0	0	0	Lateritic Ore
DTR/80	8616	1.6	3	58.64	0	0	0	0	0	Lateritic Ore
DTR/80	8617	3	4	51.94	0	0	0	0	0	Laterite
DTR/80	8618	4	5	53.06	0	0	0	0	0	Laterite
DTR/80	8619	5	6	50.96	0	0	0	0	0	Laterite
DTR/80	8620	6	7.3	53.79	0	0	0	0	0	Laterite
DTR/80	8621	7.3	8.5	54.45	0	0	0	0	0	Laterite
DTR/80	8622	8.5	9.5	59.34	0	0	0	0	0	Lateritic Ore
DTR/80	8623	9.5	10	57.66	0	0	0	0	0	Lateritic Ore
DTR/80	8624	10	11	53.85	0	0	0	0	0	Limonic Ore
DTR/80	8625	11	12.3	59.48	0	0	0	0	0	Limonic Ore
DTR/80	8626	12.3	13.5	62	0	0	0	0	0	SLO_FO
DTR/80	8627	13.5	14.5	60.74	0	0	0	0	0	SLO_FO
DTR/80	8628	14.5	15	60.04	0	0	0	0	0	SLO_FO
DTR/80	8629	15	16	62.83	0	0	0	0	0	SLO_FO
DTR/80	8630	16	17	62.55	0	0	0	0	0	SLO_FO
DTR/80	8631	17	18.1	62.14	0	0	0	0	0	SLO_FO
DTR/80	8632	18.1	19	60.6	0	0	0	0	0	SLO_FO
DTR/80	8633	19	20	63.25	0	0	0	0	0	SLO_FO
DTR/80	8634	20	21.3	62.69	0	0	0	0	0	SLO_FO
DTR/80	8635	21.3	21.5	62.25	0	0	0	0	0	SLO_FO
DTR/80	8636	21.5	22.5	62.25	0	0	0	0	0	SLO_FO
DTR/80	8637	22.5	23.3	63.95	0	0	0	0	0	SLO_FO
DTR/80	8638	23.3	24	63.81	0	0	0	0	0	SLO_FO
DTR/80	8639	24	25	62.56	0	0	0	0	0	SLO_FO
DTR/80	8640	25	26	62.56	0	0	0	0	0	SLO_FO
DTR/80	8641	26	27.4	62.41	0	0	0	0	0	SLO_FO
DTR/80	8642	27.4	28	60.6	0	0	0	0	0	SLO_FO
DTR/80	8643	28	29.3	65.62	0	0	0	0	0	SLO_FO
DTR/80	8644	29.3	30	65.35	0	0	0	0	0	SLO_FO
DTR/80	8645	30	31	64.65	0	0	0	0	0	SLO_FO
DTR/80	8646	31	32	58.22	0	0	0	0	0	SLO_FO
DTR/80	8647	32	33	57.24	0	0	0	0	0	SLO_FO
DTR/80	8648	33	34	63.53	0	0	0	0	0	SLO_FO
DTR/80	8649	34	34.6	62.69	0	0	0	0	0	SLO_FO
DTR/80	8650	34.6	35	62.69	0	0	0	0	0	SLO_FO
DTR/80	8651	35	36	62.83	0	0	0	0	0	SLO_FO
DTR/80	8652	36	37	62.14	0	0	0	0	0	SLO_FO
DTR/80	8653	37	38	64.93	0	0	0	0	0	BD_PO
DTR/80	8654	38	39.3	63.95	0	0	0	0	0	BD_PO
DTR/80	8655	39.3	40	63.53	0	0	0	0	0	BD_PO
DTR/80	8656	40	40.9	63.25	0	0	0	0	0	BD_PO
DTR/80	8657	40.9	41.05	63.25	0	0	0	0	0	BD_PO
DTR/80	8658	41.05	42	64.93	0	0	0	0	0	BD_PO

ANNEXURE - 17

BH No.	sample id	Depth from	Depth to	Fe%	SiO ₂ %	Al ₂ O ₃ %	P%	S%	LOI	Litho
DTR/80	8659	42	43	64.51	0	0	0	0	0	BD_PO
DTR/80	8660	43	44	63.81	0	0	0	0	0	BD_PO
DTR/80	8661	44	45.3	64.23	0	0	0	0	0	BD_PO
DTR/80	8662	45.3	46.5	64.37	0	0	0	0	0	BD_PO
DTR/80	8663	46.5	47	63.67	0	0	0	0	0	BD_PO
DTR/80	8664	47	47.3	63.67	0	0	0	0	0	SLO_PO
DTR/80	8665	47.3	48	45.38	0	0	0	0	0	Feruginous Shale
DTR/80	8666	48	49	45.52	0	0	0	0	0	Feruginous Shale
DTR/80	8667	49	50	46.07	0	0	0	0	0	Feruginous Shale
DTR/80	8668	50	51.2	44.26	0	0	0	0	0	Feruginous Shale
DTR/80	8669	51.2	52	44.4	0	0	0	0	0	Feruginous Shale
DTR/80	8670	52	53	45.2	0	0	0	0	0	Feruginous Shale


 Manager (Geology)
 Dahanu Iron Ore Project
 O. M. C. Ltd.

Annexure - 36

The Orissa Mining Corporation Ltd. **OMC**

(A Government of Orissa Undertaking)
BHUBANESWAR - 751001
ISO 9001:2003 Certified

8049
To, **DMO, IRSE (2013-14)**

dt: 13.06.2013

To,
The Regional Controller of Mines
Regional Bureau of Mines
Office of Regional Controller of Mines
The floor Mahanti Corridor, 308, District Centre,
Chandrasekharpur, Bhubaneswar-751016

Sub: Submission of Bank Guarantee in original for an amount of Rs 2786163.00 (Rupees Twenty seven lakh eighty eight thousand one hundred sixty three only) in respect of Mining scheme of Daitari Iron Ore Mines over 1812.99ha for the period 01/01/2014 to 25/01/2016.

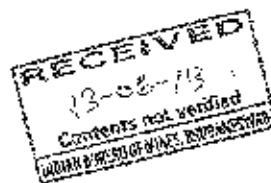
Respected Sir

We are enclosing herewith the original Bank Guarantee bearing No. 604931681 issued on 13.06.2013 drawn in Andhra Bank for Rs. 2786163.00 (Rupees Twenty seven lakh eighty eight thousand one hundred sixty three only) towards financial assurance in respect of Mining scheme of Daitari Iron Ore Mines over 1812.99ha, which has validity till end of the scheme period i.e. 25/01/2016.

The original BG may kindly be accepted & acknowledgement be issued for attaching the same in volumes of "Mining scheme with PWD & Feasibility Report of Daitari Iron Ore Mines" for final submission of EM, Nagpur.

Thanking you

Encl: As above

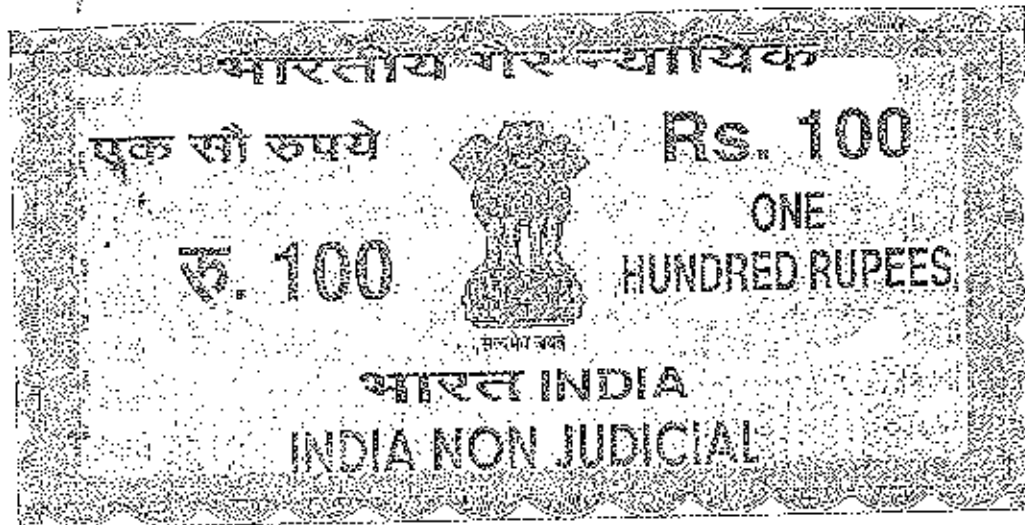


Yours faithfully


Sudhakar Kumar Das
Sr. Manager (Geology) &
Power of Attorney holder
S. K. Das
Sr. Manager (Geo)
Power of Attorney Holder
Orissa Mining Corporation Ltd.
Bhubaneswar-751001

36/1

www.orissamining.com
Phone: 0674-2383431, 2392772, 2391356, Fax: 0674-2330975, 2383533



उड़ीसा ORISSA

E 774692

Form No. _____
 To
 The Regional Controller of Mines,
 Indian Bureau of Mines,
 Bhubaneswar.

Dear Sir,

Guarantee No. 00288/2015/105-0001
 Amount of Guarantee Rs.27, 88,163/-
 Guarantee Period: from 25.06.2015 to 26.01.2016
 Last date for lodgment of claim: 26.01.2016

This Deed of guarantee executed on Day of 23/06/2015 by Andhra Bank, Bhubaneswar constituted under the Banking Companies (Acquisition & Transfer of Undertaking) Act, 1980 having its central office at Hyderabad and amongst other places, a branch at Bhubaneswar (hereinafter referred to as the bank) in favour of the Regional Controller of Mines, Indian Bureau of Mines, Bhubaneswar (hereinafter referred to as the Beneficiary) for an amount not exceeding Rs.27, 88,163/- (Rupees Twenty-seven lakhs Eighty-eight thousand One hundred and Sixty-three only) at the request of M/s Odisha Mining Corporation Ltd (hereinafter referred to as the Contractor's).

This guarantee is issued subject to the condition that the liability of the bank under this guarantee is limited to maximum of Rs.27, 88,163/- (Rupees Twenty-seven lakhs Eighty-eight thousand One hundred and Sixty-three only) and the guarantee shall remain in full force up to 26.01.2016 (date of expiry) and cannot be revoked on or before 26.01.2016 (last date of claim) by the Regional Controller of Mines, Indian Bureau of Mines, Bhubaneswar in writing.

SUBJECT TO AS ABOVE SAID
 (When guarantee and/or may be typed hereafter)

For and on behalf of
 The Regional Controller of Mines,
 Indian Bureau of Mines,
 Bhubaneswar

Senior Manager
 Bhubaneswar

महोदय प्रमुख, भारतीय न्यायिक
 उड़ीसा
 36/2

ANNEXURE - 18C

4. We undertake to pay to the authority on a demand from the Regional Controller of Mines, Indian Bureau of Mines, Bhubaneswar or any other officer authorized by the Controller General, Indian Bureau of Mines or Govt. of India any money so demanded notwithstanding any dispute or disputes raised by the lessee in any suit or proceedings pending before any court or tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be valid discharge of our liability for payment there under and lessee shall have no claim against us for making such payment.

5. We, Andhra Bank (bank name), further agree that the guarantee herein contained shall remain in full force and effect during the period up to the end of the Mining plan/ Scheme of Mining period of five years that would be taken for performance of the said Agreement and that shall continue to be enforceable till all the dues of the Govt. under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged till Regional Controller of Mines, Indian Bureau of Mines, Bhubaneswar or any other officer authorized by the Controller General, Indian Bureau of Mines certifies that the terms and conditions of the said progressive mine closure plan/ final mine closure plan have been fully and properly carried out by the said lessee and accordingly discharge this guarantee. Unless a demand or claim prior to this guarantee is made or as by writing on or before 26.01.2016, we shall be discharged from all liability under this guarantee hereafter.

6. We further agree that Regional Controller of Mines, Indian Bureau of Mines, Bhubaneswar or any other officer authorized by the Controller General, Indian Bureau of Mines shall have fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said lessee from time to time or to postpone for any time or from time to time any power exercisable by Regional Controller of Mines, Indian Bureau of Mines, Bhubaneswar against the said lessee and for forbear or enforce any of the terms and conditions relating to the said agreement. We, Andhra Bank (bank name) shall not be relieved from our liability by reason of any such variation or extension being granted to the said lessee or for any forbearance, Act or omission on the part of Regional Controller of Mines, Indian Bureau of Mines, Bhubaneswar or any indulgence by Regional Controller of Mines, Indian Bureau of Mines, Bhubaneswar to the said lessee in any manner or thing whatsoever which under the law relating to statutes, would but this provision have effect of so relieving us.

For Andhra Bank
Authorized Signatory
38/17

For Regional Controller of Mines
Bhubaneswar
38/17

ANNEXURE - 18

7. This guarantee will not be discharged due to change in constitution of the bank or lessee.
8. We, Andhra Bank (bank name), hereby undertake not to revoke this guarantee during its currency except with the previous consent of the Regional Controller of Mines, Indian Bureau of Mines, Bhubaneswar in writing.
9. Notwithstanding anything contained herein:
 - (a) Our liability under this Bank guarantee shall not exceed Rs.27, 88,163/- (Rupees Twenty-seven lakhs Eighty-eight thousand One hundred and Sixty-three only).
 - (b) The bank guarantee shall be valid up to 26.01.2016.
 - (c) The period of bank guarantee submitted valid for the period of the proposals given in the mining plan Scheme of mining / PMCP and We are liable to pay the guarantee amount or any part thereof under this Bank guarantee and only if served upon us a written claim or demand on or before
10. If the bank guarantee is to be encashed through the court, in that case the Bhubaneswar Court will have jurisdiction.
11. In witness whereof, the bank through its authorized officer has set its hand and stamp on this 13th Day of June 2013.

For and on behalf of
Andhra Bank
Regional Manager
Bhubaneswar

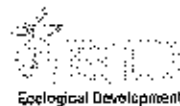
Witnessed by
D.S.O.
District Superintendent of Mines
Bhubaneswar

36/5



ODISHA MINING CORPORATION LIMITED
DAITARI IRON ORE MINING PROJECT

ENVIRONMENTAL MONITORING REPORT
FOR THE MONTH
OF
JANUARY 2014



M/s ECOLOGICAL DEVELOPMENT CONSULTANCY PVT. LTD.,
BHUBANESWAR, ODISHA

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1.	Introduction	02
2.	Monitoring Description	03-05
3.	Methodology	06
4.	Results & Discussion	7-20



1.0 INTRODUCTION

Odisha Mining Corporation Limited (OMCL), a Government of Odisha undertaking has engaged M/s Ecological Development Consultancy Pvt. Ltd. (EDCPL), Bhubaneswar, Odisha for carrying out **Environmental Monitoring** for their different mine leases in the district of Jajpur, Keonjhar and Sundergarh.

Environmental Monitoring includes monitoring of various environmental attributes such as Ambient Air Quality, Work Zone Air Quality, Noise Level, Water Quality, Waste Water Quality, Vehicular Emission and Soil Quality. Apart from these, various other activities such as suggestions to control the pollution, conducting various kinds of audits are also a part of this programme.

1.1 Present Report

The present report presents the Environmental related data in respect of Meteorology, Ambient Air Quality, Work Zone Air Quality (Fugitive Emission), Noise Level, Work zone Noise Level, Surface Water Quality and Flow of Water Measurement in and around Daitari Iron Ore Mine in Keonjhar district of Odisha during January 2014.

1.2 Scope of the Work

The Scope of work for during January 2014 is as follows:

Table No. 1.1: Scope of Work within the Mine Lease Area

Environmental Attributes	No. of Locations
Ambient Air Quality	6 locations
Work Zone Air Quality	6 locations
Ambient Noise Level	6 locations
Work zone Noise Level	3 locations
Surface Water Quality	4 locations
Flow of Water Measurement	3 locations

4

2.0 MONITORING DESCRIPTION

In order to assess the pollution level in and around the mining lease, different environmental attributes such as meteorology, air quality, water quality, soil quality and noise level are being monitored. The monitoring is carried out as per the CPCB guideline and every care has been taken for preservation and transportation of samples to the respective laboratory. M/s EDCPL has set up a site laboratory equipped with adequate instruments and equipments to monitor and analyze all the parameters of Air Quality i.e. PM₁₀, PM_{2.5}, SO₂, NO_x & CO and few physico-chemical parameters (10 parameters) of water samples. For other parameters of water, the samples are sent to EDCPL's Main Laboratory at Bhubaneswar. The locations of monitoring stations are shown in Plate I & II.

2.1 Meteorology

An Automatic Weather Monitoring Station is installed at the rooftop of OMC office (21°06'40.44"N; 85°50'22.86"E) of Daitari Iron Ore Mine of M/s OMCL to collect the meteorological data on hourly basis continuously.

The parameters monitored at the meteorological station were Temperature, Relative Humidity, Wind Speed, Wind Direction and Rainfall. These parameters were recorded at weather monitoring station using the respective sensors.

2.2 Ambient Air Quality

The prime objective of the ambient air quality study is to establish the existing ambient air quality in and around the mining lease area. The existing ambient air quality was monitored at six (6) locations. The locations were identified after due consultation of the OMCL officials. Monitoring was carried out for Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x) and Carbon Monoxide (CO). The PM₁₀ & PM_{2.5} was monitored for 24 hourly, while SO₂ and NO_x were monitored on 4 hourly basis for 24 hours at each sampling location and CO was monitored using the CO Monitor for 1 hr in a day in each monitoring station twice in a week, for a month. Details about Air Quality Monitoring locations are given in Table No. 2.1.

Table No.2.1: Ambient Air Quality Monitoring Stations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Mine Office at Hill Top	A1	21°05'38.7"N	85°48'42.84"E
2	Daitari Guest House	A2	21°06'34.08"N	85°49'29.4"E
3	OMC Office	A3	21°06'40.44"N	85°50'22.86"E
4	Baliparbat Township	A4	21°06'30.72"N	85°51'35.7"E
5	Water Reservoir Pump House	A5	21°07'39.06"N	85°48'43.44"E
6	Near Hospital Daitari	A6	21°06'43.14"N	85°49'25.2"E

2.3 Work Zone Air Quality (Fugitive Emissions)

To assess the level of fugitive dust due to mining and allied activities, six (6) monitoring stations were selected within the lease considering the activity area. Fugitive emissions monitoring was carried out once in a month on 8 hrly basis. The list of fugitive emissions monitoring stations is given in Table No. 2.2.

Table No. 2.2: Fugitive Emissions Monitoring Stations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Crusher 1(ARUN UDYOG New)	FE1	21°06'10.98"N	85°48'29.40"E
2	Crusher 2(ARUN UDYOG Old)	FE2	21°05'57.54"N	85°48'35.88"E
3	Narayani Crusher 3(KCC)	FE3	21°05'52.44"N	85°48'33.72"E
4	Pit	FE4	21°06'24.96"N	85°48'20.1"E
5	Bali Parbat Stock Yard near Weigh Bridge	FE5	21°06'17.58"N	85°51'4.92"E
6	Manual Road	FE6	21°05'42.24"N	85°48'40.68"E

2.4 Noise Level

In order to assess the existing noise levels in and around mining lease area, noise monitoring was carried out at 6 locations & 03 locations at Work zone areas. Details of Noise monitoring stations are given in Table No.

2.3.

Table No. 2.3: Ambient Noise Monitoring Locations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Mine Office at Hill Top	N1	21°05'38.7"N	85°48'42.84"E
2	Sector-3 near bank	N2	21°06'41.52"N	85°29'35.94"E
3	OMC Office	N3	21°06'40.44"N	85°50'22.86"E
4	Baliparbat Township	N4	21°06'30.72"N	85°51'35.7"E
5	Water Reservoir Pump House	N5	21°07'39.06"N	85°48'43.44"E
6	Near Hospital Daitari	N6	21°06'43.14"N	85°49'25.2"E
Work zone Noise Level				
7	Near Narayani Crusher(KCC)	N7	21°05'52.2"N	85°48'32.64"E
8	Excavation site	N8	21°06'12.12"N	85°48'26.4"E
9	Drilling point	N9	21°06'23.28"N	85°48'20.04"E

2.5 Surface Water Quality

8 nos. of grab samples were taken from four (04) surface water locations twice in a month. Details about surface water locations are given in Table No. 2.4.

Table No.2.4: Surface Water Sampling Locations

Sl. No.	Location	Sample code	Coordinates	
			Latitude	Longitude
1	Daitari Dam Site	SW1	21°07'39.12" N	85°48'42.84"E
2	Stream Flowing Near Pichida	SW2	21°07'7.56" N	85°48' 56.7"E
3	Stream Flowing Near Old Market	SW3	21°06'49.98" N	85°49' 29.58"E
4	Stream Near Baliparbat	SW4	21°06'24.18" N	85°51' 35.88"E

2.6 Flow of Water Measurement

To assess the flow of water in and around mining area, 03 locations were selected. The details about locations are given in Table No. 2.5

Table No. 2.5: Flow of Water Locations

Sl. No.	Locations	Sample code	Coordinates	
			Latitude	Longitude
1	Stream Flowing Near Pichida	FW1	21°07'7.56" N	85°48' 56.7"E
2	Stream Flowing Near Old Market	FW2	21°06'49.98" N	85°49' 29.58"E
3	Stream near Baliparbat	FW3	21°06'24.18" N	85°51' 35.88"E

2

3.0 METHODOLOGY**3.1 Meteorology**

The meteorological parameters were monitored on hourly basis continuously by installing a weather monitoring system at the rooftop of OMC office of Daitari Iron Mine of OMCL.

3.2 Air Monitoring

Monitoring was carried out for Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x) and Carbon Monoxide (CO). The PM₁₀ & PM_{2.5} was monitored for 24 hourly, while SO₂ and NO_x were monitored on 4 hourly basis for 24 hours at each sampling location and CO was monitored using the CO Monitor for 1 hr in a day in each monitoring station twice in a week, for a month. The sampling and analysis of ambient air quality was carried out as per the approved procedures by CPCB.

3.3 Noise Monitoring

The monitoring of noise level was carried out at specified locations. Ambient Noise levels were recorded at hourly intervals for 24 hrs and work zone noise level was at hourly intervals for 08 hrs.

3.4 Surface Water Monitoring

For assessing the water quality, surface water samples were collected. Eight (8) water samples from four locations (04) were taken in sterilized plastic cans twice a month. The samples were analyzed for essential physical, chemical and bacteriological parameters as per the list enclosed in the work order. The samples were analyzed as per standard procedure / method mentioned by CPCB/APHA.

3.5 Flow of Water Measurement

The monitoring of flow of water was carried out monthly once of the springs and perennial nallas present within and adjoining the mining lease area. The flow of water measurement was carried out at 3 specific locations (03) and is expressed in m³/min.



4.0 RESULTS AND DISCUSSIONS

4.1 Meteorology

Summarized meteorological data such as temperature, relative humidity, rainfall, wind speed and wind direction are given in Table No. 4.1.

Table No. 4.1: Results of Site Specific Meteorological Data

Sl. No.	Parameters	Month of January 2014
1	Temperature (°C)	Maximum
		27.72
		Minimum
2	Relative Humidity (%)	Maximum
		97.32
		Minimum
3	Wind speed(m/s)	Maximum
		8.2
		Average
4	Wind Direction (%)	N
		1.08
		NNE
		2.55
		NE
		6.05
		ENE
		5.11
		E
		4.57
		ESE
		3.09
		SE
		2.42
		SSE
		1.75
		S
		2.82
5	Rainfall(mm)	SSW
		4.17
		SW
		5.11
		WSW
		7.93
		W
		3.49
		WNW
		1.34
		NW
		1.88
		NNW
		1.75
		CALM
		44.89
		Monthly Total
		0
		No. of rainy days
		0

During the month of January 2014, the temperature varied from 10.86° C to 27.72° C & Relative Humidity varied from 36.82 % to 97.32 %. The maximum wind speed recorded during the month was 8.2 m/s and overall average wind speed is calculated to be 0.97m/s. 44.89% of the time the wind remained calm (≤ 0.5 m/s). The predominant wind direction as observed to be from WSW during the month. There was no rainfall during the month.

Max. and Min. value of temperature, relative humidity, rainfall, wind speed and wind direction on each day basis for 'January 2014' are given in Table No. 4.2.

Figure No. 4.1: Wind rose (24hrly) for the month of January 2014

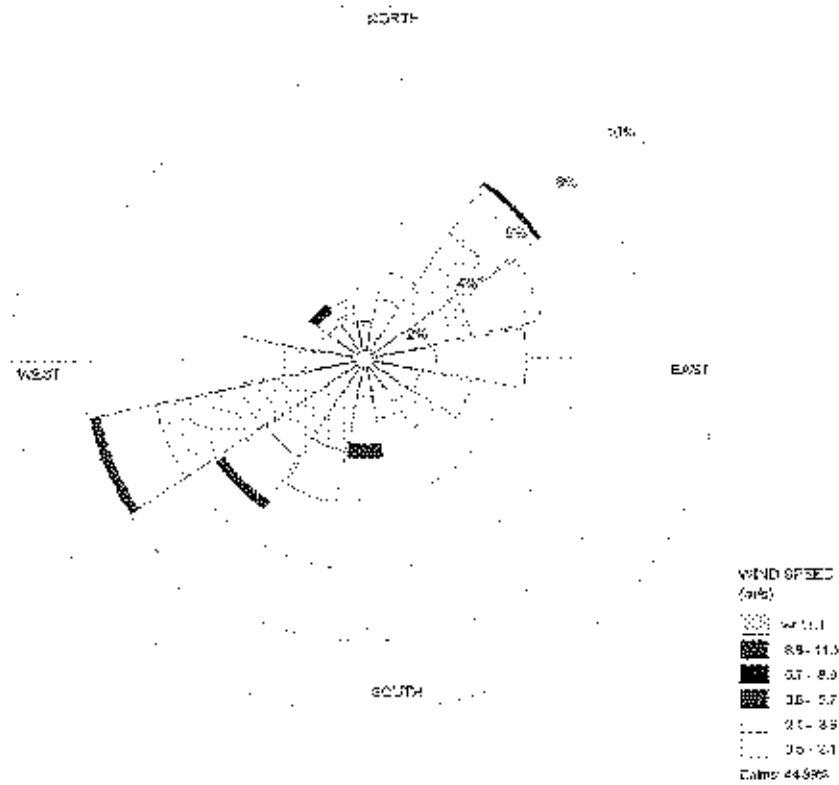


Table No. 4.2: Max and Min value of Meteorological Data of month January 2014

Date	Temperature		Relative Humidity (%)		Wind Speed (m/s)		Rainfall (mm)
	Max.	Min.	Max.	Min.	Max.	Min.	
01.01.2014	26.05	12.82	95.35	55.28	2.3	0	0
02.01.2014	26.47	14.1	96.61	53.02	2.8	0	0
03.01.2014	23.73	14.14	96.33	62.13	3.2	0	0
04.01.2014	23.92	13.25	96.79	62.55	2.7	0	0
05.01.2014	25.87	12.44	95.02	51.27	2.7	0	0
06.01.2014	25.64	15.16	95.61	60.77	4.0	0	0
07.01.2014	24.14	15.92	96.58	69.78	2.9	0	0
08.01.2014	23.0	12.9	96.68	64.3	2.9	0	0
09.01.2014	24.57	10.86	95.04	53.97	3.7	0	0
10.01.2014	25.18	12.75	96.16	56.66	2.4	0	0
11.01.2014	25.63	14.11	94.88	60.05	3.2	0	0
12.01.2014	25.65	15.48	96.46	67.78	2.3	0	0
13.01.2014	21.9	14.62	96.21	63.51	3.0	0	0
14.01.2014	25.89	13.0	97.32	50.37	3.2	0	0
15.01.2014	22.56	13.98	96.63	70.69	2.3	0	0
16.01.2014	24.44	13.63	97.28	62.6	2.5	0	0
17.01.2014	23.74	13.58	96.73	55.76	2.3	0	0
18.01.2014	24.56	11.95	94.04	50.65	3.2	0	0
19.01.2014	26.43	12.25	93.56	39.52	3.6	0	0
20.01.2014	25.33	14.18	95.42	69.06	2.6	0	0
21.01.2014	24.9	13.38	95.88	52.11	2.6	0	0
22.01.2014	25.72	11.8	95.94	36.82	3.6	0	0
23.01.2014	26.59	11.37	93.97	40.24	2.8	0	0
24.01.2014	26.35	12.92	95.18	50.21	3.5	0	0
25.01.2014	27.72	13.29	95.65	44.58	3.3	0	0
26.01.2014	26.8	14.46	95.46	45.98	2.8	0	0
27.01.2014	25.4	12.86	95.73	50.7	3.6	0	0
28.01.2014	25.52	12.35	95.76	51.22	3.1	0	0
29.01.2014	23.84	11.95	95.9	42.8	2.8	0	0
30.01.2014	26.08	11.99	95.18	50.36	3.1	0	0
31.01.2014	25.74	12.42	94.93	45.4	3.0	0	0

4.2 Ambient Air Quality Monitoring

The Summarized results of AAQ are given in the Table No. 4.3 and the details of AAQ monitoring during the month of 'January 2014' are given in the Table No. 4.4.

Table No. 4.3: Summarized Results of Ambient Air Qualities

Sl. No.	Locations	Co-ordinate	Station Code	PM ₁₀			PM _{2.5}			SO ₂			NO _x			CO		
				Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.
1.	Mine office at Hill Top	21°05'38.7"N 85°48'42.8"E	A1	146	40	88	40	12	27	8.2	4.8	6.2	14.7	9.7	11.3	BDL	BDL	BDL
2.	Daitari Guest House	21°06'34.08"N 85°49'20.4"E	A2	137	33	95	56	22	40	6.8	6.2	6.2	13.4	9.6	10.7	BDL	BDL	BDL
3.	OMC Office	21°06'40.44"N 85°50'22.86"E	A3	127	55	86	55	19	32	6.2	BDL	4.9	12.3	9.1	9.7	BDL	BDL	BDL
4.	Rajpandhat Township Water Reservoir	21°06'30.72"N 85°51'35.7"E	A4	74	48	58	32	17	22	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
5.	Water Reservoir pump house	21°07'33.06"N 85°48'43.44"E	A5	88	25	51	28	10	19	4.2	BDL	BDL	9.1	BDL	BDL	BDL	BDL	BDL
6.	Near Hospital Daitari	21°08'40.14"N 85°49'25.2"E	A6	126	55	82	55	18	30	6.8	4.2	5.2	11.2	9.1	10.6	BDL	BDL	BDL
CPCB Standards				100 µg/m ³			60 µg/m ³			80 µg/m ³			80 µg/m ³			4.0 mg/m ³		

Note: BDL values for NO_x - 9.0 µg/m³, SO₂ - 4.0 µg/m³ and for CO - 0.11 mg/m³

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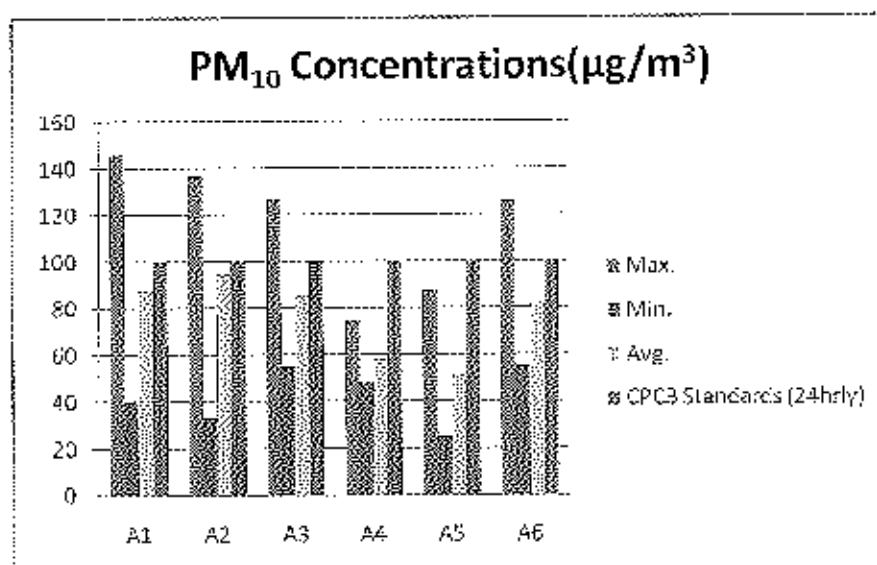
Table No. 4.4: The details of AAQ Monitoring during the Month of January 2014

Station Name	Station Code	Date	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
Mine Office at Hill Top	A1	04.01.2014	89	23	4.8	10.2	BDL
		08.01.2014	86	21	8.2	12.5	BDL
		11.01.2014	47	25	5.8	9.7	BDL
		15.01.2014	146	37	6.4	10.7	BDL
		18.01.2014	77	20	5.4	10.4	BDL
		22.01.2014	113	37	6.7	10.8	BDL
		25.01.2014	40	12	6.1	12.2	BDL
		29.01.2014	106	40	7.1	14.7	BDL
Daitari Guest House	A2	04.01.2014	109	44	6.3	9.6	BDL
		08.01.2014	107	42	5.2	9.7	BDL
		11.01.2014	121	55	6.2	9.9	BDL
		15.01.2014	137	56	6.7	10.5	BDL
		18.01.2014	73	25	6.7	13.4	BDL
		22.01.2014	33	22	6.8	10.0	BDL
		25.01.2014	70	25	5.7	11.8	BDL
		29.01.2014	110	55	6.2	10.3	BDL
OMC Office	A3	04.01.2014	55	18	BDL	12.3	BDL
		08.01.2014	92	32	5.4	9.3	BDL
		11.01.2014	105	38	5.2	9.1	BDL
		15.01.2014	127	55	5.3	9.3	BDL
		18.01.2014	85	28	5.1	9.2	BDL
		22.01.2014	58	22	4.6	9.2	BDL
		25.01.2014	90	35	6.2	9.7	BDL
		29.01.2014	79	28	5.1	9.4	BDL
Baliparbat Township	A4	04.01.2014	52	19	BDL	BDL	BDL
		08.01.2014	63	24	BDL	BDL	BDL
		11.01.2014	68	28	BDL	BDL	BDL
		15.01.2014	74	32	BDL	BDL	BDL
		18.01.2014	56	20	BDL	BDL	BDL
		22.01.2014	48	18	BDL	BDL	BDL
		25.01.2014	53	22	BDL	BDL	BDL
		29.01.2014	49	17	BDL	BDL	BDL
Water Reservoir Pump House	A5	04.01.2014	44	17	BDL	BDL	BDL
		08.01.2014	51	21	BDL	BDL	BDL
		11.01.2014	39	12	BDL	BDL	BDL
		15.01.2014	68	25	BDL	BDL	BDL
		18.01.2014	25	10	BDL	BDL	BDL
		22.01.2014	45	15	BDL	BDL	BDL
		25.01.2014	Monitoring has not been done due to power cut				
		29.01.2014	48	19	BDL	BDL	BDL

Near Hospital Daitari	A6	04.01.2014	88	28	4.2	9.1	BDL
		08.01.2014	93	33	4.8	9.4	BDL
		11.01.2014	126	55	5.0	10.6	BDL
		15.01.2014	55	23	6.8	11.2	BDL
		18.01.2014	64	18	5.1	9.5	BDL
		22.01.2014	72	26	5.3	9.8	BDL
		25.01.2014	68	22	4.8	10.2	BDL
		29.01.2014	93	39	6.0	9.6	BDL
CPCB Standards			100 $\mu\text{g}/\text{m}^3$	60 $\mu\text{g}/\text{m}^3$	80 $\mu\text{g}/\text{m}^3$	80 $\mu\text{g}/\text{m}^3$	4mg/m ³

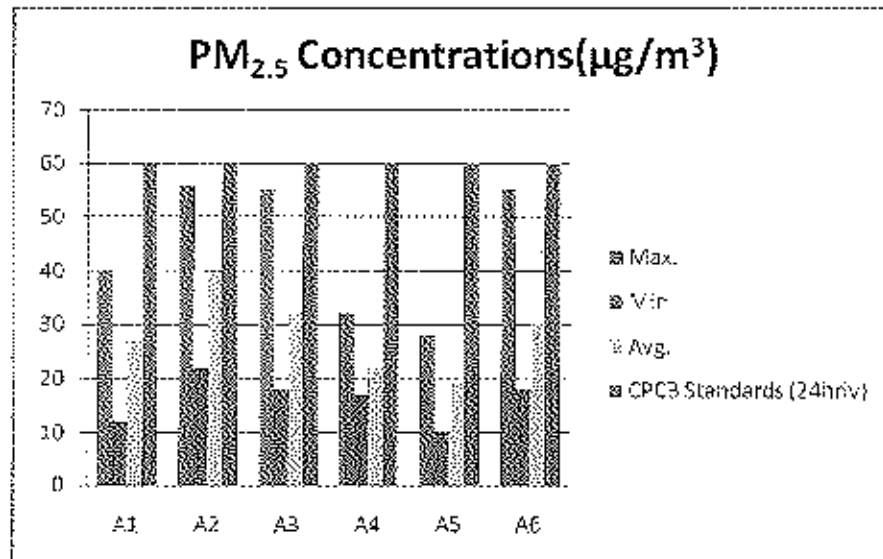
Conclusion:**Particulate Matter (PM₁₀)**

The Value of PM₁₀ ranges between 25 $\mu\text{g}/\text{m}^3$ to 146 $\mu\text{g}/\text{m}^3$. However, the average value of PM₁₀ ranges between 51 $\mu\text{g}/\text{m}^3$ to 95 $\mu\text{g}/\text{m}^3$. The results are exceeding the prescribed norms of CPCB for Industrial, residential, Rural & Other areas.

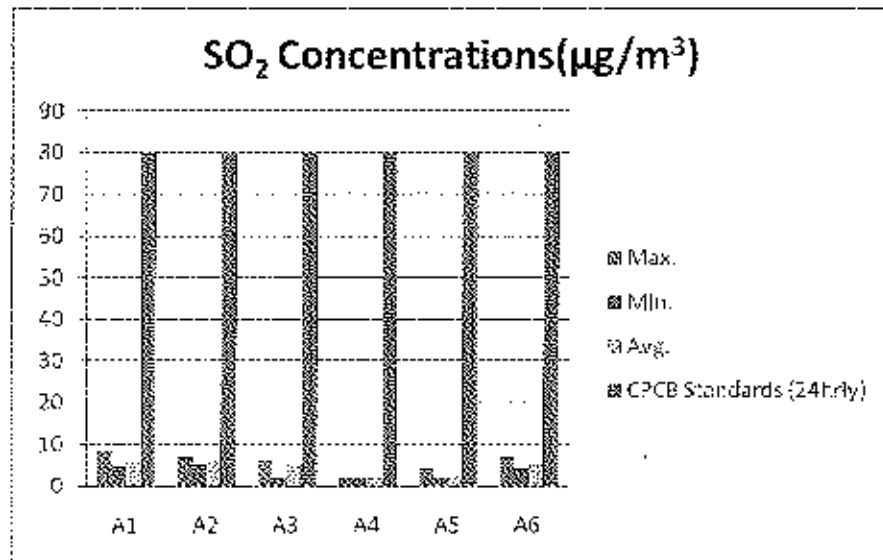
Figure No. 4.2: Graph showing PM₁₀ Concentrations**Particulate Matter (PM_{2.5})**

The Value of PM_{2.5} ranges between 10 $\mu\text{g}/\text{m}^3$ to 56 $\mu\text{g}/\text{m}^3$. However, the average value of PM_{2.5} ranges between 19 $\mu\text{g}/\text{m}^3$ to 40 $\mu\text{g}/\text{m}^3$. The results are well within the prescribed norms of CPCB for Industrial, residential, Rural & Other areas.

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Figure No. 4.3: Graph showing PM_{2.5} Concentrations**Sulphur Dioxide (SO₂):**

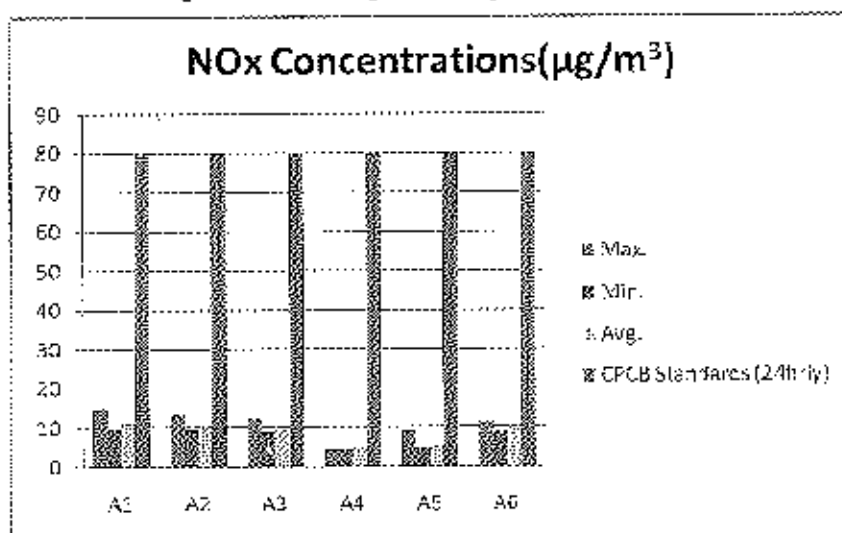
The Value of SO₂ ranges between BDL to 8.2 µg/m³. However, the average value of SO₂ ranges between BDL to 6.2 µg/m³. The results are well within the prescribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of SO₂ is less than 4.0 µg/m³.

Figure No. 4.4: Graph showing SO₂ Concentrations

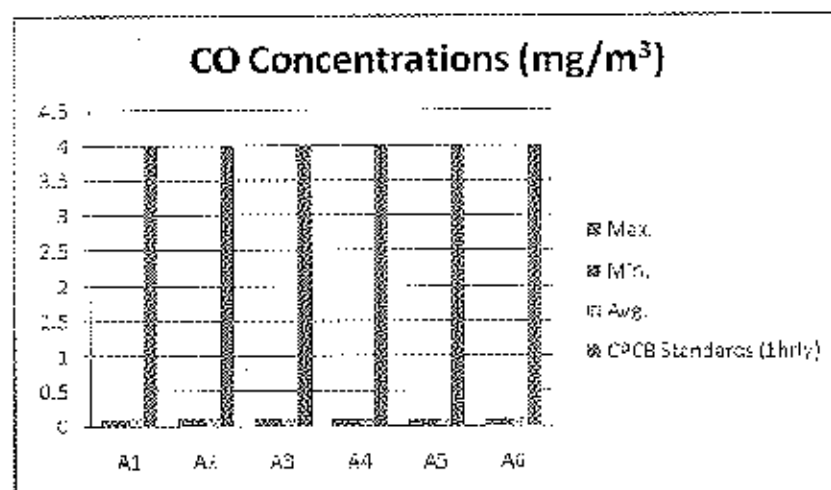
A

Oxides of Nitrogen (NO_x):

The Value of NO_x ranges between BDL to 14.7µg/m³. However, the average value of NO_x ranges between BDL to 11.3µg/m³. The results are well within the prescribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of NO_x is less than 9µg/m³.

Figure No. 4.5: Graph showing NO_x Concentrations**Carbon Monoxide (CO):**

The Value of CO ranges between BDL in The BDL limit of CO is less than 0.11mg/m³ at all the monitoring stations.

Figure No. 4.6: Graph showing CO Concentrations

4.3 Fugitive Emissions Monitoring

The results of fugitive emissions are given in Table No. 4.5.

Table No. 4.5: Results of Fugitive Emissions Monitoring

Station code	Co-ordinates		Particulate Matter (PM) in $\mu\text{g}/\text{m}^3$
	Latitude	Longitude	
FE1	21°06'10.98"N	85°48'29.40"E	97
FE2	21°05'57.54"N	85°48'35.88"E	110
FE3	21°05'52.44"N	85°48'33.72"E	118
FE4	21°06'24.96"N	85°48'20.1"E	106
FE5	21°06'17.58"N	85°51'4.92"E	72
FE6	21°05'42.24"N	85°48'40.68"E	96
Standards			1200 $\mu\text{g}/\text{m}^3$

4.4 Noise Monitoring

Summarized results of ambient noise monitoring are given in Table No. 4.6. The results have been compared with the standard specified in schedule III, Rule 3 of Environmental Protection Rules given in Table No. 4.7.

Table No. 4.6: Summarized Results of Noise Monitoring

Sl No.	Location	Results						Type of Area
		Day (0600-2200 hrs.)			Night (2200-0600hrs.)			
		Min.	Max.	Mean*	Min.	Max.	Mean*	
1.	Mine Office at Hill Top	40.4	53.6	47.2	BDL	41.5	35.1	Industrial Area
2.	Sector -3 near Bank	38.3	48.3	43.6	BDL	41.3	34.7	Residential Area
3.	OMC Office	39.4	52.3	45.3	BDL	41.5	34.9	Commercial Area
4.	Bahparbat Township	38.5	47.2	42.2	BDL	40.5	34.6	Residential Area
5.	Water Reservoir Pump House	BDL	42.5	36.2	BDL	35.8	31.6	Residential Area
6.	Near Hospital Daitari	35.7	48.4	42.5	BDL	41.3	34.5	Silence zone

Note: *Logarithmic Averages; BDL: <30 dB (A)

All Values in dB (A).

Table No. 4.7: CPCB Norms in respect of Ambient Noise.

Type of Area	Day (0600 – 2200hrs)	Night (2200 – 0600 hrs)
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

All Values in dB (A)

The result of work zone noise are given in Table No. 4.8 and compared with OSHA norms which are mentioned in Table No.4.9.

Table No. 4.8: Results of Work zone Noise Monitoring

Sl No.	N7		N8		N9	
	Narayani Crusher (KCO).		Excavation site.		Drilling point.	
Date	20.01.2014		21.01.2014		22.01.2014	
	Time	dB(A)	Time	dB(A)	Time	dB(A)
1	08:00 AM	57.4	08:00 AM	58.7	08:00 AM	55.9
2	09:00 AM	64.7	09:00 AM	62.8	09:00 AM	67.3
3	10:00 Am	66.5	10:00 Am	56.4	10:00 Am	69.7
4	11:00 AM	70.8	11:00 AM	59.8	11:00 AM	73.8
5	12:00 AM	64.9	12:00 AM	62.1	12:00 AM	72.2
6	01:00 PM	73.6	01:00 PM	56.5	01:00 PM	67.8
7	02:00 PM	70.2	02:00 PM	55.8	02:00 PM	68.5
8	03:00 PM	68.4	03:00 PM	68.7	03:00 PM	70.6

Table No. 4.9: Permissible Sound Pressure Level as per OSHA norms

Duration per day(hour)	Sound Pressure Level dB(A) allowed response
8	90
6	92
4	95
3	97
2	100

Conetusion:

Noise Level as observed in ambient as well as work zone are well below the standard norms stipulated by OSHA.



ANNEXURE 19F

Environmental Monitoring Report for Daitari Iron Ore Mining Project

January 2014

4.5 Surface Water Quality Monitoring

Table No. 4.10: Water Quality Criteria as per CPCB

Sl No.	Parameters	Class A	Class B	Class C	Class D	Class E
1	pH	6.5-8.5	6.5-8.5	6.0-9.0	6.5-8.5	6.5-8.5
2	Dissolved Oxygen (as O ₂), mg/l. min	6	5	4	4	-
3	BOD, 3 days at 27°C, mg/l, max.	2	3	3	-	-
4	Total Coliform Organism, MPN/100ml. max.	50	500	5000	-	-
5	Free Ammonia (as N), mg/l, max.	-	-	-	1.2	-
6	Electrical conductivity µmhos/cm, max.	-	-	-	-	2250
7	Sodium Absorption Ratio, max.	-	-	-	-	26
8	Boron (as B), mg/l, max.	-	-	-	-	2

Class A: Drinking water source without conventional treatment but after disinfection

Class B: Outdoor bathing (organized)

Class C: Drinking water source after conventional treatment and after disinfection

Class D: Propagation of Wildlife and Fisheries

Class E: Irrigation, Industrial Cooling and Controlled Waste Disposal

Class F: Not meeting A, B, C, D & E Criteria

The results of analysis of surface water are given in Table No. 4.11 (A) & 4.11 (B).

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Table No. 4.11 (A): Results of Surface Water Analysis

Sl. No.	Parameters	Unit	SW1	SW2	SW3	SW4
			11.01.2014	11.01.2014	11.01.2014	11.01.2014
1	Colour	Hazen	Colourless	Colourless	Colourless	Colourless
2	Turbidity	NTU	16	7	8	13
3	pH value	---	7.02	7.77	6.85	7.22
4	Total Hardness (as CaCO ₃)	mg/l	82	54	48	66
5	Iron (as Fe)	mg/l	0.52	0.64	0.71	0.33
6	Chloride (as Cl)	mg/l	13	16	14	20
7	Fluoride (as F)	mg/l	0.09	0.10	0.17	0.13
8	Total Dissolved Solids	mg/l	113	74	61	68
9	Calcium (as Ca)	mg/l	23.4	18.6	17.5	13.2
10	Magnesium (as Mg)	mg/l	9.5	10.3	7.7	8.5
12	Copper (as Cu)	mg/l	BDL	BDL	BDL	BDL
12	Manganese (as Mn)	mg/l	0.036	0.028	0.017	0.022
13	Sulphate (as SO ₄)	mg/l	17	13	12	10
14	Nitrate (as NO ₃)	mg/l	0.33	0.41	0.29	0.32
15	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	BDL	BDL	BDL	BDL
16	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL
17	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL
18	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL
19	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL
20	Cyanide (as CN)	mg/l	BDL	BDL	BDL	BDL
21	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL
22	Zinc (as Zn)	mg/l	BDL	BDL	BDL	BDL
23	Anionic Detergent as MBAS	mg/l	BDL	BDL	BDL	BDL
24	Alkalinity (as CaCO ₃)	mg/l	63	51	48	39
25	Free Ammonia (N)	mg/l	0.09	0.10	0.05	0.07
26	Boron (as B)	mg/l	BDL	BDL	BDL	BDL
27	Coliform Organism	MPN/100 ml	206	194	117	226
28	Sodium Absorption Ratio	---	0.44	0.52	0.50	0.38
29	Dissolved Oxygen as O ₂	mg/l	6.3	6.5	6.1	6.7
30	BOD, 3 days at 27°C	mg/l	1.8	1.2	1.1	1.3
31	COD	mg/l	6.2	6.0	5.3	5.8
32	Electrical Conductivity (EC)	µmhos/cm	160	121	137	110
33	Phosphate	mg/l	0.37	0.50	0.44	0.33
34	CO ₃	mg/l	5.1	5.3	4.9	5.7

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ANNEXURE 19: I

Environmental Monitoring Report for Daitari Iron Ore Mining Project

January 2014

Table No. 4.11 (B): Results of Surface Water Analysis

Sl. No.	Parameters	Unit	SW1	SW2	SW3	SW4
			29.01.2014	29.01.2014	29.01.2014	29.01.2014
1	Colour	Hazen	Colourless	Colourless	Colourless	Colourless
2	Turbidity	NTU	14	11	10	7
3	pH value	----	6.92	7.30	7.16	7.69
4	Total Hardness (as CaCO ₃)	mg/l	47	54	68	73
5	Iron (as Fe)	mg/l	0.52	0.48	0.37	0.44
6	Chloride (as Cl)	mg/l	17	14	20	16
7	Fluoride (as F)	mg/l	0.12	0.09	0.13	0.16
8	Total Dissolved Solids	mg/l	101	89	77	95
9	Calcium (as Ca)	mg/l	23.2	20.5	19.6	17.5
10	Magnesium (as Mg)	mg/l	10.3	9.5	8.8	9.4
12	Copper (as Cu)	mg/l	BDL	BDL	BDL	BDL
12	Manganese (as Mn)	mg/l	0.033	0.021	0.037	0.012
13	Sulphate (as SO ₄)	mg/l	23	17	16	20
14	Nitrate (as NO ₃)	mg/l	0.52	0.47	0.41	0.45
15	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	BDL	BDL	BDL	BDL
16	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL
17	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL
18	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL
19	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL
20	Cyanide (as CN)	mg/l	BDL	BDL	BDL	BDL
21	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL
22	Zinc (as Zn)	mg/l	BDL	BDL	BDL	BDL
23	Anionic Detergent as MBAS	mg/l	BDL	BDL	BDL	BDL
24	Alkalinity (as CaCO ₃)	mg/l	85	47	62	74
25	Free Ammonia (N)	mg/l	0.08	0.11	0.6	0.12
26	Boron (as B)	mg/l	BDL	BDL	BDL	BDL
27	Coliform Organism	MPN/100ml	224	171	165	193
28	Sodium Absorption Ratio	----	0.40	0.52	0.47	0.43
29	Dissolved Oxygen as O ₂	mg/l	6.2	5.8	6.5	6.4
30	BOD, 3 days at 27°C	mg/l	1.2	1.0	1.6	1.3
31	COD	mg/l	6.3	4.8	6.9	4.4
32	Electrical Conductivity (EC)	µmhos/cm	143	139	125	136
33	Phosphate	mg/l	0.46	0.37	0.18	0.24
34	CO ₂	mg/l	5.8	5.5	4.4	5.8

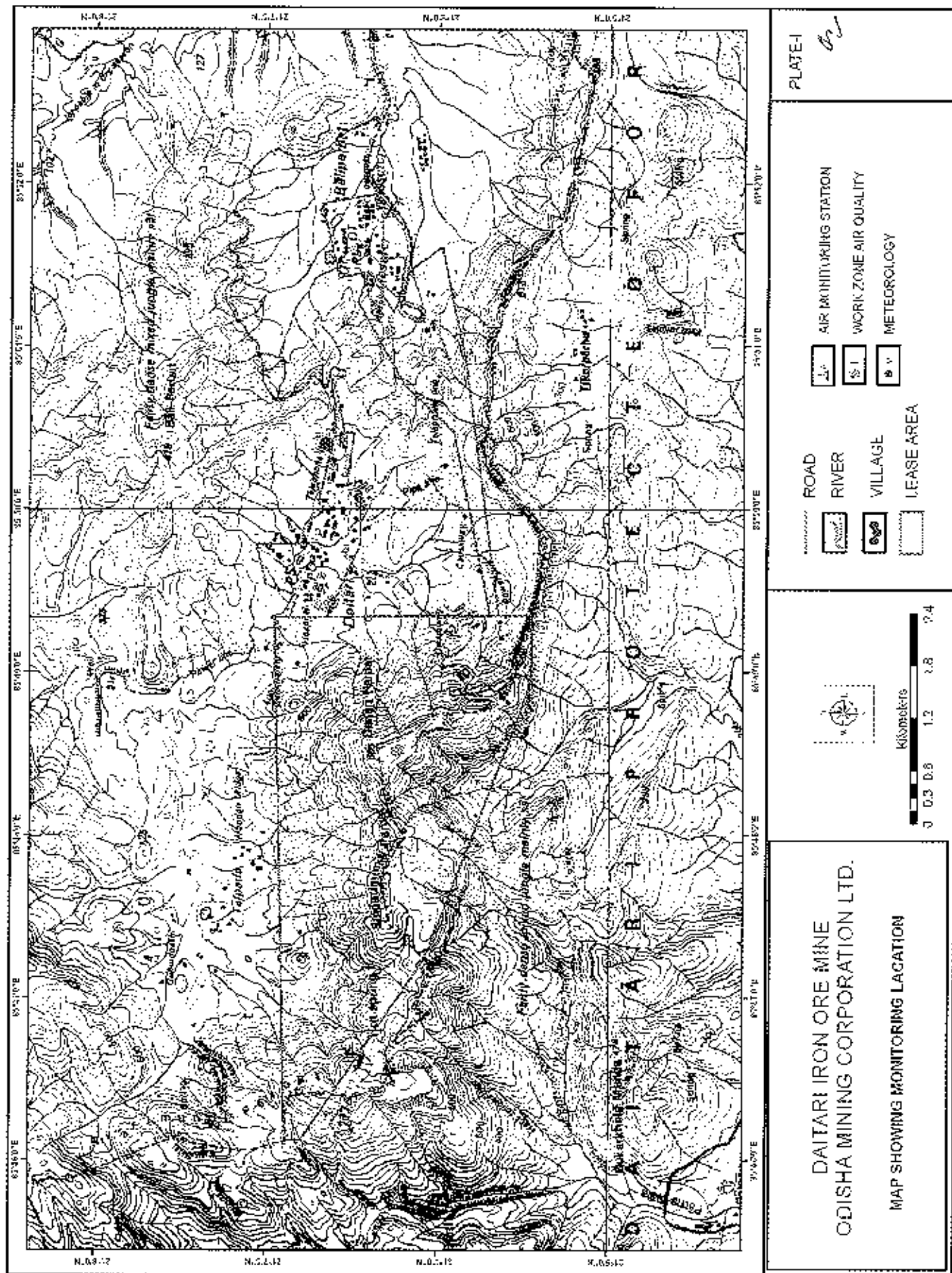
4.6 Flow of Water Measurement

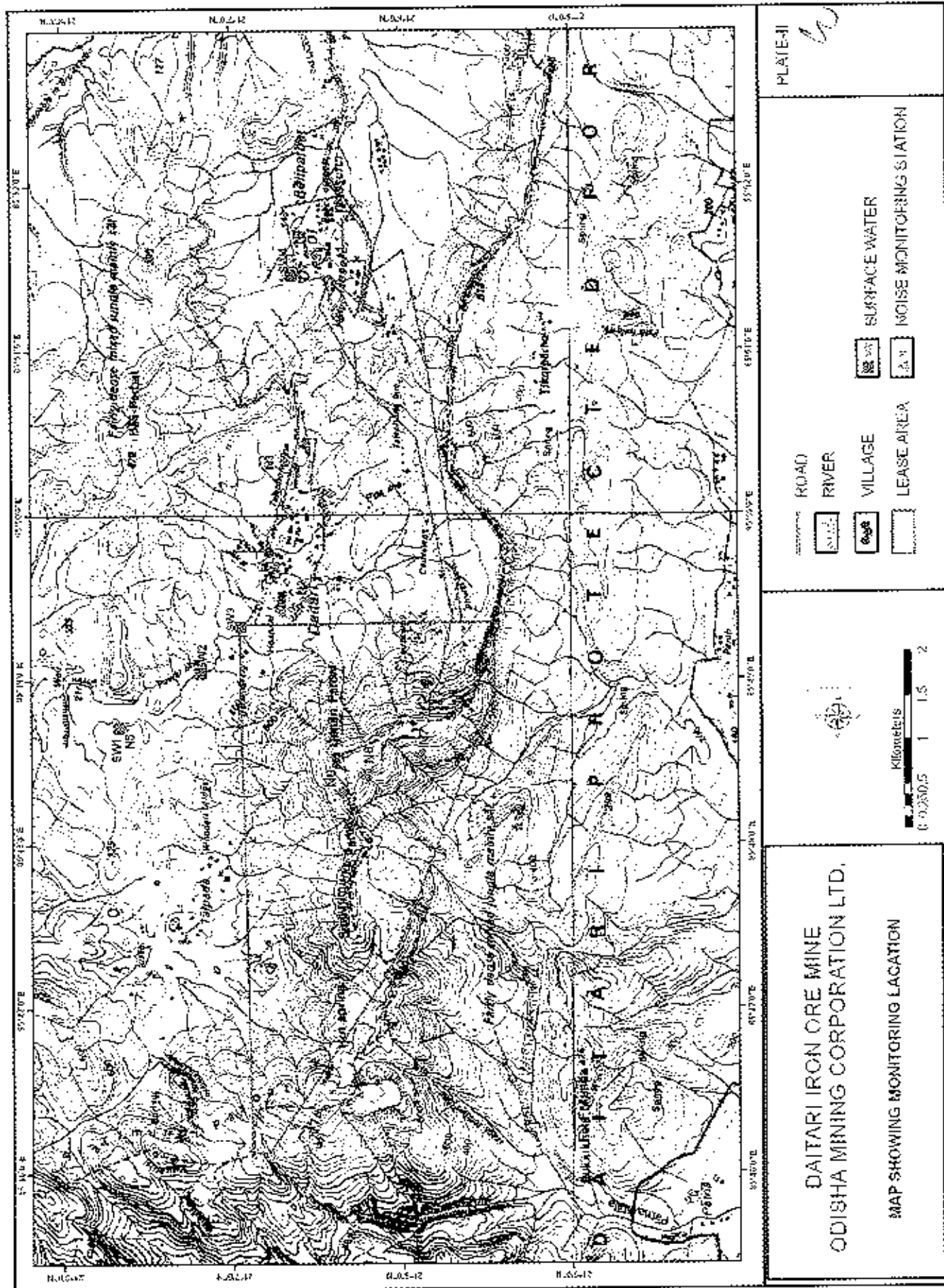
The results of flow of water are given in Table No. 4.12

Table No. 4.12: Result of Flow of Water Measurement

Sl. No	Station code	Co-ordinates		Flow of Water in m ³ /min
		Latitude	Longitude	
1	FW1	21°07'7.56" N	85°48' 56.7" E	18.98
2	FW2	21°06'49.93" N	85°49' 29.58" E	10.64
3	FW3	21°06'24.18" N	85°51' 35.88" E	5.2

4







ODISHA MINING CORPORATION LIMITED
DAITARI IRON ORE MINING PROJECT

ENVIRONMENTAL MONITORING REPORT
FOR THE MONTH
OF
FEBRUARY 2014



M/s ECOLOGICAL DEVELOPMENT CONSULTANCY PVT. LTD.,
BHUBANESWAR, ODISHA

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1.0 INTRODUCTION

Odisha Mining Corporation Limited (OMCL), a Government of Odisha undertaking has engaged M/s Ecological Development Consultancy Pvt. Ltd. (EDCPL), Bhubaneswar, Odisha for carrying out **Environmental Monitoring** for their different mine leases in the district of Jajpur, Keonjhar and Sundergarh.

Environmental Monitoring includes monitoring of various environmental attributes such as Ambient Air Quality, Work Zone Air Quality, Noise Level, Water Quality, Waste Water Quality, Vehicular Emission and Soil Quality. Apart from these, various other activities such as suggestions to control the pollution, conducting various kinds of audits are also a part of this programme.

1.1 Present Report

The present report presents the Environmental related data in respect of Meteorology, Ambient Air Quality, Work Zone Air Quality (Fugitive Emission), and Noise Level, Work zone Noise Level, Surface Water Quality and Flow of Water Measurement in and around Daitari Iron Ore Mine in Keonjhar district of Odisha during February 2014.

1.2 Scope of the Work

The Scope of work for during February 2014 is as follows;

Table No. 1.1: Scope of Work within the Mine Lease Area

Environmental Attributes	No. of Locations
Ambient Air Quality	6 locations
Work Zone Air Quality	6 locations
Ambient Noise Level	6 locations
Work zone Noise Level	3 locations
Surface Water Quality	4 locations
Flow of Water Measurement	3 locations

2

2.0 MONITORING DESCRIPTION

In order to assess the pollution level in and around the mining lease, different environmental attributes such as meteorology, air quality, water quality, soil quality and noise level are being monitored. The monitoring is carried out as per the CPCB guideline and every care has been taken for preservation and transportation of samples to the respective laboratory. M/s EDCPL has set up a site laboratory equipped with adequate instruments and equipments to monitor and analyze all the parameters of Air Quality i.e. PM_{10} , $PM_{2.5}$, SO_2 , NO_x & CO and few physico-chemical parameters (10 parameters) of water samples. For other parameters of water, the samples are sent to EDCPL's Main Laboratory at Bhubaneswar. The locations of monitoring stations are shown in Plate I & II.

2.1 Meteorology

An Automatic Weather Monitoring Station is installed at the rooftop of OMC office ($21^{\circ}06'40.44''N$; $85^{\circ}50'22.86''E$) of Daitari Iron Ore Mine of M/s OMCL to collect the meteorological data on hourly basis continuously.

The parameters monitored at the meteorological station were Temperature, Relative Humidity, Wind Speed, Wind Direction and Rainfall. These parameters were recorded at weather monitoring station using the respective sensors.

2.2 Ambient Air Quality

The prime objective of the ambient air quality study is to establish the existing ambient air quality in and around the mining lease area. The existing ambient air quality was monitored at six (6) locations. The locations were identified after due consultation of the OMCL officials. Monitoring was carried out for Particulate Matter (PM_{10}), Particulate Matter ($PM_{2.5}$), Sulphur Dioxide (SO_2), Oxides of Nitrogen (NO_x) and Carbon Monoxide (CO). The PM_{10} & $PM_{2.5}$ was monitored for 24 hourly, while SO_2 and NO_x were monitored on 4 hourly basis for 24 hours at each sampling location and CO was monitored using the CO Monitor for 1 hr in a day in each monitoring station twice in a week, for a month. Details about Air Quality Monitoring locations are given in Table No. 2.1.

Table No.2.1: Ambient Air Quality Monitoring Stations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Mine Office at Hill Top	A1	$21^{\circ}05'38.7''N$	$85^{\circ}48'42.84''E$
2	Daitari Guest House	A2	$21^{\circ}06'34.08''N$	$85^{\circ}49'29.4''E$
3	OMC Office	A3	$21^{\circ}06'40.44''N$	$85^{\circ}50'22.86''E$
4	Balipachhat Township	A4	$21^{\circ}06'30.72''N$	$85^{\circ}51'35.7''E$
5	Water Reservoir Pump House	A5	$21^{\circ}07'39.06''N$	$85^{\circ}48'43.44''E$
6	Near Hospital Daitari	A6	$21^{\circ}06'43.14''N$	$85^{\circ}49'25.2''E$

2.3 Work Zone Air Quality (Fugitive Emissions)

To assess the level of fugitive dust due to mining and allied activities, six (6) monitoring stations were selected within the lease considering the activity area. Fugitive emissions monitoring was carried out once in a month on 8 hrs basis. The list of fugitive emissions monitoring stations is given in Table No. 2.2.

Table No. 2.2: Fugitive Emissions Monitoring Stations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Crusher 1(ARUN UDYOG New)	FE1	21°06'10.98"N	85°48'29.40"E
2	Crusher 2(ARUN UDYOG Old)	FE2	21°05'57.54"N	85°48'35.88"E
3	Narayani Crusher 3(KCC)	FE3	21°05'52.44"N	85°48'33.72"E
4	Pit	FE4	21°06'24.96"N	85°48'20.1"E
5	Bali Parbat Stock Yard near Weigh Bridge	FE5	21°06'17.58"N	85°51'4.92"E
6	Manual Road	FE6	21°05'42.24"N	85°48'40.68"E

2.4 Noise Level

In order to assess the existing noise levels in and around mining lease area, noise monitoring was carried out at 6 locations & 03 locations at Work zone areas. Details of Noise monitoring stations are given in Table No. 2.3.

Table No. 2.3: Ambient Noise Monitoring Locations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Mine Office at Hill Top	N1	21°05'38.7"N	85°48'42.84"E
2	Sector-3 near bank	N2	21°06'41.52"N	85°23'35.94"E
3	OMC Office	N3	21°06'40.44"N	85°50'22.86"E
4	Baliparbat Township	N4	21°06'30.72"N	85°51'35.7"E
5	Water Reservoir Pump House	N5	21°07'39.06"N	85°48'43.44"E
6	Near Hospital Daitari	N6	21°06'43.14"N	85°49'25.2"E
Work zone Noise Level				
7	Near Narayani Crusher(KCC)	N7	21°05'52.2"N	85°48'32.64"E
8	Excavation site	N8	21°06'12.12"N	85°48'26.4"E
9	Drilling point	N9	21°06'23.28"N	85°48'20.04"E

2.5 Surface Water Quality

8 nos. of grab samples were taken from four (04) surface water locations twice in a month. Details about surface water locations are given in Table No. 2.4.

Table No.2.4: Surface Water Sampling Locations

Sl. No.	Location	Sample code	Coordinates	
			Latitude	Longitude
1	Daitari Dam Site	SW1	21°07'39.12" N	85°48'42.84"E
2	Stream Flowing Near Pichida	SW2	21°07'7.56" N	85°48' 56.7"E
3	Stream Flowing Near Old Market	SW3	21°06'49.98" N	85°49' 29.58"E
4	Stream Near Baliparbat	SW4	21°06'24.18" N	85°51' 35.88"E

2.6 Flow of Water Measurement

To assess the flow of water in and around mining area, 03 locations were selected. The details about locations are given in Table No. 2.5

Table No. 2.5: Flow of Water Locations

Sl. No.	Locations	Sample code	Coordinates	
			Latitude	Longitude
1	Stream Flowing Near Pichida	FW1	21°07'7.56" N	85°48' 56.7"E
2	Stream Flowing Near Old Market	FW2	21°06'49.98" N	85°49' 29.58"E
3	Stream near Baliparbat	FW3	21°06'24.18" N	85°51' 35.88"E

3.0 METHODOLOGY**3.1 Meteorology**

The meteorological parameters were monitored on hourly basis continuously by installing a weather monitoring system at the rooftop of OMC office of Daitari Iron Mine of OMCL.

3.2 Air Monitoring

Monitoring was carried out for Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x) and Carbon Monoxide (CO). The PM₁₀ & PM_{2.5} was monitored for 24 hourly, while SO₂ and NO_x were monitored on 4 hourly basis for 24 hours at each sampling location and CO was monitored using the CO Monitor for 1 hr in a day in each monitoring station twice in a week, for a month. The sampling and analysis of ambient air quality was carried out as per the approved procedures by CPCB.

3.3 Noise Monitoring

The monitoring of noise level was carried out at specified locations. Ambient Noise levels were recorded at hourly intervals for 24 hrs.

3.4 Work zone Noise Monitoring

The monitoring of work zone noise level was carried out at specified locations. Work zone Noise levels were recorded at hourly intervals for 08 hrs.

3.5 Surface Water Monitoring

For assessing the water quality, surface water samples were collected. Eight (8) water samples from four locations (04) were taken in sterilized plastic cans twice a month. The samples were analyzed for essential physical, chemical and bacteriological parameters as per the list enclosed in the work order. The samples were analyzed as per standard procedure / method mentioned by CPCB/APHA.

3.6 Flow of Water Measurement

The monitoring of flow of water was carried out monthly once of the springs and perennial nallas present within and adjoining the mining lease area. The flow of water measurement was carried out at 3 specific locations (03) and is expressed in m³/min.

4.0 RESULTS AND DISCUSSION

4.1 Meteorology

Summarized meteorological data such as temperature, relative humidity, rainfall, and wind speed, wind direction are given in Table No. 4.1.

Table No. 4.1: Results of Site Specific Meteorological Data

Sl. No.	Parameters	Month of February 2014
1	Temperature (°C)	Maximum
		31.44
		Minimum
2	Relative Humidity (%)	Maximum
		98.09
		Minimum
3	Wind speed(m/s)	Maximum
		8.2
		Average
4	Wind Direction (%)	N
		3.87
		NNE
		2.98
		NE
		4.01
		ENE
		4.01
		E
		6.55
		ESE
		3.72
		SE
		2.38
		SSE
		2.98
5	Rainfall(mm)	S
		6.21
		SSW
		6.1
		SW
		6.84
		WSW
		11.01
		W
		6.7
		WNW
		2.98
		NW
		5.21
		NNW
		2.98
		CAIM
		22.47
		Monthly Total
		35.4
		No. of rainy days
		2

During the month of February 2014, the temperature varied from 10.24° C to 31.44° C & Relative Humidity varied from 21.43 % to 98.09 %. The maximum wind speed recorded during the month was 8.2 m/s and overall average wind speed is calculated to be 1.83m/s. 22.47% of the time the wind remained calm (≤ 0.5 m/s). The predominant wind direction as observed to be from WSW during the month. The total rainfall was 35.4mm and 02 days were rainy days.

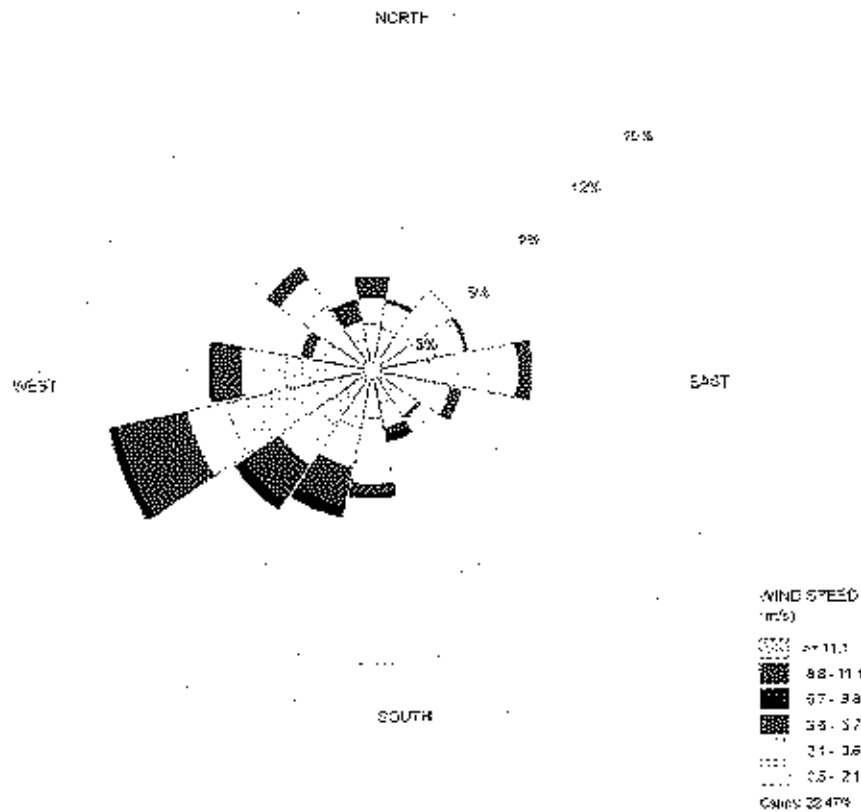
Max. and Min. value of temperature, relative humidity, rainfall, wind speed and wind direction on each day basis for February 2014 are given in Table No. 4.2.

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Table No. 4.2: Max and Min value of Meteorological Data of month February 2014

Date	Temperature		Relative Humidity (%)		Wind Speed (m/s)		Rainfall (mm)
	Max.	Min.	Max.	Min.	Max.	Min.	
01.02.2014	26.79	11.58	93.47	42.92	2.9	0	0
02.02.2014	27.38	12.01	92.85	39.04	3.5	0	0
03.02.2014	27.0	11.0	90.9	41.26	4.2	0	0
04.02.2014	30.82	15.49	85.76	21.43	3.0	0	0
05.02.2014	29.22	13.54	88.91	30.85	3.9	0	0
06.02.2014	30.83	15.54	81.51	28.68	4.3	0	0
07.02.2014	30.97	15.29	85.63	24.62	5.1	0	0
08.02.2014	30.71	18.83	76.76	33.45	5.2	0.4	0
09.02.2014	31.44	18.58	86.12	28.9	5.2	0	0
10.02.2014	28.33	17.58	89.96	48.16	3.3	0	0
11.02.2014	27.5	16.81	95.17	61.62	3.6	0	0
12.02.2014	25.58	15.42	95.66	64.53	3.1	0	0
13.02.2014	26.6	14.19	94.32	48.78	4.5	0	0
14.02.2014	27.37	18.97	92.75	59.67	5.6	1.1	0
15.02.2014	28.55	19.82	90.01	44.03	8.2	2.4	0
16.02.2014	21.19	17.08	97.99	88.26	5.9	0	35.2
17.02.2014	25.13	14.28	98.09	28.56	6.8	0	0.2
18.02.2014	25.28	10.24	85.17	27.7	4.3	0	0
19.02.2014	25.24	10.54	89.63	33.93	3.0	0	0
20.02.2014	26.51	12.11	87.01	44.56	4.8	0	0
21.02.2014	27.66	13.78	95.30	42.58	5.6	0	0
22.02.2014	28.8	16.46	90.17	45.5	3.7	0.4	0
23.02.2014	26.44	15.42	93.44	57.03	3.4	0	0
24.02.2014	28.74	17.2	92.36	44.11	3.9	0	0
25.02.2014	28.27	16.05	94.92	48.92	4.3	0	0
26.02.2014	30.42	16.4	91.93	41.69	3.4	0	0
27.02.2014	29.83	17.74	96.69	43.32	3.1	0	0
28.02.2014	27.98	18.73	95.08	53.92	4.3	0.3	0

Figure No. 4.1: Wind rose (24hrly) for the month of February 2014



4.2 Ambient Air Quality Monitoring

The Summarized results of AAQ are given in the Table No. 4.3 and the details of AAQ monitoring during the month of February 2014 are given in the Table No. 4.4.

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Table No. 4.3: Summarized Results of Ambient Air Qualities

Sl. No.	Locations	Co-ordinates	Station Code	PM ₁₀ (µg/m ³)			PM _{2.5} (µg/m ³)			SO ₂ (µg/m ³)			NO _x (µg/m ³)			CO (mg/m ³)		
				Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.
1.	Mine office at Hill Top	21°05'35.7"N 85°48'42.8"E	A1	98	43	68	89	18	27	70	49	60	13.1	10.4	11.6	0.4	BDL	0.2
2.	Daitari Guest House	21°06'34.08"N 85°49'29.4"E	A2	140	60	94	63	19	35	76	49	60	12.0	10.4	11.3	0.4	BDL	0.3
3.	OMC Office	21°06'40.44"N 85°50'22.86"E	A3	148	42	98	59	16	41	60	42	62	10.6	9.1	9.8	0.3	BDL	0.2
4.	Balipatbal Township	21°06'30.72"N 85°51'35.7"E	A4	53	42	48	25	18	22	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
5.	Water Reservoir pump house	21°07'39.06"N 85°48'43.44"E	A5	45	35	41	26	16	20	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
6.	Near Hospital Daitari	21°06'43.14"N 85°49'25.2"E	A6	145	58	84	58	21	34	58	BDL	4.7	11.6	9.1	10.6	BDL	BDL	BDL
CPCB Standards				100			60			80			80			4.0		

Note: BDL value for NO_x - 9.0 µg/m³, SO₂ - 1.0 mg/m³ and for CO - 0.11 mg/m³

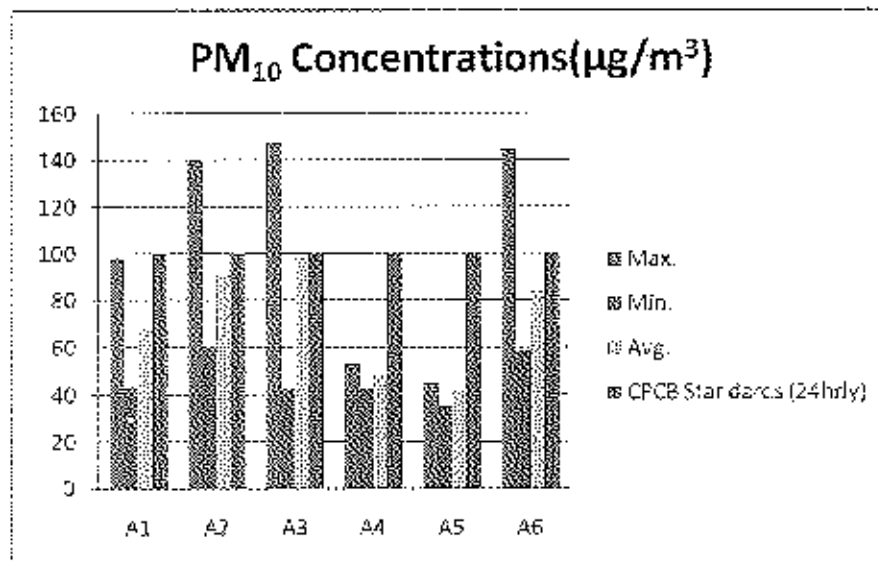
Table No. 4.4: The details of AAQ Monitoring during the Month of February 2014

Station Name	Station Code	Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)
Mine Office at Hill Top	A1	01.02.2014	89	28	4.9	10.4	BDL
		05.02.2014	51	23	6.0	13.1	BDL
		08.02.2014	47	21	5.4	11.2	BDL
		12.02.2014	98	39	7.0	11.7	BDL
		15.02.2014	43	18	6.1	11.4	0.4
		19.02.2014	74	26	6.3	12.4	0.3
		22.02.2014	56	22	5.7	10.8	0.3
		26.02.2014	83	36	6.2	11.4	0.3
Daitari Guest House	A2	01.02.2014	117	40	4.9	10.4	BDL
		05.02.2014	140	53	5.5	11.1	BDL
		08.02.2014	60	19	6.1	11.4	BDL
		12.02.2014	86	32	7.6	12.0	0.3
		15.02.2014	63	25	5.2	11.6	0.3
		19.02.2014	89	35	6.2	10.8	0.4
		22.02.2014	96	48	5.8	11.9	0.4
		26.02.2014	79	21	6.4	11.4	0.3
OMC Office	A3	01.02.2014	42	16	4.2	9.1	BDL
		05.02.2014	91	34	4.2	9.6	BDL
		08.02.2014	148	59	5.2	9.5	BDL
		12.02.2014	114	58	6.0	10.5	BDL
		15.02.2014	64	26	5.7	10.2	0.2
		19.02.2014	100	49	4.8	9.5	0.3
		22.02.2014	102	44	5.5	9.7	0.3
		26.02.2014	112	42	5.6	9.9	0.2
Baliparbat Township	A4	01.02.2014	48	20	BDL	BDL	BDL
		05.02.2014	52	25	BDL	BDL	BDL
		08.02.2014	43	18	BDL	BDL	BDL
		12.02.2014	49	21	BDL	BDL	BDL
		15.02.2014	42	19	BDL	BDL	BDL
		19.02.2014	53	23	BDL	BDL	BDL
		22.02.2014	40	25	BDL	BDL	BDL
		26.02.2014	47	22	BDL	BDL	BDL
Water Reservoir Pump House	A5	01.02.2014	40	19	BDL	BDL	BDL
		05.02.2014	44	20	BDL	BDL	BDL
		08.02.2014	38	16	BDL	BDL	BDL
		12.02.2014	45	26	BDL	BDL	BDL
		15.02.2014	39	17	BDL	BDL	BDL
		19.02.2014	35	16	BDL	BDL	BDL
		22.02.2014	43	24	BDL	BDL	BDL
		26.02.2014	45	23	BDL	BDL	BDL

Near Hospital Daitari	A6	01.02.2014	145	58	4.2	10.8	BDL
		05.02.2014	58	21	BDL	9.1	BDL
		08.02.2014	61	27	4.4	9.5	BDL
		12.02.2014	97	43	5.3	11.6	BDL
		15.02.2014	58	24	5.2	10.7	BDL
		19.02.2014	86	36	5.8	11.4	BDL
		22.02.2014	79	29	4.9	10.2	BDL
		26.02.2014	84	33	5.6	10.5	BDL
CPCB Standards			100	60	80	80	4.0

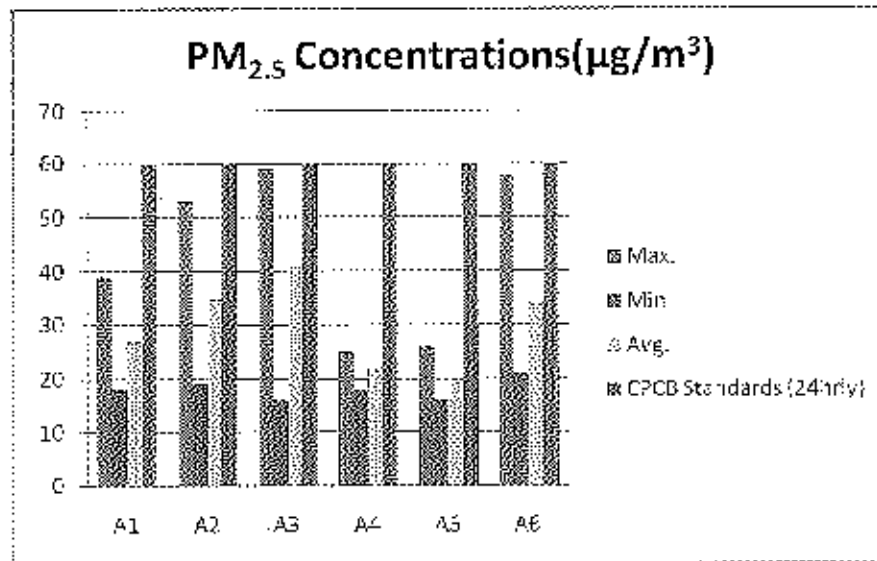
Conclusion:**Particulate Matter (PM_{10})**

The Value of PM_{10} ranges between $42\mu\text{g}/\text{m}^3$ to $148\mu\text{g}/\text{m}^3$. However, the average value of PM_{10} ranges between $41\mu\text{g}/\text{m}^3$ to $98\mu\text{g}/\text{m}^3$. The results are exceeding the prescribed norms of CPCB for Industrial, residential, Rural & Other areas.

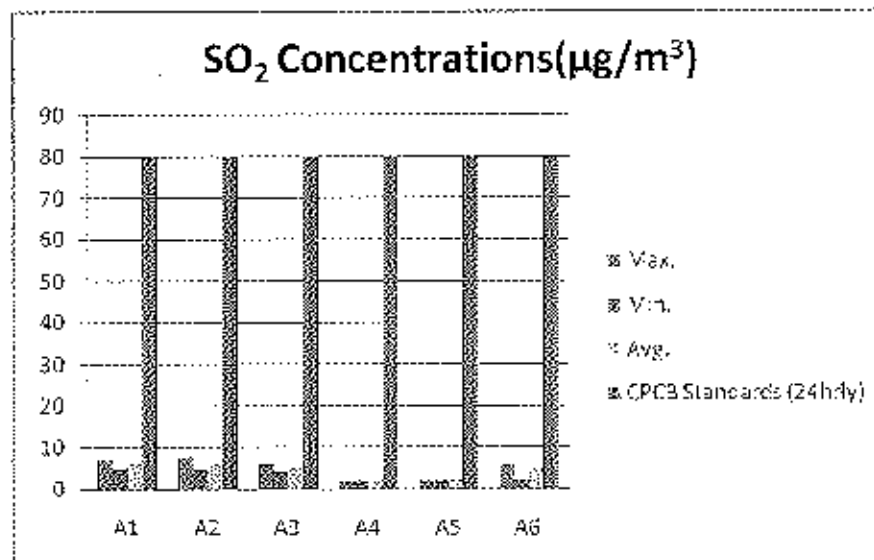
Figure No. 4.2: Graph showing PM_{10} Concentrations**Particulate Matter ($PM_{2.5}$)**

The Value of $PM_{2.5}$ ranges between $16\mu\text{g}/\text{m}^3$ to $59\mu\text{g}/\text{m}^3$. However, the average value of $PM_{2.5}$ ranges between $20\mu\text{g}/\text{m}^3$ to $41\mu\text{g}/\text{m}^3$. The results are well within the prescribed norms of CPCB for Industrial, residential, Rural & Other areas.

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Figure No. 4.3: Graph showing PM_{2.5} Concentrations**Sulphur Dioxide (SO₂):**

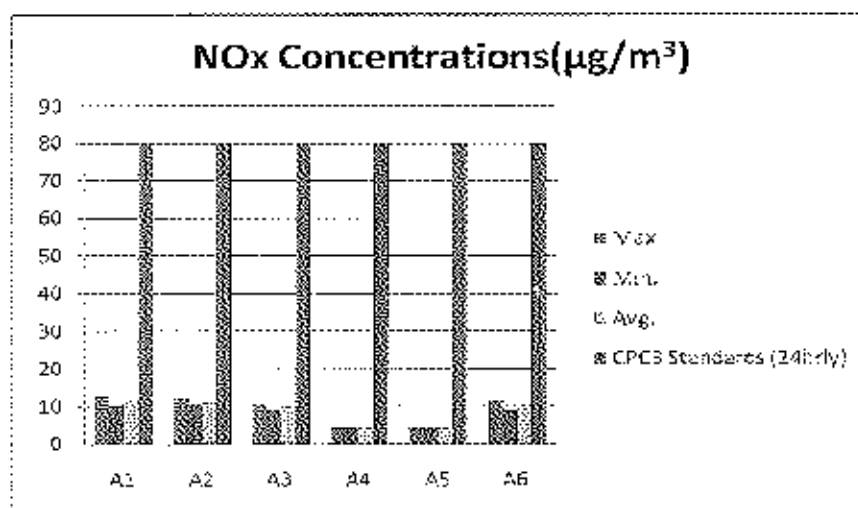
The Value of SO₂ ranges between BDL to 7.6 µg/m³. However, the average value of SO₂ ranges between BDL to 6.0 µg/m³. The results are well within the prescribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of SO₂ is less than 4.0 µg/m³.

Figure No. 4.4: Graph showing SO₂ Concentrations

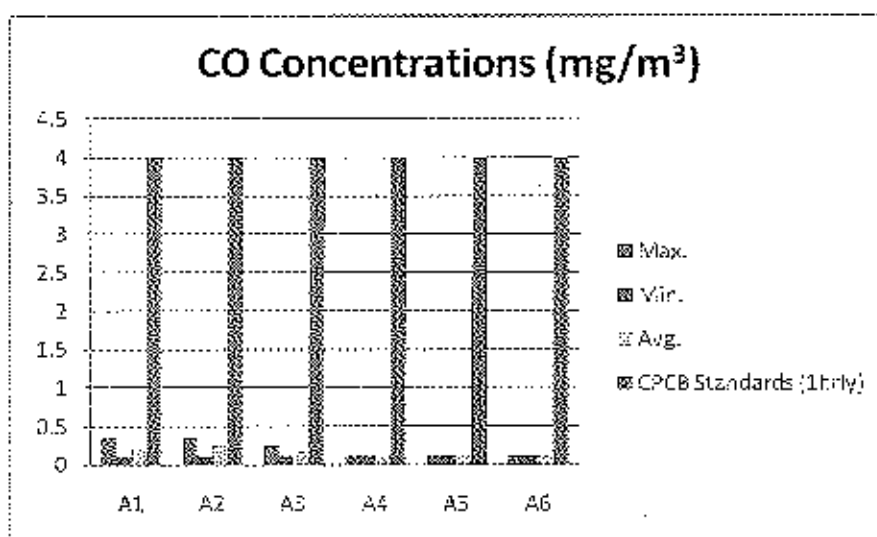
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Oxides of Nitrogen (NO_x):

The Value of NO_x ranges between BDL to 13.1µg/m³. However, the average value of NO_x ranges between BDL to 11.6µg/m³. The results are well within the proscribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of NO_x is less than 9µg/m³.

Figure No. 4.5: Graph showing NO_x Concentrations**Carbon Monoxide (CO):**

The Value of CO ranges between BDL to 0.4 mg/m³. However, the average value of CO BDL to 0.2 mg/m³. The results are well within the proscribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of CO is less than 0.11mg/m³.

Figure No. 4.6: Graph showing CO Concentrations

4.3 Fugitive Emissions Monitoring

The results of fugitive emissions are given in Table No. 4.5.

Table No. 4.5: Results of Fugitive Emissions Monitoring

Station code	Co-ordinates		Particulate Matter (PM) in $\mu\text{g}/\text{m}^3$
	Latitude	Longitude	
FE1	21°06'10.98"N	85°48'29.40"E	188
FE2	21°05'57.54"N	85°48'35.88"E	216
FE3	21°05'52.44"N	85°48'33.72"E	1136
FE4	21°06'24.96"N	85°48'20.1"E	148
FE5	21°06'17.58"N	85°51'4.92"E	458
FE6	21°05'42.24"N	85°48'40.68"E	426
Prescribed Standard			1200 $\mu\text{g}/\text{m}^3$

4.4 Noise Monitoring

Summarized results of ambient noise monitoring are given in Table No. 4.6. The results have been compared with the standard specified in schedule III, Rule 3 of Environmental Protection Rules given in Table No. 4.7.

Table No. 4.6: Summarized Results of Noise Monitoring

Sl. No.	Location	Results						Type of Area
		Day (0600-2200 hrs.)			Night (2200-0600hrs.)			
		Min.	Max.	Mean*	Min.	Max.	Mean*	
1.	Mine Office at Hill Top	40.3	53.2	44.9	BDL	41.2	36.3	Industrial Area
2.	Sector -3 near Bank	39.8	51.2	46.5	BDL	38.7	33.4	Residential Area
3.	OMC Office	41.0	57.2	46.5	BDL	45.4	34.8	Commercial Area
4.	Baliparbat Township	39.2	48.6	44.2	BDL	39.1	30.8	Residential Area
5.	Water Reservoir Pump House	36.9	44.3	41.1	BDL	37.6	33.1	Residential Area
6.	Near Hospital Daitari	38.7	48.1	43.7	BDL	42.1	33.5	Silence zone

Note: *Logarithmic Averages; BDL: <30 dB (A)

All Values in dB (A).

Table No. 4.7: CPCB Norms in respect of Ambient Noise.

Type of Area	Day (0600 - 2200hrs)	Night (2200 - 0600 hrs)
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

All Values in dB (A)

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The result of work zone noise are given in Table No. 4.8 and compared with OSHA norms which are mentioned in Table No.4.9.

Table No. 4.8: Results of Work zone Noise Monitoring

Sl. No.	N7		N8		N9	
	Narayani Crusher (KCC).		Excavation site.		Drilling point.	
Date	17.02.2014		18.02.2014		19.02.2014	
	Time	dB(A)	Time	dB(A)	Time	dB(A)
1	08:00 AM	68.5	08:00 AM	60.2	08:00 AM	65.2
2	09:00 AM	62.9	09:00 AM	62.4	09:00 AM	59.7
3	10:00 Am	69.2	10:00 Am	58.9	10:00 Am	74.6
4	11:00 AM	72.5	11:00 AM	67.6	11:00 AM	70.4
5	12:00 AM	71.0	12:00 AM	64.8	12:00 AM	72.9
6	01:00 PM	74.6	01:00 PM	61.2	01:00 PM	63.7
7	02:00 PM	72.2	02:00 PM	58.6	02:00 PM	69.3
8	03:00 PM	65.4	03:00 PM	62.6	03:00 PM	72.5

Table No. 4.9: Permissible Sound Pressure Level as per OSHA norms

Duration per day(hour)	Sound Pressure Level dB(A) allowed response
8	90
6	92
4	95
3	97
2	100

Conclusion:

Noise Level as observed in ambient is well within the norms except Near Hospital during night hours as stipulated by CPCB and work zone are well below the standard norms stipulated by OSHA.



4.5 Surface Water Quality Monitoring

Table No. 4.10: Water Quality Criteria as per CPCB

Sl. No.	Parameters	Class A	Class B	Class C	Class D	Class E
1	pH	6.5-8.5	6.5-8.5	6.0-9.0	6.5-8.5	6.5-8.5
2	Dissolved Oxygen (as O ₂), mg/l, min.	6	5	4	4	-
3	BOD, 3 days at 27°C, mg/l, max.	2	3	3	-	-
4	Total Coliform Organism, MPN/100ml, max.	50	500	5000	-	-
5	Free Ammonia (as N), mg/l, max.	-	-	-	1.2	-
6	Electrical conductivity mmhos/cm, max.	-	-	-	-	2250
7	Sodium Absorption Ratio, max.	-	-	-	-	26
8	Boron (as B), mg/l, max.	-	-	-	-	2

Class A: Drinking water source without conventional treatment but after disinfection

Class B: Outdoor bathing (organized)

Class C: Drinking water source after conventional treatment and after disinfection

Class D: Propagation of Wildlife and Fisheries

Class E: Irrigation, Industrial Cooling and Controlled Waste Disposal

Class F: Not meeting A, B, C, D & E Criteria

The results of analysis of surface water are given in Table No. 4.11 (A) & 4.11 (B).



Table No. 4.11 (A): Results of Surface Water Analysis

Sl. No.	Parameters	Unit	SW1	SW2	SW3	SW4
			05.02.2014	05.02.2014	05.02.2014	05.02.2014
1	Colour	Hazen	Colourless	Colourless	Colourless	Colourless
2	Turbidity	NTU	12	10	11	12
3	pH value	---	7.48	7.51	6.92	7.33
4	Total Hardness (as CaCO ₃)	mg/l	74	62	54	60
5	Iron (as Fe)	mg/l	0.47	0.89	0.77	0.23
6	Chloride (as Cl)	mg/l	16	14	15	12
7	Fluoride (as F)	mg/l	0.08	0.11	0.16	0.14
8	Total Dissolved Solids	mg/l	115	82	88	103
9	Calcium (as Ca)	mg/l	22.0	19.6	17.3	15.2
10	Magnesium (as Mg)	mg/l	8.8	12.5	10.6	7.4
12	Copper (as Cu)	mg/l	BDL	BDL	BDL	BDL
12	Manganese (as Mn)	mg/l	0.025	0.022	0.029	0.030
13	Sulphate (as SO ₄)	mg/l	21	18	16	11
14	Nitrate (as NO ₃)	mg/l	0.43	0.38	0.20	0.52
15	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	BDL	BDL	BDL	BDL
16	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL
17	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL
18	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL
19	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL
20	Cyanide (as CN)	mg/l	BDL	BDL	BDL	BDL
21	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL
22	Zinc (as Zn)	mg/l	BDL	BDL	BDL	BDL
23	Anionic Detergent as MBAS	mg/l	BDL	BDL	BDL	BDL
24	Alkalinity (as CaCO ₃)	mg/l	61	53	52	41
25	Free Ammonia (N)	mg/l	0.12	0.13	0.14	0.09
26	Boron (as B)	mg/l	BDL	BDL	BDL	BDL
27	Coliform Organism	MPN/100 ml	221	137	142	186
28	Sodium Absorption Ratio	---	0.43	0.41	0.37	0.26
29	Dissolved Oxygen as O ₂	mg/l	6.2	6.5	5.9	6.1
30	BOD, 3 days at 27°C	mg/l	1.3	1.5	1.3	1.7
31	COD	mg/l	5.9	6.1	6.2	5.4
32	Electrical Conductivity (EC)	µmhos/cm	177	136	146	168
33	Phosphate	mg/l	0.41	0.52	0.54	0.42
34	CO ₂	mg/l	4.8	5.1	5.0	5.3

Table No. 4.11 (B): Results of Surface Water Analysis

Sl. No.	Parameters	Unit	SW1	SW2	SW3	SW4
			19.02.2014	19.02.2014	19.02.2014	19.02.2014
1	Colour	Hazen	Colourless	Colourless	Colourless	Colourless
2	Turbidity	NTU	15	9	10	13
3	pH value	---	6.87	7.13	7.25	7.42
4	Total Hardness (as CaCO ₃)	mg/l	42	50	60	62
5	Iron (as Fe)	mg/l	0.52	0.48	0.37	0.44
6	Chloride (as Cl)	mg/l	16	12	18	19
7	Fluoride (as F)	mg/l	0.15	0.11	0.14	0.17
8	Total Dissolved Solids	mg/l	118	103	94	103
9	Calcium (as Ca)	mg/l	25.1	22.6	20.1	18.7
10	Magnesium (as Mg)	mg/l	12.4	11.2	9.8	10.2
12	Copper (as Cu)	mg/l	BDL	BDL	BDL	BDL
12	Manganese (as Mn)	mg/l	0.041	0.031	0.032	0.020
13	Sulphate (as SO ₄)	mg/l	25	18	19	20
14	Nitrate (as NO ₃)	mg/l	0.48	0.52	0.43	0.37
15	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	BDL	BDL	BDL	BDL
16	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL
17	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL
18	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL
19	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL
20	Cyanide (as CN)	mg/l	BDL	BDL	BDL	BDL
21	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL
22	Zinc (as Zn)	mg/l	BDL	BDL	BDL	BDL
23	Anionic Detergent as MBAS	mg/l	BDL	BDL	BDL	BDL
24	Alkalinity (as CaCO ₃)	mg/l	82	52	53	61
25	Free Ammonia (N)	mg/l	0.13	0.11	0.18	0.15
26	Boron (as B)	mg/l	BDL	BDL	BDL	BDL
27	Coliform Organism	MPN/100 ml	232	182	142	131
28	Sodium Absorption Ratio	---	0.45	0.38	0.42	0.41
29	Dissolved Oxygen as O ₂	mg/l	6.1	5.9	6.3	6.6
30	BOD, 3 days at 27°C	mg/l	1.4	1.3	1.7	1.5
31	COD	mg/l	6.1	5.2	5.6	5.2
32	Electrical Conductivity (EC)	µmhos/cm	161	152	137	150
33	Phosphate	mg/l	0.37	0.41	0.28	0.44
34	CO ₂	mg/l	4.9	5.2	4.3	5.4

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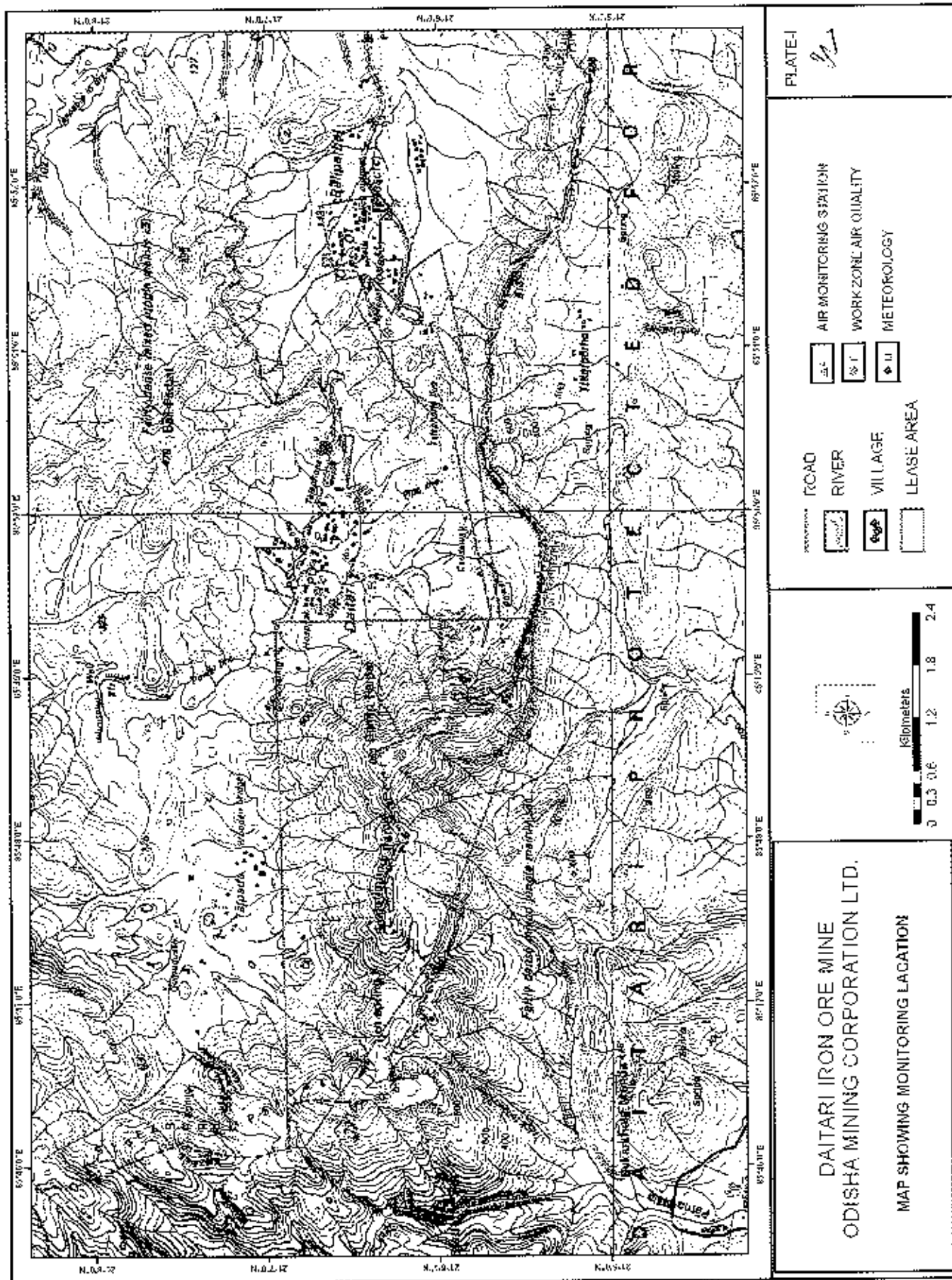
4.6 Flow of Water Measurement

The results of flow of water are given in Table No. 4.12

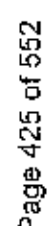
Table No. 4.12: Result of Flow of Water Measurement

Sl. No	Station code	Co-ordinates		Flow of Water in m ³ /min
		Latitude	Longitude	
1	FW1	21°07'7.56" N	85°48' 56.7"E	17.78
2	FW2	21°06'49.98" N	85°49' 29.58"E	10.08
3	FW3	21°06'24.18" N	85°51' 35.88"E	4.92

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ODISHA MINING CORPORATION LIMITED
DAITARI IRON ORE MINING PROJECT

ENVIRONMENTAL MONITORING REPORT
FOR THE MONTH
OF
MARCH 2014



M/s ECOLOGICAL DEVELOPMENT CONSULTANCY PVT. LTD.,
BHUBANESWAR, ODISHA

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1.0 INTRODUCTION

Odisha Mining Corporation Limited (OMCL), a Government of Odisha undertaking has engaged M/s Ecological Development Consultancy Pvt. Ltd. (EDCPL), Bhubaneswar, Odisha for carrying out **Environmental Monitoring** for their different mine leases in the district of Jajpur, Keonjhar and Sundergarh.

Environmental Monitoring includes monitoring of various environmental attributes such as Ambient Air Quality, Work Zone Air Quality, Noise Level, Water Quality, Waste Water Quality, Vehicular Emission and Soil Quality. Apart from these, various other activities such as suggestions to control the pollution, conducting various kinds of audits are also a part of this programme.

1.1 Present Report

The present report presents the Environmental related data in respect of Meteorology, Ambient Air Quality, Work Zone Air Quality (Fugitive Emission), Noise Level, Work zone Noise Level, Surface Water Quality, Ground Water Quality, Ground Water Level Monitoring and Flow of Water Measurement and Vehicular Emission in and around Daitari Iron Ore Mine in Keonjhar district of Odisha during March 2014.

1.2 Scope of the Work

The Scope of work for during March 2014 is as follows;

Table No. 1.1: Scope of Work within the Mine Lease Area

Environmental Attributes	No. of Locations
Ambient Air Quality	6 locations
Work Zone Air Quality	6 locations
Ambient Noise Level	6 locations
Work zone Noise Level	3 locations
Surface Water Quality	4 locations
Ground Water Quality	5 locations
Ground Water Level Monitoring	4 locations
Flow of Water Measurement	3 locations
Vehicular Emission	82 Vehicles

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2.0 MONITORING DESCRIPTION

In order to assess the pollution level in and around the mining lease, different environmental attributes such as meteorology, air quality, water quality, soil quality and noise level are being monitored. The monitoring is carried out as per the CPCB guideline and every care has been taken for preservation and transportation of samples to the respective laboratory. M/s EDCPL has set up a site laboratory equipped with adequate instruments and equipments to monitor and analyze all the parameters of Air Quality i.e. PM₁₀, PM_{2.5}, SO₂, NO_x & CO and few physico-chemical parameters (10 parameters) of water samples. For other parameters of water, the samples are sent to EDCPL's Main Laboratory at Bhubaneswar. The locations of monitoring stations are shown in Plate I & II.

2.1 Meteorology

An Automatic Weather Monitoring Station is installed at the rooftop of OMC office (21°06'40.44"N; 85°50'22.86"E) of Daitari Iron Ore Mine of M/s OMCL to collect the meteorological data on hourly basis continuously.

The parameters monitored at the meteorological station were Temperature, Relative Humidity, Wind Speed, Wind Direction and Rainfall. These parameters were recorded at weather monitoring station using the respective sensors.

2.2 Ambient Air Quality

The prime objective of the ambient air quality study is to establish the existing ambient air quality in and around the mining lease area. The existing ambient air quality was monitored at six (6) locations. The locations were identified after due consultation of the OMCL officials. Monitoring was carried out for Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x) and Carbon Monoxide (CO). The PM₁₀ & PM_{2.5} was monitored for 24 hourly, while SO₂ and NO_x were monitored on 1 hourly basis for 24 hours at each sampling location and CO was monitored using the CO Monitor for 1 hr in a day in each monitoring station twice in a week, for a month. Details about Air Quality Monitoring locations are given in Table No. 2.1.

Table No.2.1: Ambient Air Quality Monitoring Stations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Mine Office at Hill Top	A1	21°05'38.7"N	85°48'42.84"E
2	Daitari Guest House	A2	21°06'34.08"N	85°49'29.4"E
3	OMC Office	A3	21°06'40.44"N	85°50'22.86"E
4	Baliparbat Township	A4	21°06'30.72"N	85°51'35.7"E
5	Water Reservoir Pump House	A5	21°07'39.06"N	85°48'43.44"E
6	Near Hospital Daitari	A6	21°06'43.14"N	85°49'25.2"E

2.3 Work Zone Air Quality (Fugitive Emissions)

To assess the level of fugitive dust due to mining and allied activities, six (6) monitoring stations were selected within the lease considering the activity area. Fugitive emissions monitoring was carried out once in a month on 8 hrs basis. The list of fugitive emissions monitoring stations is given in Table No. 2.2.

Table No. 2.2: Fugitive Emissions Monitoring Stations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Crusher 1 (ARUN UDYOG New)	FE1	21°06'10.98"N	85°48'29.40"E
2	Crusher 2 (ARUN UDYOG Old)	FE2	21°05'57.54"N	85°48'35.88"E
3	Narayani Crusher	FE3	21°05'52.44"N	85°48'33.72"E
4	Pit	FE4	21°06'24.96"N	85°48'20.1"E
5	Bali Parbat Stock Yard near Weigh Bridge	FE5	21°06'17.68"N	85°51'4.92"E
6	Manual Road	FE6	21°05'42.24"N	85°48'40.68"E

2.4 Noise Level

In order to assess the existing noise levels in and around mining lease area, noise monitoring was carried out at 6 locations & 03 locations at Work zone areas. Details of Noise monitoring stations are given in Table No. 2.3.

Table No. 2.3: Ambient Noise Monitoring Locations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Mine Office at Hill Top	N1	21°05'38.7"N	85°48'42.84"E
2	Section-3 near bank	N2	21°06'41.52"N	85°29'35.94"E
3	OMC Office	N3	21°06'40.44"N	85°50'22.36"E
4	Baliparbat Township	N4	21°06'30.72"N	85°51'35.7"E
5	Water Reservoir Pump House	N5	21°07'39.06"N	85°48'43.44"E
6	Near Hospital Daitari	N6	21°06'43.14"N	85°49'25.2"E
Work zone Noise Level				
7	Near Narayani Crusher	N7	21°05'52.2"N	85°48'32.64"E
8	Excavation site	N8	21°06'12.12"N	85°45'26.4"E
9	Drilling point	N9	21°06'23.28"N	85°48'20.04"E

2.5 Surface Water Quality

8 nos. of grab samples were taken from four (04) surface water locations twice in a month. Details about surface water locations are given in Table No. 2.4.

Table No.2.4: Surface Water Sampling Locations

Sl. No.	Location	Sample code	Coordinates	
			Latitude	Longitude
1	Daitari Dam Site	SW1	21°07'39.12" N	85°48'42.84"E
2	Stream Flowing Near Pichida	SW2	21°07'7.56" N	85°48' 56.7"E
3	Stream Flowing Near Old Market	SW3	21°06'49.95" N	85°49' 29.58"E
4	Stream Near Baliparbat	SW4	21°06'24.18" N	85°51' 35.88"E

2.6 Ground Water Quality

5 nos. of ground water samples were taken from five (05) ground water locations. Details about Ground water locations are given in Table No. 2.5.

Table No.2.5: Ground Water Sampling Locations

Sl. No.	Locations	Sample code	Coordinates		Type of Source
			Latitude	Longitude	
1	Gumurasahi Village	GW1	21°07'27.7" N	85°47'02.8" E	Open Well
2	Daitari (Low Hattting 1)	GW2	21°06'44.9" N	85°49'30.9" E	Open Well
3	Daitari (Low Hattting 2)	GW3	21°06'45.5" N	85°49'30.2" E	Open Well
4	Baliparbat(Hurlabadi)	GW4	21°06'45.0" N	85°51'19.3" E	Open Well
5	Talspada	GW5	21°07'15.3" N	85°47'47.3" E	Tube Well

2.7 Ground Water Level Monitoring

4 nos. of ground water level were monitored from four (04) ground water locations. Details about Ground water level locations are given in Table No. 2.6.

Table No.2.6: Ground Water Level Locations

Sl. No.	Locations	Sample code	Coordinates	
			Latitude	Longitude
1	Gumurasahi Village	GWL1	21°07'27.7" N	85°47'02.8" E
2	Daitari (Low Hattting 1)	GWL2	21°06'44.9" N	85°49'30.9" E
3	Daitari (Low Hattting 2)	GWL3	21°06'45.5" N	85°49'30.2" E
4	Baliparbat (Hurlabadi)	GWL4	21°06'45.0" N	85°51'19.3" E

2.8 Flow of Water Measurement

To assess the flow of water in and around mining area, 03 locations were selected. The details about locations are given in Table No. 2.7

Table No. 2.7: Flow of Water Locations

Sl. No.	Locations	Sample code	Coordinates	
			Latitude	Longitude
1	Stream Flowing Near Pichida	FW1	21°07'7.56" N	85°48' 56.7"E
2	Stream Flowing Near Old Market	FW2	21°06'49.98" N	85°49' 29.58"E
3	Stream near Baliparbat	FW3	21°06'24.18" N	85°51' 35.88"E

3.0 METHODOLOGY**3.1 Meteorology**

The meteorological parameters were monitored on hourly basis continuously by installing a weather monitoring system at the rooftop of OMC office of Daitari Iron Mine of OMCL.

3.2 Air Monitoring

Monitoring was carried out for Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x) and Carbon Monoxide (CO). The PM₁₀ & PM_{2.5} was monitored for 24 hourly, while SO₂ and NO_x were monitored on 4 hourly basis for 24 hours at each sampling location and CO was monitored using the CO Monitor for 1 hr in a day in each monitoring station twice in a week, for a month. The sampling and analysis of ambient air quality was carried out as per the approved procedures by CPCB.

3.3 Noise Monitoring

The monitoring of noise level was carried out at specified locations. Ambient Noise levels were recorded at hourly intervals for 24 hrs.

3.4 Work zone Noise Monitoring

The monitoring of work zone noise level was carried out at specified locations. Work zone Noise levels were recorded at hourly intervals for 08 hrs.

3.5 Surface Water Monitoring

For assessing the water quality, surface water samples were collected. Eight (8) water samples from four locations (04) were taken in sterilized plastic cans twice a month. The samples were analyzed for essential physical, chemical and bacteriological parameters as per the list enclosed in the work order. The samples were analyzed as per standard procedure / method mentioned by CPCB/APHA.

3.6 Ground Water Monitoring

For assessing the ground water quality, ground water samples were collected. Five (5) ground water samples from five locations (05) were taken in sterilized plastic cans. The samples were analyzed for essential physical, chemical and bacteriological parameters as per the list enclosed in the work order. The samples were analyzed as per standard procedure / method mentioned by CPCB/APHA.

3.7 Ground Water Level Monitoring

For assessing the ground water level, four (4) ground water level monitoring locations were selected within the study area.

3.8 Flow of Water Measurement

The monitoring of flow of water was carried out monthly once of the springs and perennial nallas present within and adjoining the mining lease area. The flow of water measurement was carried out at 3 specific locations (03) and is expressed in m³/min.



4.0 RESULTS AND DISCUSSIONS

4.1 Meteorology

Summarized meteorological data such as temperature, relative humidity, rainfall, wind speed and wind direction are given in Table No. 4.1.

Table No. 4.1: Results of Site Specific Meteorological Data

Sl. No.	Parameters	Month of March 2014
1	Temperature (°C)	Maximum
		39.37
		Minimum
2	Relative Humidity (%)	Minimum
		18.96
		Average
3	Wind speed(m/s)	Maximum
		97.37
		Average
4	Wind Direction (%)	Maximum
		19.02
		Average
		68.59
		Maximum
		11.6
		Average
		1.87
		N
		2.96
		NNE
		4.03
		NE
		6.20
		ENE
		4.30
		E
		4.97
		ESE
		4.17
		SE
		2.69
		SSE
		2.42
		S
		3.22
		SSW
		3.76
		SW
		10.75
		WSW
		14.38
		W
		7.79
		WNW
		4.17
		NW
		4.70
		NNW
		4.44
		CALM
		15.05
5	Rainfall(mm)	Monthly
		Total
		68.6
6	No. of rainy days	No. of rainy days
		10

During the month of March 2014, the temperature varied from 18.96° C to 39.37° C & Relative Humidity varied from 19.02 % to 97.37 %. The maximum wind speed recorded during the month was 11.6 m/s and overall average wind speed is calculated to be 1.87m/s. 15.05% of the time the wind remained calm (≤ 0.5 m/s). The predominant wind direction as observed to be from WSW during the month. The total rainfall was 68.6mm and 10days out of 31days was rainy day.

Max. and Min. value of temperature, relative humidity, rainfall, wind speed and wind direction on each day basis for 'March2014' are given in Table No. 4.2

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ANNEXURE -19

Environmental Monitoring Report for Daitari Iron Ore Mining Project

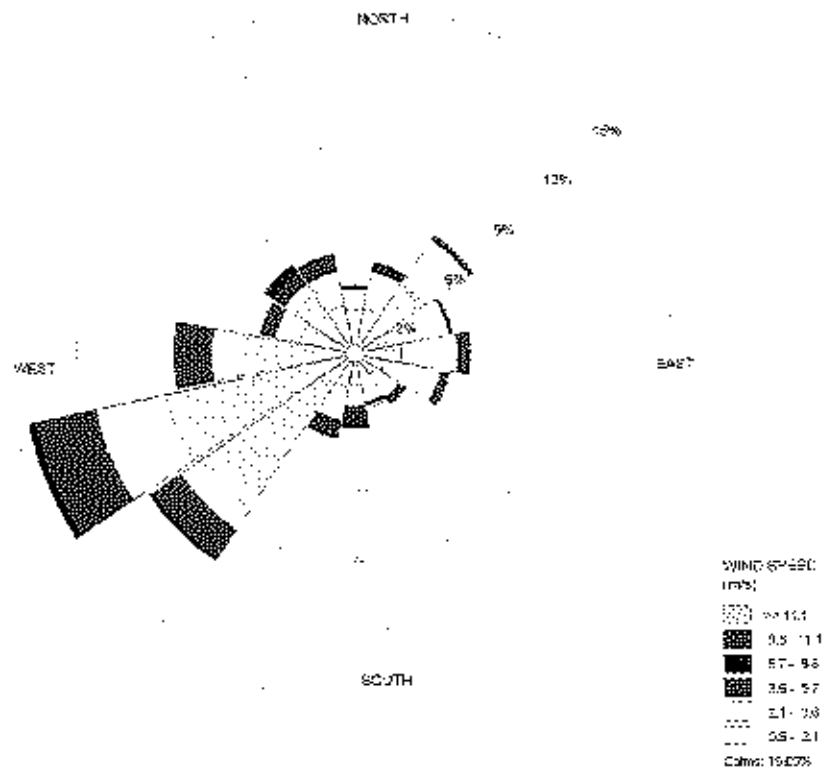
March 2014

Table No. 4.2: Max and Min value of Meteorological Data of month March 2014

Date	Temperature		Relative Humidity (%)		Wind Speed (m/s)		Rainfall (mm)
	Max.	Min.	Max.	Min.	Max.	Min.	
01.03.14	27.13	17.77	93.63	56.88	4.1	0	0
02.03.14	25.27	18.22	96.05	70.04	5.5	0	15.2
03.03.14	27.06	16.8	97.37	57.41	5.5	0	0.2
04.03.14	26.33	16.26	95.95	62.22	6.6	0	48.6
05.03.14	27.12	13.96	97.23	53.25	3.7	0	0.8
06.03.14	27.4	15.64	96.65	52.88	3.4	0	2.4
07.03.14	28.96	16.96	97.0	46.14	3.7	0	3.0
08.03.14	27.79	18.96	94.48	53.7	4.9	0	0
09.03.14	26.56	18.44	96.17	57.38	5.3	0.5	0.8
10.03.14	25.36	17.54	96.66	72.82	4.6	0	0.2
11.03.14	30.71	15.14	96.38	37.65	3.8	0	0
12.03.14	32.04	19.36	91.34	36.59	5.9	0	0
13.03.14	30.82	20.22	88.41	43.09	3.6	0	0
14.03.14	31.2	18.99	91.88	47.5	3.6	0	0
15.03.14	31.48	19.2	94.66	51.19	5.5	0	2.0
16.03.14	33.0	19.52	96.8	39.93	5.6	0	0.4
17.03.14	34.24	17.78	93.91	24.22	4.0	0	0
18.03.14	35.91	20.12	71.21	21.97	5.6	0	0
19.03.14	33.51	22.38	70.22	28.25	11.6	0	0
20.03.14	32.89	22.1	78.46	38.48	4.9	0.6	0
21.03.14	32.94	18.8	90.17	40.37	3.8	0.4	0
22.03.14	32.93	20.26	96.94	44.44	7.5	0.4	0
23.03.14	32.6	20.06	94.68	41.91	3.9	0	0
24.03.14	31.11	21.05	96.66	52.94	5.3	0	0
25.03.14	33.27	22.37	94.19	44.9	7.5	0	0
26.03.14	35.63	19.94	94.13	37.36	5.2	0	0
27.03.14	36.57	22.24	94.14	30.59	6.3	0	0
28.03.14	37.73	23.55	80.65	31.59	3.4	0	0
29.03.14	39.37	22.55	85.24	21.5	4.0	0.4	0
30.03.14	38.56	24.06	64.74	19.02	6.3	0	0
31.03.14	37.01	22.54	71.59	25.67	4.0	0	0

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Figure No. 4.1: Wind rose (24hrly) for the month of March' 2014



4.2 Ambient Air Quality Monitoring

The Summarized results of AAQ are given in the Table No. 4.3 and the details of AAQ monitoring during the month of March 2014 are given in the Table No. 4.4.

Table No. 4.3: Summarized Results of Ambient Air Qualities

Sl. No.	Locations	Co-ordinate	Station Code	PM ₁₀			PM _{2.5}			SO ₂			NO _x			CO		
				Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.
1.	Mine office at Hill Top	21°05'38.7"N 85°48'42.84"E	A1	135	54	83	44	19	30	7.3	5.2	6.0	18.0	10.2	11.3	0.3	0.2	0.3
2.	Daitari Guest House	21°06'34.08"N 85°49'29.4"E	A2	137	52	102	59	18	43	6.4	4.6	5.6	12.4	9.6	11.6	0.3	0.2	0.3
3.	OMC Office	21°06'40.44"N 85°50'22.86"E	A3	116	48	82	56	22	34	5.8	4.4	4.9	11.7	9.2	10.2	0.3	0.2	0.3
4.	Balipadhat Township	21°06'30.72"N 85°51'35.7"E	A4	72	45	56	33	16	22	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
5.	Water Reservoir pump house	21°07'39.06"N 85°48'43.44"E	A5	64	46	54	28	18	23	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
6.	Near Hospital Daitari	21°06'48.14"N 85°49'25.2"E	A6	128	36	77	48	10	28	5.4	BDL	4.7	11.0	BDL	9.4	BDL	BDL	BDL
O PCB Standard				100 µg/m³			60 µg/m³			80 µg/m³			80 µg/m³			4.0 mg/m³		

Note: BDL value for NO_x-9.0µg/m³, SO₂-4.0µg/m³ and for CO-0.11 mg/m³

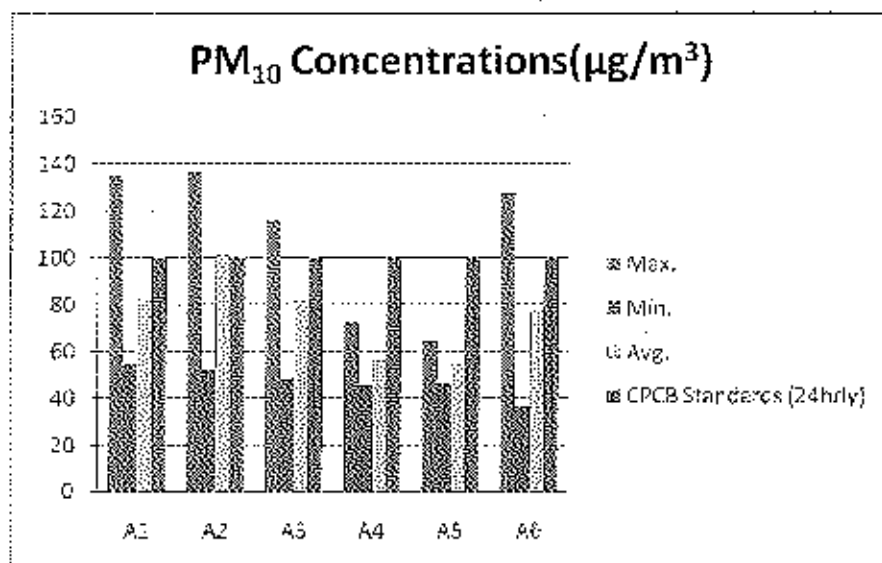
Table No. 4.4: The details of AAQ Monitoring during the Month of MARCH 2014

Station Name	Station Code	Date	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
Mine Office at Hill Top	A1	03.03.14	65	23	5.4	11.8	0.3
		06.03.14	79	28	5.9	12.2	0.3
		10.03.14	68	19	5.2	10.6	0.2
		13.03.14	54	21	6.8	11.3	0.3
		20.03.14	78	28	5.9	11.1	0.3
		24.03.14	83	37	5.6	10.5	0.2
		27.03.14	104	44	5.7	10.2	0.2
		31.03.14	135	42	7.3	13.0	0.2
Daitari Guest House	A2	03.03.14	101	39	5.6	12.4	0.3
		06.03.14	120	56	5.9	11.9	0.3
		10.03.14	95	34	4.8	10.7	0.2
		13.03.14	52	18	5.7	11.3	0.3
		20.03.14	94	41	5.0	11.1	0.3
		24.03.14	96	43	6.0	12.2	0.2
		27.03.14	123	59	4.6	9.6	0.2
		31.03.14	137	54	6.4	12.4	0.3
OMC Office	A3	03.03.14	98	36	4.8	10.2	0.2
		06.03.14	116	55	4.4	10.8	0.3
		10.03.14	96	39	4.7	10.6	0.2
		13.03.14	48	22	5.8	11.7	0.3
		20.03.14	50	23	5.0	9.4	0.2
		24.03.14	68	22	4.7	9.2	0.3
		27.03.14	69	28	5.2	9.3	0.3
		31.03.14	108	46	4.9	10.5	0.3
Baliparbat Township	A4	03.03.14	55	19	BDL	BDL	BDL
		06.03.14	58	17	BDL	BDL	BDL
		10.03.14	49	19	BDL	BDL	BDL
		13.03.14	45	16	BDL	BDL	BDL
		20.03.14	43	18	BDL	BDL	BDL
		24.03.14	54	23	BDL	BDL	BDL
		27.03.14	65	28	BDL	BDL	BDL
		31.03.14	72	33	BDL	BDL	BDL
Water Reservoir Pump House	A5	03.03.14	52	23	BDL	BDL	BDL
		06.03.14	59	21	BDL	BDL	BDL
		10.03.14	48	19	BDL	BDL	BDL
		13.03.14	53	25	BDL	BDL	BDL
		20.03.14	49	22	BDL	BDL	BDL
		24.03.14	46	18	BDL	BDL	BDL
		27.03.14	55	24	BDL	BDL	BDL
		31.03.14	64	28	BDL	BDL	BDL
Near Hospital Daitari	A6	03.03.14	86	28	4.4	10.2	BDL

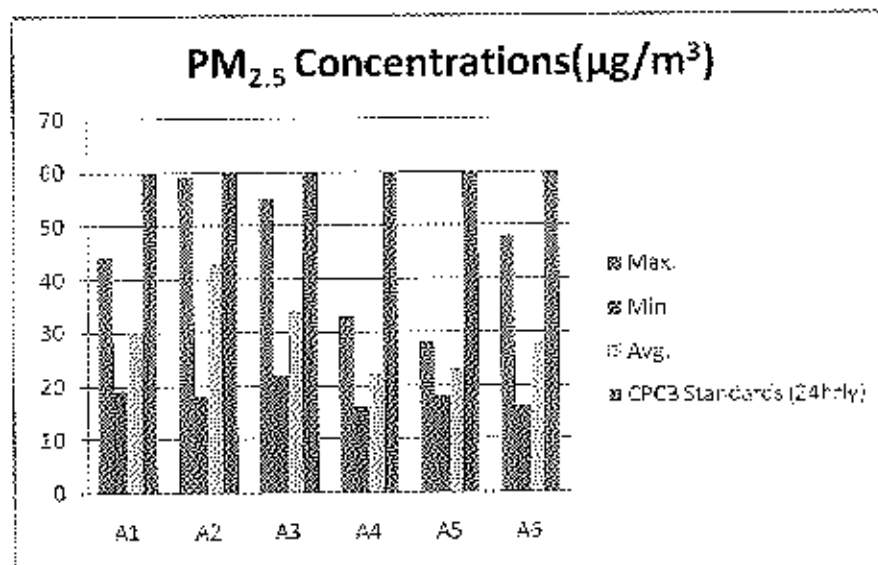
	06.03.14	89	32	4.6	9.9	BDL
	10.03.14	78	26	5.2	9.7	BDL
	13.03.14	36	16	5.3	10.8	BDL
	20.03.14	66	24	5.4	11.0	BDL
	24.03.14	68	26	5.4	9.8	BDL
	27.03.14	65	21	BDL	BDL	BDL
	31.03.14	128	48	5.1	9.5	BDL
CPCB Standards		100 $\mu\text{g}/\text{m}^3$	60 $\mu\text{g}/\text{m}^3$	80 $\mu\text{g}/\text{m}^3$	80 $\mu\text{g}/\text{m}^3$	4mg/m ³

Conclusion:**Particulate Matter (PM_{10})**

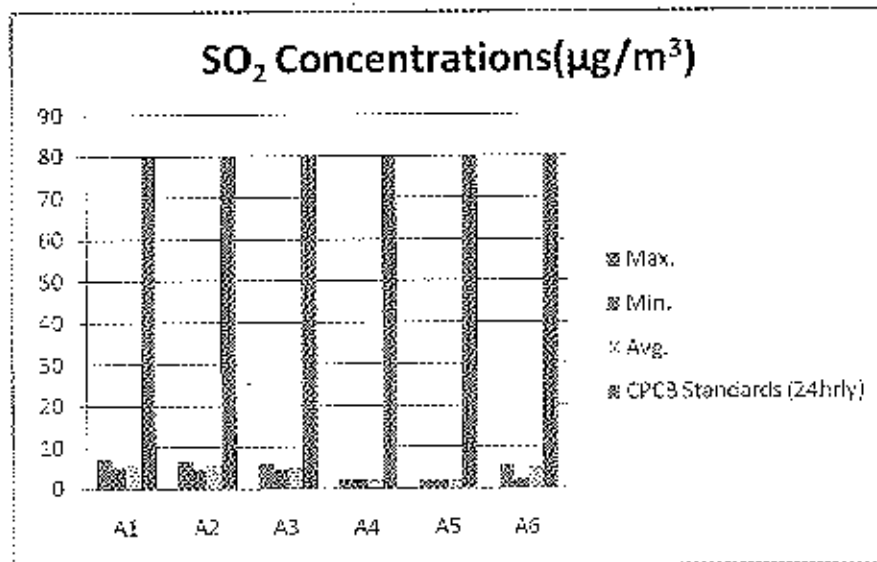
The Value of PM_{10} ranges between 36 $\mu\text{g}/\text{m}^3$ to 137 $\mu\text{g}/\text{m}^3$. However, the average value of PM_{10} ranges between 54 $\mu\text{g}/\text{m}^3$ to 102 $\mu\text{g}/\text{m}^3$. The results are exceeds the prescribed norms of CPCB for Industrial, residential, Rural & Other areas.

Figure No. 4.2: Graph showing PM_{10} Concentrations**Particulate Matter ($\text{PM}_{2.5}$)**

The Value of $\text{PM}_{2.5}$ ranges between 16 $\mu\text{g}/\text{m}^3$ to 59 $\mu\text{g}/\text{m}^3$. However, the average value of $\text{PM}_{2.5}$ ranges between 22 $\mu\text{g}/\text{m}^3$ to 43 $\mu\text{g}/\text{m}^3$. The results are well within the prescribed norms of CPCB for Industrial, residential, Rural & Other areas

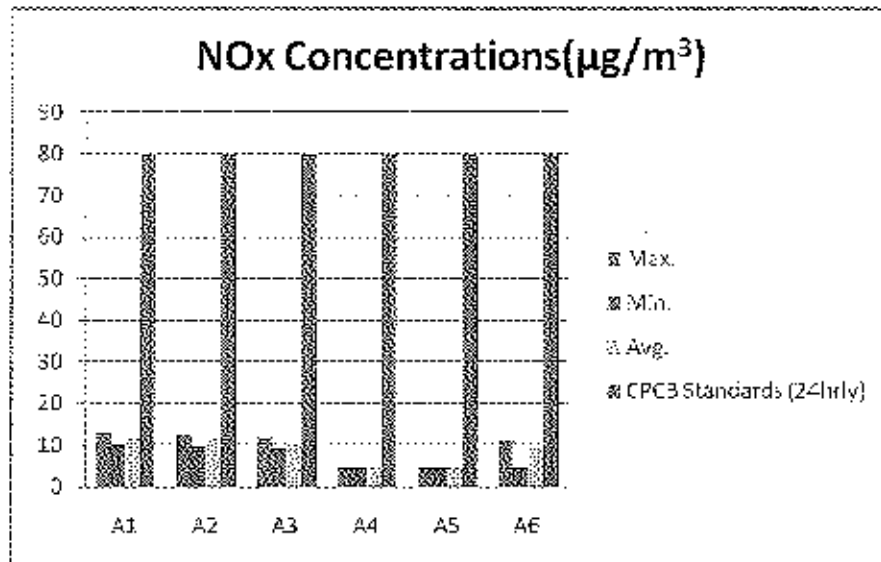
Figure No. 4.3: Graph showing PM_{2.5} Concentrations**Sulphur Dioxide (SO₂):**

The Value of SO₂ ranges between BDL to 7.3 µg/m³. However, the average value of SO₂ ranges between BDL to 6.0 µg/m³. The results are well within the prescribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of SO₂ is less than 4.0 µg/m³.

Figure No. 4.4: Graph showing SO₂ Concentrations

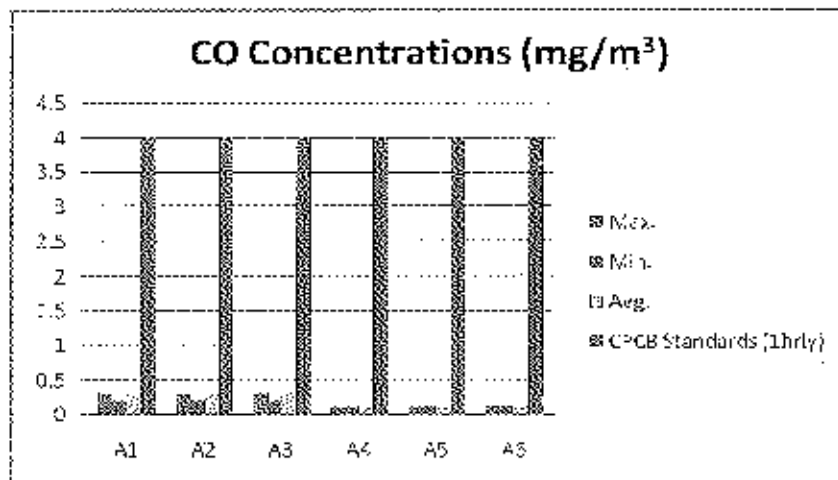
Oxides of Nitrogen (NO_x):

The Value of NO_x ranges between BDL to 13.0 µg/m³. However, the average value of NO_x ranges between BDL to 11.5 µg/m³. The results are well within the prescribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of NO_x is less than 9 µg/m³.

Figure No. 4.5: Graph showing NO_x Concentrations**Carbon Monoxide (CO):**

The Value of CO ranges between BDL to 0.3 mg/m³. However, the average value of CO ranges between BDL to 0.3 mg/m³. The results are well within the prescribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of CO is less than 0.11 mg/m³.

Figure No. 4.6: Graph showing CO Concentrations



4.3 Fugitive Emissions Monitoring

The results of fugitive emissions are given in Table No. 4.5.

Table No. 4.5: Results of Fugitive Emissions Monitoring

Station code	Co-ordinates		Particulate Matter (PM) in $\mu\text{g}/\text{m}^3$
	Latitude	Longitude	
FE1	21°06'10.98"N	85°48'29.40"E	298
FE2	21°05'57.54"N	85°48'35.88"E	212
FE3	21°05'52.44"N	85°48'33.72"E	898
FE4	21°06'24.96"N	85°48'20.1"E	108
FE5	21°06'17.58"N	85°51'4.92"E	198
FE6	21°05'42.24"N	85°48'40.68"E	486
Standards			1200 $\mu\text{g}/\text{m}^3$

4.4 Noise Monitoring

Summarized results of ambient noise monitoring are given in Table No. 4.6. The results have been compared with the standard specified in schedule III, Rule 3 of Environmental Protection Rules given in Table No. 4.7.

Table No. 4.6: Summarized Results of Noise Monitoring

Sl. No.	Location	Results						Type of Area
		Day (0600-2200 hrs.)			Night (2200-0600hrs.)			
		Min.	Max.	Mean*	Min.	Max.	Mean*	
1.	Mine Office at Hill Top	44.8	59.6	48.2	BDL	42.3	37.4	Industrial Area
2.	Sector -3 near Bank	40.2	54.7	45.3	BDL	41.3	34.1	Residential Area
3.	OMC Office	42.8	56.4	47.9	BDL	39.2	34.3	Commercial Area
4.	Baliparbat Township	39.2	45.7	41.8	BDL	37.57	32.4	Residential Area
5.	Water Reservoir Pump House	BDL	42.4	36.2	BDL	35.9	31.2	Residential Area
6.	Near Hospital Daitari	32.5	46.4	39.6	BDL	39.9	33.5	Silence zone

Note: *Logarithmic Averages; BDL - <30 dB (A)

All Values in dB (A).

Table No. 4.7: CPCB Norms in respect of Ambient Noise.

Type of Area	Day (0600 - 2200hrs)	Night (2200 - 0600 hrs)
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

All Values in dB (A)

The result of work zone noise are given in Table No. 4.8 and compared with OSHA norms which are mentioned in Table No.4.9.

Table No. 4.8: Results of Work zone Noise Monitoring

Sl No.	N7		N8		N9	
	Narayani Crusher		Excavation site.		Drilling point.	
Date	18.03.2014		19.03.2014		20.03.2014	
	Time	dB(A)	Time	dB(A)	Time	dB(A)
1	08:00 AM	70.4	08:00 AM	62.8	08:00 AM	63.7
2	09:00 AM	68.9	09:00 AM	62.6	09:00 AM	58.2
3	10:00 AM	69.6	10:00 AM	55.9	10:00 AM	76.5
4	11:00 AM	74.8	11:00 AM	59.3	11:00 AM	73.7
5	12:00 AM	72.5	12:00 AM	65.7	12:00 AM	70.3
6	01:00 PM	62.4	01:00 PM	55.7	01:00 PM	59.4
7	02:00 PM	69.3	02:00 PM	53.4	02:00 PM	52.6
8	03:00 PM	69.4	03:00 PM	64.5	03:00 PM	71.8

Table No. 4.9: Permissible Sound Pressure Level as per OSHA norms

Duration per day(hour)	Sound Pressure Level dB(A) allowed response
8	90
6	92
4	95
3	97
2	100

Conclusion:

Noise Level as observed in ambient are well within the standard norms stipulated by CPCB and also work zone areas are well below the standard norms stipulated by OSHA.

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4.5 Surface Water Quality Monitoring

Table No. 4.10: Water Quality Criteria as per CPCB

Sl. No.	Parameters	Class A	Class B	Class C	Class D	Class E
1	pH	6.5-8.5	6.5-8.5	6.0-9.0	6.5-8.5	6.5-8.5
2	Dissolved Oxygen (as O ₂), mg/l min	6	5	4	4	-
3	BOD, 3 days at 27°C, mg/l max.	2	3	3	-	-
4	Total Coliform Organism, MPN/100ml, max.	50	500	5000	-	-
5	Free Ammonia (as N), mg/l, max.	-	-	-	1.2	-
6	Electrical conductivity μ mhos/cm. max.	-	-	-	-	2250
7	Sodium Absorption Ratio, max.	-	-	-	-	26
8	Boron (as B), mg/l, max.	-	-	-	-	2

Class A: Drinking water source without conventional treatment but after disinfection

Class B: Outdoor bathing (organized)

Class C: Drinking water source after conventional treatment and after disinfection

Class D: Propagation of Wildlife and Fisheries

Class E: Irrigation, Industrial Cooling and Controlled Waste Disposal

Class F: Not meeting A, B, C, D & E Criteria

The results of analysis of surface water are given in Table No. 4.11 (A) & 4.11 (B).

h

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March 2014

Table No. 4.11 (A): Results of Surface Water Analysis

Sl. No.	Parameters	Unit	SW1	SW2	SW3	SW4
			06.03.2014	06.03.2014	06.03.2014	06.03.2014
1	Colour	Hazen	Colourless	Colourless	Colourless	Colourless
2	Turbidity	NTU	11	7	8	5
3	pH value	-----	7.22	6.68	6.95	7.40
4	Total Hardness (as CaCO ₃)	mg/l	68	42	50	62
5	Iron (as Fe)	mg/l	0.37	0.54	0.46	0.26
6	Chloride (as Cl)	mg/l	16	14	17	12
7	Fluoride (as F)	mg/l	0.07	0.12	BDL	0.10
8	Total Dissolved Solids	mg/l	89	78	96	80
9	Calcium (as Ca)	mg/l	19.6	20.3	18.5	14.9
10	Magnesium (as Mg)	mg/l	10.5	12.3	11.5	8.5
12	Copper (as Cu)	mg/l	BDL	BDL	BDL	BDL
12	Manganese (as Mn)	mg/l	0.027	0.032	0.026	0.018
13	Sulphate (as SO ₄)	mg/l	15	12	17	14
14	Nitrate (as NO ₃)	mg/l	0.43	0.52	0.27	0.24
15	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	BDL	BDL	BDL	BDL
16	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL
17	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL
18	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL
19	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL
20	Cyanide (as CN)	mg/l	BDL	BDL	BDL	BDL
21	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL
22	Zinc (as Zn)	mg/l	BDL	BDL	BDL	BDL
23	Anionic Detergent as MBAS	mg/l	BDL	BDL	BDL	BDL
24	Alkalinity (as CaCO ₃)	mg/l	58	49	52	61
25	Free Ammonia (N)	mg/l	0.16	0.12	0.08	0.11
26	Boron (as B)	mg/l	BDL	BDL	BDL	BDL
27	Coliform Organism	MPN/100ml	220	148	197	283
28	Sodium Absorption Ratio	-----	0.35	0.44	0.46	0.52
29	Dissolved Oxygen as O ₂	mg/l	5.8	6.3	6.7	6.1
30	BOD, 3 days at 27°C	mg/l	1.5	1.4	1.0	1.5
31	COD	mg/l	6.4	5.6	5.2	5.6
32	Electrical Conductivity (µmhos/cm)	µmhos/cm	146	127	160	137
33	Phosphate	mg/l	0.43	0.47	0.52	0.38
34	CO ₂	mg/l	5.0	5.2	4.6	5.5

Note: BDL Values For Fluoride-0.001, Cu-0.0001, Mn-0.00001, Phenolic Compounds-0.001, Hg-0.00001, Cd-0.00001, Se-0.0001, As-0.0001, CN-0.002, Pb-0.001, Anionic Detergents-0.01, Boron-0.0001

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Table No. 4.11 (B): Results of Surface Water Analysis

Sl. No.	Parameters	Unit	SW1	SW2	SW3	SW4
			24.03.2014	24.03.2014	24.03.2014	24.03.2014
1	Colour	Hazen	Colourless	Colourless	Colourless	Colourless
2	Turbidity	NTU	10	8	07	08
3	pH value	----	6.88	7.45	7.37	7.82
4	Total Hardness (as CaCO ₃)	mg/l	66	38	54	72
5	Iron (as Fe)	mg/l	0.52	0.68	0.55	0.50
6	Chloride (as Cl)	mg/l	18	21	14	17
7	Fluoride (as F)	mg/l	0.08	0.11	BDL	0.17
8	Total Dissolved Solids	mg/l	115	94	90	86
9	Calcium (as Ca)	mg/l	21.5	17.4	17.6	18.2
10	Magnesium (as Mg)	mg/l	12.5	9.4	9.1	10.3
12	Copper (as Cu)	mg/l	BDL	BDL	BDL	BDL
12	Manganese (as Mn)	mg/l	0.028	0.033	0.015	0.017
13	Sulphate (as SO ₄)	mg/l	20	18	16	22
14	Nitrate (as NO ₃)	mg/l	0.44	0.42	0.38	0.31
15	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	BDL	BDL	BDL	BDL
16	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL
17	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL
18	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL
19	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL
20	Cyanide (as CN)	mg/l	BDL	BDL	BDL	BDL
21	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL
22	Zinc (as Zn)	mg/l	BDL	BDL	BDL	BDL
23	Anionic Detergent as MBAS	mg/l	BDL	BDL	BDL	BDL
24	Alkalinity (as CaCO ₃)	mg/l	71	52	47	55
25	Free Ammonia (N)	mg/l	0.14	0.12	0.08	0.10
26	Boron (as B)	mg/l	BDL	BDL	BDL	BDL
27	Coliform Organism	MPN/100 ml	287	146	178	163
28	Sodium Absorption Ratio	----	0.36	0.27	0.38	0.40
29	Dissolved Oxygen as O ₂	mg/l	5.9	6.1	6.3	6.6
30	BOD, 3 days at 27°C	mg/l	1.6	1.2	1.1	1.7
31	COD	mg/l	6.8	5.7	6.3	6.1
32	Electrical Conductivity (EC)	µmhos/cm	187	161	155	148
33	Phosphate	mg/l	0.52	0.44	0.27	0.36
34	CO ₂	mg/l	4.9	5.2	5.5	4.5

Note: BDL Values For Fluoride-0.001, Cu-0.0001, Mn-0.00001, Phenolic Compounds-0.001, Hg-0.00001, Cd-0.00001, Se-0.0001, As-0.0001, CN-0.002, Pb-0.0001, Anionic Detergents-0.01, Boron-0.0001.

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Environmental Monitoring Report for Daitari Iron Ore Mining Project

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4.6 Ground Water Quality Monitoring

The results of analysis of ground water are given in Table No. 4.12.

Table No. 4.12: Results of Ground Water Analysis

Sl. No.	Parameter	Unit	Permissible Limit	GW1	GW2	GW3	GW4	GW5
				06.03.2014	06.03.2014	06.03.2014	24.03.2014	24.03.2014
1	pH	---	6.5-8.5	6.82	7.33	6.64	7.25	7.21
2	Odour	---	U/O	U/O	U/O	U/O	U/O	U/O
3	Colour	Hazen	5 (Max)	CL	CL	CL	CL	CL
4	Taste	---	Agreeable	AL	AL	AL	AL	AL
6	Turbidity	NTU	5 (Max)	3	1	2	4	2
7	Chloride (as Cl)	mg/l	250 (Max)	3.8	3.1	2.6	2.3	1.9
8	Residual free Chlorine	mg/l	0.2 (Min)	ND	ND	ND	ND	ND
9	Total Dissolved Solid	mg/l	500 (Max)	128	165	106	113	122
10	Total Hardness (as CaCO ₃)	mg/l	300 (Max)	66	50	48	54	56
11	Iron (as Fe)	mg/l	0.3 (Max)	0.20	0.17	0.23	0.19	0.23
12	Calcium (as Ca)	mg/l	75 (Max)	19.4	16.8	14.8	17.6	12.6
13	Magnesium (as Mg)	mg/l	30 (Max)	8.1	7.7	7.0	8.5	6.8
14	Sulphate (as SO ₄)	mg/l	200 (Max)	5.1	4.6	3.7	2.6	2.0
15	Manganese (as Mn)	mg/l	0.10 (Max)	BDL	BDL	BDL	BDL	BDL
16	Nitrate (as NO ₃)	mg/l	45 (Max)	0.9	0.8	1.1	1.7	0.8
17	Alkalinity (as CaCO ₃)	mg/l	200 (Max)	52	32	42	31	32
18	Aluminium (as Al)	mg/l	0.03 (Max)	BDL	BDL	BDL	BDL	BDL
19	Fluoride (as F)	mg/l	1.5	BDL	BDL	BDL	BDL	BDL
20	Anionic Detergent	mg/l	0.2 (Max)	Absent	Absent	Absent	Absent	Absent
21	Cadmium (as Cd)	mg/l	0.01 (Max)	BDL	BDL	BDL	BDL	BDL
22	Copper (as Cu)	mg/l	0.05 (Max)	BDL	BDL	BDL	BDL	BDL
24	Zinc (as Zn)	mg/l	5 (Max)	0.26	0.31	0.22	0.18	0.30
23	Lead (as Pb)	mg/l	0.05 (Max)	BDL	BDL	BDL	BDL	BDL
24	Selenium (as Se)	mg/l	0.01 (Max)	BDL	BDL	BDL	BDL	BDL
25	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	0.001 (Max)	ND	ND	ND	ND	ND
26	Mineral Oil	mg/l	0.01 (Max)	ND	ND	ND	ND	ND
27	Total Coliform	MPN/100 ml	---	NIL	NIL	NIL	NIL	NIL
28	Mercury (as Hg)	mg/l	0.001 (Max)	BDL	BDL	BDL	BDL	BDL
29	Cyanide (as CN)	mg/l	0.05 (Max)	BDL	BDL	BDL	BDL	BDL
30	Boron (as B)	mg/l	1 (Max)	BDL	BDL	BDL	BDL	BDL
31	Arsenic (as As)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL

Note: BDL Values For Fluoride-0.001, Cu-0.0001, Mn-0.00001, Phenolic Compounds-0.001, Hg-0.00001, Cd-0.00001, Se-0.0001, As-0.0001, CN-0.002, Pb-0.001, Boron-0.0001

U/O-Unobjectionable, CL-Colorless, AL-Agreeable, ND-Not Detected, BDL-Below detection Levels,

4.7 Ground Water Level Monitoring

The results of Ground Water Level Monitoring are given in Table No. 4.13.

Table No. 4.13: Ground Water Level Results

Sl. No.	Location code	Coordinates		Water Level (Below ground level, in meters)
		Latitude	Longitude	
1	GWL1	21°07'27.7" N	85°47'02.8" E	4.9
2	GWL2	21°06'44.9" N	85°49'30.9" E	0.83
3	GWL3	21°06'45.5" N	85°49'30.2" E	0.78
4	GWL4	21°06'45.0" N	85°51'19.3" E	5.51

4.6 Flow of Water Measurement

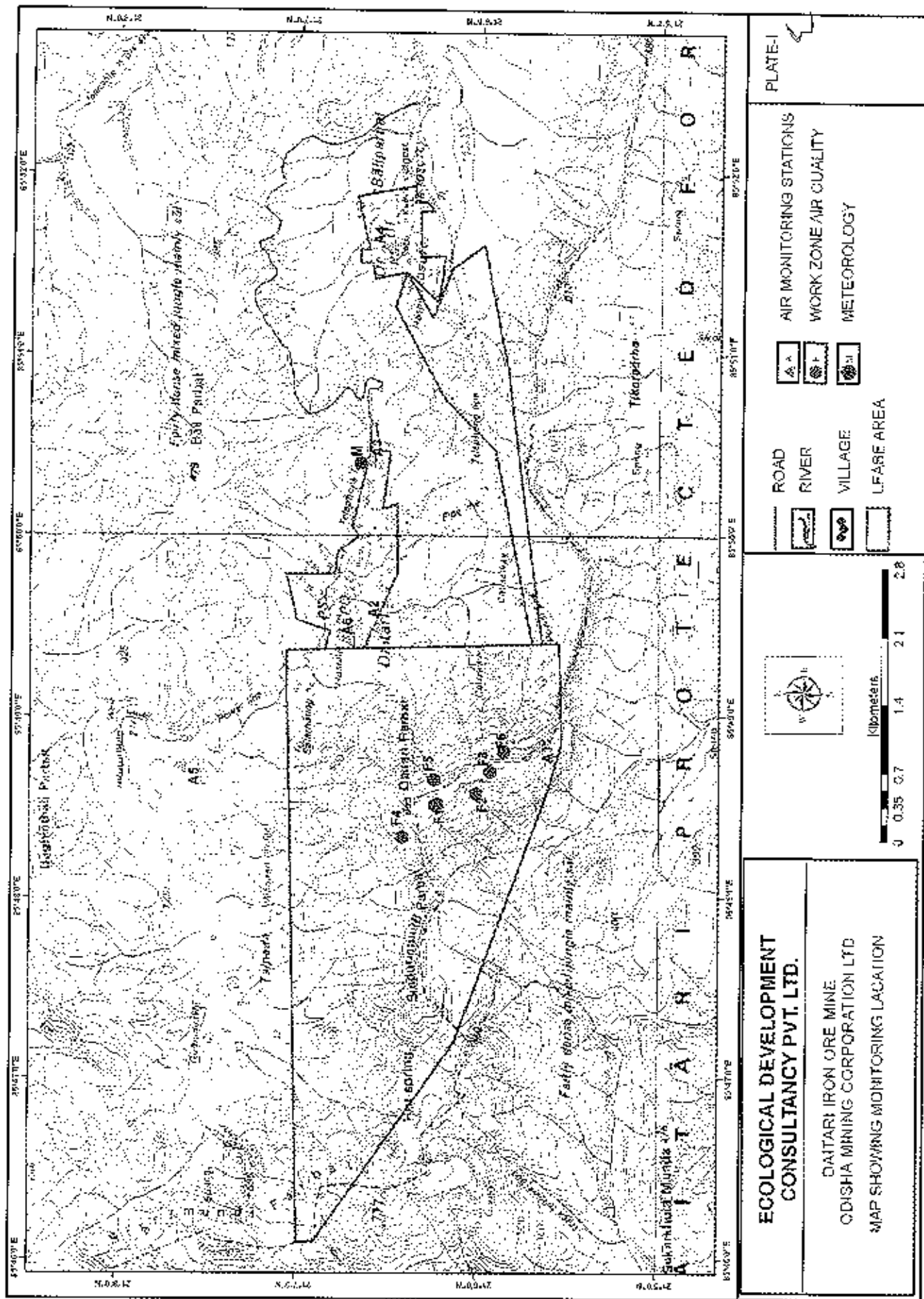
The results of flow of water are given in Table No. 4.14

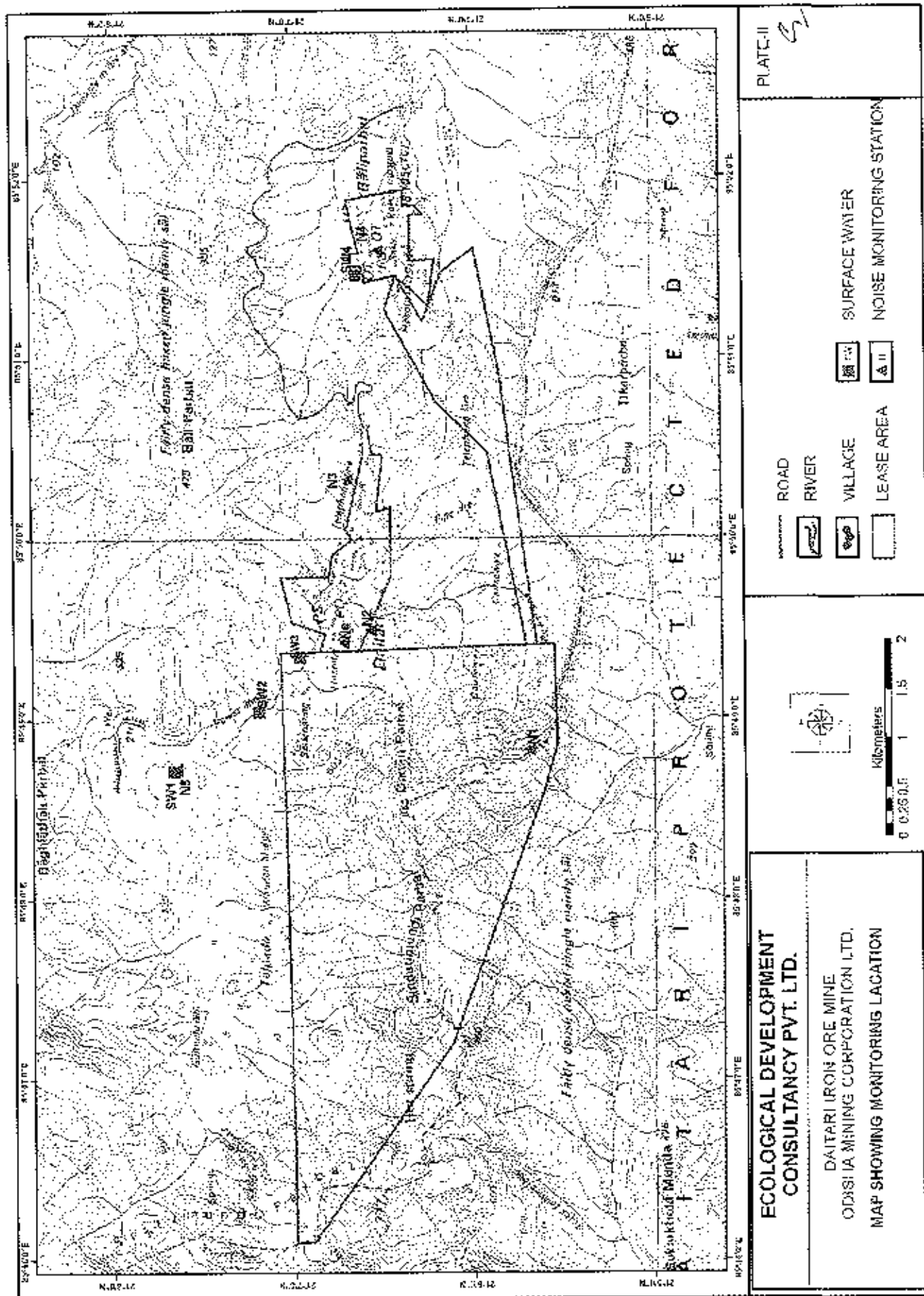
Table No. 4.14: Result of Flow of Water Measurement

Sl. No	Station code	Co-ordinates		Flow of Water in m ³ /min
		Latitude	Longitude	
1	FW1	21°07'7.56" N	85°48' 56.7" E	11.64
2	FW2	21°06'49.98" N	85°49' 29.58" E	6.15
3	FW3	21°06'24.18" N	85°51' 35.88" E	2.4

4.7 Vehicular Emission

Vehicular Emission was carried out during this month for 82 no of vehicles within the leasehold area. The parameters monitored were CO, HC, NOx and Smoke. The emission level for CO ranges from 0.005% to 0.084%, HC ranges from 8 to 43 ppm, NOx ranges from 78.53% to 82.91% and Smoke ranges from 19.84 Hsu to 82.47 Hsu. The parameters are well below the standard norm except few in case of smoke.







ODISHA MINING CORPORATION LIMITED
DAITARI IRON ORE MINING PROJECT

ENVIRONMENTAL MONITORING REPORT
FOR THE MONTH
OF
APRIL 2014



M/s ECOLOGICAL DEVELOPMENT CONSULTANCY PVT. LTD.,
BHUBANESWAR, ODISHA

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4.	Results & Discussion	07-20

4

1.0 INTRODUCTION

Odisha Mining Corporation Limited (OMCL), a Government of Odisha undertaking has engaged M/s Ecological Development Consultancy Pvt. Ltd. (EDCPL), Bhubaneswar, Odisha for carrying out **Environmental Monitoring** for their different mine leases in the district of Jajpur, Keonjhar and Sundergarh.

Environmental Monitoring includes monitoring of various environmental attributes such as Ambient Air Quality, Work Zone Air Quality, Noise Level, Water Quality, Waste Water Quality, Vehicular Emission and Soil Quality. Apart from these, various other activities such as suggestions to control the pollution, conducting various kinds of audits are also a part of this programme.

1.1 Present Report

The present report presents the Environmental related data in respect of Meteorology, Ambient Air Quality, Work Zone Air Quality (Fugitive Emission), Noise Level, Work zone Noise Level, Surface Water Quality and Flow of Water Measurement in and around Daitari Iron Ore Mine in Keonjhar district of Odisha during April 2014.

1.2 Scope of the Work

The Scope of work during April 2014 is as follows:

Table No. 1.1: Scope of Work within the Mine Lease Area

Environmental Attributes	No. of Locations
Ambient Air Quality	6 locations
Work Zone Air Quality	6 locations
Ambient Noise Level	6 locations
Work zone Noise Level	3 locations
Surface Water Quality	4 locations
Flow of Water Measurement	3 locations

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2.0 MONITORING DESCRIPTION

In order to assess the pollution level in and around the mining lease, different environmental attributes such as meteorology, air quality, water quality, soil quality and noise level are being monitored. The monitoring is carried out as per the CPCB guideline and every care has been taken for preservation and transportation of samples to the respective laboratory. M/s EDCPL has set up a site laboratory equipped with adequate instruments and equipment to monitor and analyze all the parameters of Air Quality i.e. PM_{10} , $PM_{2.5}$, SO_2 , NO_x & CO and few physico-chemical parameters (10 parameters) of water samples. For other parameters of water, the samples are sent to EDCPL's Main Laboratory at Bhubaneswar. The locations of monitoring stations are shown in Plate I & II.

2.1 Meteorology

An Automatic Weather Monitoring Station is installed at the rooftop of OMC office ($21^{\circ}06'40.44''N$; $85^{\circ}50'22.86''E$) of Daitari Iron Ore Mine of M/s OMCL to collect the meteorological data on hourly basis continuously.

The parameters monitored at the meteorological station were Temperature, Relative Humidity, Wind Speed, Wind Direction and Rainfall. These parameters were recorded at weather monitoring station using the respective sensors.

2.2 Ambient Air Quality

The prime objective of the ambient air quality study is to establish the existing ambient air quality in and around the mining lease area. The existing ambient air quality was monitored at six (6) locations. The locations were identified after due consultation with the OMCL officials. Monitoring was carried out for Particulate Matter (PM_{10}), Particulate Matter ($PM_{2.5}$), Sulphur Dioxide (SO_2), Oxides of Nitrogen (NO_x) and Carbon Monoxide (CO). The PM_{10} & $PM_{2.5}$ was monitored on 24 hourly basis, while SO_2 and NO_x were monitored on 4 hourly basis for 24 hours at each sampling location and CO was monitored using the CO Monitor for 1 hr in a day in each monitoring station twice in a week, for a month. Details about Air Quality Monitoring locations are given in Table No. 2.1.

Table No.2.1: Ambient Air Quality Monitoring Stations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Mine Office at Hill Top	A1	$21^{\circ}05'38.7''N$	$85^{\circ}48'42.84''E$
2	Daitari Guest House	A2	$21^{\circ}06'34.08''N$	$85^{\circ}49'29.4''E$
3	OMC Office	A3	$21^{\circ}06'40.44''N$	$85^{\circ}50'22.86''E$
4	Baliparhat Township	A4	$21^{\circ}06'30.72''N$	$85^{\circ}51'35.7''E$
5	Water Reservoir Pump House	A5	$21^{\circ}07'39.06''N$	$85^{\circ}48'43.44''E$
6	Near Hospital Daitari	A6	$21^{\circ}06'43.14''N$	$85^{\circ}49'25.2''E$

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2.3 Work Zone Air Quality (Fugitive Emissions)

To assess the level of fugitive dust due to mining and allied activities, six (6) monitoring stations were selected within the lease area considering the activity. Fugitive emissions monitoring was carried out once in a month on 8 hrly basis. The list of fugitive emissions monitoring stations is given in Table No. 2.2.

Table No. 2.2: Fugitive Emissions Monitoring Stations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Crusher 1(ARUN UDYOG New)	FE1	21°06'10.98"N	85°48'29.40"E
2	Crusher 2(ARUN UDYOG Old)	FE2	21°05'57.54"N	85°48'35.88"E
3	Narayani Crusher	FE3	21°05'52.44"N	85°48'33.72"E
4	Pit	FE4	21°06'24.96"N	85°48'20.1"E
5	Bali Parbat Stock Yard near Weigh Bridge	FE5	21°06'17.58"N	85°51'4.92"E
6	Manual Road	FE6	21°05'42.24"N	85°48'40.65"E

2.4 Noise Level

In order to assess the existing noise levels in and around mining lease area, noise monitoring was carried out at 6 locations & 3 locations at Work zone areas. Details of Noise monitoring stations are given in Table No. 2.3.

Table No. 2.3: Ambient Noise Monitoring Locations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Mine Office at Hill Top	N1	21°05'38.7"N	85°48'42.84"E
2	Sector-3 near Bank	N2	21°06'41.52"N	85°29'35.94"E
3	OMC Office	N3	21°06'40.44"N	85°50'22.86"E
4	Baliparbat Township	N4	21°06'30.72"N	85°51'35.7"E
5	Water Reservoir Pump House	N5	21°07'39.06"N	85°48'43.44"E
6	Near Hospital Daitari	N6	21°06'43.14"N	85°49'25.2"E
Work zone Noise Level				
7	Near Narayani Crusher	N7	21°05'52.2"N	85°48'32.64"E
8	Excavation site	N8	21°06'12.12"N	85°48'26.4"E
9	Drilling point	N9	21°06'23.28"N	85°48'20.04"E

2.5 Surface Water Quality

8 nos. of grab samples were taken from four (04) surface water locations twice in a month. Details about surface water locations are given in Table No. 2.4.

Table No.2.4: Surface Water Sampling Locations

Sl. No.	Location	Sample code	Coordinates	
			Latitude	Longitude
1	Daitari Dam Site	SW1	21°07'39.12" N	85°48'42.84"E
2	Stream Flowing Near Pichida	SW2	21°07'7.56" N	85°48' 56.7"E
3	Stream Flowing Near Old Market	SW3	21°06'49.98" N	85°49' 29.58"E
4	Stream Near Baliparbat	SW4	21°06'24.18" N	85°51' 35.88"E

2.6 Flow of Water Measurement

To assess the flow of water in and around mining area, 03 locations were selected. The details about locations are given in Table No. 2.5

Table No. 2.5: Flow of Water Locations

Sl. No.	Locations	Sample code	Coordinates	
			Latitude	Longitude
1	Stream Flowing Near Pichida	FW1	21°07'7.56" N	85°48' 56.7"E
2	Stream Flowing Near Old Market	FW2	21°06'49.98" N	85°49' 29.58"E
3	Stream near Baliparbat	FW3	21°06'24.18" N	85°51' 35.88"E

h

3.0 METHODOLOGY**3.1 Meteorology**

The meteorological parameters were monitored on hourly basis continuously by installing a weather monitoring system at the rooftop of OMC office of Daitari Iron Mine of OMCL.

3.2 Air Monitoring

Monitoring was carried out for Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x) and Carbon Monoxide (CO). The PM₁₀ & PM_{2.5} was monitored on 24 hourly basis, while SO₂ and NO_x were monitored on 4 hourly basis for 24 hours at each sampling location and CO was monitored using the CO Monitor for 1 hr in a day in each monitoring station twice in a week, for a month. The sampling and analysis of ambient air quality was carried out as per the approved procedures by CPCB.

3.3 Noise Monitoring

The monitoring of noise level was carried out at specified locations. Ambient Noise levels were recorded at hourly intervals for 24 hrs.

3.4 Work zone Noise Monitoring

The monitoring of work zone noise level was carried out at specified locations. Work zone Noise levels were recorded at hourly intervals for 08 hrs.

3.5 Surface Water Monitoring

For assessing the water quality, surface water samples were collected. Eight (8) water samples from four locations (04) were taken in sterilized plastic cans twice a month. The samples were analyzed for essential physical, chemical and bacteriological parameters as per the list enclosed in the work order. The samples were analyzed as per standard procedure / method prescribed by CPCB/APHA.

3.6 Flow of Water Measurement

The monitoring of flow of water was carried out monthly once of the springs and perennial nales present within and adjoining the mining lease area. The flow of water measurement was carried out at 3 specific locations (3) and is expressed in m³/min.



4.0 RESULTS AND DISCUSSIONS

4.1 Meteorology

Summarized meteorological data such as temperature, relative humidity, rainfall, wind speed and wind direction are given in Table No. 4.1.

Table No. 4.1: Results of Site Specific Meteorological Data

Sl. No.	Parameters	Month of April 2014	
1	Temperature (°C)	Maximum	39.91
		Minimum	20.36
		Average	30.34
2	Relative Humidity (%)	Maximum	94.79
		Minimum	16.49
		Average	40.90
3	Wind speed(m/s)	Maximum	12.1
		Average	2.68
4	Wind Direction (%)	N	3.89
		NNE	8.89
		NE	3.75
		ENE	7.36
		E	8.75
		ESE	3.89
		SE	2.36
		SSE	1.94
		S	4.3
		SSW	5.7
		SW	12.5
		WSW	15.56
		W	7.36
		WNW	6.67
		NW	8.47
		NNW	4.3
		CALM	9.31
5	Rainfall(mm)	Monthly Total	2.8
		No. of rainy days	05

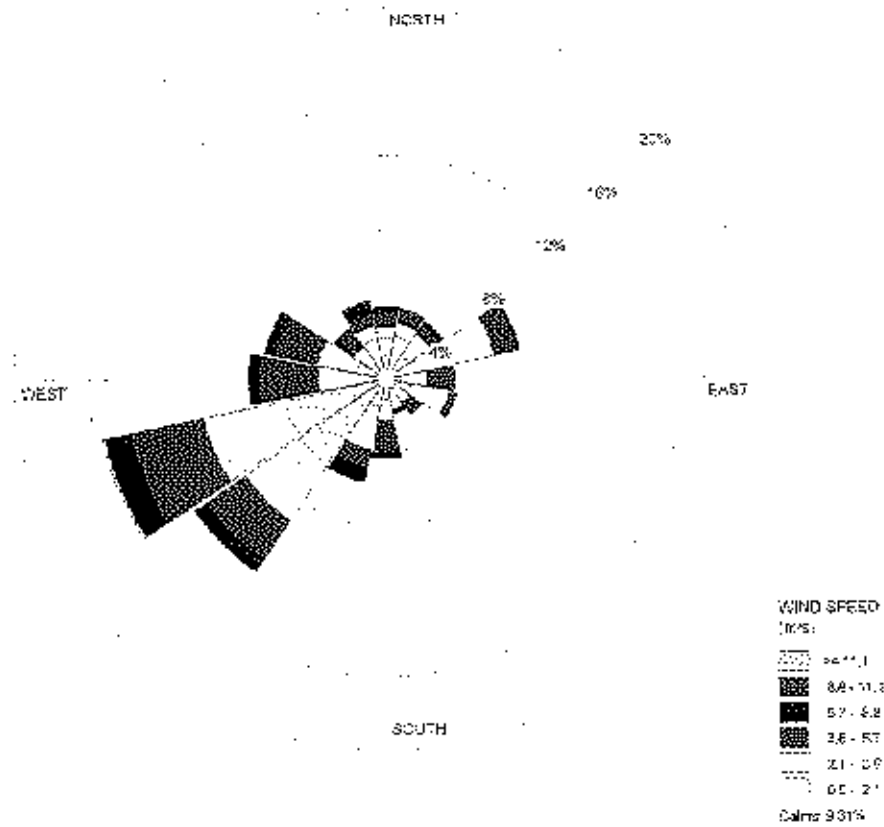
During the month of April 2014, the temperature varied from 20.36° C to 39.91° C & Relative Humidity varied from 16.49 % to 94.79 %. The maximum wind speed recorded during the month was 12.1 m/s and overall average wind speed is calculated to be 2.68m/s. 9.31% of the time the wind remained calm (≤ 0.5 m/s). The predominant wind direction as observed to be from WSW during the month. The total rainfall was 2.8mm and 05 days out of 30 days were rainy days.

Max. and Min. value of temperature, relative humidity, rainfall, wind speed and wind direction on each day basis for April 2014 are given in Table No. 4.2

Table No. 4.2: Max and Min value of Meteorological Data of month April 2014

Date	Temperature		Relative Humidity (%)		Wind Speed (m/s)		Rainfall (mm)
	Max.	Min.	Max.	Min.	Max.	Min.	
01.04.14	34.94	23.27	72.96	31.53	6.7	0	0
02.04.14	35.73	23.54	76.06	29.32	4.5	0.7	0
03.04.14	37.47	23.1	83.21	19.25	6.5	0.6	0
04.04.14	37.04	24.57	80.24	16.49	6.9	0.5	0
05.04.14	36.62	21.89	84.78	17.9	4.8	0	0
06.04.14	37.18	23.19	64.12	18.22	5.5	0	0
07.04.14	38.94	22.98	69.96	17.36	6.0	0	0
08.04.14	39.91	26.5	62.12	17.21	4.5	0	0
09.04.14	35.66	26.56	71.21	26.12	8.7	0	0
10.04.14	34.54	24.94	62.23	29.08	4.9	0	0
11.04.14	35.39	22.29	70.83	28.7	8.1	0.5	0
12.04.14	34.85	21.61	85.41	32.51	9.0	0.6	0.2
13.04.14	34.28	20.36	90.98	44.45	8.1	1.7	0
14.04.14	33.93	20.68	75.85	38.39	5.5	0	0.2
15.04.14	36.44	21.24	79.06	26.21	4.5	0.6	0
16.04.14	36.73	24.06	72.04	29.46	7.1	0.5	0
17.04.14	37.16	23.48	78.42	27.6	11.1	0	0.2
18.04.14	36.98	23.11	67.86	25.3	6.1	1.0	0.6
19.04.14	36.72	25.18	78.05	31.19	5.3	0	0
20.04.14	37.16	20.92	94.79	35.26	7.5	0	1.6
21.04.14	35.45	20.88	91.71	31.32	5.3	0	0
22.04.14	37.25	23.94	67.86	28.57	5.6	0	0
23.04.14	38.37	27.5	66.13	28.26	5.7	0	0
24.04.14	37.27	26.13	64.79	23.29	6.5	0	0
25.04.14	39.83	27.24	65.74	16.93	5.2	0	0
26.04.14	38.43	24.34	75.03	17.24	4.7	0	0
27.04.14	39.51	24.76	83.69	25.22	4.9	0.2	0
28.04.14	38.79	25.3	86.65	30.14	6.3	1.0	0
29.04.14	39.48	24.62	85.81	27.9	12.1	0.2	0
30.04.14	38.91	25.17	77.03	30.14	6.3	0.5	0

Figure No. 4.1: Wind rose (24hrly) for the month of April 2014



4.2 Ambient Air Quality Monitoring

The Summarized results of AAQ are given in the Table No. 4.3 and the details of AAQ monitoring during the month of April 2014 are given in the Table No. 4.4.

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Environmental Monitoring Report for Daitari Iron Ore Mining Project April 2014

Table No. 4.3: Summarized Results of Ambient Air Qualities

SL No.	Locations	Co-ordinate	Station Code	PM ₁₀			PM _{2.5}			SO ₂			NO _x			CO		
				Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.
1.	Mine office at 11th Top	21°05'38.7"N 85°48'42.84"E	A1	144	59	94	61	20	40	6.1	4.6	5.6	11.4	9.8	10.7	0.3	0.2	0.2
2.	Daitari Guest House	21°06'34.08"N 85°49'29.4"E	A2	52	31	41	37	13	23	6.7	4.8	5.6	11.3	9.1	10.3	0.3	BDL	0.2
3.	OMC Office	21°06'40.44"N 85°50'22.86"E	A3	100	33	64	48	16	31	6.4	4.3	5.2	10.8	9.3	9.9	0.2	BDL	0.2
4.	Baljarbat Township	21°06'30.72"N 85°51'35.7"E	A4	48	29	40	27	15	21	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
5.	Water Reservoir pump house	21°07'39.06"N 85°48'48.44"E	A5	51	29	41	31	16	22	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
6.	Near Hospital Daitari	21°06'43.14"N 85°49'25.2"E	A6	129	35	77	58	17	36	BDL	BDL	BDL	9.7	BDL	BDL	BDL	BDL	BDL
CPCB Standard				100 µg/m³			60 µg/m³			80 µg/m³			80 µg/m³			4.0 mg/m³		

Note: BDL value for NO_x - 9.0 µg/m³, SO₂ - 3.0 µg/m³ and for CO - 0.11 mg/m³

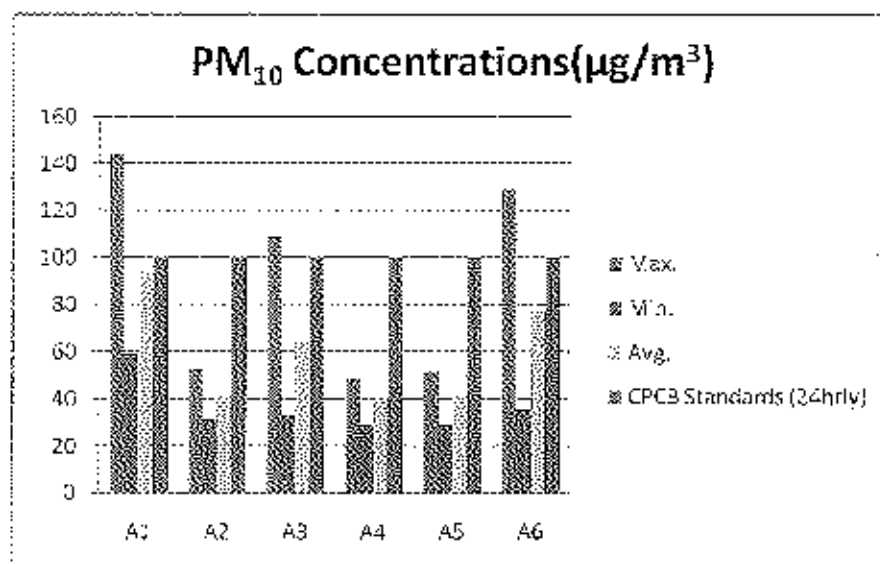
Table No. 4.4: The details of AAQ Monitoring during the Month of APRIL 2014

Station Name	Station Code	Date	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
Mine Office at Hill Top	A1	03.04.2014	113	61	4.6	10.7	0.3
		07.04.2014	99	33	4.8	10.6	0.3
		10.04.2014	80	39	5.1	11.2	0.2
		14.04.2014	59	32	5.9	9.8	0.2
		17.04.2014	Election				
		21.04.2014	76	29	5.7	11.4	0.2
		24.04.2014	144	55	6.1	11.0	0.3
		28.04.2014	84	34	5.9	10.4	0.2
Daitari Guest House	A2	03.04.2014	50	29	4.3	9.1	0.2
		07.04.2014	52	37	5.6	11.3	0.3
		10.04.2014	35	20	6.7	11.2	0.2
		14.04.2014	46	25	5.5	10.0	0.2
		17.04.2014	Election				
		21.04.2014	35	20	5.4	10.1	0.2
		24.04.2014	31	13	5.2	10.7	0.2
		28.04.2014	38	16	5.7	9.8	BDL
OMC Office	A3	03.04.2014	100	41	5.0	9.3	0.2
		07.04.2014	109	48	4.3	9.9	0.2
		10.04.2014	61	33	5.7	10.4	0.2
		14.04.2014	33	16	4.9	9.9	BDL
		17.04.2014	Election				
		21.04.2014	36	20	4.9	9.6	BDL
		24.04.2014	53	30	6.1	10.8	0.2
		28.04.2014	58	28	5.6	9.7	BDL
Baliparhat Township	A4	03.04.2014	48	26	BDL	BDL	BDL
		07.04.2014	45	27	BDL	BDL	BDL
		10.04.2014	47	24	BDL	BDL	BDL
		14.04.2014	42	19	BDL	BDL	BDL
		17.04.2014	Election				
		21.04.2014	29	15	BDL	BDL	BDL
		24.04.2014	35	18	BDL	BDL	BDL
		28.04.2014	37	21	BDL	BDL	BDL
Water Reservoir Pump House	A5	03.04.2014	49	23	BDL	BDL	BDL
		07.04.2014	47	22	BDL	BDL	BDL
		10.04.2014	51	31	BDL	BDL	BDL
		14.04.2014	46	24	BDL	BDL	BDL
		17.04.2014	Election				
		21.04.2014	32	19	BDL	BDL	BDL
		24.04.2014	29	17	BDL	BDL	BDL
		28.04.2014	32	16	BDL	BDL	BDL
Near Hospital Daitari	A6	03.04.2014	118	58	BDL	9.5	BDL
		07.04.2014	87	38	BDL	9.7	BDL

	10.04.2014	129	53	BDL	9.6	BDL
	14.04.2014	58	33	BDL	9.2	BDL
	17.04.2014	Election				
	21.04.2014	35	17	BDL	BDL	BDL
	24.04.2014	68	27	BDL	BDL	BDL
	28.04.2014	45	29	BDL	BDL	BDL
CPCB Standards		100 $\mu\text{g}/\text{m}^3$	60 $\mu\text{g}/\text{m}^3$	80 $\mu\text{g}/\text{m}^3$	80 $\mu\text{g}/\text{m}^3$	4mg/m ³

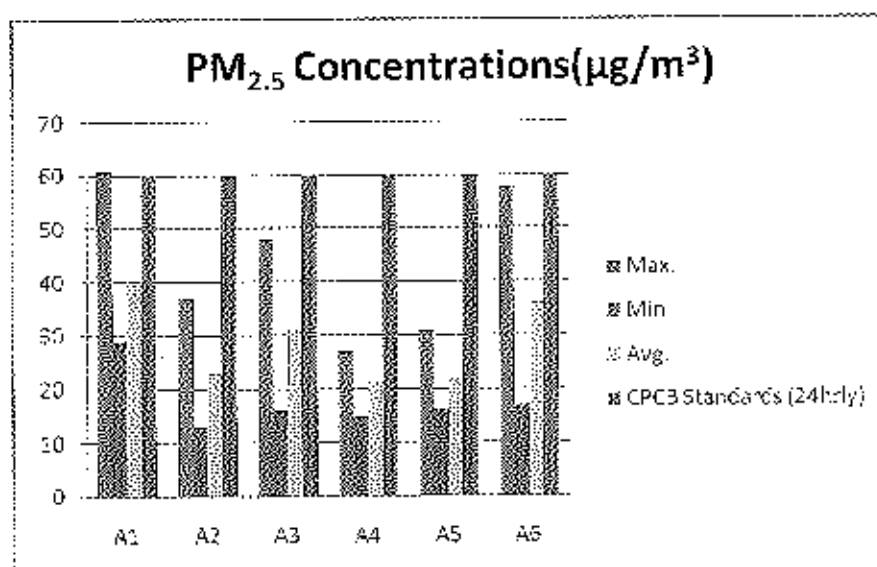
Conclusion:**Particulate Matter (PM_{10})**

The Value of PM_{10} ranges between 29 $\mu\text{g}/\text{m}^3$ to 144 $\mu\text{g}/\text{m}^3$. However, the average value of PM_{10} ranges between 40 $\mu\text{g}/\text{m}^3$ to 99 $\mu\text{g}/\text{m}^3$. The results are exceeded than the prescribed norms of CPCB for Industrial, Commercial & Silence areas.

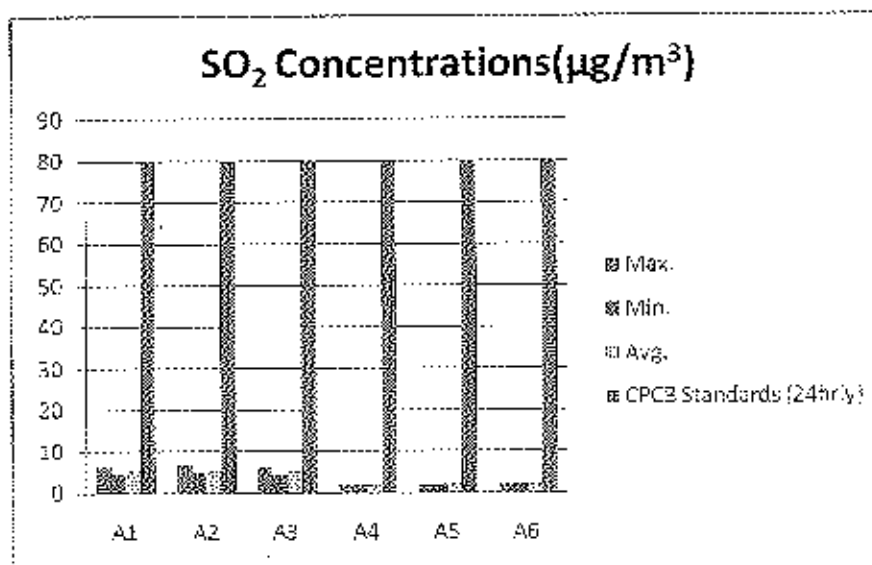
Figure No. 4.2: Graph showing PM_{10} Concentrations**Particulate Matter ($\text{PM}_{2.5}$)**

The Value of $\text{PM}_{2.5}$ ranges between 13 $\mu\text{g}/\text{m}^3$ to 61 $\mu\text{g}/\text{m}^3$. However, the average value of $\text{PM}_{2.5}$ ranges between 21 $\mu\text{g}/\text{m}^3$ to 40 $\mu\text{g}/\text{m}^3$. The results are well within the prescribed norms of CPCB for residential, Rural & Other areas except Industrial area.

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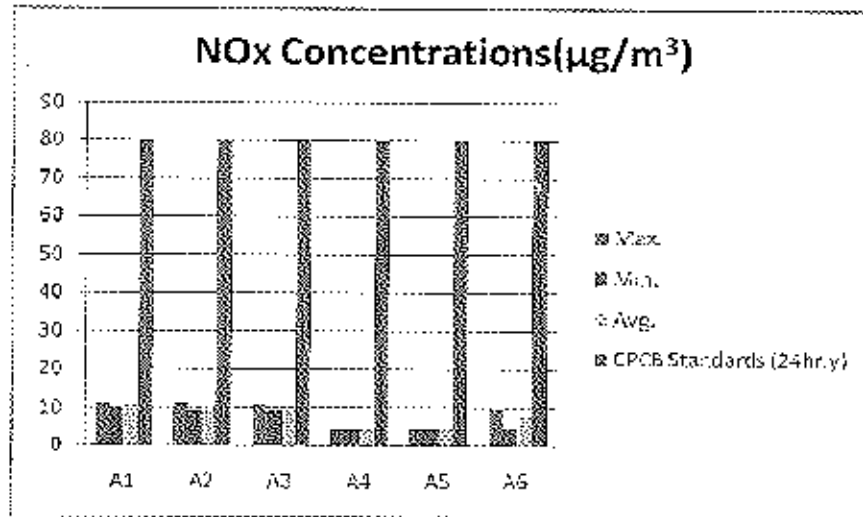
Figure No. 4.3: Graph showing PM_{2.5} Concentrations**Sulphur Dioxide (SO₂):**

The Value of SO₂ ranges between BDL to 6.7 µg/m³. However, the average value of SO₂ ranges between BDL to 5.5 µg/m³. The results are well within the prescribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of SO₂ is less than 4.0 µg/m³.

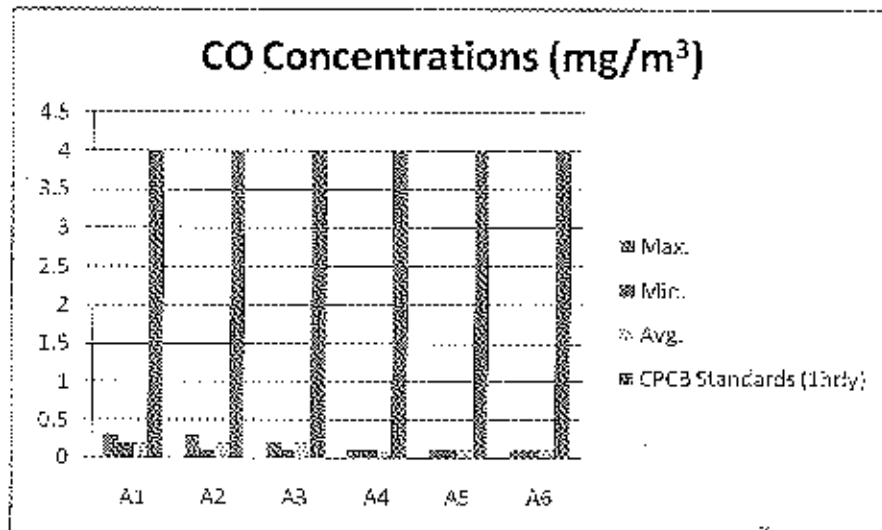
Figure No. 4.4: Graph showing SO₂ Concentrations

Oxides of Nitrogen (NO_x):

The Value of NO_x ranges between BDL to 11.4 µg/m³. However, the average value of NO_x ranges between BDL to 10.7 µg/m³. The results are well within the prescribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of NO_x is less than 9 µg/m³.

Figure No. 4.5: Graph showing NO_x Concentrations**Carbon Monoxide (CO):**

The Value of CO ranges between BDL to 0.3 mg/m³. However, the average value of CO ranges between BDL to 0.2 mg/m³. The results are well within the prescribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of CO is less than 0.11 mg/m³.

Figure No. 4.6: Graph showing CO Concentrations

4.3 Fugitive Emissions Monitoring

The results of fugitive emissions are given in Table No. 4.5 & are well within the standards prescribed by the CPCB.

Table No. 4.5: Results of Fugitive Emissions Monitoring

Station code	Co-ordinates		Particulate Matter (PM) in $\mu\text{g}/\text{m}^3$
	Latitude	Longitude	
FE1	21°06'10.98"N	85°48'29.40"E	195
FE2	21°05'57.54"N	85°48'35.88"E	228
FE3	21°05'52.44"N	85°48'33.72"E	683
FE4	21°06'24.96"N	85°48'20.1"E	98
FE5	21°06'17.58"N	85°51'4.92"E	248
FE6	21°05'42.24"N	85°48'40.68"E	462
Standards			1200 $\mu\text{g}/\text{m}^3$

4.4 Noise Monitoring

Summarized results of ambient noise monitoring are given in Table No. 4.6. The results have been compared with the standard specified in schedule III, Rule 3 of Environmental Protection Rules given in Table No. 4.7.

Table No. 4.6: Summarized Results of Noise Monitoring

Sl. No.	Location	Results						Type of Area
		Day (06.00-22.00 hrs.)			Night (22.00-06.00hrs.)			
		Min.	Max.	Mean*	Min.	Max.	Mean*	
1.	Mine Office at Hill Top	40.4	53.6	47.2	BDL	41.5	35.1	Industrial Area
2.	Sector -3 near Bank	38.8	48.3	43.6	BDL	41.3	34.7	Residential Area
3.	OMC Office	39.4	52.3	45.3	BDL	41.5	34.9	Commercial Area
4.	Baliparbat Township	38.5	47.2	42.2	BDL	40.5	34.6	Residential Area
5.	Water Reservoir Pump House	BDL	42.5	36.2	BDL	35.8	31.6	Residential Area
6.	Near Hospital Daitari	35.7	48.4	42.5	BDL	41.3	34.5	Silence zone

Note: *Logarithmic Averages; BDL <30 dB (A)

All Values in dB (A).

Table No. 4.7: CPCB Norms in respect of Ambient Noise.

Type of Area	Day (06.00 – 22.00hrs)	Night (22.00 – 06.00 hrs)
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

All Values in dB (A)

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The result of work zone noise are given in Table No. 4.8 and compared with OSHA norms which are mentioned in Table No.4.9.

Table No. 4.8: Results of Work zone Noise Monitoring

Sl No.	N7		N8		N9	
	Narayani Crusher		Excavation site.		Drilling point.	
Date	21.04.2014		22.04.2014		23.04.2014	
	Time	dB(A)	Time	dB(A)	Time	dB(A)
1	08:00 AM	82.5	08:00 AM	58.7	08:00 AM	55.9
2	09:00 AM	79.4	09:00 AM	62.8	09:00 AM	57.3
3	10:00 Am	69.6	10:00 Am	56.4	10:00 Am	68.7
4	11:00 AM	70.8	11:00 AM	59.8	11:00 AM	73.8
5	12:00 PM	64.9	12:00 PM	62.1	12:00 PM	72.2
6	01:00 PM	73.6	01:00 PM	56.5	01:00 PM	67.8
7	02:00 PM	70.2	02:00 PM	55.6	02:00 PM	68.5
8	03:00 PM	68.4	03:00 PM	63.7	03:00 PM	70.6

Table No. 4.9: Permissible Sound Pressure Level as per OSHA norms

Duration per day(hour)	Sound Pressure Level dB(A) allowed response
8	90
6	92
4	95
3	97
2	100

Conclusion:

Noise Level as observed in ambient are well within the standard norms stipulated by CPCB and also work zone areas are well below the standard norms stipulated by OSHA.

[Signature]

4.5 Surface Water Quality Monitoring

Table No. 4.10: Water Quality Criteria as per CPCB

Sl. No.	Parameters	Class A	Class B	Class C	Class D	Class E
1	pH	6.5-8.5	6.5-8.5	6.0-9.0	6.5-8.5	6.5-8.5
2	Dissolved Oxygen (as O ₂), mg/l. min	6	5	4	4	-
3	BOD, 3 days at 27°C, mg/l, max.	2	3	3	-	-
4	Total Coliform Organism, MPN/100ml. max.	50	500	5000	-	-
5	Free Ammonia (as N), mg/l, max.	-	-	-	1.2	-
6	Electrical conductivity mmhos/cm, max.	-	-	-	-	2250
7	Sodium Absorption Ratio, max.	-	-	-	-	26
8	Boron (as B), mg/l. max.	-	-	-	-	2

Class A: Drinking water source without conventional treatment but after disinfection

Class B: Outdoor bathing (organized)

Class C: Drinking water source after conventional treatment and after disinfection

Class D: Propagation of Wildlife and Fisheries

Class E: Irrigation, Industrial Cooling and Controlled Waste Disposal

Class F: Not meeting A, B, C, D & E Criteria

The results of analysis of surface water are given in Table No. 4.11 (A) & 4.11 (B).

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Environmental Monitoring Report for Daitari Iron Ore Mining Project

April 2014

Table No. 4.11 (A): Results of Surface Water Analysis

Sl. No.	Parameters	Unit	SW1	SW2	SW3	SW4
			10.04.2014	10.04.2014	10.04.2014	10.04.2014
1	Colour	Hazen	Colourless	Colourless	Colourless	Colourless
2	Turbidity	NTU	12	9	7	6
3	pH value	----	7.14	6.52	6.34	7.42
4	Total Hardness (as CaCO ₃)	mg/l	71	45	52	69
5	Iron (as Fe)	mg/l	0.32	0.46	0.44	0.31
6	Chloride (as Cl)	mg/l	18	15	19	14
7	Fluoride (as F)	mg/l	0.08	0.14	0.06	0.13
8	Total Dissolved Solids	mg/l	85	82	94	83
9	Calcium (as Ca)	mg/l	17.9	21.5	19.4	16.2
10	Magnesium (as Mg)	mg/l	11.5	14.1	12.7	9.8
11	Copper (as Cu)	mg/l	BDL	BDL	BDL	BDL
12	Manganese (as Mn)	mg/l	0.029	0.025	0.027	0.020
13	Sulphate (as SO ₄)	mg/l	18	14	18	15
14	Nitrate (as NO ₃)	mg/l	0.48	0.56	0.32	0.25
15	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	BDL	BDL	BDL	BDL
16	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL
17	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL
18	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL
19	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL
20	Cyanide (as CN)	mg/l	BDL	BDL	BDL	BDL
21	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL
22	Zinc (as Zn)	mg/l	BDL	BDL	BDL	BDL
23	Anionic Detergent as MBAS	mg/l	BDL	BDL	BDL	BDL
24	Alkalinity (as CaCO ₃)	mg/l	56	51	55	64
25	Free Ammonia (N)	mg/l	0.17	0.15	0.10	0.13
26	Boron (as B)	mg/l	BDL	BDL	BDL	BDL
27	Coliform Organism	MPN/100ml	225	152	194	278
28	Sodium Absorption Ratio	-----	0.88	0.45	0.48	0.54
29	Dissolved Oxygen as O ₂	mg/l	6.0	6.1	6.9	6.4
30	BOD, 3 days at 27°C	mg/l	1.6	1.4	1.2	1.5
31	COD	mg/l	6.2	5.8	5.4	5.9
32	Electrical Conductivity (EC)	µmhos/cm	152	144	164	141
33	Phosphate	mg/l	0.45	0.47	0.53	0.41
34	CO ₂	mg/l	5.1	5.3	5.2	5.6

Note: BDL: Below Detection Limit. BDL Values for Cu - 0.0001, Mn - 0.00001, Phenolic Compound - 0.001, Hg - 0.00001, Cd - 0.00001, Se - 0.0001, As - 0.0001, CN - 0.002, Pb - 0.0001 Boron - 0.0001.

Table No. 4.11 (B): Results of Surface Water Analysis

Sl. No.	Parameters	Unit	SW1	SW2	SW3	SW4
			24.04.2014	24.04.2014	24.04.2014	24.04.2014
1	Colour	Hazen	Colourless	Colourless	Colourless	Colourless
2	Turbidity	NTU	14	12	10	8
3	pH value	----	7.25	6.85	6.45	7.00
4	Total Hardness (as CaCO ₃)	mg/l	82	52	46	62
5	Iron (as Fe)	mg/l	0.34	0.45	0.42	0.48
6	Chloride (as Cl)	mg/l	16	18	22	16
7	Fluoride (as F)	mg/l	0.06	0.10	0.08	0.12
8	Total Dissolved Solids	mg/l	86	89	92	88
9	Calcium (as Ca)	mg/l	16.8	18.6	14.4	16.2
10	Magnesium (as Mg)	mg/l	11.5	12.4	13.8	10.7
11	Copper (as Cu)	mg/l	BDL	BDL	BDL	BDL
12	Manganese (as Mn)	mg/l	0.028	0.025	0.022	0.026
13	Sulphate (as SO ₄)	mg/l	16	18	12	14
14	Nitrate (as NO ₃)	mg/l	0.46	0.54	0.38	0.32
15	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	BDL	BDL	BDL	BDL
16	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL
17	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL
18	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL
19	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL
20	Cyanide (as CN)	mg/l	BDL	BDL	BDL	BDL
21	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL
22	Zinc (as Zn)	mg/l	BDL	BDL	BDL	BDL
23	Anionic Detergent as MBAS	mg/l	BDL	BDL	BDL	BDL
24	Alkalinity (as CaCO ₃)	mg/l	58	54	62	68
25	Free Ammonia (N)	mg/l	0.12	0.14	0.11	0.18
26	Boron (as B)	mg/l	BDL	BDL	BDL	BDL
27	Coliform Organism	MPN/100ml	236	148	196	248
28	Sodium Absorption Ratio	----	0.34	0.38	0.45	0.52
29	Dissolved Oxygen as O ₂	mg/l	5.8	5.4	6.2	6.0
30	BOD, 3 days at 27°C	mg/l	1.4	1.2	1.0	1.2
31	COD	mg/l	5.8	5.4	5.2	5.8
32	Electrical Conductivity (EC)	µmhos/cm	142	140	162	147
33	Phosphate	mg/l	0.41	0.43	0.51	0.43
34	CO ₂	mg/l	5.2	5.6	5.5	5.3

Note: BDL: Below Detection Limit. BDL Values for Cu - 0.0001, Mn - 0.00001, Phenolic Compound - 0.001, Hg - 0.00001, Cd - 0.00001, Se - 0.0001, As - 0.0001, CN - 0.002, Pb - 0.0001 Boron - 0.0001

4.6 Flow of Water Measurement

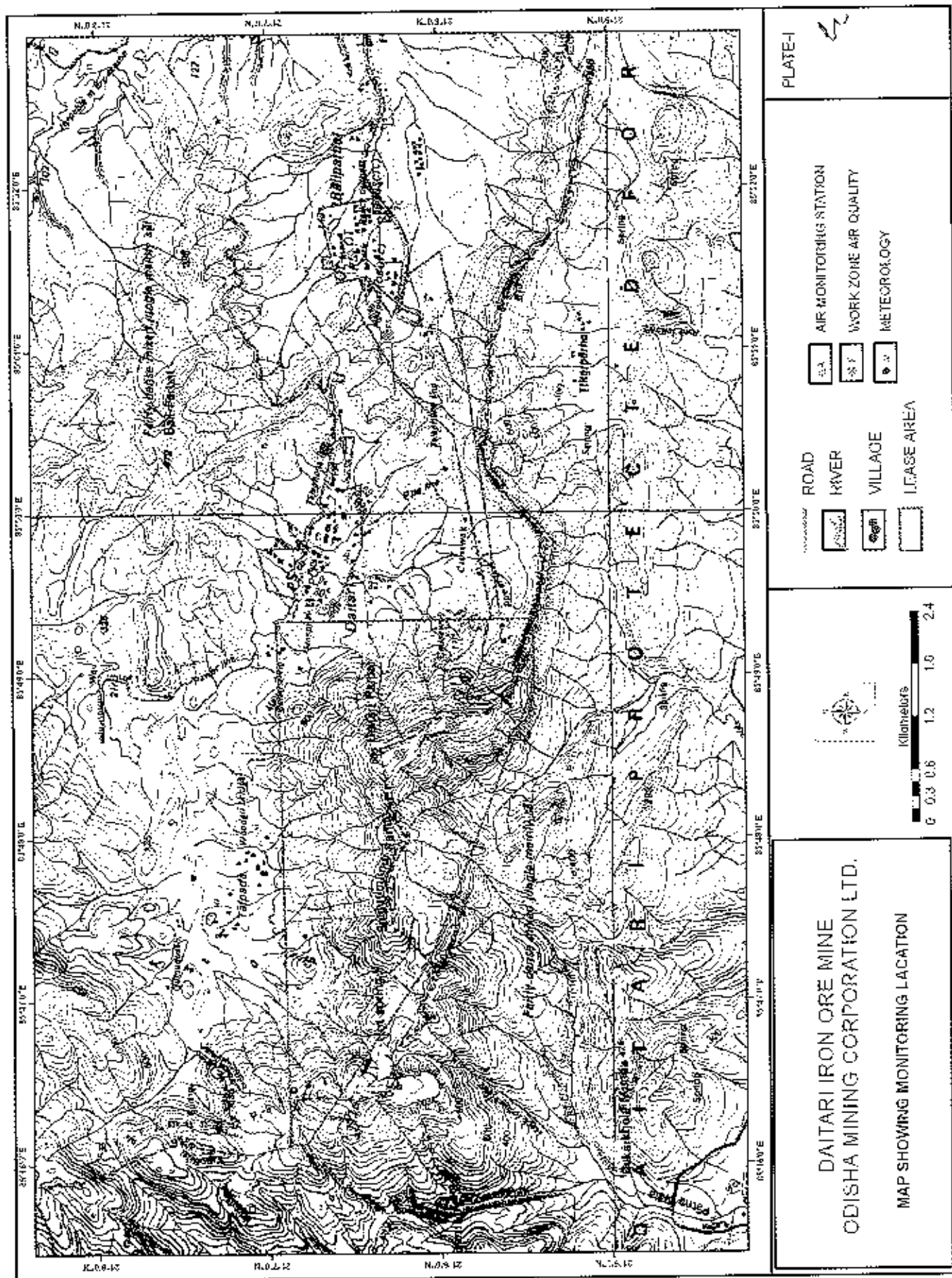
The results of flow of water are given in Table No. 4.12

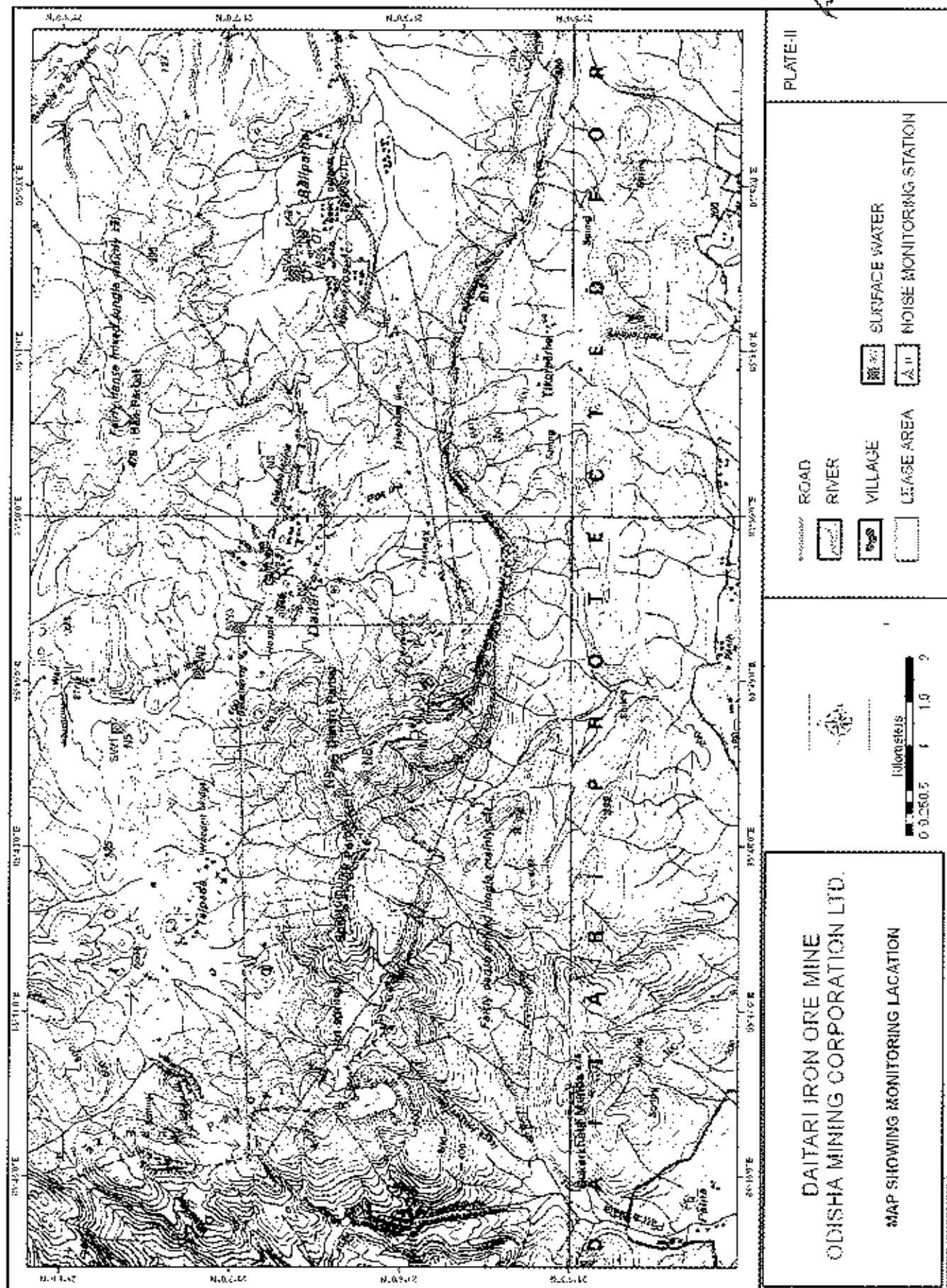
Table No. 4.12: Result of Flow of Water Measurement

Sl. No	Station code	Co-ordinate		Flow of Water in m ³ /min
		Latitude	Longitude	
1	FW1	21°07'7.56" N	85°48' 56.7"E	1.74

Note: The flow rate of FW2 & FW3 can't be measured because there was no flow.









ODISHA MINING CORPORATION LIMITED
DAITARI IRON ORE MINING PROJECT

ENVIRONMENTAL MONITORING REPORT
FOR THE MONTH
OF
MAY 2014



M/s ECOLOGICAL DEVELOPMENT CONSULTANCY PVT. LTD.,
BHUBANESWAR, ODISHA

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1.0 INTRODUCTION

Odisha Mining Corporation Limited (OMCL), a Government of Odisha undertaking has engaged M/s Ecological Development Consultancy Pvt. Ltd. (EDCPL), Bhubaneswar, Odisha for carrying out **Environmental Monitoring** for their different mine leases in the district of Jajpur, Keonjhar and Sundergarh.

Environmental Monitoring includes monitoring of various environmental attributes such as Ambient Air Quality, Work Zone Air Quality, Noise Level, Water Quality, Waste Water Quality, Vehicular Emission and Soil Quality. Apart from these, various other activities such as suggestions to control the pollution, conducting various kinds of audits are also a part of this programme.

1.1 Present Report

The present report presents the Environmental related data in respect of Meteorology, Ambient Air Quality, Work Zone Air Quality (Fugitive Emission), Noise Level, Work zone Noise Level, Surface Water Quality and Flow of Water Measurement in and around Daitari Iron Ore Mine in Keonjhar district of Odisha during May 2014.

1.2 Scope of the Work

The Scope of work for during May 2014 is as follows;

Table No. 1.1: Scope of Work within the Mine Lease Area

Environmental Attributes	No. of Locations
Ambient Air Quality	6 locations
Work Zone Air Quality	6 locations
Ambient Noise Level	6 locations
Work zone Noise Level	3 locations
Surface Water Quality	4 locations
Flow of Water Measurement	3 locations

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2.0 MONITORING DESCRIPTION

In order to assess the pollution level in and around the mining lease, different environmental attributes such as meteorology, air quality, water quality, soil quality and noise level are being monitored. The monitoring is carried out as per the CPCB guideline and every care has been taken for preservation and transportation of samples to the respective laboratory. M/s EDCPL has set up a site laboratory equipped with adequate instruments and equipments to monitor and analyze all the parameters of Air Quality i.e. PM_{10} , $PM_{2.5}$, SO_2 , NO_x & CO and few physico-chemical parameters (10 parameters) of water samples. For other parameters of water, the samples are sent to EDCPL's Main Laboratory at Bhubaneswar. The locations of monitoring stations are shown in Plate I & II.

2.1 Meteorology

An Automatic Weather Monitoring Station is installed at the rooftop of OMC office ($21^{\circ}06'40.44''N$; $85^{\circ}50'22.86''E$) of Daitari Iron Ore Mine of M/s OMCL to collect the meteorological data on hourly basis continuously.

The parameters monitored at the meteorological station were Temperature, Relative Humidity, Wind Speed, Wind Direction and Rainfall. These parameters were recorded at weather monitoring station using the respective sensors.

2.2 Ambient Air Quality

The prime objective of the ambient air quality study is to establish the existing ambient air quality in and around the mining lease area. The existing ambient air quality was monitored at six (6) locations. The locations were identified after due consultation of the OMCL officials. Monitoring was carried out for Particulate Matter (PM_{10}), Particulate Matter ($PM_{2.5}$), Sulphur Dioxide (SO_2), Oxides of Nitrogen (NO_x) and Carbon Monoxide (CO). The PM_{10} & $PM_{2.5}$ was monitored for 24 hourly, while SO_2 and NO_x were monitored on 4 hourly basis for 24 hours at each sampling location and CO was monitored using the CO Monitor for 1 hr in a day in each monitoring station twice in a week, for a month. Details about Air Quality Monitoring locations are given in Table No. 2.1.

Table No.2.1: Ambient Air Quality Monitoring Stations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Mine Office at Hill Top	A1	$21^{\circ}05'38.7''N$	$85^{\circ}48'42.84''E$
2	Daitari Guest House	A2	$21^{\circ}06'34.05''N$	$85^{\circ}49'29.4''E$
3	OMC Office	A3	$21^{\circ}06'40.44''N$	$85^{\circ}50'22.86''E$
4	Baliparbat Township	A4	$21^{\circ}06'30.72''N$	$85^{\circ}51'35.7''E$
5	Water Reservoir Pump House	A5	$21^{\circ}07'39.06''N$	$85^{\circ}48'43.44''E$
6	Near Hospital Daitari	A6	$21^{\circ}06'43.14''N$	$85^{\circ}49'25.2''E$

2.3 Work Zone Air Quality (Fugitive Emissions)

To assess the level of fugitive dust due to mining and allied activities, six (6) monitoring stations were selected within the lease considering the activity area. Fugitive emissions monitoring was carried out once in a month on 8 hrly basis. The list of fugitive emissions monitoring stations is given in Table No. 2.2.

Table No. 2.2: Fugitive Emissions Monitoring Stations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Pit (North Side)	FE1	21°06'24.96"N	85°48'20.1"E
2	Pit (South side)	FE2	21°06'10.98"N	85°48'29.40"E
3	Haulage Road at old crusher	FE3	21°05'57.54"N	85°48'35.88"E
4	Crusher	FE4	21°05'52.44"N	85°48'33.72"E
5	Hill Top Weigh Bridge	FE5	21°05'42.24"N	85°48'40.68"E
6	Bali Parbat Stock Yard near Weigh Bridge	FE6	21°06'17.58"N	85°51'4.92"E

2.4 Noise Level

In order to assess the existing noise levels in and around mining lease area, noise monitoring was carried out at 6 locations & 03 locations at Work zone areas. Details of Noise monitoring stations are given in Table No. 2.3.

Table No. 2.3: Ambient Noise Monitoring Locations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Mine Office at Hill Top	N1	21°05'38.7"N	85°48'42.84"E
2	Sector-3 near bank	N2	21°06'41.52"N	85°29'36.94"E
3	OMC Office	N3	21°06'40.44"N	85°50'22.86"E
4	Baliparbat Township	N4	21°06'30.72"N	85°51'35.7"E
5	Water Reservoir Pump House	N5	21°07'39.06"N	85°48'43.44"E
6	Near Hospital Daitari	N6	21°06'43.14"N	85°49'25.2"E
Work zone Noise Level				
7	Near Narayani Crusher	N7	21°05'52.2"N	85°48'32.64"E
8	Excavation site	N8	21°06'12.12"N	85°48'26.4"E
9	Drilling point	N9	21°06'23.28"N	85°48'20.04"E

2.5 Surface Water Quality

8 nos. of grab samples were taken from four (04) surface water locations twice in a month. Details about surface water locations are given in Table No. 2.4.

Table No.2.4: Surface Water Sampling Locations

Sl. No.	Location	Sample code	Coordinates	
			Latitude	Longitude
1	Daitari Dam Site	SW1	21°07'39.12" N	85°48'42.84"E
2	Stream Flowing Near Pichida	SW2	21°07'7.56" N	85°48' 56.7"E
3	Stream Flowing Near Old Market	SW3	21°06'49.98"N	85°49' 29.58"E
4	Stream Near Baliparbat	SW4	21°06'24.18" N	85°51' 35.88"E

2.6 Flow of Water Measurement

To assess the flow of water in and around mining area, 03 locations were selected. The details about locations are given in Table No. 2.5

Table No. 2.5: Flow of Water Locations

Sl. No.	Locations	Sample code	Coordinates	
			Latitude	Longitude
1	Stream Flowing Near Pichida	FW1	21°07'7.56" N	85°48' 56.7"E
2	Stream Flowing Near Old Market	FW2	21°06'49.98" N	85°49' 29.58"E
3	Stream near Baliparbat	FW3	21°06'24.18" N	85°51' 35.88"E

3.0 METHODOLOGY**3.1 Meteorology**

The meteorological parameters were monitored on hourly basis continuously by installing a weather monitoring system at the rooftop of OMC office of Daitari Iron Mine of OMCL.

3.2 Air Monitoring

Monitoring was carried out for Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NOx) and Carbon Monoxide (CO). The PM₁₀ & PM_{2.5} was monitored for 24 hourly, while SO₂ and NOx were monitored on 4 hourly basis for 24 hours at each sampling location and CO was monitored using the CO Monitor for 1 hr in a day in each monitoring station twice in a week, for a month. The sampling and analysis of ambient air quality was carried out as per the approved procedures by CPCB.

3.3 Noise Monitoring

The monitoring of noise level was carried out at specified locations. Ambient Noise levels were recorded at hourly intervals for 24 hrs.

3.4 Work zone Noise Monitoring

The monitoring of work zone noise level was carried out at specified locations. Work zone Noise levels were recorded at hourly intervals for 08 hrs.

3.5 Surface Water Monitoring

For assessing the water quality, surface water samples were collected. Eight (8) water samples from four locations (04) were taken in sterilized plastic cans twice a month. The samples were analyzed for essential physical, chemical and bacteriological parameters as per the list enclosed in the work order. The samples were analyzed as per standard procedure / method mentioned by CPCB/APMLA.

3.6 Flow of Water Measurement

The monitoring of flow of water was carried out monthly once of the springs and perennial nalas present within and adjoining the mining lease area. The flow of water measurement was carried out at 3 specific locations (03) and is expressed in m³/min.



4.0 RESULTS AND DISCUSSIONS

4.1 Meteorology

Summarized meteorological data such as temperature, relative humidity, rainfall, wind speed and wind direction are given in Table No. 4.1.

Table No. 4.1: Results of Site Specific Meteorological Data

Sl. No.	Parameters	Month of May 2014	
1	Temperature (°C)	Maximum	40.81
		Minimum	21.12
		Average	30.02
2	Relative Humidity (%)	Maximum	98.49
		Minimum	16.58
		Average	63.88
3	Wind speed(m/s)	Maximum	14.1
		Average	3.34
4	Wind Direction (%)	N	3.36
		NNE	3.25
		NE	4.43
		ENE	5.78
		E	5.11
		ESE	3.63
		SE	3.96
		SSE	2.82
		S	5.51
		SSW	7.39
		SW	13.30
		WSW	15.72
		W	6.72
		WNW	3.36
		NW	4.70
		NNW	5.24
		CALM	6.32
5	Rainfall(mm)	Monthly Total	35.0
		No. of rainy days	11

During the month of May 2014, the temperature varied from 21.12° C to 40.81° C & Relative Humidity varied from 16.58 % to 98.49 %. The maximum wind speed recorded during the month was 14.1 m/s and overall average wind speed is calculated to be 3.34m/s. 6.32% of the time the wind remained calm (<0.5 m/s). The predominant wind direction as observed to be from WSW during the month. The total rainfall was 35.0mm and 11days out of 31days was rainy day.

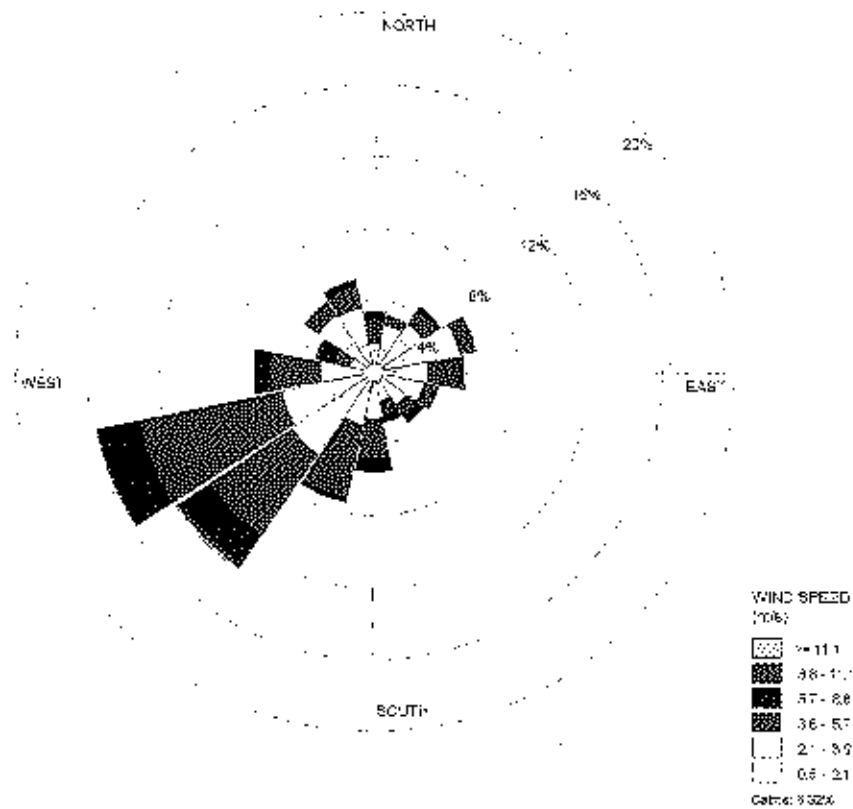
Max. and Min. value of temperature, relative humidity, rainfall, wind speed and wind direction on each day basis for May 2014 are given in Table No. 4.2

Table No. 4.2: Max and Min value of Meteorological Data of month May 2014

Date	Temperature		Relative Humidity (%)		Wind Speed (m/s)		Rainfall (mm)
	Max.	Min.	Max.	Min.	Max.	Min.	
01.05.14	40.48	25.82	81.19	22.68	9.3	1.3	0.2
02.05.14	36.32	24.71	79.40	33.77	6.7	0.6	0
03.05.14	36.31	21.12	86.81	41.84	14.1	0	0.2
04.05.14	36.66	23.23	88.39	26.75	12.0	1.4	0
05.05.14	36.30	22.64	88.39	36.55	9.7	0.7	0.2
06.05.14	35.2	23.16	81.96	39.74	5.8	0.5	0
07.05.14	36.32	26.17	81.55	38.48	7.2	1.6	0
08.05.14	37.86	25.34	89.33	37.96	9.3	1.6	0
09.05.14	37.55	25.67	79.7	35.47	9.5	0.9	0.2
10.05.14	28.94	23.3	95.14	54.88	4.9	0.3	0.2
11.05.14	35.68	23.88	96.02	46.88	4.6	0	0
12.05.14	40.45	28.12	66.95	17.08	5.8	0.6	0
13.05.14	40.81	27.62	67.51	20.14	8.1	0.2	0.2
14.05.14	39.47	26.25	87.96	22.47	5.0	0	0
15.05.14	38.89	25.9	81.23	22.08	7.1	0	0
16.05.14	39.01	23.84	72.7	21.1	3.9	0	0
17.05.14	38.81	25.26	80.45	26.13	6.0	0.5	0
18.05.14	36.65	27.18	81.96	44.52	8.2	0.9	0
19.05.14	39.93	26.71	79.2	25.32	4.8	0	0
20.05.14	40.18	25.66	78.74	16.58	6.5	0	0
21.05.14	40.7	27.76	69.82	16.69	5.5	1.2	0
22.05.14	37.99	25.06	90.95	36.4	7.4	0	5.4
23.05.14	37.72	23.13	89.75	42.75	9.8	0	2.2
24.05.14	34.04	24.49	96.15	56.36	5.2	0	0
25.05.14	26.58	22.77	97.37	87.74	6.5	2.4	1.6
26.05.14	26.36	22.94	97.91	84.29	5.8	1.2	14.0
27.05.14	25.53	23.08	98.49	89.90	6.3	1.3	10.6
28.05.14	33.23	24.56	91.29	50.8	8.4	0.2	0
29.05.14	36.72	24.47	94.3	39.65	5.6	0.6	0
30.05.14	35.46	26.32	83.85	62.9	5.6	1.6	0
31.05.14	32.25	26.78	96.65	68.29	7.2	0.7	0

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Figure No. 4.1: Wind rose (24hrly) for the month of May'2014



4.2 Ambient Air Quality Monitoring

The Summarized results of AAQ are given in the Table No. 4.3 and the details of AAQ monitoring during the month of May 2014 are given in the Table No. 4.4.

Table No. 4.3: Summarized Results of Ambient Air Qualities

Sl. No.	Locations	Co-ordinate	Station Code	PM ₁₀			PM _{2.5}			SO ₂			NO _x			CO		
				Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.
1.	Mine office at Hill Top	21°05'38.7"N 85°48'42.84"E	A1	101	30	65	29	13	20	6.4	4.9	5.5	13.2	9.6	11.0	0.3	BDL	0.2
2.	Daitari Guest House	21°06'34.08"N 85°49'29.4"E	A2	83	24	50	30	11	20	6.2	4.6	5.3	11.0	9.2	10.2	0.2	BDL	0.13
3.	OMC Office	21°06'40.44"N 85°50'22.86"E	A3	94	38	60	34	12	23	5.1	4.4	4.7	10.2	9.1	9.5	0.2	BDL	0.13
4.	Baliparbat Township	21°06'50.72"N 85°51'35.7"E	A4	95	18	27	16	07	12	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
5.	Water Reservoir pump house	21°07'39.06"N 85°48'43.44"E	A5	51	21	37	17	13	15	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
6.	Near Hospital Daitari	21°08'43.14"N 85°49'25.2"E	A6	117	59	80	34	20	26	4.7	BDL	BDL	10.1	BDL	BDL	BDL	BDL	BDL
CPCB Standard				100 µg/m ³			60 µg/m ³			80 µg/m ³			80 µg/m ³			4.0 mg/m ³		

Note: BDL value for NO_x-9.0µg/m³, SO₂-4.0µg/m³ and for CO-0.11 mg/m³

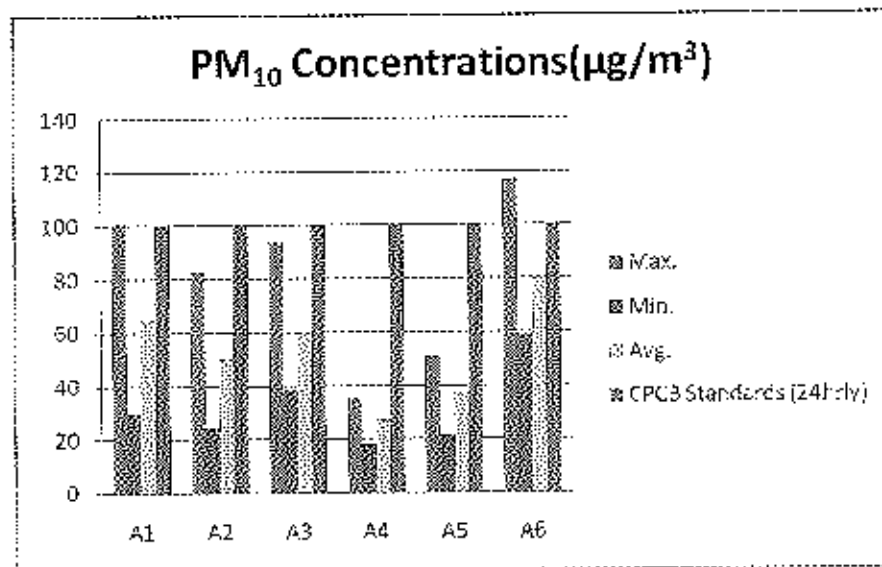
Table No. 4.4: The details of AAQ Monitoring during the Month of May 2014

Station Name	Station Code	Date	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO
Mine Office at Hill Top	A1	05.05.2014	73	26	4.9	10.2	BDL
		08.05.2014	30	13	6.0	12.4	BDL
		12.05.2014	36	14	6.4	13.2	BDL
		15.05.2014	Monitoring has not been done due to breakdown of machine				BDL
		19.05.2014	101	29	5.2	9.8	0.2
		22.05.2014	Monitoring has not been done due to rain.				
		26.05.2014					
		29.05.2014	85	20	5.0	9.6	0.3
Daitari Guest House	A2	05.05.2014	37	20	4.9	10.5	BDL
		08.05.2014	24	11	6.2	11.0	BDL
		12.05.2014	37	20	6.0	10.1	BDL
		15.05.2014	Monitoring has not been done due to breakdown of machine				BDL
		19.05.2014	83	30	4.5	10.0	BDL
		22.05.2014	Monitoring has not been done due to rain.				
		26.05.2014					
		29.05.2014	68	21	4.8	9.2	0.2
OMC Office	A3	05.05.2014	28	15	4.9	9.3	BDL
		08.05.2014	40	12	4.4	10.2	BDL
		12.05.2014	50	16	5.1	9.3	BDL
		15.05.2014	50	33	4.5	9.1	BDL
		19.05.2014	94	34	5.0	9.5	BDL
		22.05.2014	Monitoring has not been done due to rain.				
		26.05.2014					
		29.05.2014	85	26	4.4	9.3	0.2
Baliparbat Township	A4	05.05.2014	35	16	BDL	BDL	BDL
		08.05.2014					BDL
		12.05.2014	Monitoring has not been done due to breakdown of machine				BDL
		15.05.2014					BDL
		19.05.2014					BDL
		22.05.2014	Monitoring has not been done due to rain.				
		26.05.2014					
		29.05.2014	18	7	BDL	BDL	BDL
Water Reservoir Pump House	A5	05.05.2014	38	15	BDL	BDL	BDL
		08.05.2014	Monitoring has not been done due to breakdown of machine				BDL
		12.05.2014	21	13	BDL	BDL	BDL
		15.05.2014	Monitoring has not been done due to breakdown of machine				BDL
		19.05.2014					BDL
		22.05.2014	Monitoring has not been done due to rain.				
		26.05.2014					
		29.05.2014	51	17	BDL	BDL	BDL

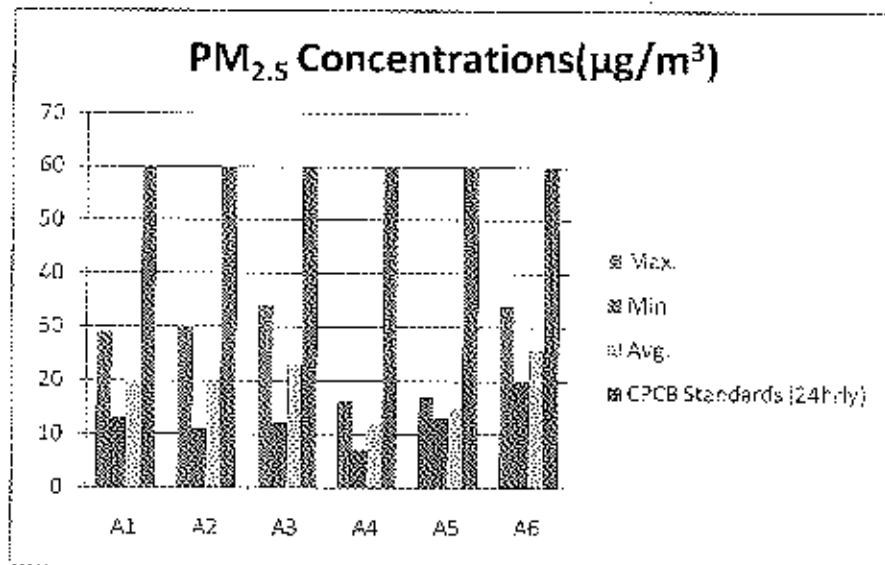
Near Hospital Daitari	A6	05.05.2014	64	25	4.3	9.7	BDL
		08.05.2014	Monitoring has not been done due to power cut.				
		12.05.2014	Monitoring has not been done due to power cut.				
		15.05.2014	Monitoring has not been done due to breakdown of machine				BDL
		19.05.2014	117	34	4.7	10.1	BDL
		22.05.2014	Monitoring has not been done due to rain.				
		26.05.2014					
		29.05.2014	59	20	BDL	BDL	BDL
CPCB Standards			100 $\mu\text{g}/\text{m}^3$	60 $\mu\text{g}/\text{m}^3$	80 $\mu\text{g}/\text{m}^3$	80 $\mu\text{g}/\text{m}^3$	4mg/m ³

Conclusion:**Particulate Matter (PM_{10})**

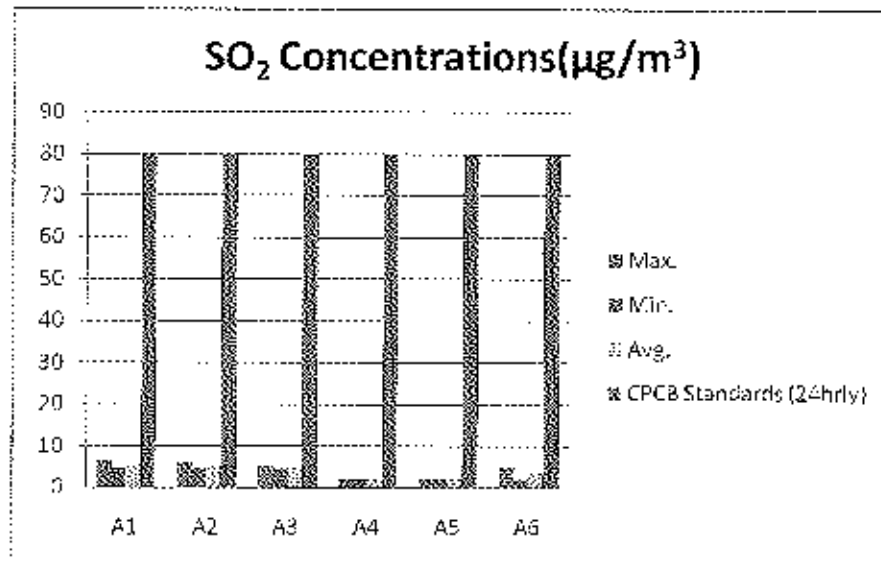
The Value of PM_{10} ranges between 18 $\mu\text{g}/\text{m}^3$ to 117 $\mu\text{g}/\text{m}^3$. However, the average value of PM_{10} ranges between 27 $\mu\text{g}/\text{m}^3$ to 80 $\mu\text{g}/\text{m}^3$. The results are well within the prescribed norms of CPCB except Mine office at Hilltop & OMC Hospital. This is due to transportation & wind flow.

Figure No. 4.2: Graph showing PM_{10} Concentrations**Particulate Matter ($\text{PM}_{2.5}$)**

The Value of $\text{PM}_{2.5}$ ranges between 07 $\mu\text{g}/\text{m}^3$ to 34 $\mu\text{g}/\text{m}^3$. However, the average value of $\text{PM}_{2.5}$ ranges between 12 $\mu\text{g}/\text{m}^3$ to 26 $\mu\text{g}/\text{m}^3$. The results are well within the prescribed norms of CPCB for residential, Rural, Industrial area & other areas.

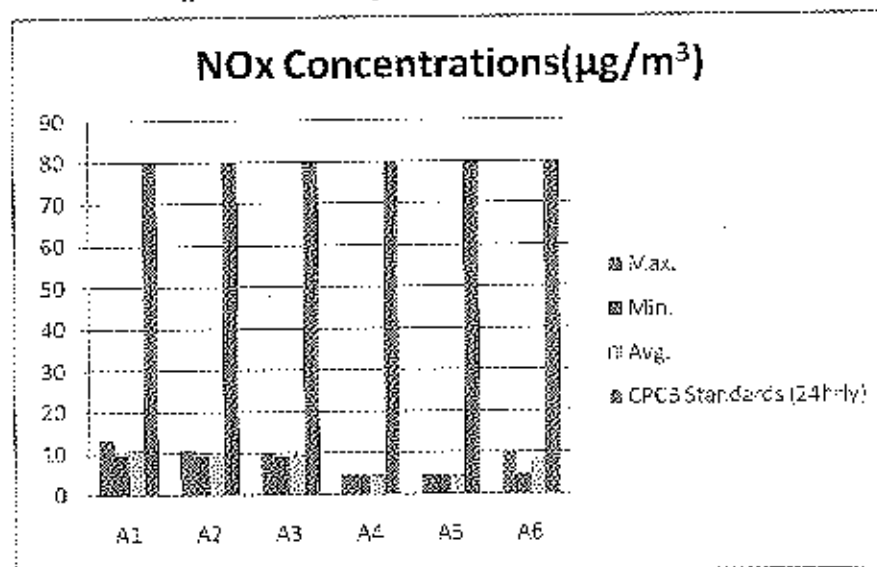
Figure No. 4.3: Graph showing PM_{2.5} Concentrations**Sulphur Dioxide (SO₂):**

The Value of SO₂ ranges between BDL to 6.4µg/m³. However, the average value of SO₂ ranges between BDL to 5.5µg/m³. The results are well within the prescribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of SO₂ is less than 4.0µg/m³.

Figure No. 4.4: Graph showing SO₂ Concentrations

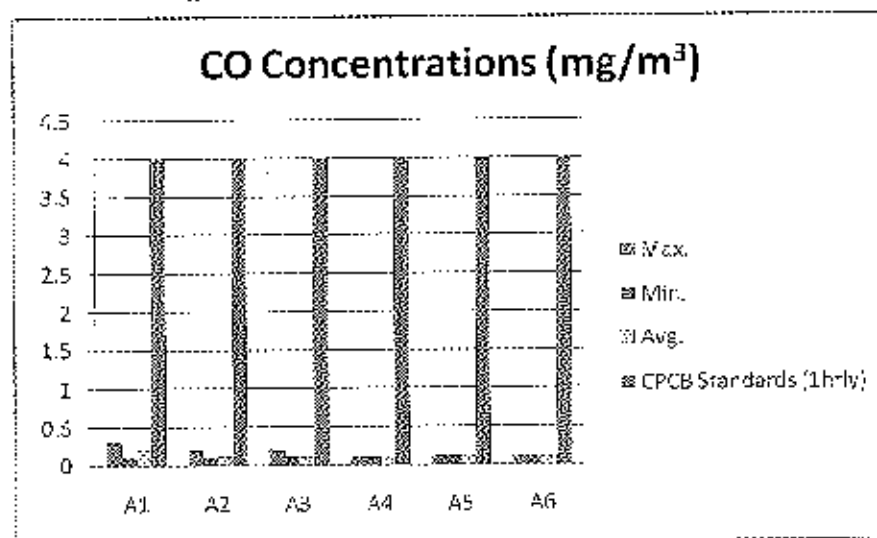
Oxides of Nitrogen (NO_x):

The Value of NO_x ranges between BDL to 13.2 µg/m³. However, the average value of NO_x ranges between BDL to 11.0 µg/m³. The results are well within the prescribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of NO_x is less than 9.0 µg/m³.

Figure No. 4.5: Graph showing NO_x Concentrations**Carbon Monoxide (CO):**

The Value of CO ranges between BDL to 0.3 mg/m³. However, the average value of CO ranges between BDL to 0.2 mg/m³. The results are well within the prescribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of CO is less than 0.11 mg/m³.

Figure No. 4.6: Graph showing CO Concentrations



ANNEXURE -19

4.3 Fugitive Emissions Monitoring

The results of fugitive emissions are given in Table No. 4.5.

Table No. 4.5: Results of Fugitive Emissions Monitoring

Station code	Co-ordinates		Particulate Matter (PM) in $\mu\text{g}/\text{m}^3$
	Latitude	Longitude	
FE1	21°06'24.96"N	85°48'20.1"E	198
FE2	21°06'10.98"N	85°48'29.10"E	268
FE3	21°05'57.54"N	85°48'35.88"E	253
FE4	21°05'52.41"N	85°48'33.72"E	598
FE5	21°05'42.24"N	85°48'40.68"E	258
FE6	21°06'17.58"N	85°51'4.92"E	108
Standards			1200 $\mu\text{g}/\text{m}^3$

4.4 Noise Monitoring

Summarized results of ambient noise monitoring are given in Table No. 4.6. The results have been compared with the standard specified in schedule III, Rule 3 of Environmental Protection Rules given in Table No. 4.7.

Table No. 4.6: Summarized Results of Noise Monitoring

Sl. No.	Location	Results						Type of Area
		Day (06.00-22.00 hrs.)			Night (22.00-06.00hrs.)			
		Min.	Max.	Mean*	Min.	Max.	Mean*	
1.	Mine Office at Hill Top	40.1	53.2	45.6	BDL	43.8	35.8	Industrial Area
2.	Sector -3 near Bank	40.2	51.3	44.7	BDL	42.4	35.1	Residential Area
3.	OMC Office	40.1	54.8	46.9	BDL	37.2	33.7	Commercial Area
4.	Baliparbat Township	36.8	45.1	40.9	BDL	38.1	31.9	Residential Area
5.	Water Reservoir Pump House	BDL	40.9	36.1	BDL	36.9	31.9	Residential Area
6.	Near Hospital Daitari	33.3	45.8	41.6	BDL	38.6	33.6	Silence zone

Note: *Logarithmic Averages: BDL <30 dB (A)

All Values in dB (A).

Table No. 4.7: CPCB Norms in respect of Ambient Noise.

Type of Area	Day (0600 - 2200hrs)	Night (2200 - 0600 hrs)
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

All Values in dB (A)

The result of work zone noise are given in Table No. 4.8 and compared with OSHA norms which are mentioned in Table No.4.9.

Table No. 4.8: Results of Work zone Noise Monitoring

Sl No.	N7		N8		N9	
	Narayani Crusher		Excavation site.		Drilling point.	
Date	15.05.2014		16.05.2014		17.05.2014	
	Time	dB(A)	Time	dB(A)	Time	dB(A)
1	08:00 AM	78.4	08:00 AM	62.7	08:00 AM	58.3
2	09:00 AM	76.8	09:00 AM	61.8	09:00 AM	62.7
3	10:00 AM	81.6	10:00 AM	58.6	10:00 AM	72.3
4	11:00 AM	75.8	11:00 AM	60.7	11:00 AM	75.4
5	12:00 NOON	69.9	12:00 NOON	64.9	12:00 NOON	70.6
6	01:00 PM	74.6	01:00 PM	52.8	01:00 PM	65.3
7	02:00 PM	65.7	02:00 PM	54.3	02:00 PM	64.9
8	03:00 PM	67.4	03:00 PM	65.9	03:00 PM	71.4

Table No. 4.9: Permissible Sound Pressure Level as per OSHA norms

Duration per day(hour)	Sound Pressure Level dB(A) allowed response
8	90
6	92
4	95
3	97
2	100

Conclusion:

Noise Level as observed in ambient are well within the standard norms stipulated by CPCB and also work zone areas are well below the standard norms stipulated by OSHA.

4.5 Surface Water Quality Monitoring

Table No. 4.10: Water Quality Criteria as per CPCB

Sl. No.	Parameters	Class A	Class B	Class C	Class D	Class E
1	pH	6.5-8.5	6.5-8.5	6.0-9.0	6.5-8.5	6.5-8.5
2	Dissolved Oxygen (as O ₂), mg/l. min	6	5	4	4	-
3	BOD, 3 days at 27°C, mg/l. max.	2	3	3	-	-
4	Total Coliform Organism, MPN/100ml. max.	50	500	5000	-	-
5	Free Ammonia (as N), mg/l. max.	-	-	-	1.2	-
6	Electrical conductivity mmhos/cm. max.	-	-	-	-	2250
7	Sodium Adsorption Ratio, max.	-	-	-	-	26
8	Boron (as B), mg/l. max.	-	-	-	-	2

Class A: Drinking water source without conventional treatment but after disinfection

Class B: Outdoor bathing (organized)

Class C: Drinking water source after conventional treatment and after disinfection

Class D: Propagation of Wildlife and Fisheries

Class E: Irrigation, Industrial Cooling and Controlled Waste Disposal

Class F: Not meeting A, B, C, D & E Criteria

The results of analysis of surface water are given in Table No. 4.11 (A) & 4.11 (B).

Table No. 4.11 (A): Results of Surface Water Analysis

Sl. No.	Parameters	Unit	SW1	SW2
			12.05.2014	12.05.2014
1	Colour	Hazen	Colourless	Colourless
2	Turbidity	NPL	10	8
3	pH value	---	7.9	6.7
4	Total Hardness (as CaCO ₃)	mg/l	68	47
5	Iron (as Fe)	mg/l	0.36	0.45
6	Chloride (as Cl)	mg/l	21	19
7	Fluoride (as F)	mg/l	0.10	0.12
8	Total Dissolved Solids	mg/l	78	81
9	Calcium (as Ca)	mg/l	19.7	22.9
10	Magnesium (as Mg)	mg/l	13.2	12.7
11	Copper (as Cu)	mg/l	BDL	BDL
12	Manganese (as Mn)	mg/l	0.026	0.028
13	Sulphate (as SO ₄)	mg/l	16	18
14	Nitrate (as NO ₃)	mg/l	0.46	0.52
15	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	BDL	BDL
16	Mercury (as Hg)	mg/l	BDL	BDL
17	Cadmium (as Cd)	mg/l	BDL	BDL
18	Selenium (as Se)	mg/l	BDL	BDL
19	Arsenic (as As)	mg/l	BDL	BDL
20	Cyanide (as CN)	mg/l	BDL	BDL
21	Lead (as Pb)	mg/l	BDL	BDL
22	Zinc (as Zn)	mg/l	BDL	BDL
23	Anionic Detergent as MBAS	mg/l	BDL	BDL
24	Alkalinity (as CaCO ₃)	mg/l	58	55
25	Free Ammonia (N)	mg/l	0.14	0.17
26	Boron (as B)	mg/l	BDL	BDL
27	Coliform Organism	MPN/100ml	222	156
28	Sodium Absorption Ratio	-----	0.41	0.38
29	Dissolved Oxygen as O ₂	mg/l	5.8	5.3
30	BOD, 3 days at 27°C	mg/l	1.5	1.6
31	COD	mg/l	6.4	6.0
32	Electrical Conductivity (EC)	µmhos/cm	139	142
33	Phosphate	mg/l	0.42	0.48
34	CO ₂	mg/l	5.4	5.1

Note: BDL Values for Cu - 0.0001, Mn - 0.00001, Phenolic Compound - 0.001, Hg - 0.00001, Cd - 0.00001, Se - 0.0001, As - 0.0001, CN - 0.002, Pb - 0.0001 Boron - 0.0001.
BDL: Below Detection Limit.

Note: SW3 & SW4 locations were totally dried.

Table No. 4.11 (B): Results of Surface Water Analysis

Sl. No.	Parameters	Unit	SW1	SW2
			29.05.2014	29.05.2014
1	Colour	Hazen	Colourless	Colourless
2	Turbidity	NTU	15	11
3	pH value	---	7.28	6.6
4	Total Hardness (as CaCO ₃)	mg/l	74	52
5	Iron (as Fe)	mg/l	0.38	0.34
6	Chloride (as Cl)	mg/l	16	14
7	Fluoride (as F)	mg/l	0.10	0.12
8	Total Dissolved Solids	mg/l	82	73
9	Calcium (as Ca)	mg/l	15.9	19.5
10	Magnesium (as Mg)	mg/l	9.5	12.4
11	Copper (as Cu)	mg/l	BDL	BDL
12	Manganese (as Mn)	mg/l	0.026	0.021
13	Sulphate (as SO ₄)	mg/l	16	19
14	Nitrate (as NO ₃)	mg/l	0.46	0.52
15	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	BDL	BDL
16	Mercury (as Hg)	mg/l	BDL	BDL
17	Cadmium (as Cd)	mg/l	BDL	BDL
18	Selenium (as Se)	mg/l	BDL	BDL
19	Arsenic (as As)	mg/l	BDL	BDL
20	Cyanide (as CN)	mg/l	BDL	BDL
21	Lead (as Pb)	mg/l	BDL	BDL
22	Zinc (as Zn)	mg/l	BDL	BDL
23	Anionic Detergent as MBAS	mg/l	BDL	BDL
24	Alkalinity (as CaCO ₃)	mg/l	56	51
25	Free Ammonia (N)	mg/l	0.17	0.15
26	Boron (as B)	mg/l	BDL	BDL
27	Coliform Organism	MPN/100ml	225	152
28	Sodium Absorption Ratio	---	0.38	0.45
29	Dissolved Oxygen as O ₂	mg/l	6.0	6.1
30	BOD, 3 days at 27°C	mg/l	1.6	1.4
31	COD	mg/l	6.2	5.8
32	Electrical Conductivity (EC)	µmhos/cm	141	132
33	Phosphate	mg/l	0.45	0.47
34	CO ₂	mg/l	5.1	5.3

Note: BDL Values for Cu - 0.0001, Mn - 0.00001, Phenolic Compound - 0.001, Hg - 0.00001, Cd - 0.00001, Se - 0.0001, As - 0.0001, CN - 0.002, Pb - 0.0001 Boron - 0.0001.

BDL: Below Detection Limit.

Note: SW3 & SW4 locations were totally dried.

4.6 Flow of Water Measurement

The results of flow of water are given in Table No. 4.12

Table No. 4.12: Result of Flow of Water Measurement

Sl. No	Station code	Co-ordinates		Flow of Water in m ³ /min
		Latitude	Longitude	
1	FW1	21°07'56" N	83°48' 50.7" E	2.58

Note: The flow rate of FW2 & FW3 can't be measured because there was no flow.



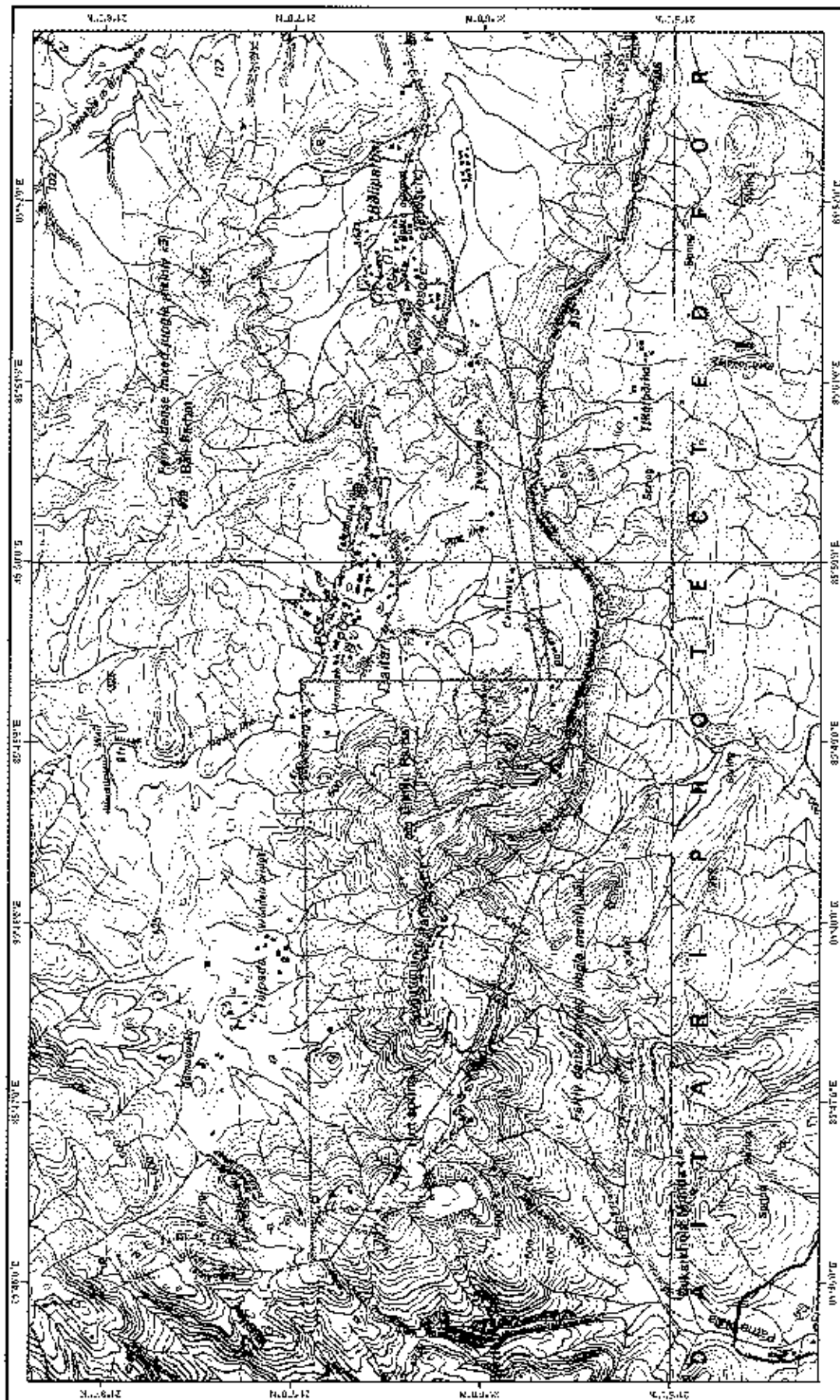
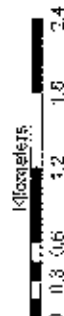


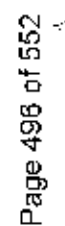
PLATE-I

ROAD	AIR MONITORING STATION
RIVER	WORK ZONE AIR QUALITY
VILLAGE	METEOROLOGY
LEASE AREA	



DAITARI IRON ORE MINE
ODISHA MINING CORPORATION LTD.

MAP SHOWING MONITORING LOCATION





**ODISHA MINING CORPORATION LIMITED
DAITARI IRON ORE MINING PROJECT**

**ENVIRONMENTAL MONITORING REPORT
FOR THE MONTH
OF
JUNE 2014**



**M/s ECOLOGICAL DEVELOPMENT CONSULTANCY PVT. LTD.,
BHUBANESWAR, ODISHA**

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2.	Monitoring Description	03-05
3.	Methodology	06
4.	Results & Discussion	7-21

4

1.0 INTRODUCTION

Odisha Mining Corporation Limited (OMCL), a Government of Odisha undertaking has engaged M/s Ecological Development Consultancy Pvt. Ltd. (EDCPL), Bhubaneswar, Odisha for carrying out **Environmental Monitoring** for their different mine leases in the district of Jajpur, Keonjhar and Sundergarh.

Environmental Monitoring includes monitoring of various environmental attributes such as Ambient Air Quality, Work Zone Air Quality, Noise Level, Water Quality, Waste Water Quality, Vehicular Emission and Soil Quality. Apart from these, various other activities such as suggestions to control the pollution, conducting various kinds of audits are also a part of this programme.

1.1 Present Report

The present report presents the Environmental related data in respect of Meteorology, Ambient Air Quality, Work Zone Air Quality (Fugitive Emission), Noise Level Surface Water Quality, Ground water Quality, Ground water level measurement and flow of water measurement in and around Daitari Iron Ore Mine in Keonjhar district of Odisha during June 2014.

1.2 Scope of the Work

The Scope of work for during June 2014 is as follows:

Table No. 1.1: Scope of Work within the Mine Lease Area

Environmental Attributes	No. of Locations
Ambient Air Quality	6 locations
Work Zone Air Quality	6 locations
Ambient Noise Level	6 locations
Surface Water Quality	4 locations
Ground Water Quality	5 locations
Ground Water Level Monitoring	4 locations
Flow of Water Measurement	3 locations

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2.0 MONITORING DESCRIPTION

In order to assess the pollution level in and around the mining lease, different environmental attributes such as meteorology, air quality, water quality, soil quality and noise level are being monitored. The monitoring is carried out as per the CPCB guideline and every care has been taken for preservation and transportation of samples to the respective laboratory. M/s EDCPL has set up a site laboratory equipped with adequate instruments and equipments to monitor and analyze all the parameters of Air Quality i.e. PM_{10} , $PM_{2.5}$, SO_2 , NO_x & CO and few physico-chemical parameters (10 parameters) of water samples. For other parameters of water, the samples are sent to EDCPL's Main Laboratory at Bhubaneswar. The locations of monitoring stations are shown in Plate I & II.

2.1 Meteorology

An Automatic Weather Monitoring Station is installed at the rooftop of OMC office ($21^{\circ}06'40.44''N$; $85^{\circ}50'22.86''E$) of Daitari Iron Ore Mine of M/s OMCL to collect the meteorological data on hourly basis continuously.

The parameters monitored at the meteorological station were Temperature, Relative Humidity, Wind Speed, Wind Direction and Rainfall. These parameters were recorded at weather monitoring station using the respective sensors.

2.2 Ambient Air Quality

The prime objective of the ambient air quality study is to establish the existing ambient air quality in and around the mining lease area. The existing ambient air quality was monitored at six (6) locations. The locations were identified after due consultation of the OMCL officials. Monitoring was carried out for Particulate Matter (PM_{10}), Particulate Matter ($PM_{2.5}$), Sulphur Dioxide (SO_2), Oxides of Nitrogen (NO_x) and Carbon Monoxide (CO). The PM_{10} & $PM_{2.5}$ was monitored for 24 hourly, while SO_2 and NO_x were monitored on 4 hourly basis for 24 hours at each sampling location and CO was monitored using the CO Monitor for 1 hr in a day in each monitoring station twice in a week, for a month. Details about Air Quality Monitoring locations are given in Table No. 2.1.

Table No.2.1: Ambient Air Quality Monitoring Stations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Mine Office at Hill Top	A1	$21^{\circ}05'35.7''N$	$85^{\circ}48'42.84''E$
2	Daitari Guest House	A2	$21^{\circ}06'34.08''N$	$85^{\circ}49'29.4''E$
3	OMC Office	A3	$21^{\circ}06'40.44''N$	$85^{\circ}50'22.86''E$
4	Baliparbat Township	A4	$21^{\circ}06'30.72''N$	$85^{\circ}51'35.7''E$
5	Water Reservoir Pump House	A5	$21^{\circ}07'39.06''N$	$85^{\circ}48'43.44''E$
6	Near Hospital Daitari	A6	$21^{\circ}06'43.14''N$	$85^{\circ}49'25.2''E$

2.3 Work Zone Air Quality (Fugitive Emissions)

To assess the level of fugitive dust due to mining and allied activities, six (6) monitoring stations were selected within the lease considering the activity area. Fugitive emissions monitoring was carried out once in a month on 8 hrly basis. The list of fugitive emissions monitoring stations is given in Table No. 2.2.

Table No. 2.2: Fugitive Emissions Monitoring Stations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Pit (North Side)	FE1	21°06'24.96"N	85°48'20.1"E
2	Pit (South side)	FE2	21°06'10.98"N	85°48'29.40"E
3	Haulage Road at old crusher	FE3	21°05'57.54"N	85°48'35.88"E
4	Crusher	FE4	21°05'52.44"N	85°48'33.72"E
5	Hill Top Weigh Bridge	FE5	21°05'42.24"N	85°48'40.68"E
6	Bali Parbat Stock Yard near Weigh Bridge	FE6	21°06'17.58"N	85°51'4.92"E

2.4 Noise Level

In order to assess the existing noise levels in and around mining lease area, noise monitoring was carried out at 6 locations. Details of Noise monitoring stations are given in Table No. 2.3.

Table No. 2.3: Ambient Noise Monitoring Locations

Sl. No.	Location	Station Code	Coordinates	
			Latitude	Longitude
1	Mine Office at Hill Top	N1	21°05'38.7"N	85°48'42.84"E
2	Seclat-8 near bank	N2	21°06'41.52"N	85°29'35.94"E
3	OMC Office	N3	21°06'40.44"N	85°50'22.86"E
4	Baliparbat Township	N4	21°06'30.72"N	85°51'35.7"E
5	Water Reservoir Pump House	N5	21°07'39.06"N	85°48'43.44"E
6	Near Hospital Daitari	N6	21°06'43.14"N	85°49'25.2"E
Work zone Noise Level				
7	Near Narayani Crusher	N7	21°05'52.2"N	85°48'32.64"E
8	Excavation site	N8	21°06'12.12"N	85°48'26.4"E
9	Drilling point	N9	21°06'23.28"N	85°48'20.04"E

2.5 Surface Water Quality

8 nos. of grab samples were taken from four (04) surface water locations twice in a month. Details about surface water locations are given in Table No. 2.4.

Table No.2.4: Surface Water Sampling Locations

Sl. No.	Location	Sample code	Coordinates	
			Latitude	Longitude
1	Daitari Dam Site	SW1	21°07'39.12" N	85°48'42.84"E
2	Stream Flowing Near Pichida	SW2	21°07'7.56" N	85°48' 56.7"E
3	Stream Flowing Near Old Marker	SW3	21°06'49.98" N	85°49' 29.58"E
4	Stream near Baliparbat	SW4	21°06'24.18" N	85°51' 35.88"E

2.6 Ground Water Quality

5 nos. of ground water samples were taken from five (05) ground water locations. Details about Ground water locations are given in Table No. 2.5.

Table No.2.5: Ground Water Sampling Locations

Sl. No.	Locations	Sample code	Coordinates		Type of Source
			Latitude	Longitude	
1	Gumurusahi Village	GW1	21°07'27.7" N	85°47'02.8" E	Open Well
2	Daitari (Low Hating)	GW2	21°06'44.9" N	85°49'30.9" E	Open Well
3	Daitari (Low Hating)	GW3	21°06'45.5" N	85°49'30.2" E	Open Well
4	Baliparbat (Furlabadi)	GW4	21°06'45.0" N	85°51'19.3" E	Open Well
5	Kalpada Village	GW5	21° 07' 15.8" N	85° 47' 47.5" E	Tube Well

2.7 Ground Water Level Monitoring

4 nos. of ground water level were monitored from four (04) ground water locations. Details about Ground water level locations are given in Table No. 2.6.

Table No.2.6: Ground Water Leveling Locations

Sl. No.	Locations	Sample code	Coordinates	
			Latitude	Longitude
1	Gumurusahi Village	GWL1	21°07'27.7" N	85°47'02.8" E
2	Daitari (Low Hating)	GWL2	21°06'44.9" N	85°49'30.9" E
3	Daitari (Low Hating)	GWL3	21°06'45.5" N	85°49'30.2" E
4	Baliparbat (Furlabadi)	GWL4	21°06'45.0" N	85°51'19.3" E

2.9 Flow of Water Measurement

To assess the flow of water in and around mining area, 03 locations were selected. The details about locations are given in Table No. 2.8

Table No. 2.8: Flow of Water Locations

Sl. No.	Locations	Sample code	Coordinates	
			Latitude	Longitude
1	Stream Flowing Near Pichida	FW1	21° 07' 7.56" N	85°45' 58.7"E
2	Stream Flowing Near Old Market	FW2	21° 06' 49.98" N	85°49' 29.58"E
3	Stream near Baliparbat	FW3	21° 06' 24.18" N	85°51' 35.88"E

3.0 METHODOLOGY

3.1 Meteorology

The meteorological parameters were monitored on hourly basis continuously by installing a weather monitoring system at the rooftop of OMC office of Daitari Iron Mine of OMCL.

3.2 Air Monitoring

Monitoring was carried out for Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x) and Carbon Monoxide (CO). The PM₁₀ & PM_{2.5} was monitored for 24 hourly, while SO₂ and NO_x were monitored on 4 hourly basis for 24 hours at each sampling location and CO was monitored using the CO Monitor for 1 hr in a day in each monitoring station twice in a week, for a month. The sampling and analysis of ambient air quality was carried out as per the approved procedures by CPCB.

3.3 Noise Monitoring

The monitoring of noise level was carried out at specified locations. Ambient Noise levels were recorded at hourly intervals for 24 hrs.

3.4 Surface Water Monitoring

For assessing the water quality, surface water samples were collected. Eight (8) water samples from four locations (04) were taken in sterilized plastic cans twice a month. The samples were analyzed for essential physical, chemical and bacteriological parameters as per the list enclosed in the work order. The samples were analyzed as per standard procedure / method mentioned by CPCB/APHA.

3.5 Ground Water Monitoring

For assessing the ground water quality, ground water samples were collected. Five (5) ground water samples from five locations (05) were taken in sterilized plastic cans. The samples were analyzed for essential physical, chemical and bacteriological parameters as per the list enclosed in the work order. The samples were analyzed as per standard procedure / method mentioned by CPCB/APHA.

3.6 Ground Water Level Monitoring

For assessing the ground water level, four (4) ground water level monitoring locations were selected within the study area.

3.7 Flow of Water Measurement

The monitoring of flow of water was carried out monthly once of the springs and perennial nallas present within and adjoining the mining lease area. The flow of water measurement was carried out at 3 specific locations (03) and are expressed in m³/min.

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4.0 RESULTS AND DISCUSSION

4.1 Meteorology

Summarized meteorological data such as temperature, relative humidity, rainfall, wind speed and wind direction are given in Table No. 4.1.

Table No. 4.1: Results of Site Specific Meteorological Data

Sl. No.	Parameters	Month of June 2014
1	Temperature (°C)	Maximum
		39.32
		Minimum
2	Relative Humidity (%)	22.8
		Average
		29.32
3	Wind speed(m/s)	Maximum
		97.14
		Minimum
4	Wind Direction (%)	32.91
		Average
		76.55
5	Rainfall(mm)	Maximum
		11.9
		Average
6	Wind Direction (%)	3.24
		N
		4.72
		NNE
		2.78
		NE
		3.89
		ENE
		2.50
		E
		2.64
		ESE
		1.94
		SE
		1.53
		SSE
		2.64
		S
		5.00
		SSW
		5.69
		SW
		16.67
		WSW
		18.19
		W
		10.00
		WNW
		6.25
		NW
		4.72
		NNW
		5.42
		CALM
		5.42
7	Rainfall(mm)	Monthly
		Total
		90.8
8	No. of rainy days	
		13

During the month of June 2014, the temperature varied from 22.8°C to 39.32°C & Relative Humidity varied from 32.91% to 97.14%. The maximum wind speed recorded during the month was 11.9 m/s and overall average wind speed is calculated to be 3.24 m/s. 5.42% of the time the wind remained calm (≤ 0.5 m/s). The predominant wind direction as observed to be from WSW during the month. The total rainfall was 90.8mm and 13 days out of 30 days were rainy days.

Max. and Min. value of temperature, relative humidity, rainfall, wind speed and wind direction on each day basis for 'June2014' are given in Table No. 4.2.

4

Figure No. 4.1: Windrose (24hrly) for the month of June 2014

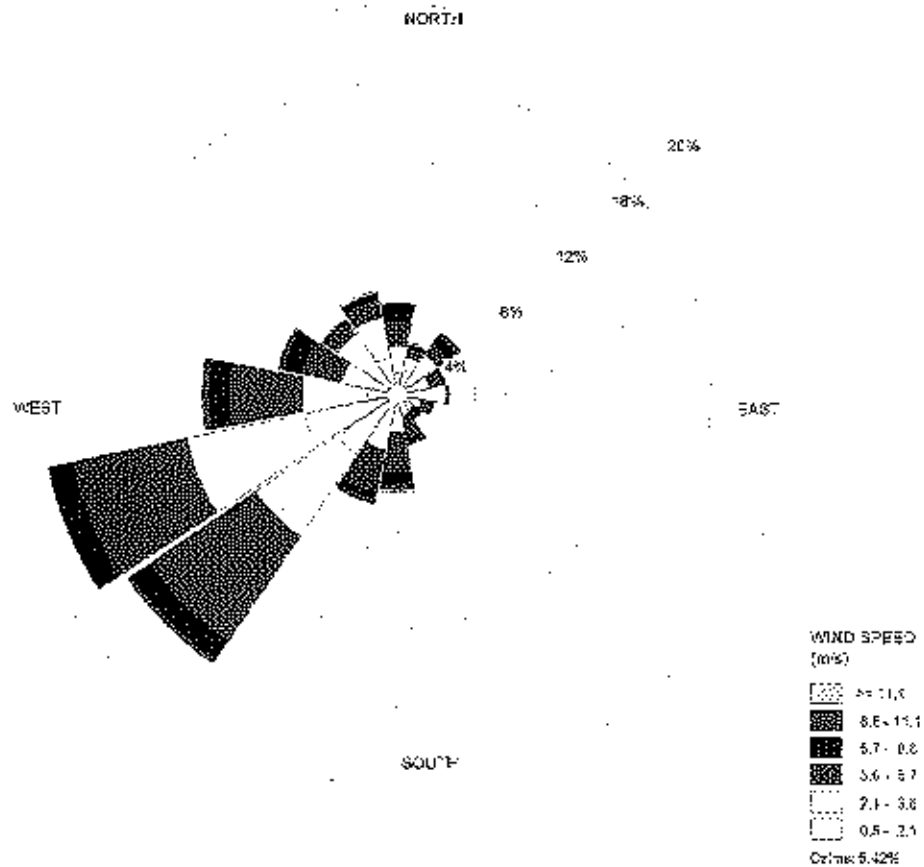


Table No. 4.2: Max and Min value of Meteorological Data of month June 2014

Date	Temperature		Relative Humidity (%)		Wind Speed (m/s)		Rainfall (mm)
	Max.	Min.	Max.	Min.	Max.	Min.	
1.6.14	34.13	22.3	95.06	64.42	9	0	6.4
2.6.14	32.11	23.58	95.03	72.32	7.3	0	7.2
3.6.14	34.21	23.66	95.78	60.47	5.3	0	21.6
4.6.14	34.45	26.32	93.06	58.6	6.1	0.9	0
5.6.14	34.25	27.09	91.33	64.71	5.2	2.5	0
6.6.14	36.02	26.86	92.65	59.61	5.7	2.1	0
7.6.14	34.26	23.27	95.32	71.06	8.6	1.5	3.2
8.6.14	34.73	23.44	94.36	70.7	8.8	1.6	2.6
9.6.14	34.02	24.02	94.2	63.91	5.2	0	0
10.6.14	35.53	25.59	94.26	64.45	5.8	0	0
11.6.14	36.24	26.61	90.18	57.27	4.7	1	0
12.6.14	39.32	25.83	94.79	41.55	6.9	0.3	0
13.6.14	39.14	25.4	86.77	32.91	6	0	0.6
14.6.14	37.98	25.26	88.79	36.8	5.8	0	0
15.6.14	36.31	27.07	80.82	49.3	6.8	0	0
16.6.14	36.6	25.66	94.11	47.55	6.6	0.5	2.2
17.6.14	35.11	25.54	92.6	59.63	4.7	0.6	0
18.6.14	31.83	25.56	88.02	67.44	4.3	0.6	0
19.6.14	28.74	26.24	89.2	74.28	5.5	1.8	0.2
20.6.14	28.42	24.91	91.47	77.22	11.3	3.4	0.6
21.6.14	28.82	25.8	82.28	67.44	11.9	1.8	0
22.6.14	33.91	28.04	76.35	55.63	9.7	2.9	0
23.6.14	36.09	29.18	73.33	51.03	6.6	2.3	0
24.6.14	37.31	23.81	92.41	44.14	9.2	0	0.2
25.6.14	35.5	23.82	96.23	54.81	4.8	0.9	15.8
26.6.14	30.02	23.82	96.09	79.32	4.2	0	0
27.6.14	30.67	25.27	96.33	72.17	5	0	0
28.6.14	32.95	25.47	96.08	62.55	5	0.2	0
29.6.14	33.9	24.29	95.49	63.26	5.3	0.3	2
30.6.14	28.23	22.88	97.14	81.48	4.9	0	28.2

4.2 Ambient Air Quality Monitoring

The Summarized results of AAQ are given in the Table No. 4.3 and the details of AAQ monitoring during the month of 'June2014' are given in the Table No. 4.4.

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Table No. 4.3: Summarized Results of Ambient Air Qualities

Sl. No.	Locations	Co-ordinate	Station Code	PM ₁₀ (µg/m ³)			PM _{2.5} (µg/m ³)			SO ₂ (µg/m ³)			NOx (µg/m ³)			CO (mg/m ³)		
				Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.	Max.	Min.	Avg.
1.	Mine office at Hill Top	21°05'38.7"N 85°48'42.84"E	A1	87	26	59	48	14	32	7.3	5.9	6.8	14.8	12.2	13.5	0.4	BDL	0.3
2.	Daitari Guest House	21°06'34.08"N 85°49'29.4"E	A2	92	42	62	45	26	33	7.7	5.7	6.6	14.6	11.5	12.8	0.4	BDL	0.2
3.	OMC Office	21°06'40.44"N 85°50'22.86"E	A3	73	45	62	37	22	31	7.6	5.5	6.4	15.3	11.8	13.6	0.4	BDL	0.3
4.	Balparbat Township	21°06'30.72"N 85°51'36.7"E	A4	68	48	58	35	20	29	6.5	BDL	5.0	10.8	BDL	BDL	BDL	BDL	BDL
5.	Water Reservoir pump house	21°07'59.06"N 85°48'43.44"E	A5	77	27	54	38	13	26	6.1	BDL	4.4	10.3	BDL	BDL	BDL	BDL	BDL
6.	Near Hospital Daitari	21°06'43.14"N 85°49'25.2"E	A6	82	36	58	43	17	30	6.8	4.7	6.1	12.2	9.8	11.2	0.2	BDL	BDL
CPOB Standards				100			60			80			80			4.0		

Note: BDL value for NOx-9.0 µg/m³, SO₂-4.0 µg/m³ and for CO-0.11 mg/m³

Table No. 4.4: The details of AAQ Monitoring during the Month of 'June 2014'

Station Name	Station Code	Date	PM ₁₀ ($\mu\text{g}/\text{m}^3$)	PM _{2.5} ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO _x ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)
Mine Office at Hill Top	A1	04.06.14	56	38	7.8	14.8	0.4
		07.06.14	Monitoring could not be carried out.				
		09.06.14	63	35	6.5	12.2	0.3
		13.06.14	69	33	6.8	13.4	0.4
		16.06.14	57	26	5.9	12.7	0.3
		19.06.14	58	31	6.8	12.9	BDL
		23.06.14	87	48	7.3	13.7	0.4
		27.06.14	26	14	7.1	14.3	0.3
		30.06.14	Monitoring has not been done due to rain				
Daitari Guest House	A2	04.06.14	60	33	6.4	14.6	0.3
		07.06.14	Monitoring could not be carried out.				
		09.06.14	42	27	6.7	13.7	0.2
		13.06.14	86	45	5.9	12.4	BDL
		16.06.14	44	28	7.0	11.8	0.4
		19.06.14	60	33	6.7	12.5	0.3
		23.06.14	53	26	7.7	11.5	0.2
		27.06.14	92	44	5.7	13.3	BDL
		30.06.14	Monitoring has not been done due to rain				
OMC Office	A3	04.06.14	73	37	5.5	14.3	0.4
		07.06.14	Monitoring could not be carried out.				
		09.06.14	45	28	7.6	15.8	0.3
		13.06.14	66	37	6.1	14.3	0.2
		16.06.14	71	28	6.4	13.4	0.3
		19.06.14	62	34	5.9	12.7	BDL
		23.06.14	69	31	6.3	13.4	0.3
		27.06.14	45	22	6.8	11.8	0.2
		30.06.14	Monitoring has not been done due to rain				
Baliparbat Township	A4	04.06.14	52	23	4.7	BDL	BDL
		07.06.14	Monitoring could not be carried out.				
		10.06.14	48	20	6.2	9.6	BDL
		13.06.14	65	35	6.5	10.2	BDL
		16.06.14	57	32	5.8	9.5	BDL
		19.06.14	55	24	BDL	BDL	BDL
		23.06.14	60	31	4.6	10.8	BDL
		27.06.14	68	33	5.2	9.3	BDL
		30.06.14	Monitoring has not been done due to rain				

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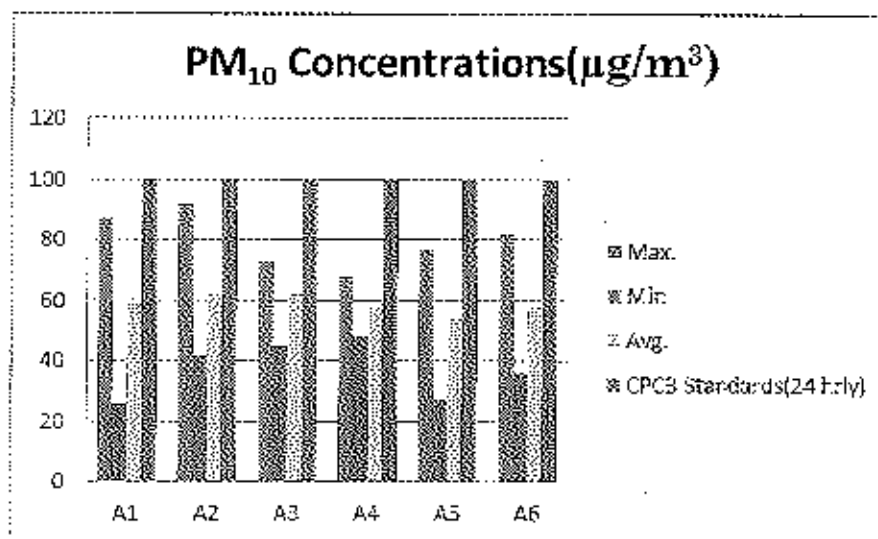
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Water Reservoir Pump House	A5	04.06.14	27	18	6.1	10.3	BDL
		07.06.14	Monitoring could not be carried out.				
		09.06.14	77	32	BDL	BDL	BDL
		13.06.14	47	21	4.8	9.2	BDL
		16.06.14	61	30	5.2	BDL	BDL
		19.06.14	45	24	6.1	10.1	BDL
		23.06.14	56	28	BDL	BDL	BDL
		27.06.14	62	33	4.7	9.5	BDL
		30.06.14	Monitoring has not been done due to rain				
Near Hospital Dairari	A6	04.06.14	60	37	6.8	11.8	0.2
		07.06.14	Monitoring could not be carried out.				
		09.06.14	36	17	6.5	12.2	BDL
		14.06.14	44	26	6.1	10.3	BDL
		17.06.14	58	27	6.2	9.8	BDL
		20.06.14	61	32	6.4	10.9	BDL
		24.06.14	82	43	4.7	10.3	BDL
		28.06.14	49	27	5.8	11.5	BDL
		30.06.14	Monitoring has not been done due to rain				
CPCB Standards			100	60	80	80	4.0

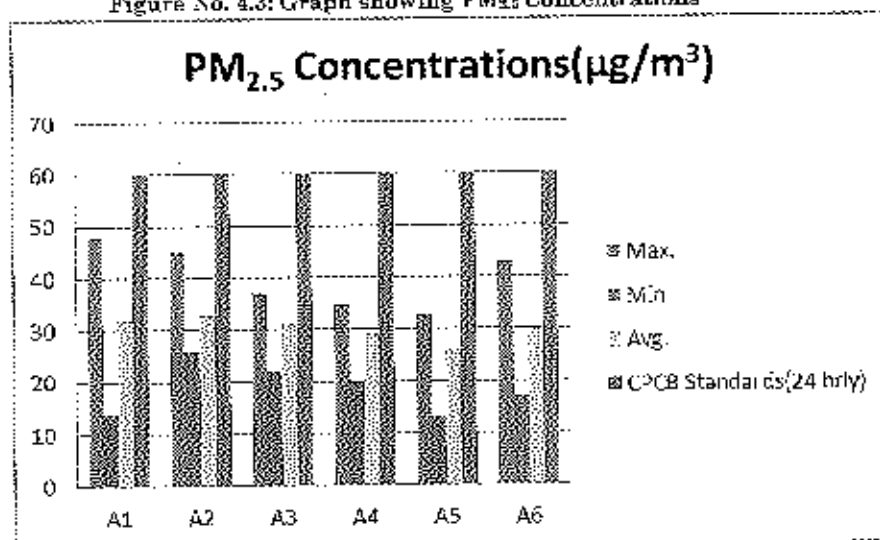
Conclusion:**Particulate Matter (PM₁₀)**

The Value of PM₁₀ ranges between 26 $\mu\text{g}/\text{m}^3$ to 92 $\mu\text{g}/\text{m}^3$. However, the average value of PM₁₀ ranges between 54 $\mu\text{g}/\text{m}^3$ to 62 $\mu\text{g}/\text{m}^3$. The results are well within the proscribed norms of CPCB for Industrial, residential, Rural & Other areas.

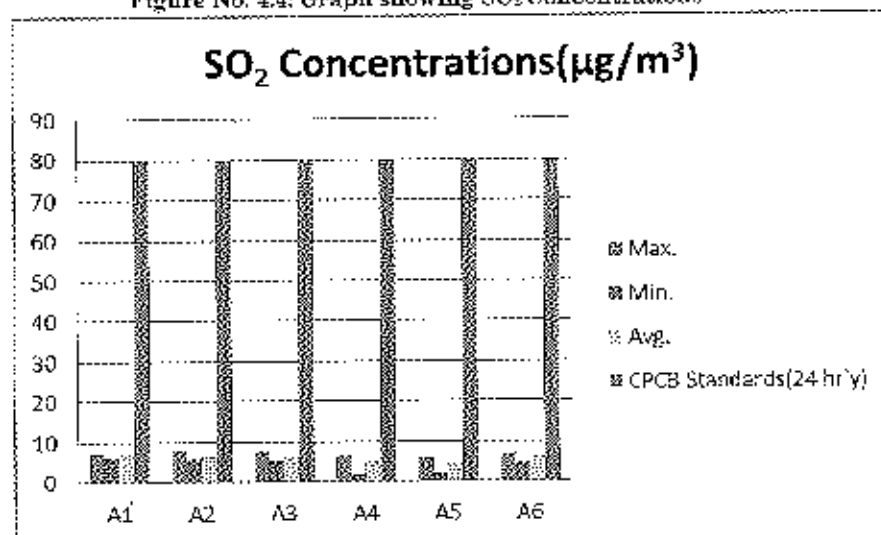
Figure No. 4.2: Graph showing PM₁₀ Concentrations

Particulate Matter (PM_{2.5})

The Value of PM_{2.5} ranges between 13 $\mu\text{g}/\text{m}^3$ to 48 $\mu\text{g}/\text{m}^3$. However, the average value of PM_{2.5} ranges between 26 $\mu\text{g}/\text{m}^3$ to 33 $\mu\text{g}/\text{m}^3$. The results are well within the prescribed norms of CPCB for Industrial, residential, Rural & Other areas.

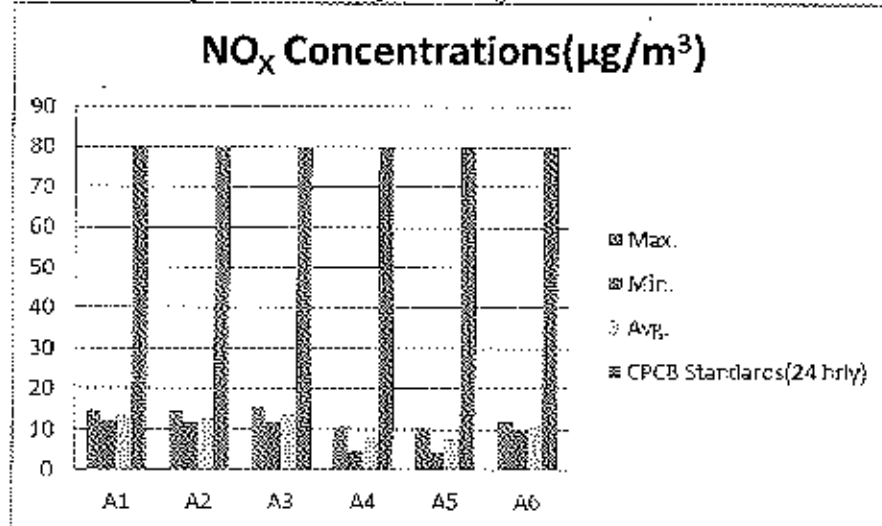
Figure No. 4.3: Graph showing PM_{2.5} Concentrations**Sulphur Dioxide (SO₂):**

The Value of SO₂ ranges between BDL to 7.7 $\mu\text{g}/\text{m}^3$. However, the average value of SO₂ ranges between 4.4 $\mu\text{g}/\text{m}^3$ to 6.8 $\mu\text{g}/\text{m}^3$. The results are well within the prescribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of SO₂ is less than 1.0 $\mu\text{g}/\text{m}^3$.

Figure No. 4.4: Graph showing SO₂ Concentrations

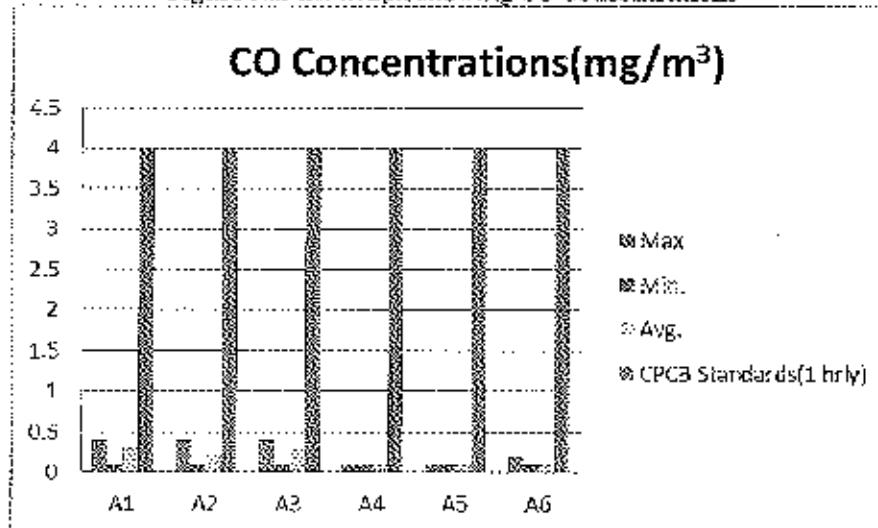
Oxides of Nitrogen (NO_x):

The Value of NO_x ranges between BDL to 15.3 µg/m³. However, the average value of NO_x is in BDL to 13.6 µg/m³. The results are well within the proscribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of NO_x is less than 9 µg/m³.

Figure No. 4.5: Graph showing NO_x Concentrations**Carbon Monoxide(CO):**

The Value of CO ranges between BDL to 0.4 mg/m³. However, the average value of CO ranges between BDL to 0.3 mg/m³. The results are well within the proscribed norms of CPCB for Industrial, Residential, Rural & Other areas. The BDL limit of CO is less than 0.11 mg/m³.

Figure No. 4.6: Graph showing CO Concentrations



4.3 Fugitive Emissions Monitoring

The results of fugitive emissions are given in Table No. 4.5.

Table No. 4.5: Results of Fugitive Emissions Monitoring

Station code	Co-ordinates		Particulate Matter (PM) in $\mu\text{g}/\text{m}^3$
	Latitude	Longitude	
FE1	21°00'10.98"N	85°48'29.40"E	95.7
FE2	21°05'57.64"N	85°48'35.88"E	188.8
FE3	21°05'52.44"N	85°48'33.72"E	232.5
FE4	21°06'24.96"N	85°48'20.1"E	158.4
FE5	21°06'17.58"N	85°51'4.92"E	60.5
FE6	21°05'42.24"N	85°48'40.65"E	277.6
Standards			1200 $\mu\text{g}/\text{m}^3$

4.4 Noise Monitoring

Summarized results of ambient noise monitoring are given in Table No. 4.6. The results have been compared with the standard specified in schedule III, Rule 3 of Environmental Protection Rules given in Table No. 4.7.

Table No. 4.6: Summarized Results of Noise Monitoring

SL No.	Location	Results						Type of Area
		Day (06.00-22.00 hrs.)			Night (22.00-06.00hrs.)			
		Min.	Max.	Mean*	Min.	Max.	Mean*	
1.	Mine Office at Hill Top	42.4	62.7	44.3	BDL	42.5	32.8	Industrial Area
2.	Sector -3 near Bank	43.3	54.8	46.5	BDL	43.4	37.5	Residential Area
3.	OMC Office	41.2	53.6	45.3	BDL	34.2	37.7	Commercial Area
4.	Baliparbat Township	35.8	44.2	38.8	BDL	34.1	32.9	Residential Area
5.	Water Reservoir Pump House	33.8	44.3	36.1	BDL	36.9	32.9	Residential Area
6.	Near Hospital Daitari	35.6	48.7	43.3	BDL	37.1	34.4	Silence zone

Note: *Logarithmic Averages: BDL <30 dB (A)

All Values in dB (A).

Table No. 4.7: CPCB Norms in respect of Ambient Noise.

Type of Area	Day (06.00 - 22.00hrs)	Night (22.00 - 06.00 hrs)
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Silence Zone	50	40

All Values in dB (A)

The result of work zone noise are given in Table No. 4.8 and compared with OSHA norms which are mentioned in Table No.4.9.

Table No. 4.8: Results of Work zone Noise Monitoring

Sl No.	N7		N8		N9	
	Narayani Crusher		Excavation site.		Drilling point.	
Date	16.06.2014		17.06.2014		18.06.2014	
	Time	dB(A)	Time	dB(A)	Time	dB(A)
1	08:00 AM	80.8	08:00 AM	64.4	08:00 AM	61.2
2	09:00 AM	79.4	09:00 AM	65.8	09:00 AM	63.4
3	10:00 AM	80.3	10:00 AM	63.4	10:00 AM	62.4
4	11:00 AM	79.7	11:00 AM	62.4	11:00 AM	70.3
5	12:00 NOON	78.6	12:00 NOON	61.6	12:00 NOON	68.4
6	01:00 PM	77.4	01:00 PM	55.1	01:00 PM	67.7
7	02:00 PM	74.4	02:00 PM	56.1	02:00 PM	65.1
8	03:00 PM	75.4	03:00 PM	55.8	03:00 PM	63.1

Table No. 4.9: Permissible Sound Pressure Level as per OSHA norms

Duration per day(hour)	Sound Pressure Level dB(A) allowed response
8	90
6	92
4	95
3	97
2	100

Conclusion:

Noise Level as observed in ambient are well within the standard norms stipulated by CPCB and also work zone areas are well below the standard norms stipulated by OSHA.

4.5 Surface Water Quality Monitoring

Table No. 4.10: Water Quality Criteria as per CPCB

Sl. No.	Parameters	Class A	Class B	Class C	Class D	Class E
1	pH	6.5-8.5	6.5-8.5	6.0-9.0	6.5-8.5	6.5-8.5
2	Dissolved Oxygen (as O ₂), mg/l. min	6	5	4	4	-
3	BOD, 3 days at 27°C, mg/l. max.	2	3	3	-	-
4	Total Coliform Organism, MPN/100ml. max.	50	500	5000	-	-
5	Free Ammonia (as N), mg/l. max.	-	-	-	1.2	-
6	Electrical conductivity mmhos/cm. max.	-	-	-	-	2250
7	Sodium Absorption Ratio, max.	-	-	-	-	26
8	Boron (as B), mg/l. max.	-	-	-	-	2

Class A: Drinking water source without conventional treatment but after disinfection

Class B: Outdoor bathing (organized)

Class C: Drinking water source after conventional treatment and after disinfection

Class D: Propagation of Wildlife and Fisheries

Class E: Irrigation, Industrial Cooling and Controlled Waste Disposal

Class F: Not meeting A, B, C, D & E Criteria

The results of analysis of surface water are given in Table No. 4.11 (A) & 4.11 (B).



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Table No. 4.11 (A): Results of Surface Water Analysis

SL No.	Parameters	Unit	SW1	SW2	SW3	SW4
			05.06.2014	05.06.2014	05.06.2014	05.06.2014
1	Colour	Plazen	Colourless	Colourless	Colourless	Colourless
2	Turbidity	NTU	11	9	8	12
3	pH value	---	7.9	7.3	6.6	7.5
4	Total Hardness (as CaCO ₃)	mg/l	64	68	56	60
5	Iron (as Fe)	mg/l	0.32	0.33	0.43	0.27
6	Chloride (as Cl)	mg/l	17	13	12	15
7	Fluoride (as F)	mg/l	0.26	0.21	0.16	0.12
8	Total Dissolved Solids	mg/l	87	82	103	92
9	Calcium (as Ca)	mg/l	14.8	13.7	16.3	11.3
10	Magnesium (as Mg)	mg/l	7.1	7.4	8.3	7.3
11	Copper (as Cu)	mg/l	BDL	BDL	BDL	BDL
12	Manganese (as Mn)	mg/l	0.016	0.020	0.018	0.023
13	Sulphate (as SO ₄)	mg/l	23	19	17	21
14	Nitrate (as NO ₃)	mg/l	0.23	0.16	0.22	0.18
15	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	BDL	BDL	BDL	BDL
16	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL
17	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL
18	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL
19	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL
20	Cyanide (as CN)	mg/l	BDL	BDL	BDL	BDL
21	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL
22	Zinc (as Zn)	mg/l	BDL	BDL	BDL	BDL
23	Anionic Detergent as MBAS	mg/l	BDL	BDL	BDL	BDL
24	Alkalinity (as CaCO ₃)	mg/l	65	32	65	73
25	Free Ammonia (N)	mg/l	0.05	0.03	0.09	0.08
26	Boron (as B)	mg/l	BDL	BDL	BDL	BDL
27	Coliform Organism	MPN/100ml	223	185	179	224
28	Sodium Absorption Ratio	---	0.34	0.44	0.55	0.40
29	Dissolved Oxygen as O ₂	mg/l	6.1	5.6	5.9	6.2
30	BOD, 3 days at 27°C	mg/l	2.8	1.4	1.6	2.3
31	COD	mg/l	6.2	5.9	6.2	6.7
32	Electrical Conductivity (EC)	µmhos/cm	145	139	164	152
33	Phosphate	mg/l	0.43	0.33	0.29	0.47
34	CO ₂	mg/l	5.2	4.7	5.2	5.0

Note: BDL Values for Cu - 0.0001, Mn - 0.00001, Phenolic Compound - 0.001, Hg - 0.000001, Cd - 0.00001, Se - 0.0001, As - 0.0001, CN - 0.002, Pb - 0.0001, Boron - 0.0001.

BDL: Below Detection Limit.

Table No. 4.11 (B): Results of Surface Water Analysis

Sl. No.	Parameters	Unit	SW1	SW2	SW3	SW4
			19.06.2014	19.06.2014	19.06.2014	19.06.2014
1	Colour	Hazen	Colourless	Colourless	Colourless	Colourless
2	Turbidity	NTU	13	10	9	12
3	pH value	----	7.1	7.5	6.8	7.4
4	Total Hardness (as CaCO ₃)	mg/l	70	66	48	52
5	Iron (as Fe)	mg/l	0.31	0.12	0.28	0.30
6	Chloride (as Cl)	mg/l	13	12	16	10
7	Fluoride (as F)	mg/l	0.16	0.26	0.17	0.30
8	Total Dissolved Solids	mg/l	92	107	85	80
9	Calcium (as Ca)	mg/l	14.1	18.4	16.7	20.5
10	Magnesium (as Mg)	mg/l	7.1	9.5	8.3	10.1
11	Copper (as Cu)	mg/l	BDL	BDL	BDL	BDL
12	Manganese (as Mn)	mg/l	0.037	0.031	0.025	0.032
13	Sulphate (as SO ₄)	mg/l	17	22	19	24
14	Nitrate (as NO ₃)	mg/l	0.23	0.20	0.19	0.20
15	Phenolic Compounds (as C ₆ H ₅ OH)	mg/l	BDL	BDL	BDL	BDL
16	Mercury (as Hg)	mg/l	BDL	BDL	BDL	BDL
17	Cadmium (as Cd)	mg/l	BDL	BDL	BDL	BDL
18	Selenium (as Se)	mg/l	BDL	BDL	BDL	BDL
19	Arsenic (as As)	mg/l	BDL	BDL	BDL	BDL
20	Cyanide (as CN)	mg/l	BDL	BDL	BDL	BDL
21	Lead (as Pb)	mg/l	BDL	BDL	BDL	BDL
22	Zinc (as Zn)	mg/l	BDL	BDL	BDL	BDL
23	Anionic Detergent as MBAS	mg/l	BDL	BDL	BDL	BDL
24	Alkalinity (as CaCO ₃)	mg/l	65	45	51	50
25	Free Ammonia (N)	mg/l	0.08	0.07	0.05	0.03
26	Boron (as B)	mg/l	BDL	BDL	BDL	BDL
27	Coliform Organism	MPN/100ml	244	212	163	146
28	Sodium Absorption Ratio	----	0.32	0.41	0.43	0.37
29	Dissolved Oxygen as O ₂	mg/l	6.2	5.8	5.6	5.5
30	BOD, 3 days at 27°C	mg/l	2.5	1.6	1.7	2.3
31	COD	mg/l	6.4	6.8	6.0	5.9
32	Electrical Conductivity (EC)	µmhos/cm	142	166	137	127
33	Phosphate	mg/l	0.34	0.42	0.36	0.39
34	CO ₂	mg/l	4.7	5.2	5.0	4.8

Note: BDL Values for Cu - 0.0001, Mn - 0.00001, Phenolic Compound - 0.001, Hg - 0.00001, Cd - 0.00001, Se - 0.0001, As - 0.0001, CN - 0.002, Pb - 0.0001 Boron - 0.0001.

BDL: Below Detection Limit.

4.6 Ground Water Quality Monitoring

The results of analysis of ground water are given in Table No. 4.12.

Table No. 4.12: Results of Ground Water Analysis

SL No.	Parameter	Unit	Permissible Limit	GW1	GW2	GW3	GW4	GW5
				19.06.2014	19.06.2014	19.06.2014	19.06.2014	19.06.2014
1	pH	---	6.5-8.5	6.8	6.9	6.5	7.1	7.1
2	Odour	---	U/O	U/O	U/O	U/O	U/O	U/O
3	Colour	Hazen	5 (Max)	CL	CL	CL	CL	CL
4	Taste	---	Agreeable	AL	AL	AL	AL	AL
6	Turbidity	NTU	5 (Max)	2	3	3	2	4
7	Chloride (as Cl)	mg/l	250 (Max)	2.9	3.6	3.4	2.8	3.1
8	Residual free Chlorine	mg/l	0.2 (Min)	ND	ND	ND	ND	ND
9	Total Dissolved Solid	mg/l	500 (Max)	132	140	133	118	124
10	Total Hardness (as CaCO ₃)	mg/l	300 (Max)	68	74	96	82	86
11	Iron (as Fe)	mg/l	0.3 (Max)	0.22	0.23	0.16	0.20	0.18
12	Calcium (as Ca)	mg/l	75 (Max)	26.3	25.1	21.5	27.4	19.6
13	Magnesium (as Mg)	mg/l	30 (Max)	14.8	13.3	12.1	14.5	9.5
14	Sulphate (as SO ₄)	mg/l	200 (Max)	5.2	4.1	3.4	4.9	5.0
15	Manganese (as Mn)	mg/l	0.10 (Max)	BDL	BDL	BDL	BDL	BDL
16	Nitrate (as NO ₃)	mg/l	45 (Max)	1.7	2.2	3.1	1.8	2.3
17	Alkalinity (as CaCO ₃)	mg/l	200 (Max)	28	35	23	32	20
18	Aluminium (as Al)	mg/l	0.03 (Max)	BDL	BDL	BDL	BDL	BDL
19	Fluoride (as F)	mg/l	1.5	BDL	BDL	BDL	BDL	BDL
20	Anionic Detergent	mg/l	0.2 (Max)	Absent	Absent	Absent	Absent	Absent
21	Cadmium (as Cd)	mg/l	0.01 (Max)	BDL	BDL	BDL	BDL	BDL
22	Copper (as Cu)	mg/l	0.05 (Max)	BDL	BDL	BDL	BDL	BDL
24	Zinc (as Zn)	mg/l	5 (Max)	0.17	0.23	0.31	0.18	0.20
23	Lead (as Pb)	mg/l	0.05 (Max)	BDL	BDL	BDL	BDL	BDL
24	Selenium (as Se)	mg/l	0.01 (Max)	BDL	BDL	BDL	BDL	BDL
25	Phenolic Compound (as C ₆ H ₅ OH)	mg/l	0.001 (Max)	ND	ND	ND	ND	ND
26	Mineral Oil	mg/l	0.01 (Max)	ND	ND	ND	ND	ND
27	Total Coliform	MPN/100 ml	---	NIL	NIL	NIL	NIL	NIL
28	Mercury (as Hg)	mg/l	0.001 (Max)	BDL	BDL	BDL	BDL	BDL
29	Cyanide (as CN)	mg/l	0.05 (Max)	BDL	BDL	BDL	BDL	BDL
30	Boron (as B)	mg/l	1 (Max)	BDL	BDL	BDL	BDL	BDL
31	Arsenic (as As)	mg/l	0.05	BDL	BDL	BDL	BDL	BDL

Note: BDL Values For Fluoride-0.001, Cu-0.0001, Mn-0.00001, Phenolic Compounds-0.001, Hg-0.00001, Cd-0.00001, Se-0.0001, As-0.0001, CN-0.002, Pb-0.001, Boron-0.0001.

U/O-Unobjectionable, CL-Colorless, AL-Agreeable, ND-Not Detected, BDL-Below detection Limit,

4.7 Ground Water Level Monitoring

The results of Ground Water Level Monitoring are given in Table No. 4.13.

Table No. 4.13: Ground Water Level Results

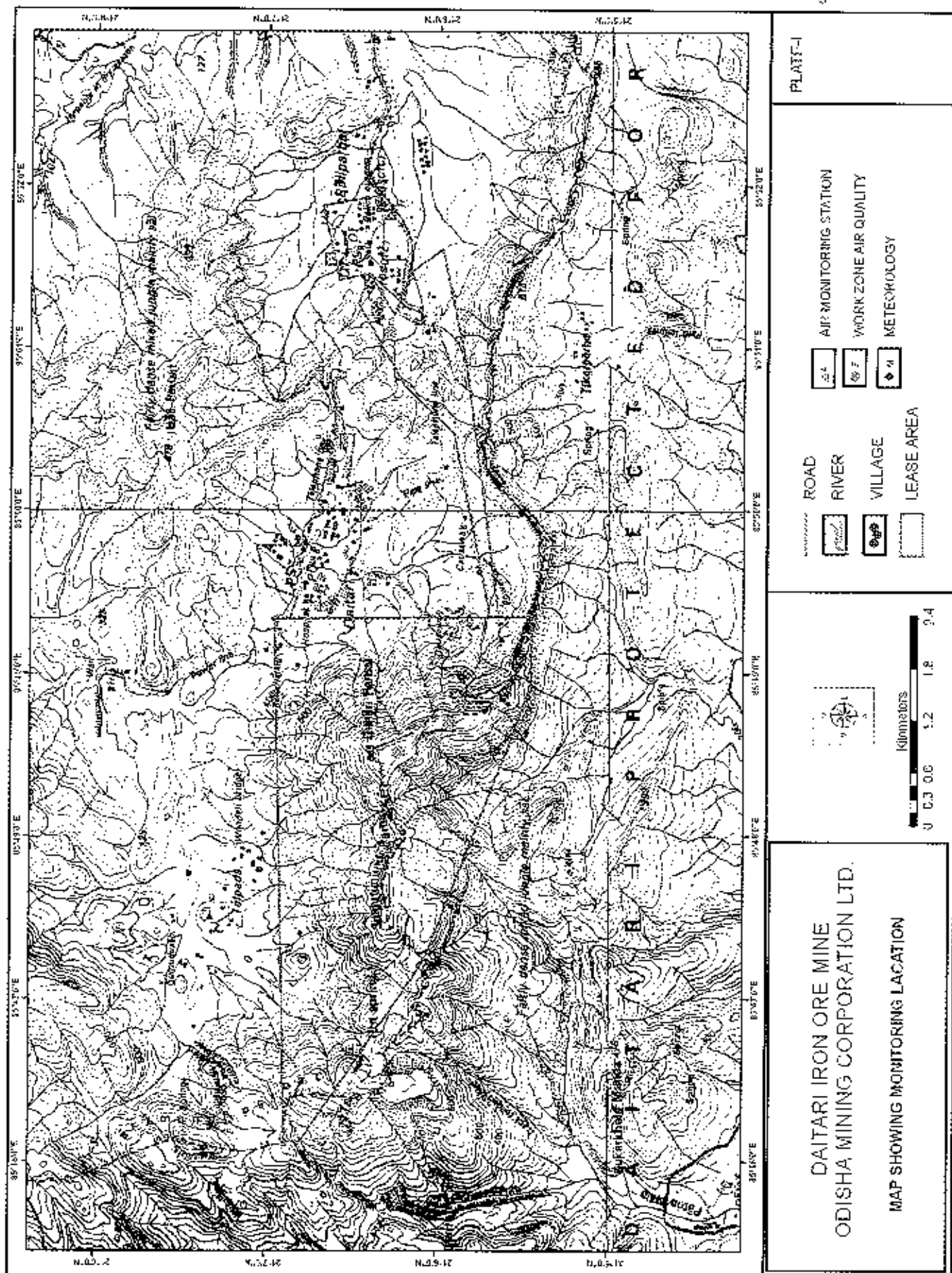
Sl. No.	Location code	Coordinates		Water Level (Below ground level, in meters)
		Latitude	Longitude	
1	GWL1	21°07'27.7" N	85°47'02.8" E	5.2
2	GWL2	21°06'44.9" N	85°49'30.9" E	0.95
3	GWL3	21°06'45.5" N	85°49'30.2" E	0.86
4	GWL4	21°06'45.0" N	85°51'19.3" E	7.3

4.8 Flow of Water Measurement

The results of flow of water are given in Table No. 4.14

Table No. 4.14: Result of Flow of Water Measurement

Sl. No	Station code	Co-ordinates		Flow of Water in m ³ /min
		Latitude	Longitude	
1	FW1	21°07'7.56" N	85°48' 56.7" E	7.82
2	FW2	21°06'49.93" N	85°49' 29.58" E	4.85
3	FW3	21°06'24.18" N	85°51' 35.38" E	3.10



This is a detailed topographic map of the Khatyn area in Armenia. The map features a grid system with letters A through P along the top and numbers 1 through 12 along the right side. The terrain is depicted with contour lines, showing a valley with the Hachnashan River flowing through it. Key locations marked include the village of Khatyn, the Hachnashan River, and various smaller settlements and landmarks. The map is oriented with North at the top. The title 'HACHNASHAN' is printed in large, bold letters across the top of the map area.

DAITARI IRON ORE MINE
ODISHA MINING CORPORATION LTD.

MAP SHOWING MONITORING LOCATION



A horizontal scale bar with a black and white alternating pattern. Below the bar, the word "kilometers" is written vertically. To the right of the bar, the numbers 0, 0.5, 1, 1.5, and 2 are marked at regular intervals.

PZ.ATF-11

 $\text{K}_2\text{O} \cdot 4\text{D}$

carried

367714

LEASE AREA

Surface Water

NOISE MONITORING STATION



**CERTIFICATE OF RECOGNITION AS
QUALIFIED PERSON TO PREPARE MINING PLANS**

(Under Rule 22 (c) of Mineral Concession Rules 1960)

M/s *MECON Limited* having
registered office at *Doranda, Ranchi - 834002 (JHK)* , and
having given satisfactory evidence of the qualifications and experience of
their key persons is hereby granted recognition under Rule 22 (c) of the
Mineral Concession Rules 1960 as a Qualified Person to prepare
Mining Plans.

The registration number is RQP/RNC/113/2004/B

This recognition is valid for a period of *ten* years
ending *16.12.2014*

Place: *Ranchi*
Date : *17.12.2004*.

17.12.04
Regional Controller of Mines
Indian Bureau of Mines

Ranchi

क्षेत्रीय खान विभाग
Regional Controller of Mines
भारतीय खान ब्यूरो
Indian Bureau of Mines

Annexure - 20

Name of the recorded Key Persons:

1. Sh. Abhijit Bhattacharya, B.Tech. (Mining), M.Tech.
2. Sh. H.K. Bhanj Deo, M.Tech. (Applied Geology)
3. Sh. Sanjay Kumar, M.Sc. Tech. (Applied Geology)
4. Sh. Rajesh Thakur, B.E. (Mining Engg.)

Name of the recorded Key Persons (As on 19/07/2006):

1. Sh. H.K. Bhanj Deo, M.Tech. (Applied Geology)
2. Sh. Sanjay Kumar, M.Sc. Tech. (Applied Geology)
3. Sh. Rajesh Thakur, B.E. (Mining Engg.)
4. Sh. Prasad Kumar Bhattacharjee, B.E. (Mining Engg.)

19.7.06

Regional Controller of Mines

भारतीय खान ब्यूरो

Indian Bureau of Mines

Names of the recorded key persons w.e.f. 03.02.2014

1. Sh. H. K. Bhanj Deo
2. Sh. Sanjay Kumar
3. Sh. Prasad Kumar Bhattacharjee.

03.02.2014

Regional Controller of Mines

भारतीय खान ब्यूरो

Indian Bureau of Mines

नवीनीकृत तक

Renewed up to

16th Dec, 2017

11/12/2014

क्षेत्रीय खान नियंत्रक
Regional Controller of Mines
भारतीय खान ब्यूरो
Indian Bureau of Mines

The Orissa Mining Corporation Limited
(A Govt. of Orissa Undertaking)
Daitari Iron Ore Mines

No. ²⁵⁸⁷ /OMC/DTR/2009

Dated. ^{19.5} 2009

To

The Dy. Director of Mines Safety,
Bhubaneswar Region,
Plot No. L-I, Nayapalli,
PO : RRI, Campus,
Bhubaneswar.

Sub : Inspection of Daitari Iron Ore Mines of M/s. Orissa Mining Corporation Limited on dtd. 17.04.2009 contravention thereof.

Ref : Your letter No.BKE/IR-1/PI/2009/1752, dtd. 30.4.2009.

Sir,

With reference to the above, we are submitting here with the compliances for favour of your kind information and necessary action.

Reg. 148(2) & Reg. 106(2) (b) read with letter No.BKE/IR-1/P-106(2) (b)/2006/1000 dated.16.5.2006 :

Adequate lighting arrangement have been provided during the working hours on the surface and at every working place. Action has also been taken for improvement of illumination level by providing ~~the~~ existing light fitting and additional arrangement of light towers.

Further we are doing illumination survey at regular intervals as per Relaxation under Regulation 106(2)(b) of Metalliferous Mines Regulation 1961.

Regulation 106 (4) :

We have already engaged a Hydraulic Rock breaker for breaking the boulders and also arranging to break the boulders through main crusher which will be in operation after finalization of present BOT Contract.

Yours faithfully,

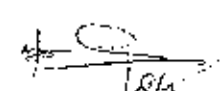
Sd/-

Agent-Cum-Regional Manager

Mem^o. ²⁵⁸⁸ /OMC/DTR/09

Dated. ^{19.5} 2009

Copy to Dy.General Manager(MS), OMC, Bhubaneswar for information. One of our Agency (M/s. Arun Udyog) has engaged one rock breaker and breaking the boulders at the face. Other boulders are laying in the Mine. This is a repeated violation. Approval may please be given to engage a rock breaker on hire basis to clear the boulders from the Mine area.


Agent-Cum-Regional Manager



भारत सरकार
अन एंव रोजगार मंत्रालय
खान सुरक्षा महानिदेशालय
भुवनेश्वर क्षेत्र

C-13, Nayapalli, PO: RRL Campus, Bhubaneswar-751013



संख्या. BKE/IR-1/P-106(2)(b)/2006/1000
प्रेषक

मुद्रण दिनांक 21/10/2009

खान सुरक्षा निदेशक,
भुवनेश्वर क्षेत्र :

To

The Agent,
Daitari Iron Ore Mine,
M/s OMC Ltd.
PO: Talapada, Dist:Keonjhar (Orissa).

Mr. (M)
pl take remedial measures & put up there after.
Duly
30-8-09

Sub:- Inspection of Daitari Iron Ore mine by the undersigned on 12.10.09 – contraventions observed

Dear Sir,

I am to refer to the inspection of your above named mine made by the undersigned on 12.10.09, when the following contraventions of the Metalliferous Mines Regulations, 1961, MVTR, 196 and Mines Rules, 1955 was observed –

Reg.106(2)(b) read with relaxation granted vide this Directorate's letter No.BKE/IR-1/P-106(2)(b)/2006/1000 dated 16.5.2006:

The height of the bench in the eastern portion of the quarry was found 12 m and width was less than 10 m at some places. Therefore, the height of the bench was more than the reach of the shovel deployed in this pit. Even a lot of loose boulders were found kept on the benches.

Reg.124: Lot of dust was found generating in the crusher as well as discharge point of belt conveyor. Even dust survey was not done in every six months in the mine.

Reg.148: General lighting in the quarry was not as per DGMS Circular No.Legis.3/ 976 and Govt. Notification No.GSR.829 dated 18.6.1975.

Reg.181 read with relaxation granted vide this Directorate's letter No.BKE/IR-1/P-106(2)(b)/2006/1000 dated 16.5.2006 under Regulation 106(2)(b) of the MMR, 1961:

None of the dumpers and tippers deployed by M/s Arun Udyog Limited and M/s Vijay Infrastructure Limited was provided with automatic fire extinguishers, audio visual alarms and rear view camera.

Reg.181 read with Reg.172 of the MMR, 1961: The workshop maintained by M/s Arun Udyog Limited was in dire condition. Lot of discarded tippers/dumpers, tyres, crums etc. were found dumped in the workshop. The mechanic was found working behind the parked dumpers which may cause accident to the mechanic. Proper workplace was not provided to the mechanic and engineer also. The high tension line was passing over the workshop which may pose danger to the person if dumper/tipper passes beneath this high tension line with raised bucket condition.

Reg.172 of the MMR, 1961: The pay-loader deployed by both the contractors was not provided with driver's cabin. As a result, the cabin of the driver of pay-loader and tipper was not protected from heat, dust and noise.



The Orissa Mining Corporation Limited
(A Govt. of Orissa Undertaking)
Daitari Iron Ore Mines

No. BKH/OMC/DTR/2010

Dtd. 11.6.2010

To

The Director of Mines Safety,
Ministry of Labour & Employment,
Directorate General of Mines Safety,
Plot No. 1-1, Nayapalli,
PO : RRL, Champaswa,
Bhubaneswar-751013.

Sub: Inspection of Daitari Iron Ore Mine on dtd. 12.10.09.

Ref: Letter No. BKES/R-LPU/2009/3036736, dtd. 21.10.2009.

Sir,

With reference to the above cited subject and letter, we are furnishing below the item-wise compliance report for your kind perusal.

1. Regulation 106(2)(b) read with relaxation granted vide Directorate's letter No. BKH/IR-LP-106(2)(b)2006/1000, dtd. 16.5.06.
The height and width of the benches in the eastern portion of the quarry have been rectified and maintained as per stipulated height and width. The loose boulders have been removed from the benches.
2. Reg. 24:
We are taking steps for doing dust survey in every 6 months. Also we have fixed a dry fog system in the crusher including discharge point of belt conveyor which is working regularly for dust suppression.
3. Reg. 148:
We are taking steps for adequate lighting of the quarries.
4. Reg. 181 read with relaxation granted vide this Directorate's letter No. BKH/IR-LP-106(2)(b)2006/1000, dtd. 16.5.06, under Regulation 106(2)(b) of MMR, 1961:
We have already instructed the contractors for putting automatic fire extinguisher, audio-visual alarms and for view camera in all dumpers and dippers. Also we are persisting them for implementation everyday.

(Contd.... P/2)

o/c

ANNEXURE - 21

- 2 -

5. Reg. 181 with Reg. 172 of MMR, 1961:
We have taken steps for removal of discarded tippers/dumpers, tyres, drums from the Workshop of M/s. Arun Udyog. On day to day basis our Mechanical Engineer is supervising all the activities of the workshop of M/s Arun Udyog. The electric line passing over the Workshop is low Tension line. However, we have taken steps to raise the height of the poles and to install another guard line beneath the said L.T. Line.
6. Reg. 172 of MMR, 1961:
We have advised the Contractor to build-up Driver's cabin for pay loaders.
7. Rule 18 of M.V.T.R., 1966 & Rule 29B of the Miners Rules, 1955:
Vocational Trainings (Basic & Refresher) for 106 dumper/tipper drivers have been completed. We are taking steps to complete Vocational Training for all Drivers early.
Initial Medical Examination have been completed in respect of all drivers and we have completed PMI for 126 Dumper/Tipper Drivers. Steps have been taken to complete PMI for all the Drivers soon.
8. Rule 52 & 50 of the Miners Rules, 1955:
From I, B.E.G & H for hire Tipper/Dumpers are being maintained by the Contractors engaged for transportation of ore from hilltop to foot hill siding.
Rks. of the mine work has discontinued w.e.f. 22.01.10 caused delay in compliance in the matter which may kindly be considered.

Yours faithfully,

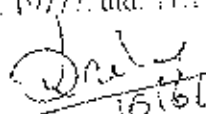
Sd/-

Agent-Cum-Regional Manager,
Daitari Iron Ore Mine.

Memo No. 3150/MM/DTR/OMC/2010

Dated 11.10.2010

Copy submitted to the Addl. General Manager (Mining), OMC Ltd. Bhubaneswar for kind information. This has reference to H.O. Letter No. 19777, dtd. 11.11.09.


16/10/2010
Agent-Cum-Regional Manager,
Daitari Iron Ore Mine.



3031

26-7-10

भारत सरकार
श्रम एवं रोजगार मंत्रालय
खान सुरक्षा महानिदेशालय
भुवनेश्वर क्षेत्र

L-1, Nayapalli, P.O. RFI Campus, Bhubaneswar-751013 - FAX/Phone (0674) 2302561



130

संख्या. B/2010/ 315 /

भुवनेश्वर दिनांक 12/07/2010.

प्रेषक:

खान सुरक्षा निदेशक
भुवनेश्वर क्षेत्र ।

सेवा में,

The Agent
Daitari Iron Ore Mine
M/s. O.M.C.Ltd.
P.O. Talapada
Distt. Keonjhar(Orissa).

Sub: Non-submission of Notice of discontinuance/abandonment in respect of
Daitari Iron Ore Mine of M/s.OMC Ltd.

Dear Sir,

It is learnt that your above named mine has closed and no production is being done for more than four months.

You are therefore requested to submit the Notice of discontinuance/abandonment in Form-I of first schedule as required under the provision of Regulation 6 of Metalliferous Mines Regulation, 1961 to this Directorate at the earliest.

Yours faithfully,

(D. Saha)
Director of Mines Safety
Bhubaneswar Region.

Received with m.m.
to keep it for
some time to report
22/06/2010

10/9/2010

THE ORISSA MINING CORPORATION LTD
(A Government of Orissa Undertaking)
DAITARI IRON ORE PROJECT

No. 457-0 /DTR/OMC/2010Dated. 10.09.2010

To

The Additional General Manager (Mining),
Orissa Mining Corporation Limited,
Bhubaneswar.

Sub : Non-submission of Notice of discontinuance/abandonment in respect of Daitari Iron Ore Mine of M/s. OMC Ltd.

Sir,

With reference to the subject cited above, we are enclosing here with the photocopy of Letter No.B/2010/315, dtd. 12.07.2010 received from the Director of Mines Safety, Bhubaneswar Region for favour of your kind reference.

We had not submitted the said notice to the concerned authority as we were expecting permission for operation of our mines within 2 to 3 months after discontinuance of mines work i.e. 22.01.2010. Now also we are anticipating permission to start the mine operation shortly, hence notice under rule has not given to the authority.

This is for your kind information and necessary action.

Encl : As above

Yours faithfully,

10.9.2010
Regional Manager Cum-Agent,
Daitari Iron Ore Project.

Plc to SAM

ANNEXURE - 21

भारत सरकार
अग्नि एवं खनिज विभाग
खान सुरक्षा उपनिदेशालय
भुवनेश्वर क्षेत्र



1. J. Nayapalli, P.O. RRL, Campos, Bhubaneswar-751013

संख्या. BKE/TR-1/GU/2013/ _____/

भुवनेश्वर, दिनांक: _____/03/2013

प्रेषक

अग्नि सुरक्षा उपनिदेशक,
भुवनेश्वर क्षेत्र ।

To

The Agent,
Daitari Iron Ore Mine,
M/s OMC Ltd., P.O. Talapada,
Dist: Keonjhar (Odisha).

Sub: *General Inspection of Daitari Iron Ore Mine of M/s OMC Ltd. made by the undersigned on 18.02.2013 & 19.02.2013 -- contraventions thereof.*

Dear Sir,

Please refer to the above inspection of your mine made by the undersigned on 18.02.2013 & 19.02.2013, where the following contraventions under the provisions of Metalliferous Mines Regulations, 1961, and the Mines Rules, 1955, were observed:

Reg.31 read with Reg.39: There was shortage of at least one mining mate, as the medical validity of statutory certificate of one of the mates, named as Shri Pabitra Mohan Majhi, was found expired on 11.03.2012. Shri Majhi shall not be engaged in any work of mining mate in the mine until renewal of his certificate.

Reg.106(2)(b) read with this Directorate's Exemption letter No.BKE/TR-1/P-106(2)(b)/2011/329, dated 24.6.2011:

Condition No.3.0: (i) Haul roads leading from the opencast workings to in-pit crushers and main crushing plant were not provided with arrangement of one-way traffic by making separate lanes for load and empty dumpers/tippers.

(ii) Parapet walls or berms/embankments provided besides the haul roads in the mine were not of adequate height and width at many places.

Condition No.16.1: Canopy of contractual tippers (Hywa) working in the mine was not extended to cover full length of driver's/operator's cabin. Blind spot mirrors in water sprinklers & Haulpak dumpers (contractual) and rear vision system/camera in water sprinklers were also not fitted.

2

1219

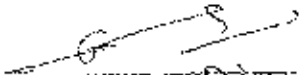
ANNEXURE - 21

संख्या. BKE/IR-1/GI/2015/ 5247/08

मुद्रणेश्वर, दिनांक 13/03/2013

Copy forwarded for information and necessary action to:

1. The Manager, Daitari Iron Ore Mine, M/s OMC Ltd., P.O. Talapada, Dist: Keonjhar, Odisha.
2. The CMD/Nominated Owner of M/s OMC Ltd., OMC House, Bhubaneswar.


रमान सुरक्षा उपनिदेशक,
मुद्रणेश्वर क्षेत्र





**ODISHA MININ CORPORATION LIMITED
(A GOLD CATEGORY PSU OF GOVT.OF ODISHA)
OFFICE OF THE REGIONAL MANAGER,DAITARI
DAITARI.**

No. 1744 /OMC/DTR/2013.

Dt.06.05.2013

To
The Dy. Director Mines Safety
Bhubaneswar Region,
L-1, Nayapalli, Po: RRL Campus,
Bhubaneswar-13.

Sub: General inspection of Daitari Iron ore mines of OMC Ltd
On 18.2.2013 & 19.2.2013.
Ref: Letter No.BKE/IR-I/GI/2013/573, dtd.13.3.2013.

Sir,

With reference to the subject and letter cited above,we are furnishing below the item wise compliance report for favour of your kind perusal.

1. Reg.31 read with Reg.39: Sri Pabitra Mohan Majhi, Mining Mate, has been advised to submit the valid competency certificate at the earliest. For the time being Sri Majhi has been engaged in Daitari Railway Siding.

2. Reg.106(2) (b) read with this Directorates Exemption letter No.BKE/IR-I/P-106(2)(b)/2011/329,dated 24.6.2011:Condition No.3 (I): We have taken steps for one way traffic by making separate lanes for load & empty dumpers in haul roads leading to In-pit Crusher.

(II) Parapet walls or berms/embankment of required size have already been provided besides the haul road in the mines.

Condition 16-1: Action is being initiated to provide extended canopy to cover full length of drivers/operators cabin and fixed blind spot mirror and rear vision system/camera in water sprinkler/haulpak dumper.

Condition-16.2: Action is being initiated to provide heat, dust and noise proof operators cabin in water sprinkler /contractor dumpers.

2

3.Condition - 3.7: of this Directorate's Exemption letter No.BKE/IR-1/P-106(2)(b)/2011/329.dated 24.6.2011 issued under REG.106(2) (B) READ WITH REG.181:The road sign and warning notices along the haul road have been disturbed due to widening of the haul road. Action is being initiated to provide the same and also fluorescent stickers bands along the edges of the down the hill road.

4.Reg.148 (2) read with condition No.6.0 of this Director's Exemption letter No.BKE/IR-1/P106(2) (b)/2011/329, dated 24.6.2011 issued under Reg.106(2)(b): Night shift working is discontinued at present. We are having sufficient no of light and towers posts which will be provided in required places after night shift operation resumed.

5. Reg.174 read with Reg.181: Action is being initiated to provide fencing/guards in tail ends and other moving drums of conveyor belts.

6.Reg.124 (3): The dust prone area of the mines like working faces, drilling places, crushing and screening plants conveyors transfer points are included in periodical dust survey.

7.Rule 29B of the Mines Rules,1955:The periodical medical examination of 266 nos of contractual employees have been completed in January 2013.Action is being initiated to complete medical examination of rest contractual employees.

8.Rule 29V & Rule 29W of the Mines Rules,1955:The recommendation made in the monthly meeting of safety committee has discussed in the subsequent monthly meeting and communicated to the members of the committee

9.Rule 53 of the Mines Rules,1955:Form G-H are already maintained properly.

Yours faithfully,

Regional Manager

Dt. 7-4-2013

Memo.No. 1245/OMC/DTR/2013,

Copy to the Addl.General Manager (MS),OMC Ltd, Bhubaneswar for kind information and necessary action.

Copy to the Sr.Manager (Mining), Daltari, for information and advised to take immediate corrective action in time bound manner.

O/c

4

Regional Manager.



ANNEXURE

भारत सरकार
श्रम एवं रोजगार मंत्रालय
खान सुरक्षा महानिदेशालय
भुवनेश्वर क्षेत्र

L-1, Nayapalli, PO: RRL Campus, Bhubaneswar-751013



संख्या.

Dated the

2014.

प्रेषक

खान सुरक्षा निदेशक,
भुवनेश्वर क्षेत्र

To

The Agent,
Daitari Iron Ore Mine,
M/s OMC Ltd., P.O. Talapada,
Dist: Keonjhar (Odisha).

Sub: Inspection of Daitari Iron Ore Mine of M/s OMC Ltd. made by the undersigned on 25.3.2014 – contraventions observed.

Sir,

Please refer to the above inspection of your aforementioned mine made by the undersigned on 25th March, 2014, when the following contraventions were observed:

- 1) **Reg. 106(2)(b) of MMR, 1961 read with the relaxation granted vide this Directorate's letter No. BKE/IR-1/P-106(2)(b)/2011/329 dated 24/6/2011 & DGMS (Tech) Circular No. 5 of 13/10/2010:**
 - a) Many of the operating tippers/dumpers belonging to M/s Narayani Sons (P) Ltd, Barbil were not provided with functional safety features as stipulated. Only those tippers provided with all functional safety features as stipulated shall be deployed at the mine.
 - b) There was no system in place at the mine for daily examination of all machinery deployed at the mine by a competent person in a prescribed format and to maintain proper records of the same. All machinery deployed at the mine shall be subjected to proper maintenance at stipulated intervals in the statute and by OEM and a detailed record thereof, shall be maintained.
- 2) **Reg. 124(3) of MMR, 1961:** Sampling and determination of the concentration of respirable dust due to mining operations at different locations in the mine, were not being carried out and merely ambient air quality was measured at the mine.
- 3) **Rule 29B of MR, 1955:** Against 227 contractual employees of M/s Narayanai Sons (P) Ltd., 127 were yet to be subjected to Initial Medical Examination.

You are therefore, requested to please rectify the aforementioned contraventions and report compliance within 15 days from the date of issue of this letter.

Yours faithfully,

Sd/-

(आर. सुब्रमणियन)
खान सुरक्षा निदेशक
भुवनेश्वर क्षेत्र ।



Odisha Mining Corporation Limited

(A GOLD CATEGORY STATE PSU)

Letter No. 723/OMC/DTR/2014

Date:- 2/05/2014

To,

The Director Mines Safety,
Bhubaneswar Region,
L-1, Nayapalli, Po-RRL Campus,
Bhubaneswar-13.

Sub:- Compliance of the Contraventions observed during inspection to Daitari Iron ore mines on 25.03.2014.

Ref:- Your letter No:- 1130 dated. 16.04.2014.

Sir,

In pursuance to the subject and letter cited above, this is to kindly inform you that we are submitting herewith the point wise compliance to the observations made during inspection to Daitari Iron Ore Mines on 25.03.2014 which is as under:-

SL. No	Violations raised by DMS	Compliances made by OMC
1.	Reg. 106(2) (b) of MMR, 1961 read with the relaxation granted vide this Directorate's letter No. BKE/IR-1/P-106 (2)(b)/2011/329 dated 24/06/ 2011 & DGMS (Tech.) Circular No:- 5 of 13/10/2010, a)Many of the operating tippers/ dumpers belonging to Naaraayani Sons (P) Ltd Barbil were not provided with functional safety features as stipulated. Only those tippers provided with all functional safety features as stipulated shall be deployed at the mines.	All the operating tippers/ dumpers are provided with functional safety features which are being used by Narayani Sons (p) Ltd.
	b)There was no system in place at the mine for daily examination of all machinery deployed at the mine by a competent person in a prescribed format and to maintain proper records of the same. All the machinery deployed at the mine shall be subject to proper maintenance at the stipulated intervals in the statute and by OEM and a detailed records thereof, shall be maintained.	The Daily examination of all machineries are being done by competent person in prescribed format. Maintenance and record of all the machineries are being taken.

2.	<u>Reg.124/31 of MMR,1961:</u> Sampling and determination of the concentration of respirable dust due to Mining operations at different locations in the Mine , were not being carried out and merely ambient air quality was measured at the mine..	Sampling and determination of the concentration of respirable dust & ambient air quality at present is carried by our Agency M/s. Ecological Development Corporation Ltd as per CPCB standard. Virtually we are putting our effort in minimizing of emission of dust and suppression of dust in the area of generation. However , as desired by DMS, we are taking steps to do the sampling and analysis of respirable dust and communicate to DMS in this regard.
3	<u>Rule 298 of MR,1955:</u> Against 227 contractual employees of M/s Naaraayani Sons (p) Ltd , 127 were yet to be subjected to initial Medical Examination.	Action is being taken to complete initial Medical Examination of balance 117 persons within two (02) months.

This is submitted for favour of your kind information.

Yours faithfully,

[Signature]
Regional Manager
Daitari

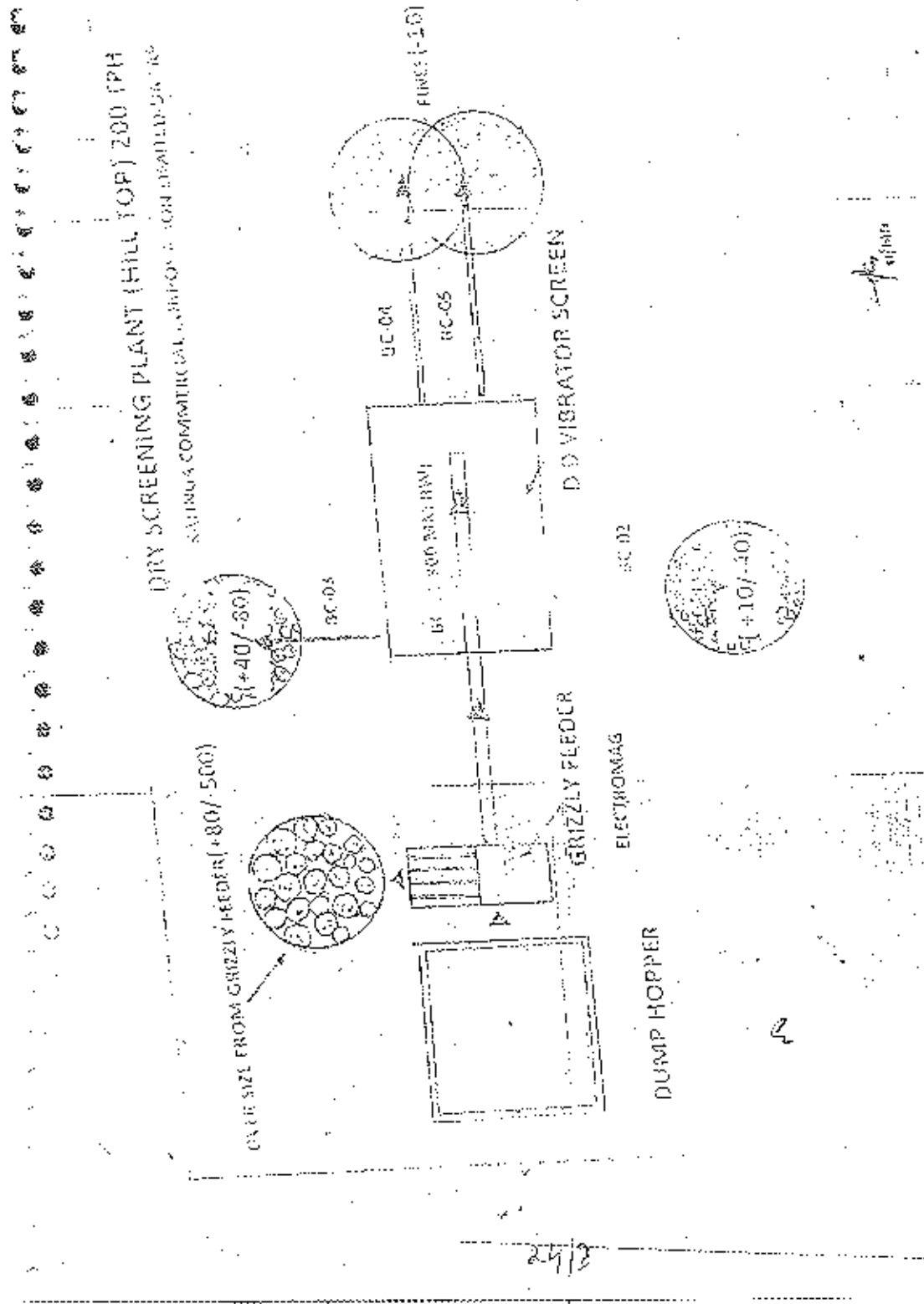
Date:- 2/05/2014

Memo No: 724/OMC/DTR/2014

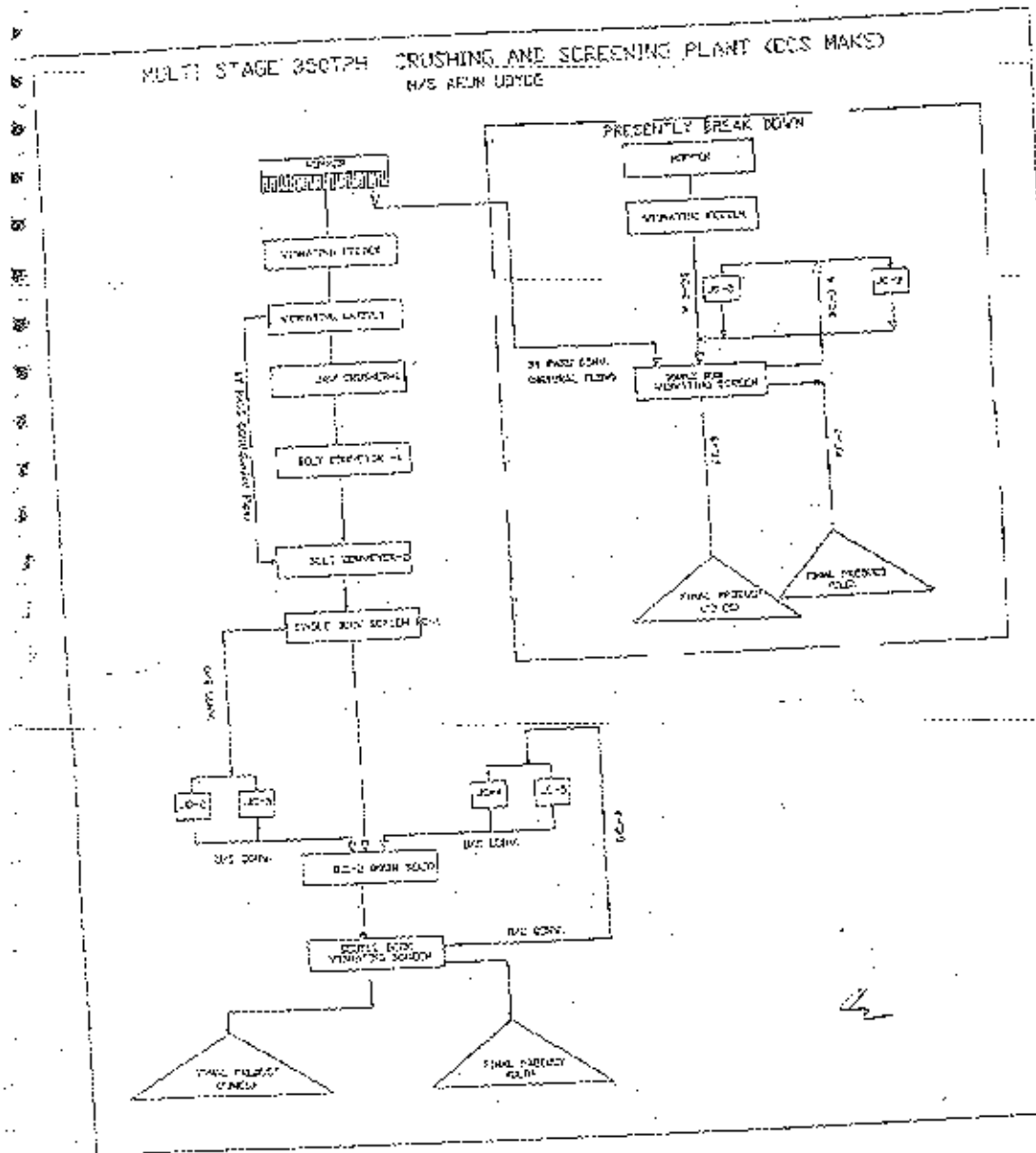
Copy submitted to Addl. General Manager (M.S), OMC Ltd, Bhubaneswar for favour of kind information

[Signature]
Regional Manager
Daitari

O/C



Annexure - 22g



24/11

[Signature]

Annexure - 24A

OFFICE OF THE DIVISIONAL FOREST OFFICER, KONGER WILD LIFE DIVISION
A N A N D A P O R.

OFFICE ORDER NO. 1555 / 1
DATED: 15/11/2009

As per provision of Item No. 13(v) of Circular No. 5-2/2007-04, dated 15.11.2007 of Government of India, Ministry of Environment & Forests, permission is hereby accorded in favour of Orissa Mining Corporation Ltd. to undertake test drilling of 45 bore holes within habitat from the block over 1812.89 Ha. on the following terms and conditions.

1. The permission is given for test drilling of bore holes for prospecting purposes only.
2. No tree felling, damage of forest growth or breaking of forest land is allowed in the area for carrying out exploratory drilling.
3. M/s. O.M.C. Ltd. will be held responsible for any irregularities noticed in the area during the period of drilling.
4. M/s. O.M.C. Ltd. shall display the bore holes after the work is over.
5. The existing path may be used for the user agency and no new paths shall be made.
6. The result of exploratory drilling shall be submitted to the undersigned for record.
7. This permission should be given to the Range Officer, Bhadrachalam Wild Life Range before starting of the work.
8. The undersigned reserves the right to withdraw the permission at any stage on the basis of the condition which is violated by the user.
9. The permission is valid for a period of one year from the date of issue of this order.

Yours faithfully,
Divisional Forest Officer,
Kongur Wild Life Division,
A N A N D A P O R.

Memo No. 1555 / 1 Dated 15/11/2009
Copy forwarded to the Range Officer, Bhadrachalam Wild Life Range, for information and necessary action.

Yours faithfully,
District Forest Officer,
Kongur Wild Life Division,
A N A N D A P O R.

Memo No. 1555 / 1 Dated 15/11/2009
Copy forwarded to the Executive Director (B&E), M/s. Orissa Mining Corporation Ltd., O.M.C. House, Bhubaneswar-751031 for information and necessary action with reference to Circular No. 1557 dated 09.06.2009.

Yours faithfully,
District Forest Officer,
Kongur Wild Life Division,
A N A N D A P O R.

Memo No. 2228 / 1 Dated 18-11-2009
Copy forwarded to the Regional Manager, M/s. O.M.C. Ltd., Bhubaneswar for information and necessary action.

Yours faithfully,
District Forest Officer,
Kongur Wild Life Division,
A N A N D A P O R.

Annexure - 24A

OFFICE OF THE
DIVISIONAL FOREST OFFICER, KSONIHAR WILDLIFE DIVISION, ANANDAPUR

Letter No. 5185 Date: 10.11.2010

To
The Regional Manager,
M/S. O.M.C. Ltd., Daburi Por On Mines,
P.O. Tulapada, Keonjhar-758026

Subj- Time Extension on Permission to under-take test drilling to Daburi M.L. of
O.M.C. Ltd.

Ref- Your letter No. 6216 dated 30.11.2010

Re-

In view of your representation dated 30.11.2010 and recommendation of the
Range Officer, Brahmapur, the period of test drilling over 1812.99 ha. with Daburi Iron
Ore Mines to be by M/s. O.M.C. Ltd. is hereby extended till date 31.12.2012 under the same
and condition as was intimated earlier.

Yours faithfully,

Divisional Forest Officer
Keonjhar Wildlife Division
Anandapur

Copy forwarded to the Range Officer, Brahmapur for his information and
necessary action with reference to his Memo No. 211 dated 05.12.2010.

Divisional Forest Officer
Keonjhar Wildlife Division
Anandapur

(Notice of Sinking shafts and boreholes)

(See Rule-47)

MINE CODE: 30-ORI-08-015

To

No-6497

No-6499

Dt-14-12-2010

1. The Controller General,
Indian Bureau of Mines,
New Secretariat Building,
Fax No.- 0712- 2562531
Nagpur-440001.

3. The Regional Controller of Mines,
Indian Bureau of Mines, Second Floor,
Maharaja complex, 308-
Chandrasekharpur,
Bhubaneswar (Orissa)

2. The Controller of Mines(CM),
Indian Bureau of Mines,
6th Building, Divn. A&D,
Indira Bhawan, Civil Lines,
Nagpur- 440001.

1. Name of mine and mineral worked : Daitari Iron Ore Mines (Iron Ore). Hematite
2. Name and address of lessee: Orissa Mining Corporation Ltd., Post Box No.- 34,
OMC House, Bhubaneswar-751001, Orissa
3. Location:
- i) Toposheet Number : 736/16/SW
- ii) Village : Daitari
- iii) Taluka : Sukinda & Harichandarpur
- iv) District : Jajpur & Keonjhar,
- v) State : Orissa.
4. Number of boreholes intended to be sunk or extended : 10 nos.
(Attached plan 1:4000 scale)
5. Purpose for which each of the boreholes
is intended to be sunk or extended : To prove extension of the Ore
Zone of Daitari Iron Ore Deposit.
6. Type of shafts/ contemplated & its dimension : Not Applicable.
7. Type of drill used and size of core to be obtained : Diamond Core Drilling
core size-HX, NX, BX, HQ, NQ, BQ
8. Intended depth up to which borehole
is to be extended/Extended : 80mts. to 100 mtrs. (PBH-1,2 & 3 proposed for 300 mtrs.)
9. If the borehole commences from
Underground the depth of the level at
Which the bore hole is sunk : --Nil--
10. Name and qualification of the
Geologist or Mining Engineer in
Charge of the operation: Birendra Kumar Panda, Dy. Manager(Geology)
M.Sc (Applied Geology) & M.Phil.
11. Date of commencement of
Proposed drilling operation : 23.07.2010.

Place: Daitari

Date:

Signature

Name in Full: BIRENDRA KUMAR PANDA

Designation: GEOLOGIST (Dy. Manager(Geology)).

Dt-14-12-10

memo no 650/OMC/DTR/10

Copy submitted to the Asst. General Manager(Mining)/ DGM(Geology) OMC Ltd., BBSR for favour of
kind information.

Dy. Manager(Geology)

(Notice of Sinking shafts and boreholes) for 2011-12.

(See Rule-47)

MINE CODE:30-ORI-08-015

To

1. The Controller General, Indian Bureau of Mines, New Secretariat Building, Fax No.- 0712- 2562631 Nagpur-440001.	3. The Regional Controller of Mines, Indian Bureau of Mines, Second Floor, Maharaj complex, 308- Chandrasekharapur, Bhubaneswar (Orissa)
2. The Controller of Mines(CZ), Indian Bureau of Mines, 6th Building, Divn. A&D, Indira Bhawan, Civil Lines, Nagpur- 440001.	

1. Name of mine and mineral worked : Daitari Iron Ore Mines (Iron Ore). Hematite
2. Name and address of lessee: Orissa Mining Corporation Ltd., Post Box No.- 34,
OMC House, Bhubaneswar-751001, Orissa
3. Location:
- i) Toposheet Number : 73G/16/SW
- ii) Village : Daitari
- iii) Taluka : Sukinda & Harichandrapur
- iv) District : Jajpur & Keonjhar,
- v) State : Orissa.
4. Number of boreholes intended to be sunk or extended : 10 nos.
(Attached plan 1:4000 scale)
5. Purpose for which each of the boreholes
is intended to be sunk or extended : To prove extension of the Ore
Zone of Daitari Iron Ore Deposit.
6. Type of shafts/ contemplated & its dimension : Not Applicable.
7. Type of drill used and size of core to be obtained : Diamond Core Drilling
core size-HX, NX, BX, HQ, NQ, BQ
8. Intended depth up to which borehole
is to be extended/Extended : (PBH-1,2 & 3 proposed for 300 mtrs. each and
PBH- 4 to 10 proposed for 100 mtrs. each)
9. If the borehole commences from
Underground the depth of the level at
Which the bore hole is sunk : -Nil-
10. Name and qualification of the
Geologist or Mining Engineer in
Charge of the operation: Birendra Kumar Panda, Dy. Manager(Geology)
M.Sc.(Applied Geology) & M.Phil.
11. Date of commencement of
Proposed drilling operation : 04.04.2011

Place: Daitari
Date: 04.04.2011

Signature: *BK Panda*
4.4.11
Name in Full: BIRENDRA KUMAR PANDA
Designation: GEOLOGIST [Dy. Manager(Geology)].

NO-1761/Dy. 2011
Copy submitted to the Addl. General Manager(Mining)/ DGM(Geology), OMC Ltd., BBSR for favour of
kind information.

Received.

Vm
25/4/11.

Asst. Mgr (Admin) Geo. Sec.

BK Panda
4.4.11
Dy. Manager(Geology)
Daitari.

FUKVI-J

(Notice of Sinking shafts and boreholes) for 2011-12.

No - 3665/OMC/092/2011

(See Rule-47)

Annexure - 24B

Dt. 28.7.2011

MINE CODE:30-ORI-08-015

To	
1. The Controller General, Indian Bureau of Mines, New Secretariat Building, Fax No.- 0712- 2562631 Nagpur-440001.	3. The Regional Controller of Mines, Indian Bureau of Mines, Second Floor, Mohanee complex, 308- Chandrasekharpur, Bhubaneswar (Orissa)
2. The Controller of Mines(CZ), Indian Bureau of Mines, 6 th Building, Divn. A&D, Indira Bhawan, Civil Lines, Nagpur- 440001.	

1. Name of mine and mineral worked : Daitari Iron Ore Mines (Iron Ore), Hematite
2. Name and address of lessee: Orissa Mining Corporation Ltd., Post Box No.- 34,
OMC House, Bhubaneswar-751001, Orissa
3. Location:
 - i) Toposheet Number : 736/16/SW
 - ii) Village : Daitari
 - iii) Taluka : Sukinda & Harichandanpur
 - iv) District : Jagpur & Keonjhar,
 - v) State : Orissa,
4. Number of boreholes intended to be sunk or extended : 14 nos.
(Attached plan 1:4000 scale)
5. Purpose for which each of the boreholes
is intended to be sunk or extended : To prove extension of the Ore
Zone of Daitari Iron Ore Deposit.
6. Type of shafts/ contemplated & its dimension : Not Applicable.
7. Type of drill used and size of core to be obtained : Diamond Core Drilling
core size-HX, NX, BX, HQ, NQ, BQ
8. Intended depth up to which borehole
Is to be extended/Extended : (PBH- 2 proposed for 300 mtrs. and except PBH-11
PBH- 1 to 15 proposed for 100 mtrs. each)
9. If the borehole commences from
Underground the depth of the level at
Which the bore hole is sunk : --Nil--
10. Name and qualification of the
Geologist or Mining Engineer in
Charge of the operation: Birendra Kumar Panda, Dy. Manager(Geology)
M.Sc.(Applied Geology) & M.Phil.,
11. Date of commencement of
Proposed drilling operation : 28.07.2011

Place: Daitari

Date: 28.07.2011

Signature

Name in Full: BIRENDRA KUMAR PANDA

Designation: GEOLOGIST [Dy. Manager(Geology)]

O/c

4

Annexure -24B

FORM-J

(Notice of Sinking shafts and boreholes) for 2011-12.

(See Rule-47)

Memo No - 4625/OMC/DTR/2011
dt. 10-9-2011

MINE CODE-30-ORI-08-015

To	
1. The Controller General, Indian Bureau of Mines, New Secretariat Building, Fax No.- 0712- 2562631 Nagpur-440001.	✓ The Regional Controller of Mines, Indian Bureau of Mines, Second Floor, Mahanes complex, 308- Chandrasekharpur, Bhubaneswar (Orissa)
2. The Controller of Mines(CZ), Indian Bureau of Mines, 6 th Building, Divn. A&D, Indira Bhawan, Civil Lines, Nagpur- 440001.	

1. Name of mine and mineral worked : Daitari Iron Ore Mines (Iron Ore), Hematite
2. Name and address of lessee: Orissa Mining Corporation Ltd., Post Box No.- 34,
OMC House, Bhubaneswar-751001, Orissa
3. Location:
- i) Toposheet Number : 736/16/SW
- ii) Village : Daitari
- iii) Taluka : Sukinda & Harichandanpur
- iv) District : Jajpur & Keonjhar,
- v) State : Orissa.
4. Number of boreholes intended to be sunk or extended : 16 nos.
(Attached plan 1:4000 scale)
5. Purpose for which each of the boreholes
is intended to be sunk or extended : To prove extension of the Ore
Zone of Daitari Iron Ore Deposit.
6. Type of shafts/ contemplated & its dimension : Not Applicable.
7. Type of drill used and size of core to be obtained : Diamond Core Drilling
core size-HX, NX, BX, HQ, NQ, BQ
8. Intended depth up to which borehole
is to be extended/Extended : PBH- 11 and PBH- 16 to
PBH- 30 proposed for 100 mtrs. each
9. If the borehole commences from
Underground the depth of the level at
Which the bore hole is sunk : --Nil
10. Name and qualification of the
Geologist or Mining Engineer in
Charge of the operation: Birendra Kumar Panda, Dy. Manager(Geology)
11. Date of commencement of
Proposed drilling operation: M.Sc.(Applied Geology) & M.Phil.
10-09-2011

Place: Daitari

Date: 10-09-2011

Signature

Name in Full: BIRENDRA KUMAR PANDA
Designation: GEOLOGIST (Dy. Manager(Geology))

Copy submitted to the AGM(M) / DGM(Geo), OMC Ltd.
PBH for favour of kind information.

B.K. Panda

Dy. M. (G)

Typical Photographs of Daitari Iron Ore Mines



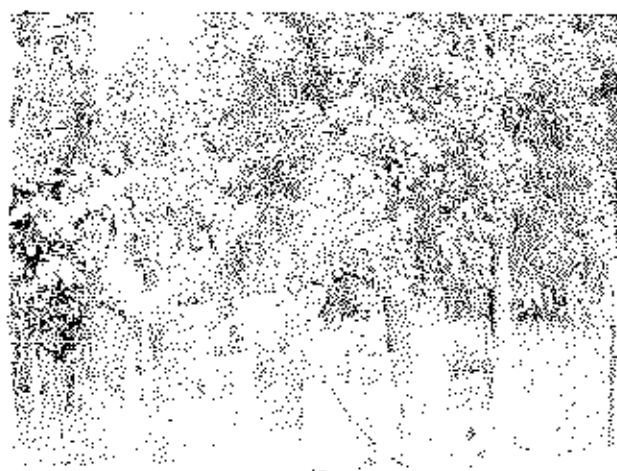
Lease Boundary Pillar No. - B



Lease Boundary Pillar No. - C1

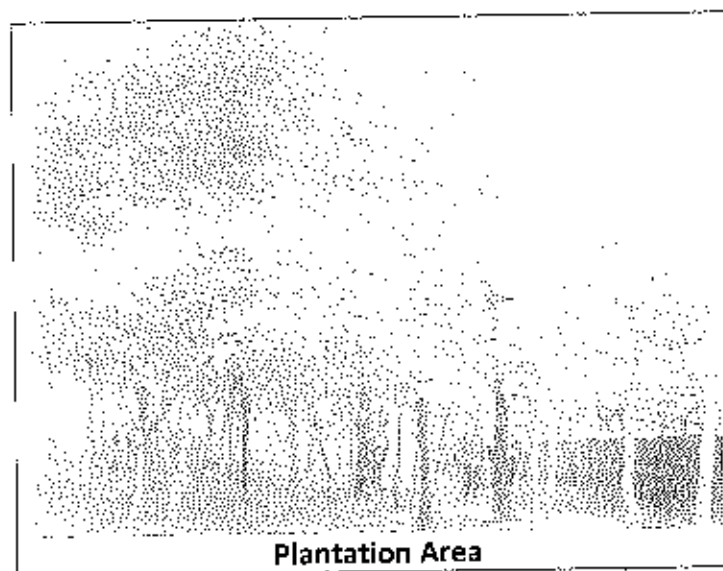


Lease Boundary Pillar No. - C5

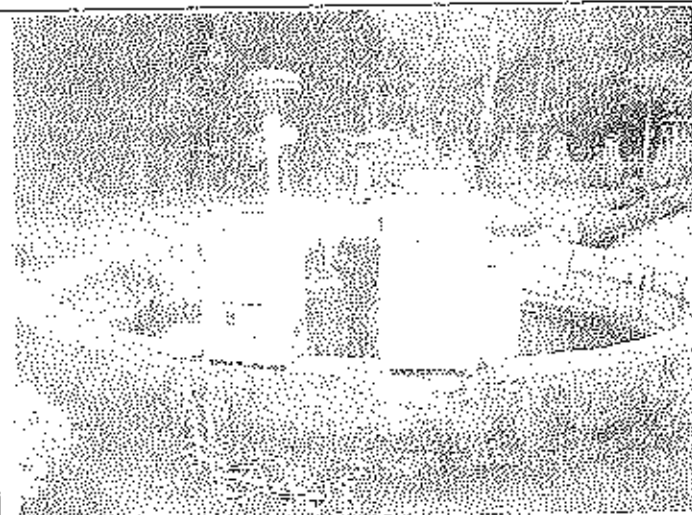


Plantation Area

h



Plantation Area



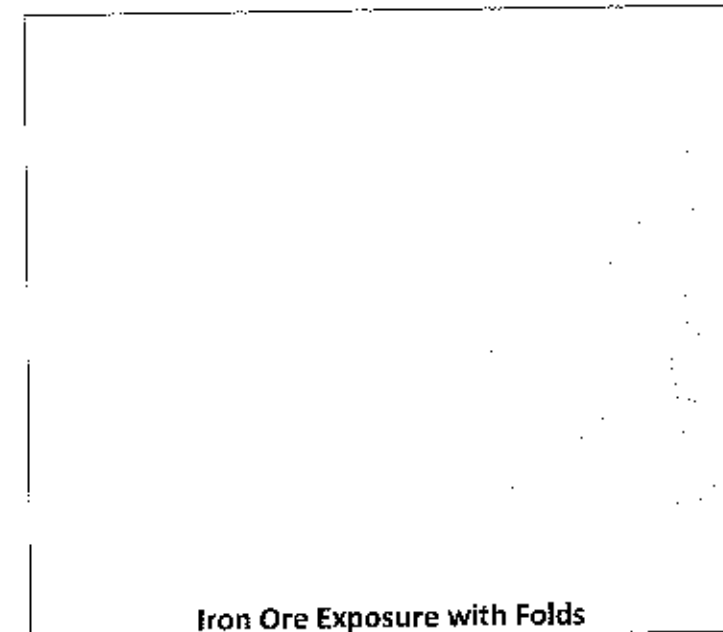
Ambient Air Quality Monitoring



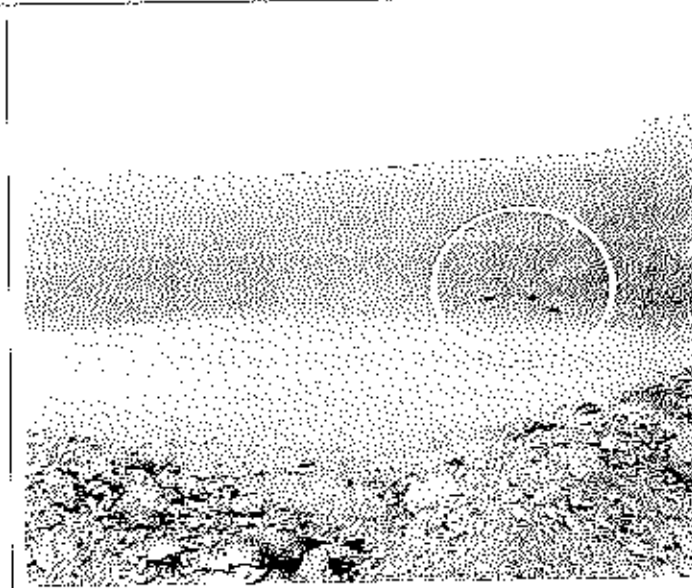
Ambient Air Quality Monitoring



Limonic Ore Patch



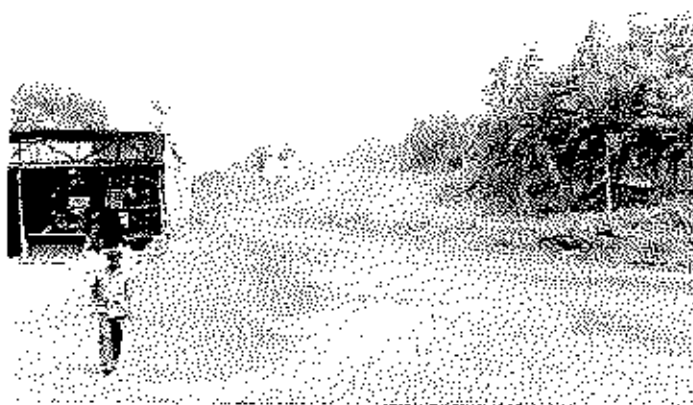
Iron Ore Exposure with Folds



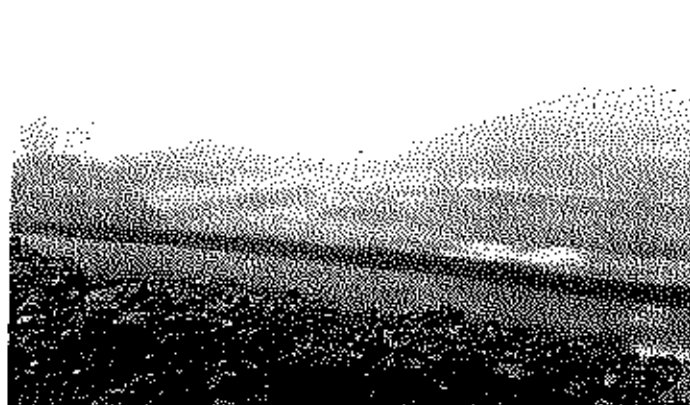
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ANNEXURE - 25



Main Approach Road



Existing Mine Working at Hilltop Quarry



Existing Mine Working at Hilltop Quarry



Existing Mine Working at Hilltop Quarry

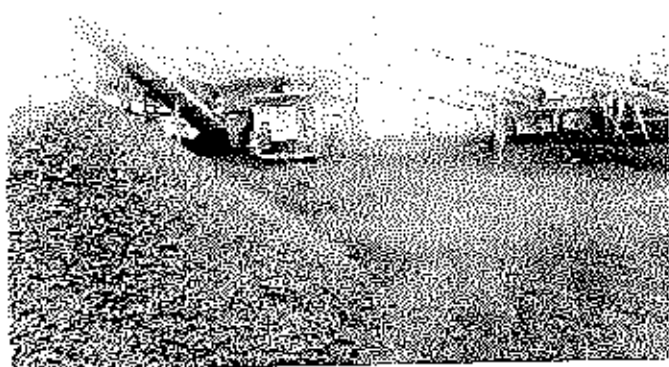


Existing Mine Working at Hilltop Quarry

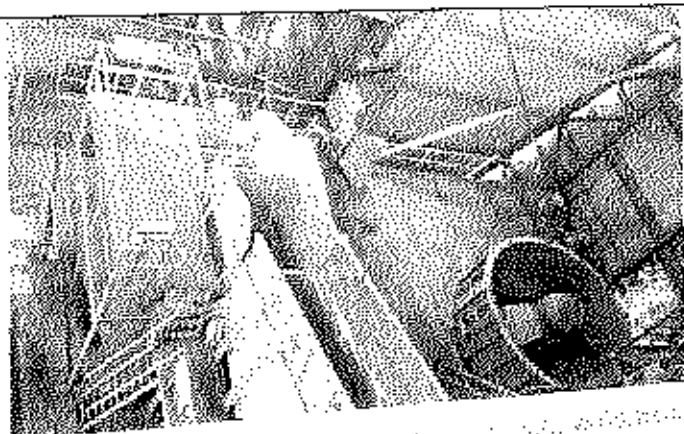


Sindurmundi Block

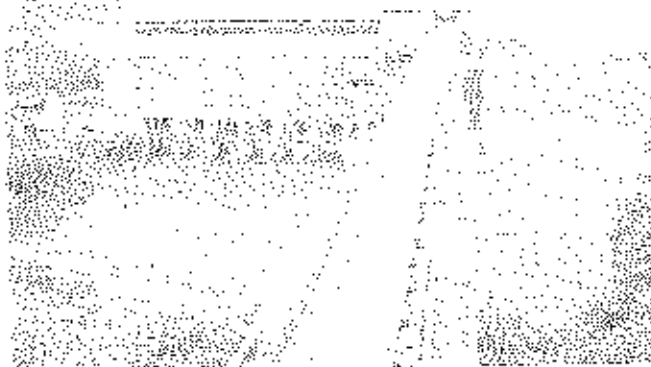
2



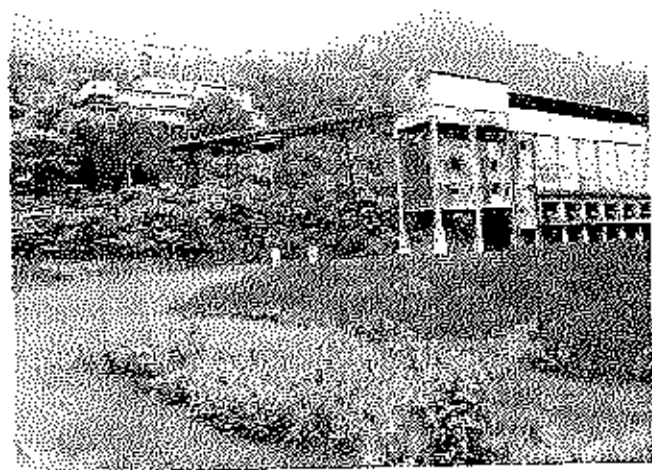
Dry Screening Plant



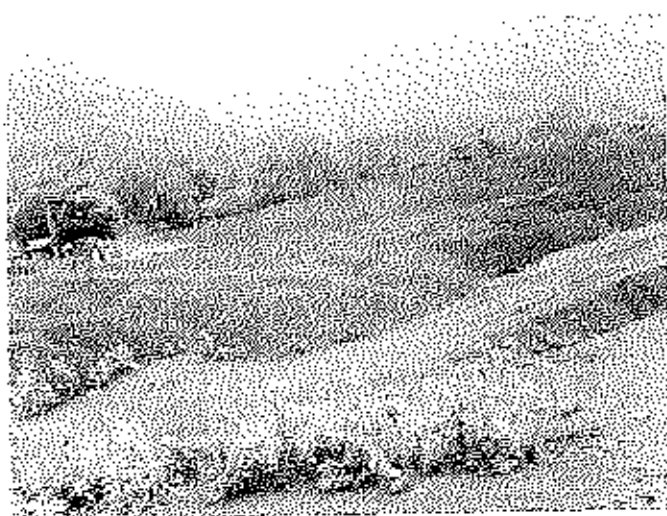
Top View of Primary Crusher at 800 tph OHP



Long Distance Belt Conveyor



Processing & Conveying Arrangement at Baliparbat



Ore Stackyard at Baliparbat



Water Sprinkling at Haul Road



खान अधिनियम 1952
THE MINES ACT 1952

धातुउत्पादक खान के खनन कार्य के सर्वेक्षण के लिए सर्वेक्षक का सक्षमता प्रमाणपत्र
SURVEYOR'S CERTIFICATE OF COMPETENCY TO SURVEY THE WORKINGS
OF A METALLIFEROUS MINE

(धातुउत्पादक खान विनियम, 1961 के अन्तर्गत)

(Under the Metalliferous Mines Regulations 1961)

(केवल विवृत खनित युक्त खानों तक ही सीमित)

(Restricted to mines having opencast workings only)

पुर्ण चन्द्र पाटी

जिनकी जन्म तिथि 10 ~ 06 ~ 1968

है, एवं दिनांक सितम्बर, 2000

को आयोजित विहित परीक्षा में उत्तीर्ण होने पर एतद्वारा केवल विवृत खनित युक्त धातुउत्पादक खान तक ही सीमित के सर्वेक्षण के लिए सक्षमता प्रमाणपत्र प्रदान किया जाता है। यह प्रमाणपत्र 28 ~ 04 ~ 2001 से प्रभावी समझा जाएगा।

Chandra Chandra Padhi

born on 10th June, 1968

and having passed the prescribed examination held on September, 2000

is hereby granted SURVEYOR'S CERTIFICATE OF COMPETENCY to survey the workings of a metalliferous mine having opencast workings only. This Certificate is effective from 28 ~ 04 ~ 2001



सदस्य

खनन परीक्षा बोर्ड

Members of the Board of
Mining Examinations.

Signed and Sealed

Date: JUN 2002

09/01/02

3.6.02

19/11/02

Armed

3/6/02

सदस्य

खनन परीक्षा बोर्ड

Chairman of the Board of
Mining Examinations

31/3/2003

No. G18

Home Address:—

Prepared by *Daswaj*Father's Name *Hari Hara Badhi*Checked by *Wk*Village *Malampa*Thana *Kodala*District *Jamjam*State *Orissa**by*

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FEASIBILITY REPORT

1.0 General Mine Description

Daitari iron ore lease is owned by Odisha Mining Corporation Limited (OMC Ltd.), A Govt. of Odisha Undertaking. Daitari Iron Ore Lease of Odisha Mining Corporation is located in village Talpada, Rebana reserve forest & Daitari protected forest in Harichandrapur tahsil, Keonjhar & Jajpur district of Odisha state between latitude $21^{\circ}05'33.09684''$ – $21^{\circ}07'08.80500''$ N & longitude $85^{\circ}46'01.89300''$ – $85^{\circ}49'17.01804''$ E and is covered by survey of India toposheet no. 73 G/16.

Mining operation in Daitari commenced on 27.01.1966. Earlier the lease area of Daitari Iron Ore lease was 1812.99 Ha, out of which 794.6815 Ha area has been surrendered and present lease area is 1018.3085 Ha. Daitari Iron ore mines is a fully mechanized category "A" mines. Presently rated capacity of mines is 3.0 Mt/annum

The mines is well connected by all weather metal road from different cities of Odisha. The lease area is at a distance of 53 km from Jajpur, 169 km from Keonjhar, 93 km from Cuttack, 155 km from Paradeep and 166 km from Bhubaneswar respectively. Nearest East Coast passenger railway station on Howrah-Chennai main BG line is at Jajpur-Keonjhar road which is at a distance of 53 km from Daitari Iron Ore Mines while the nearest passenger station on Bhubaneswar-Kendujhar BG line is at Tomka which is at a distance of around 9 km.

2.0 Geology & Reserves

2.1 Physiography

Daitari leasehold area is an undulated hilly terrain consisting of high ridges and valleys forming a part of the Tomka-Daitari hill peak at the current level of 830 mRL form the highest point of the area as well as the leasehold. The lowest point in the leasehold is represented by the south-eastern part at 480 mRL.

2.2 Drainage

The area displays a dendritic pattern of drainage. Daitari hill range acts as a water divider where the surface run off from the north, north-east of Daitari contributes to the Baitarani River. The surface run off are collected by Kukrang Nala through several streams and discharged at Pancham in to the Kusei Nala, a major tributary of the River Baitarani. The south, south –west slopes contribute to the River Bramhani where the surface run off is collected by the Damsal Nala and Ganda Nala, two major tributaries of River Bramhani.

2.3 Regional Geology

Daitari iron ore deposit forms a part of the Tomka-Daitari-Kalisagar-Rebana-Harichandanpur basin (Daitari Basin, BIF-2), which is considered to be older to the Bonai Iron Ore Horse Shoe described by Jones & Dunn. Acharya (1976 & 1984) consider the Iron Ore Formation of Daitari-Tomka as the BIF-2 of the Iron Ore Super Group that encompasses the three BIF horizons of northern Odisha. BIF of Daitari is regarded to be of older Proterozoic age. Iron ore formation of Daitari-Tomka basin overlies the granitic basement with an unconformity. The lithology of the area can broadly be divided as below.

Talangi Gritty Quartzite
Upper Metapellites
BIF with variants
Lower Metapellites
Granites

The BIF is the key horizon of reference in the basin. The rocks are highly metamorphosed to green schist facies. The Iron Ore Formation is intruded by the Chromite bearing Ultramafics of Sukinda located to the north of Daitari hill range.



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2.4 Regional Structure

The iron ore formation of Daitari-Tomka represents an overturned anticline where the Talpada valley forms the core of the anticlinal structure. Daitari along with Sindurmundi hills makes the southern limb while the Baghiathali ridge makes the northern limb of the anticline. Both the limbs strike almost E-W and dips southerly by 62° - 72° . A N-S trending fold with N-S trending axial plane is noted between Daitari orebody & Sindurmundi. Due to faulting BIF zone in Daitari orebody & Sindurmundi deposit has been shifted.

2.5 Local Geology

Daitari Iron Ore Deposit is an isolated deposit forming a conspicuous ridge along the district boundary between Keonjhar and Jajpur towards the North of Sukinda Chromite belt. The lower metapellites form the basal unit of the sequence unconformably overlying the granitic basement. Conspicuous hills and tors of granite are abundantly found along Bramhanipal-Harichandanpur road to the north of Daitari.

The lower metapellites represented by phyllites, chlorite and chloritoid schist, lenses of quartzite & quartz schist, metavolcanics with tuffs & sediments, banded phyllites, slates, manganese bearing shale, ferruginous pyritiferous shale/phyllites, coarse dark coloured quartzite etc. are observed abundantly along the ghat-road section from Baliparbat up to the mines. Rocks of Banded Iron Formation consisting of Banded Hematite Jasper (BHJ), Banded Hematite Quartz (BHQ) overly the lower metapillites and are found outcropping near the primary crusher house. Outcrops of BHQ are also observed behind the Canteen in the mines. Highly weathered BHQ outcrop at about CS 1100/5 close to the Dry Screening Plant are observed. The iron ore formation of Daitari is overlain by a comparatively thinner sequence of upper metapellites represented by phyllites, ferruginous shale, slate, tremolite-actinolite schist, dolerite with feldspar porphyry etc. The entire sequence of the upper metapellites is exposed along the western slopes of Daitari Hill. However, the sequence of BHQ/BHC found at the crusher house continues towards Sindurmundi along the slopes apparently overlying the iron ore mineralization of Daitari. No BHQ/BHC sequence has been reported occurring on the footwall side of iron ore mineralization except for the small outcrops at the canteen and the dry screening plant. A horizon of gritty quartzite named as Talangi gritty quartzite represents the uppermost horizon of the sequence. The chromite bearing ultramafics bear an intrusive relationship with the iron ore formation. A large body of quartzite occurring around Pancham can be observed at about 2 kms uphill along the ghat road to Daitari Township. A large dolerite dyke of coarse grained dolerite cuts across the area which is found outcropping along the Ghat Road. Exposures of this dyke can be found at about 100m south of the Tarini Gate. Outcrops of basalt can be observed to the NE of the township along the stream. Pillow structure can be delineated with right side up direction. Daitari is the largest iron ore deposit in the Tomka-Daitari range. Iron Ore has developed by leaching of banded hematite jasper and enrichment of the lower tuffaceous shale. Several smaller iron ore bodies have also been reported at Champajhar, Tungaisuni, Tomka, Baghiathali, Kalisagar and Nipania.

These ore bodies are intra BIF (Acharya 2000) and broadly parallel to bedding and form massive to laminated ore deposits. Another smaller deposit occurs along Sindurmundi Hill to the immediate west of Daitari, separated by a patch of ferruginous shale/phyllites. This area indicates a zone of structural disturbance and four different faults are interpreted to be passing through this zone (Acharya 2002). Sindurmundi appears to be the most promising iron ore deposit in the area besides Daitari.

The succession of rocks in the lease area is as follows.

Upper Metapillites and Meta Volcanics	:	Laterite,
Banded Iron Formation	:	BIF
		Iron ore
Lower Metapillites and Metavolcanics	:	Psammitic rocks, Pelitic / Acid tuff, Dark gray cherty quartzite and BMQ/BMJ/BHQ and BHJ etc.

The different litho units of Daitari iron ore lease is given below:

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- a. **Soft Laminated Ore (SLO)/Friable Ore**
Soft Laminated Ore (SLO)/Friable Ore (FO) is the predominant ore type. 60% of the total reserve comprises of SLO/Friable Ore. At several places a still softer variety of ore can be seen (exposed around CS 700 S) which is termed as the biscuit type of ore. These ore are extensively used in the Dry Screening Plant for production of calibrated lump ore (CLO).
- b. **Hard Laminated/Hard Massive Ore**
The northern part of the deposit is dominated by hard laminated and hard massive variety of ore. Around 20% of total daitari deposit is of Hard Laminated type ore. A crude linear contact can be inferred between the hard massive/laminated ore and the soft laminated/biscuit type of ore.
- c. **Limonite/Limonitic Ore**
The north western part of the mines (00 N/-250 E) hosts a predominantly limonitic ore zone which indicates the proximity of multiple fault zones causing limonitisation to a deeper level. Around 5-6% ore is of limonite/limonitic ore in the deposit. All the ore types of Daitari are predominantly rich in limonite/goethite and hence rich in alumina and phosphorous. Washing and screening of the ore reduces the clayey limonitic materials to some extent. But mostly the limonitic materials become sticky in contact of water and make the removal very difficult.
- d. **Blue Dust/Powdery Ore**
It is fine grained iron rich ore having grayish in colour. It constitutes around 8 -10% of the Daitari iron ore Mines. The southern part of Daitari Iron Ore Mine between -250N to -450N hosts the Blue Dust/powdery ore.
- e. **Laterite/Lateritic Ore**
Laterite/Lateritic Ore is predominantly hosted by Sindurmundi area between -2000E to -1200E. It is around 9 - 10% of the total deposit.
- f. **Shale**
Variety of shale incl. Ferruginous shale, Tuffaceous Shale, Carbonaceous Shale, Brown Redish Shale etc. are present in the area. It is predominant in the Sindurmundi area.

2.6 Local Structure

The deposit represents an overturned anticlinal fold. Strike of the Hilltop deposit is along the hill axis in N-S direction with an strike length of 1400 m. width of the orebody varies from 250m to 450 m. Hilltop deposit is westerly dipping at 60° - 70° . Two major faults cutting the orebody along -1100N and -700N have been interpreted. Strike of the Sindurmundi deposit is in E-W direction with an strike length of 1000 m. Width of the orebody varies from 100m to 350 m. Sindurmundi deposit is southerly dipping at 60° - 65° .

2.7 Exploration

2.7.1 Previous Exploration Work

The details of the exploration work already carried out at Daitari Iron Ore Mines are given below:-

A. Details of exploration already carried out:

Hilltop Deposit

i. Geological Mapping

Geological mapping of Daitari Iron Ore Lease covering 1810 Ha area has been carried out at a scale of 1: 2000 for delineating the ore deposit & various litho contacts.

Topographical map of Daitari Iron Ore Lease has been prepared at 10 m contour interval.

ii. Pitting & Adits

A total of 103 Nos. Of deep & shallow pits at 200 m grid alongwith one adit of more than 100 m length at -300N were sunk to delineate the waste contact zones, identification of overburden and different ore types in Hilltop deposit of Daitari Iron Ore Lease.



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iii. **Core Drilling**

Hilltop deposit of Daitari Iron Ore Lease has been explored by Geology division of OMC Ltd. & Indian Bureau of Mines at 50 m x 50 m grid to 100 m x 100m grid interval from 50N to -1350N. A total of 93 nos. of exploratory boreholes with a total meterage of 6950.88 m has been drilled at Hilltop deposit of Daitari Iron Ore Lease.

Sindurmundi Depositi. **Geological Mapping**

Geological mapping of Daitari Iron Ore Lease covering 1810 Ha area has been carried out at a scale of 1: 2000 for delineating the ore deposit & various litho contacts.

ii. **Core Drilling**

Sindurmundi deposit of Daitari Iron Ore Lease has been explored by Geology division of OMC Ltd. at 100 m x 150 m grid interval from -2250E to -3503. A total of 43 nos. of exploratory boreholes with a total meterage of 4197 m has been drilled at Sindurmundi deposit of Daitari Iron Ore Lease.

A summary of the exploration carried out for G1 & G2 areas indicating mapping, pitting, drilling (No./ spacing), sample drawn/ analyzed etc, existing pit data, grade variation, thickness for Daitari lease is given in the table below:-

Core Drilling

Block	No. & spacing	Depth From/ to	Grade From/ to	Level of exploration
Hilltop	93 Nos. (100 x 100m grid)	10.30/ 284m	1.71/ 69.2% Fe	G1
Sindurmundi	43 Nos. (Overall More than 100 m grid)	41.5/118 m	2.57/68.48% Fe	G2

Shallow / Deep pits**Pit data or trenching/pitting (m³)**

Block	Dimensions & Area	Samples drawn and analyzed	Level of exploration
Hilltop	Shallow pit, 4m(L) x 4m(B) x 5m(D) – 73 Nos. Deep pit, 6m(L) x 4m(B) x 5m(D) – 30 Nos. Total – 103 pits at a grid of 200 x 200m	Approx. 9440m ³ of samples drawn	G1
Sindurmundi	-	-	G2

ii. **Sampling & Analysis**

Sampling and analysis of core samples generated during the course of drilling had been done to know the Fe, Al₂O₃ & SiO₂ content of ore and waste. Samples were drawn at every one meter inside ore zone and representative samples were also analyzed in non ore bearing litho units. Complete analysis was done for every 20th sample while analysis for 6 major radicals i.e. Fe, Al₂O₃, SiO₂ P, S & LOI was done to assess the quality of the deposit. The analysis was carried out by NMDC laboratory, Govt. Laboratory, Jajpur & private analyst namely, SUPCO. During 2001-2006, a total of 3499 samples were analysed for six major radicals, check analysis of 210 samples were carried out, 225 nos. of samples were analysed at 10 m composites for seven radicals and complete analysis of 10 nos. of samples were carried out. During 2008-2012, a total of 5084 samples were analysed for Fe%. A total of 10023 samples have been analysed so far.

Following bulk density has been considered in the approved scheme of mining for different grades ranges.

Grade Range (Fe%)	Tonnage Factor , t/cu.m
45 – 50% Fe	2.5
50 – 55% Fe	3
55 – 58% Fe	3
50 – 55% Fe	3
55 – 60% Fe	3.5
> 60% Fe	3.5

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2.7.2 Exploration to be carried out

In the Hilltop area pit benches have been developed below the bottom of the some of the boreholes and orebody still continues much below the existing benches as revealed from the deep boreholes drilled in the adjoin sections, therefore exploration has been proposed in the Hilltop area to prove the depth persistency of ore. Similarly in the Sindurmundi area boreholes have been drilled at 100 m grid or more therefore exploration has been proposed in the Sindurmundi area to increase the confidence level of reserve for upgradation of G2 category resource into G1 Category. The results of grab samples analysed at mine site indicates presence of float zone & ferruginous shale containing more than 45% Fe upto depth range of 2 m – 3m with an average recovery of around 20% therefore exploration in the south eastern & north western part of the lease has been proposed to increase the reserve base of the mines by further proving of ore. South eastern part of the lease which is predominated by ferruginous shale & float is unexplored. Local succession of the rocks indicates that the iron ore formations are underlain by ferruginous shale in the leasehold area. Accordingly, exploration has been proposed in south-eastern part of lease to augment the iron ore resources of the mines. Following exploration proposal will be undertaken after approval of FDP of the ML.

Year	Borehole No	Easting	Northing	Proposed depth to be drilled (m)
2014-15	PBH/1	(-)300	50	Upto ultimate depth of ore occurrence
	PBH/2	(-)50	50	
	PBH/3	(-)300	0	
	PBH/4	(-)50	0	
	PBH/5	(-)250	(-)50	
	PBH/6	(-)50	(-)50	
	PBH/7	(-)250	(-)100	
	PBH/8	(-)25	(-)100	
	PBH/9	(-)225	(-)150	
	PBH/10	(-)50	(-)150	
	PBH/11	(-)225	(-)200	
	PBH/12	(-)50	(-)200	
	PBH/13	(-)300	(-)200	
	PBH/14	(-)200	(-)250	
	PBH/15	(-)50	(-)250	
	PBH/16	(-)225	(-)300	
	PBH/17	(-)50	(-)300	
	PBH/18	(-)200	(-)350	
	PBH/19	(-)50	(-)350	
	PBH/20	(-)100	(-)400	
	PBH/41	(-)3400	2500	
	PBH/42	(-)3400	2300	
	PBH/43	(-)3200	2300	
	PBH/44	(-)3000	2300	
	PBH/45	(-)2800	2300	
	PBH/46	(-)3200	2100	
	PBH/47	(-)3000	2100	
	PBH/48	(-)2800	2100	
	PBH/49	(-)2600	2100	
	PBH/50	(-)2400	2100	
	PBH/51	(-)3100	1900	
	PBH/52	(-)2900	1900	
	PBH/53	(-)2700	1900	
	PBH/54	(-)2500	1900	
	PBH/55	(-)2300	1900	

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Year	Borehole No	Easting	Northing	Proposed depth to be drilled (m)
	PBH/56	(-)2100	1900	Upto ultimate depth of ore occurrence
	PBH/57	(-)1900	1900	
	PBH/58	(-)1700	1900	
	PBH/59	(-)3000	1700	
	PBH/60	(-)2800	1700	
	PBH/61	(-)2600	1700	
	PBH/62	(-)2400	1700	
	PBH/63	(-)2200	1700	
	PBH/64	(-)2000	1700	
	PBH/65	(-)1800	1700	
	PBH/66	(-)1600	1700	
	PBH/67	(-)1400	1700	
	PBH/68	(-)1200	1700	
	PBH/69	(-)2900	1500	
	PBH/70	(-)2700	1500	
	PBH/71	(-)2500	1500	
	PBH/72	(-)2300	1500	
	PBH/73	(-)2100	1500	
	PBH/74	(-)1900	1500	
	PBH/75	(-)1700	1500	
	PBH/76	(-)1500	1500	
	PBH/77	(-)1300	1500	
	PBH/78	(-)1100	1500	
	PBH/79	(-)900	1500	
	PBH/80	(-)700	1500	
	PBH/81	(-)2700	1300	
	PBH/82	(-)2500	1300	
	PBH/83	(-)2300	1300	
	PBH/84	(-)2100	1300	
	PBH/85	(-)1900	1300	
	PBH/86	(-)1700	1300	
	PBH/87	(-)1500	1300	
	PBH/88	(-)1300	1300	
	PBH/89	(-)1100	1300	
	PBH/90	(-)900	1300	
	PBH/91	(-)700	1300	
	PBH/92	(-)500	1300	
	PBH/93	(-)300	1300	
	PBH/94	(-)2600	1100	
	PBH/95	(-)2400	1100	
	PBH/96	(-)2200	1100	
	PBH/97	(-)2000	1100	
	PBH/98	(-)1800	1100	
	PBH/99	(-)1600	1100	
	PBH/100	(-)1400	1100	
	PBH/101	(-)1200	1100	
	PBH/102	(-)1000	1100	
	PBH/103	(-)800	1100	
	PBH/104	(-)600	1100	
	PBH/105	(-)400	1100	
	PBH/106	(-)200	1100	

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Annexure 27

Year	Borehole No	Easting	Northing	Proposed depth to be drilled (m)
	PBH/107	00	1100	
	PBH/108	200	1100	
	PBH/109	(-)2500	900	
	PBH/110	(-)2300	900	
	PBH/111	(-)2100	900	
	PBH/112	(-)1900	900	
	PBH/113	(-)1700	900	
	PBH/114	(-)1500	900	
	PBH/115	(-)1300	900	
	PBH/116	(-)1100	900	
	PBH/117	(-)900	900	
	PBH/118	(-)700	900	
	PBH/119	(-)500	900	
	PBH/120	(-)300	900	
	PBH/121	(-)100	900	
	PBH/122	100	900	
	PBH/123	300	900	
	PBH/124	500	900	
	PBH/125	700	900	
	PBH/126	(-)2400	700	
	PBH/127	(-)2200	700	
	PBH/128	(-)2000	700	
	PBH/129	(-)1800	700	
	PBH/130	(-)1600	700	
	PBH/131	(-)1400	700	
	PBH/132	(-)1200	700	
	PBH/133	(-)1000	700	
	PBH/134	(-)800	700	
	PBH/135	(-)600	700	
	PBH/136	(-)400	700	
	PBH/137	(-)200	700	
	PBH/138	00	700	
	PBH/139	200	700	
	PBH/140	400	700	
	PBH/141	600	700	
	PBH/142	800	700	
	PBH/143	1000	700	
	PBH/144	1200	700	
	PBH/145	(-)2300	500	
	PBH/146	(-)2100	500	
	PBH/147	(-)1900	500	
	PBH/148	(-)1700	500	
	PBH/149	(-)1500	500	
	PBH/150	(-)1300	500	
	PBH/151	(-)1100	500	
	PBH/152	(-)900	500	
	PBH/153	(-)700	500	
	PBH/154	(-)500	500	
	PBH/155	(-)300	500	
	PBH/156	(-)100	500	
	PBH/157	100	500	

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Year	Borehole No	Easting	Northing	Proposed depth to be drilled (m)
	PBH/158	300	500	
	PBH/159	500	500	
	PBH/160	700	500	
	PBH/161	900	500	
	PBH/162	1100	500	
	PBH/163	1300	500	
	PBH/164	1500	500	
	PBH/165	1700	500	
	PBH/166	(-)2100	300	
	PBH/167	(-)1900	300	
	PBH/168	(-)1700	300	
	PBH/169	(-)1500	300	
2015-16	PBH/21	(-)150	(-)450	Upto ultimate depth of ore occurrence
	PBH/22	(-)50	(-)450	
	PBH/23	(-)50	(-)550	
	PBH/24	(-)75	(-)600	
	PBH/25	0	(-)600	
	PBH/26	(-)50	(-)650	
	PBH/27	(-)25	(-)700	
	PBH/29	(-)50	(-)850	
	PBH/30	(-)25	(-)900	
	PBH/31	(-)125	(-)900	
	PBH/32	(-)100	(-)950	
	PBH/33	(-)75	(-)1000	
	PBH/34	(-)150	(-)1100	
	PBH/35	(-)125	(-)1150	
	PBH/36	(-)175	(-)1150	
	PBH/37	(-)100	(-)1200	
	PBH/38	(-)175	(-)1200	
	PBH/39	(-)100	(-)1250	
	PBH/40	(-)150	(-)1300	
	PBH/170	(-)1300	300	
	PBH/171	(-)1100	300	
	PBH/172	(-)900	300	
	PBH/173	(-)700	300	
	PBH/174	(-)500	300	
	PBH/175	(-)300	300	
	PBH/176	(-)100	300	
	PBH/177	100	300	
	PBH/178	300	300	
	PBH/179	500	300	
	PBH/180	700	300	
	PBH/181	900	300	
	PBH/182	1100	300	
	PBH/183	1300	300	
	PBH/184	1500	300	
	PBH/185	(-)1900	100	
	PBH/186	(-)1700	100	
	PBH/187	(-)1500	100	
	PBH/188	(-)1300	100	
	PBH/189	(-)1100	100	

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Year	Borehole No	Easting	Northing	Proposed depth to be drilled (m)
	PBH/190	(-)900	100	
	PBH/191	(-)700	100	
	PBH/192	(-)500	100	
	PBH/193	(-)300	100	
	PBH/194	(-)100	100	
	PBH/195	100	100	
	PBH/196	300	100	
	PBH/197	500	100	
	PBH/198	700	100	
	PBH/199	900	100	
	PBH/200	1100	100	
	PBH/201	1300	100	
	PBH/202	1500	100	
	PBH/203	(-)1700	(-)100	
	PBH/204	(-)1500	(-)100	
	PBH/205	(-)1300	(-)100	
	PBH/206	(-)1100	(-)100	
	PBH/207	(-)900	(-)100	
	PBH/208	(-)700	(-)100	
	PBH/209	(-)500	(-)100	
	PBH/210	(-)300	(-)100	
	PBH/211	(-)100	(-)100	
	PBH/212	100	(-)100	
	PBH/213	300	(-)100	
	PBH/214	500	(-)100	
	PBH/215	700	(-)100	
	PBH/216	900	(-)100	
	PBH/217	1100	(-)100	
	PBH/218	1300	(-)100	
	PBH/219	(-)1500	(-)300	
	PBH/220	(-)1300	(-)300	
	PBH/221	(-)1100	(-)300	
	PBH/222	(-)900	(-)300	
	PBH/223	(-)700	(-)300	
	PBH/224	(-)500	(-)300	
	PBH/225	(-)300	(-)300	
	PBH/226	(-)100	(-)300	
	PBH/227	100	(-)300	
	PBH/228	300	(-)300	
	PBH/229	500	(-)300	
	PBH/230	700	(-)300	
	PBH/231	900	(-)300	
	PBH/232	1100	(-)300	
	PBH/233	1300	(-)300	
	PBH/234	(-)1300	(-)500	
	PBH/235	(-)1100	(-)500	
	PBH/236	(-)900	(-)500	
	PBH/237	(-)700	(-)500	
	PBH/238	(-)500	(-)500	
	PBH/239	(-)300	(-)500	
	PBH/240	(-)100	(-)500	

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Year	Borehole No	Easting	Northing	Proposed depth to be drilled (m)
	PBH/241	100	(-)500	Upto ultimate depth of ore occurrence
	PBH/242	300	(-)500	
	PBH/243	500	(-)500	
	PBH/244	700	(-)500	
	PBH/245	900	(-)500	
	PBH/246	1100	(-)500	
	PBH/247	1300	(-)500	
	PBH/248	(-)1100	(-)700	
	PBH/249	(-)900	(-)700	
	PBH/250	(-)700	(-)700	
	PBH/251	(-)500	(-)700	
	PBH/252	(-)300	(-)700	
	PBH/253	(-)100	(-)700	
	PBH/254	100	(-)700	
	PBH/255	300	(-)700	
	PBH/256	500	(-)700	
	PBH/257	700	(-)700	
	PBH/258	900	(-)700	
	PBH/259	1100	(-)700	
	PBH/260	(-)900	(-)900	
	PBH/261	(-)700	(-)900	
	PBH/262	(-)500	(-)900	
	PBH/263	(-)300	(-)900	
	PBH/264	(-)100	(-)900	
	PBH/265	100	(-)900	
	PBH/266	300	(-)900	
	PBH/267	500	(-)900	
	PBH/268	700	(-)900	
	PBH/269	900	(-)900	
	PBH/270	1100	(-)900	
	PBH/271	(-)700	(-)1100	
	PBH/272	(-)500	(-)1100	
	PBH/273	(-)300	(-)1100	
	PBH/274	(-)100	(-)1100	
	PBH/275	100	(-)1100	
	PBH/276	300	(-)1100	
	PBH/277	500	(-)1100	
	PBH/278	700	(-)1100	
	PBH/279	900	(-)1100	
	PBH/280	1100	(-)1100	
	PBH/281	(-)500	(-)1300	
	PBH/282	(-)300	(-)1300	
	PBH/283	(-)100	(-)1300	
	PBH/284	100	(-)1300	
	PBH/285	300	(-)1300	
	PBH/286	500	(-)1300	
	PBH/287	700	(-)1300	
	PBH/288	900	(-)1300	
	PBH/289	(-)200	(-)1500	
	PBH/290	00	(-)1500	
	PBH/291	200	(-)1500	

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Year	Borehole No	Easting	Northing	Proposed depth to be drilled (m)
	PBH/292	400	(-)1500	
	PBH/293	600	(-)1500	
	PBH/294	800	(-)1500	
	PBH/295	100	(-)1700	
	PBH/296	300	(-)1700	
	PBH/297	500	(-)1700	
	PBH/298	700	(-)1700	
	PBH/299	700	(-)1900	

3.0 Reserves Assessment

As per last approved Scheme of Mining approved vide letter no. 314(3)/2012-MCCM(CZ)/MS-52/223 dated 12.07.2013

1. Method adopted for estimation of Resources in the last approved Scheme of Mining

So far two mineral bearing blocks have been identified in Daitari Iron Ore Lease. First block is the working zone, known as Daitari Hill Top deposit within local co-ordinate limits (146N / 86 W, 32 S / 139 E, 40 N / 354 W and 1373 S / 105 W) where mining operation is being continued since inception of the mines and the second iron ore bearing block is Sindurmundi bound by local co-ordinates (695 N / 1896 W, 507 N / 2013 W, 307 S / 458 W and 308 S / 1098 W area within Daitari mining leasehold of 1018.3085 Ha. Estimation of Resources have been made separately for Daitari Hill Top and Sindurmundi deposits based on the geological mapping, topography and ore intercept in drill holes. Surface map showing ore body is studied with borehole data. Level from top of ore body till borehole intersect in footwall, in each section are joined, which is considered as measured resource. Beyond that, considering the ore thickness and lithological aspects is marked to calculate the indicated resource. Thus 28 numbers of cross sections from 50 N to 1300 S at 50 m interval in Daitari Hill Top block and 17 numbers of cross sections from 500 W to 2000 W at 100 m interval in Sindurmundi block are drawn showing measured and indicated zones. Measured ore resources has been considered up to a depth up to which ore body has been intersected in boreholes while indicated ore reserve has been considered up to 10 to 25 m (variable depending the thickness of ore in that section and adjacent sections, below the proved ore where borehole has been closed on ore itself.

2. Reserves/ Resources as per last approved Scheme of Mining

In the approved scheme of mining a cut off grade of 45% Fe with +58% Fe as Saleable grade was considered for Reserve/resource estimation.

A summary of the reserve/resource as per the last approved scheme of mining is given below.

Category	UNFC CODE	Daitari Hill Top	Sindurmundi	Grade (Fe%)
Proved	111	43.158 (Diverted Forest)	-	+58% Fe
Probable	122	1.452 (Diverted Forest))	-	+58% Fe
Feasibility/pre feasibility resources	211 & 222*	-	-	
*Remaining Measured Mineral resources	331	43.310 (Un-diverted Forest)	-	-
*Remaining Indicated Mineral resources	332	31.821 (Un-diverted Forest)	67.410 (Un-diverted Forest)	+58% Fe

*Feasibility not considered due to un-diverted forest land

4.0 Mining method

The Daitari Iron-ore Mines comes under Category-A (Fully Mechanized category) as per the IBM guidelines. The deposit is being worked by opencast mining method with formation of benches by drilling and blasting. Presently maximum height of bench is 10 m whereas, minimum width of bench is 10 m. Drilling & blasting is being used for hard laminated & massive ore, whereas, soft ore is directly excavated by 1.5 – 3.5 m³ capacity hydraulic excavators. The blasted/excavated material is loaded into 16 – 25 t capacity tippers / 35 t capacity

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dumpers which in turn is transported to 200 tph & 350 tph dry screening & crushing unit and 800 tph crushing plant for further size reduction & screening.

5.0 Production Schedule

Year-wise Production Schedule envisaged for the ensuing scheme period of 2014-15 to 2015-16 is given below.

Year	Ore		Subgrade in tonnes	Waste in cu.m	Stripping Ratio, m ³ : t (Waste : Ore)
	Qty, tonnes	Fe%			
2014-15	2982355	62.5	-	-	-
2015-16	5722601	62.51	-	-	-

6.0 Beneficiation

No beneficiation is required on the ore from Daitari iron ore mine. Only crushing & screening has been envisaged to produce the desired product i.e calibrated lump ore (+10-40mm) size & fines ore (-10mm).

7.0 Marketing

The mine is supposed to produce calibrated lump ore (+10-40mm) size fraction & fines ore (-10mm) size fraction for its dispatch to different sponge iron plants/ steel plants having an Fe% in the range of 63 – 64%. Long term agreement are in the process to be signed with a number of large integrated steel plant units in Orissa, apart from the sponge iron units too located in Orissa.

8.0 Infrastructure

Basic infrastructure is available in the mine to facilitate the workings. They are mine offices, workshop, garage, explosives magazine, rest shelter, first aid station, fire fighting stations, site store, V.T. centre, Time office, Canteen, laboratory, welfare centre, Post office, Public Transport services etc.

Employment potential

For smooth running of any industrial unit, both the men and machinery constitute two vital elements. Estimation for manpower and equipment required, deserve equal emphasis. It has been assumed that the major requirement of non-executive manpower will be met through engagement of local people. Also general transportation will be outsourced, which will generate indirect employment to the local peoples.

Presently 26 Nos. of technical & supervisory staff alongwith 699 workers are employed in the mines. Provision for adequate numbers of officials under statutory requirement as per Mines Act, MMDR Act and the rules & regulations made there under.

9.0 Environmental requirements

9.1 Mine out land:

Existing & proposed land use pattern as per last approved scheme of mining is given below:-

Type of land use	Existing	During scheme period upto 2015-16	Conceptual period
Mining	61.63	61.63	166.8199
Sub-grade stack	5.50	5.5	0
Mineral Stacking & Processing	14.00	14	14
Camp/Township/Infrastructure	5.50	5.5	5.5
Road	8.97	8.97	8.97

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Type of land use	Existing	During scheme period upto 2015-16	Conceptual period
Plant & Machinerfes	-	2.6495	2.6495
Safety zone	13.28	13.277	13.277
OB dump	-	-	132.461
Undisturbed area (For future Exploration)	909.43	906.782	674.6311
Total	1018.31	1018.3085	1018.3085

9.2 Water Quality Management:

The water table will not be touched during the proposed scheme period. However due to surface run offs there will be likely impact on the surface water quality. Since no waste generation has been envisaged during the ensuing scheme period ending on 26.01.2016, no dumping plan has been proposed. For the purpose, 60 nos. of check dams with boulder packing have been constructed along the streams to protect surface runoff.

9.3 Air quality management:

Following measures are proposed for management of air quality:-

- Water sprinkling on haul roads.
- Dense plantation along the safety zone.
- No overloading of tippers/ Dumpers.
- Provision of dust extractors with the drill machines/ wet drilling practices.
- Water spraying/ fogging in the dump hopper of crusher.
- All the conveyors will be completely covered.
- Provisions of dust masks to the persons exposed to dust.

Apart from the above, regular monitoring of the ambient air quality as per the statutes will be strictly followed.

9.4 Waste Management:

In the last approved scheme of mining material containing Fe% more than 58% was considered usable ore, material with 45% - 58% Fe content as Subgrade and material containing Fe% below 45% was considered as waste. In the approved scheme of mining no waste and subgrade generation was envisaged.

9.5 Top soil management:

No top soil will be generated during the scheme period.

10 Others like legal factors like tribal issues, national parks etc.

The area is not close to any national parks and do not have any tribal issues. No specific conditions were imposed on the lessee while executing the lease deed.

The lease deed for total area of 1812.99 Ha was executed on 27.01.1966 for a period of 30 years (copy of lease deed is enclosed as Annexure - 7), which expired on 26.01.1996. Application for further renewal of the lease for a period of 20 years w.e.f. 27.01.1996 was made on 21.01.1995 for a lease area of 1812.99 Ha. (A copy of Form-J & D w.r.t the same is enclosed as Annexure - 8). In the meantime OMC decided to retain only 190.20 Ha area and surrender balance part of the mining lease area, and accordingly a revised renewal application was filed by OMC on 22.05.1997 for an area over 190.20 Ha. (A copy of Form-J & D w.r.t the same is enclosed as Annexure - 8A). Mining plan under Rule 22 (1) of MCR 1960 for a lease area of 190.20 Ha was approved by IBM vide letter No. 314(3)/97/MCCM(C)/MP-10, dated 14.09.1998. Subsequently, the Scheme of mining along with Progressive Mine Closure Plan (PMCP) for the period from 2003-2008 over 190.20 Ha area was submitted by the lessee and approved by Indian Bureau of Mines vide letter No 314(3)/97/MCCM(C)/S-22/2003, dated 11.07.2006. Later on OMC management again decided to retain the original lease area of 1812.99 Ha without surrendering any part of the lease and requested Principal Secretary to Govt. of Odisha, Department of Steel & Mines Bhubaneswar to grant 1st renewal of the mining lease over an area of 1812.99 Ha vide letter no. 3156/OMC/G&S/2006 dated 09.02.2006. (A copy of the

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same is enclosed as Annexure - 8B). OMC also wrote similar letter to Director of Mines (Odisha) on 15.02.2012 to grant 1st renewal of lease over an area of 1812.99 Ha. (A copy of the same is enclosed as Annexure - 8C). Scheme of mining along-with PMCP for the period 2008-2013 and for an area of 1812.99 Ha. was approved by IBM vide letter No 314(3)/2008/MCCM(CZ)/MS-12, dated 06.10.2008. Approved Mining Plan for an area of 190.20 Ha was modified for the revised lease area of 1812.99 Ha. The same was approved by Indian Bureau of Mines vide their letter No 314(3)/2008/MCCM(CZ)/MP-16 dated 06.10.2008. Last scheme of mining of Daitari iron ore lease for a period of 2013-2016 over an area of 1812.99 Ha. has been approved by IBM vide letter no. 314(3)/2012-MCCM(CZ)/MS-52/223 dated 12.07.2013. Copy of the approval letter of last scheme of mining is enclosed as annexure - 9.

The environment clearance of the mine has been accorded by MoEF vide letter no. J-11015/1003/2007-IA.II(M) dated 22.09.2010 for a production capacity of 3.0 million tonnes per annum. (A copy of the same is enclosed as Annexure- 14). The stage-II forestry clearance of the mine has been accorded for an area of 95.60 Ha by MoEF (FC Division) vide letter no. 8-164/97-FC dated 25th/27th January 2005. (A copy of approval letter is enclosed as Annexure - 13). Consent to operate have also been granted by the state pollution control board, Odisha under the Air & Water (Prevent & Control of Pollution) Act vide letter no. 5917/IND-I-CON-246 dated 05.04.2011, which is valid upto 31.3.2016. Consent to establish have also been granted by the state pollution control board, Odisha under the Air & Water (Prevent & Control of Pollution) Act vide letter no. 504/IND/-II-CON-47666 dated 12.01.2009. Copy of the consents granted by the state pollution control board is also enclosed as Annexure- 15. The lessee also has surface right over an area of 520.30 Ha. A copy of the surface right permission letter is given in annexure - 16.

Later it was again proposed by OMC to retain 1018.3085 Ha. and surrender the remaining area (794.6815 Ha.) to the state government. Permission from the state government for obtaining renewal of the lease over 1018.3085 Ha. is enclosed as annexure 10B. Accordingly, OMC prepared the Final Mine Closure Plan (FMCP) for the proposed area to be surrendered i.e. 794.6815 Ha. and the same was approved by IBM vide letter no. 314(3)/2012-MCCM(CZ)/FMCP-6/453 dated 15.03.2013 (Copy of approval letter of FMCP for surrender of 794.6815 Ha area is enclosed as annexure 10. Certificate under rule 29A of MCR 1960 has been issued by Regional Controller of Mines, Bhubaneswar vide letter no. FMCP/FM/05-ORI/BHU-2012-13 dated 25.06.2013 (Copy of the same is enclosed as annexure 10A). Precise area plan for the balance retained area of 1018.3085 Ha. was approved by the Directorate of Mines, Odisha vide letter no. No. MIV(B)-59/04-12897/DM dated 23/02/2013 is enclosed as Annexure 11. There has been no MCDR violations during the last scheme of mining period. Application made to the state government for change in RML area is enclosed as Annex.10C.

11 Economic evaluation

11.1 Capital Cost

No massive injection of capital cost has been envisaged for development of Daitari iron ore lease except one new stand alone 1000 tph capacity crushing & screening plant, capital investment for monitoring of environment parameters etc. The capital cost envisaged for the next six years is Rs. 893.75/- Crore. Break-up of the same is given below.

Sl. No.	Item	Total Provision	Capital Cost, Rs. Lakh					
			2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
1	Land, Building, Infrastructure	3310.25	331.03	993.08	1986.15	0.00	0.00	0.00
2	Plant & Machinery							
a	Existing 800 tph OHP	2700.00	1350.00	1350.00	0.00	0.00	0.00	
b	Stand alone new 1000 tph Plant	59432.00	1188.64	16640.96	38630.80	2971.60	0.00	0.00
c	Equipment	3510.01	175.50	877.50	2281.51	175.50	0.00	
	Total Plant & Machinery	65642.01	2714.14	18868.46	40912.31	3147.10	0.00	
3	Cost towards NPV	12755.52	1275.55	5102.21	6377.76	0.00	0.00	
4	Compensatory Afforestation	19.00	1.90	5.70	11.40	0.00	0.00	0.00

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Sl. No.	Item	Total Provision	Capital Cost, Rs. Lakh					
			2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
	Cost							
5	Environmental Monitoring & Recurring Expenses on environmental protection measures	200.00	10.80	10.80	30.00	40.00	50.80	57.60
6	Mine Development Cost							
a	Exploration Cost	16.45	6.58	9.87	0.00	0.00	0.00	0.00
b	Scientific Study & Project Report Preparation	50.00	5.00	35.00	10.00	0.00	0.00	0.00
	Total Mine Development Cost	66.45	11.58	44.87	10.00	0.00	0.00	0.00
7	Miscellaneous	7381.76	217.25	1251.26	2466.38	159.36	2.54	0.00
8	Total Capital Expenditure	89374.99	4562.25	26276.37	51794.00	3346.46	53.34	57.60

11.3 Production Cost

The average cost of production for Daitari Iron Ore Mines over a period of 22 years is given below.

Item	Cost, Rs./t
Direct Cost (Mining)	376.94
Crushing, Screening & Washing Cost	18.28
Overhead Cost	59.28
Depreciation	14.51
Interest	0.00
Royalty	318.28
Taxes	274.09
Total	1061.48

11.4 Economic analysis

Net sales realization of saleable iron ore lumps is Rs 4414 / t & Rs 2362 / t for iron ore fines. Considering the capital cost and operating cost as elaborated in the preceding chapters and net sales realization, the pay back period is less than a year. Year-wise Profit & Loss Statement, Cash flow statement and IRR Calculation over a period of 22 years is given in appendix A.

11.5 Sensitivity Analysis

Sensitivity analysis was carried out to determine the effect of variation of Post tax IRR with change in Selling price, capacity utilization, capital cost and operating cost. Result of sensitivity analysis is given below.

Sensitivity Analysis		
Sl. No.	Items	Post Tax IRR
1	Base Case	41.24%
2	Decrease in Selling Price by 10%	33.93%
3	Increase in Selling Price by 10%	48.25%
4	Decrease in Capacity Utilisation by 10%	33.53%
5	Increase in Capacity Utilisation by 10%	48.25%
6	Decrease in Capital Cost by 10%	42.09%
7	Increase in Capital Cost by 10%	40.41%
8	Decrease in Operating Cost by 10%	51.84%
9	Increase in Operating Cost by 10%	32.03%

It reveals from the above table that the project is most sensitive to operating cost and in all the cases the project is economically viable.

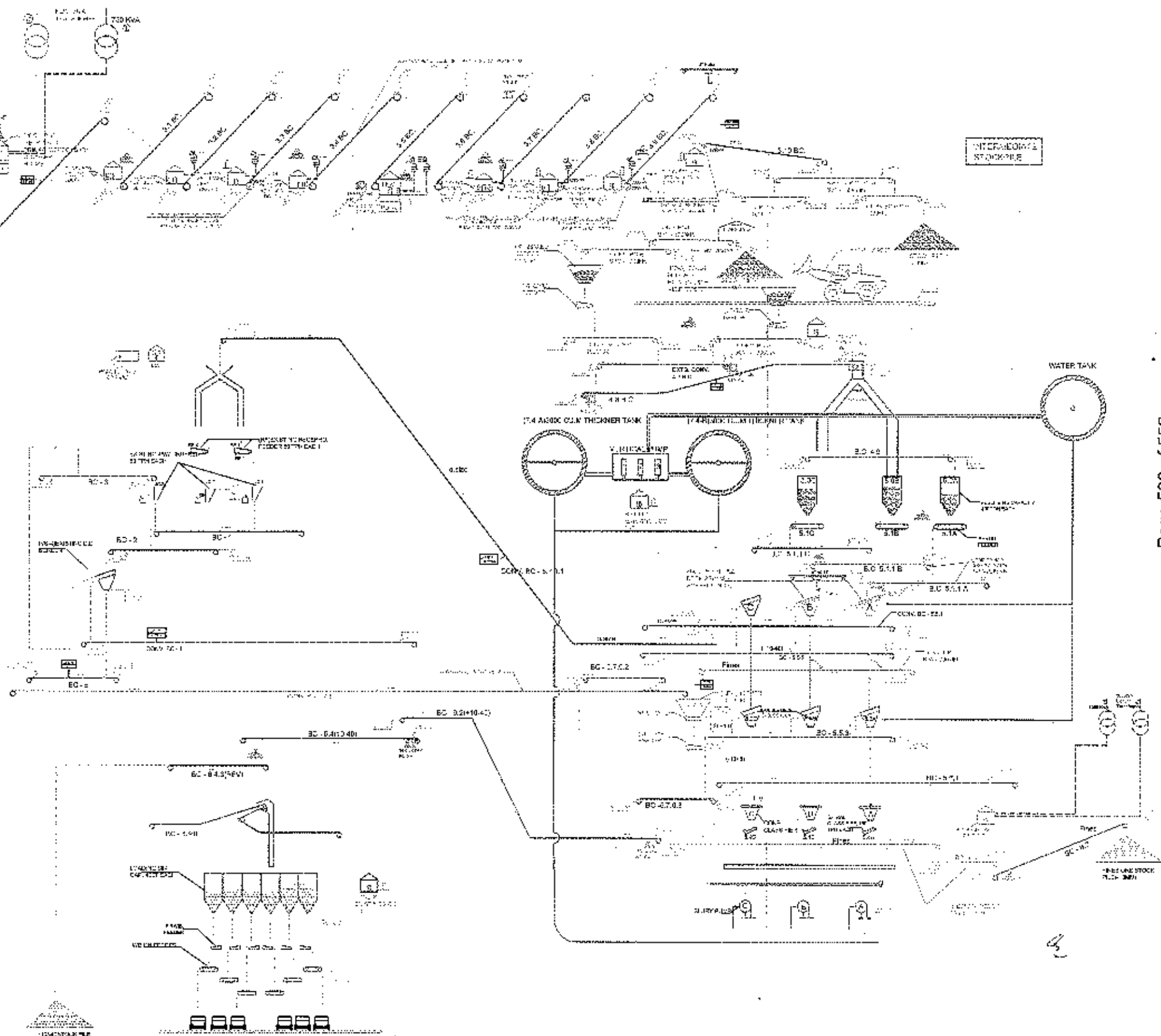
12.0 Conclusion

On the basis of the above analysis, the updated balance reserves/ resources w.r.t the last approved SOM and taking into consideration the qty. depleted during the period 2013-14 & 2024-15 (Upto 30.07.2014), is given below.

Category	UNFC CODE	Reserve as per Approved SOM		Depletion of reserve (Mt)	Balance Reserve, Mt (As on 01.08.2014)		Grade (Fe%)
		Daitari Hill Top	Sindurmundi		Daitari Hill Top	Sindurmundi	
Proved	111	43.158	-	0.5509098	42.6071	-	+58% Fe
Probable	122	1.452	-	-	1.452	-	+58% Fe
Feasibility/pre feasibility resources	211 & 222*	-	-	-	-	-	-
*Remaining Measured Mineral resources	331	43.310 (Un-diverted Forest)	-	-	43.310 (Un-diverted Forest)	-	-
*Remaining Indicated Mineral resources	332	31.821 (Un-diverted Forest)	67.410 (Un-diverted Forest)	-	31.821 (Un-diverted Forest)	67.410 (Un-diverted Forest)	+58% Fe

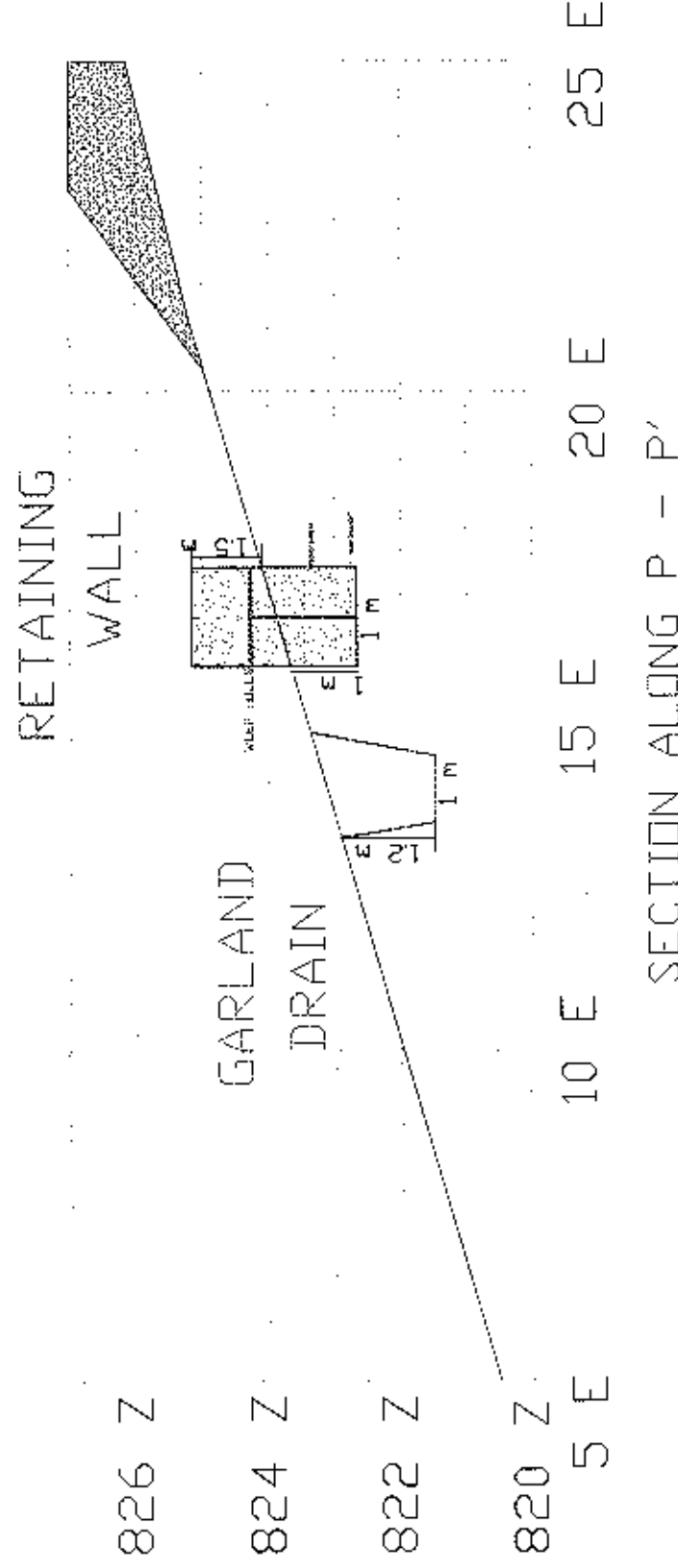
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PROCESS FLOWSHEET OF 800 TPH OHP (DIOM)

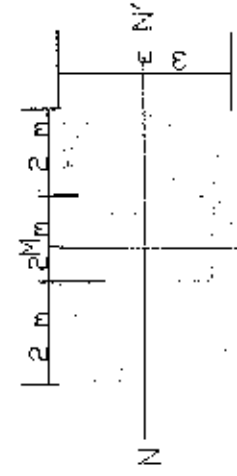
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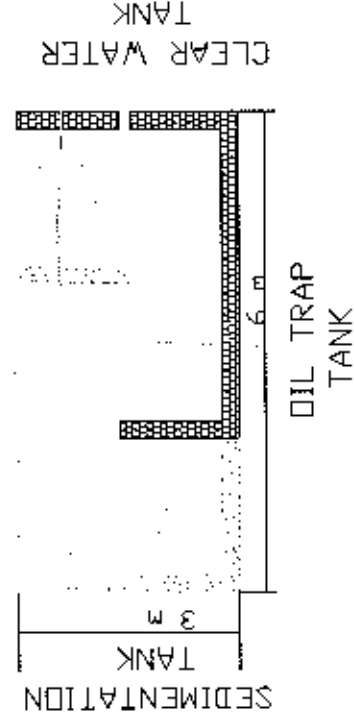
TYPICAL DESIGN OF RETAINING WALL, GARLAND DRAIN & SETTLING PIT



SECTION ALONG P - P'



PLAN VIEW OF SETTLING TANK



SECTION ALONG N-N''

3 m

2 m
OIL TRAP
TANK

SECTION ALONG M-M'

SCALE - NOT TO SCALE

LEGEND

	BACKFILL SECTION		GARLAND DRAIN		MORTAR STONE WORK
	GROUND PROFILE		SETTLING PIT		WEEP HOLES
					REINFORCEMENT

APPENDIX - A

Profit & Loss Statement

Sale Price, Rs/t	Lump	4414
	Fines	2362

In Rs. Lakh

Sl. No.	Item	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2034-36
A	Ore Production, Million tonne	2.98	5.72	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
a	Lump Production, Million Tonne	1.19	2.29	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40	2.40
b	Fines Production, Million tonne	1.79	3.43	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60	3.60
1	Annual Net Sales Realisation	47494	91163	95626	95626	95626	95626	95626	95626	95626	95626	95626	95626	95626	95626	95626	95626	95626	95626	95626	95626	95626	95626
2	Operating Cost (Excl. Tax, Depreciation)	22213	41783	44020	44269	44520	44775	45031	45291	45552	45817	46084	46354	46625	46902	47180	47460	47744	48030	48320	48612	48907	49205
3	Gross Profit	25282	49380	51606	51357	51105	50851	50594	50335	50073	49809	49541	49272	48999	48724	48446	48165	47882	47595	47306	47014	46715	46421
4	Interest	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Depreciation	440	2930	6335	472	472	472	472	472	472	472	472	472	472	472	472	472	472	472	472	472	472	472
6	Net Profit	24841	46450	45271	50885	50633	50379	50122	49863	49601	49337	49069	48800	48527	48252	47974	47693	47410	47123	46834	46542	46247	45949
7	Taxation	8444	15789	15388	17296	17211	17124	17037	16949	16860	16770	16679	16587	16495	16401	16307	16211	16115	16018	15919	15820	15720	15618
8	Net Profit after Tax	16397	30661	29883	33589	33422	33255	33085	32914	32741	32567	32390	32213	32032	31851	31667	31482	31295	31105	30915	30722	30527	30331
	Retained Profit	16397	30661	29883	33589	33422	33255	33085	32914	32741	32567	32390	32213	32032	31851	31667	31482	31295	31105	30915	30722	30527	30331
	Cummulative Profit	16397	47058	76941	110530	143952	177207	210292	243206	275947	308514	340904	373117	405149	436999	468666	500148	531443	562548	593463	624184	654711	685042

Annual Cash flow statement and IRR Calculation

In Rs. Lakh

Sl. No.	Year	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35	2034-36
A	Cash Inflow																						
	Net Sales Realisation (NSR)	47494	91163	95626	95626	95626	95626	95626	95626	95625	95626	95626	95626	95626	95626	95626	95626	95626	95626	95626	95626	95626	95626
B	Cash Outflow																						
	Capital Cost (Excl. IDC)	4562	26276	51794	3346	53	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Operating Cost (Incl. Depreciation)	22653	44713	50355	44741	44992	45247	45503	45763	46025	46289	46556	46826	47099	47374	47652	47933	48216	48503	48792	49084	49379	49677
	Taxation	8444	15789	15388	17296	17211	17124	17037	16949	16860	16770	16679	16587	16495	16401	16307	16211	16115	16018	15919	15820	15720	15618
	Total Cash outflow	35659	86778	117537	65383	62257	62428	62540	62712	62885	63059	63235	63413	63594	63775	63959	64144	64331	64521	64711	64904	65099	65295
C	Net Inflow																						
	Pre-Tax	20279	20174	-6523	47538	50580	50321	50122	49863	49601	49337	49069	48800	48527	48252	47974	47693	47410	47123	46834	46542	46247	45949
	Post Tax	11835	4385	-21911	30742	33369	33197	33085	32914	32741	32567	32390	32213	32032	31851	31667	31482	31295	31105	30915	30722	30527	30331
D	Internal Rate of Return (IRR)																						
	Pre-Tax IRR (%)	86.56%																					
	Post Tax IRR (%)	41.24%																					

Sensitivity Analysis

Sl. No.	Items	Post Tax IRR
1	Base Case	41.24%
2	Decrease in Selling Price by 10%	39.83%
3	Increase in Selling Price by 10%	48.25%
4	Decrease in Capacity Utilisation by 10%	33.53%
5	Increase in Capacity Utilisation by 10%	48.25%
6	Decrease in Capital Cost by 10%	42.09%
7	Increase in Capital Cost by 10%	40.41%
8	Decrease in Operating Cost by 10%	51.84%
9	Increase in Operating Cost by 10%	32.03%